

Meat for millions : report of the New York State Trichinosis Commission.

Contributors

New York (State). Trichinosis Commission.

Publication/Creation

Albany : Fort Orange Press, 1941.

Persistent URL

<https://wellcomecollection.org/works/qcxf6yap>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.

**wellcome
collection**

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

7-106

MEAT FOR MILLIONS

COMPLIMENTS OF
THOMAS C. DESMOND
SENATOR 27TH DISTRICT



X
AC
EW

SECOND EDITION

Report of the New York State Trichinosis Commission



22500601480

Med

K28468

Document (1941)

No. 52

STATE OF NEW YORK

MEAT
FOR MILLIONS

REPORT OF THE
NEW YORK STATE TRICHINOSIS
COMMISSION



ALBANY
FORT ORANGE PRESS, INC., PRINTERS
1941

Ministry of Agriculture,
Fisheries and Food,
Veterinary Laboratory
Library ^X

Class No. MVAC

Auth. Mk. NEW

Access No. C62/26

Demand No.

19746680

| | |
|-------------------------------|----------|
| WELLCOME INSTITUTE LIBRARY | |
| Coll. | WeIMCmec |
| Coll. | |
| No. | WC |
| | |
| | |
| | |

CHAPTER I

LETTER OF TRANSMITTAL

ALBANY, NEW YORK, *March 3, 1941*

To the Governor of the State of New York and the Members of the Legislature of the State of New York:

The New York State Trichinosis Commission was created by Chapter 852 of the Laws of 1940 for the purpose of "studying the problem of the disease known as trichinosis, and other diseases contracted by eating infected meat, and possible methods of curbing them."¹

Activities

The Commission held a public hearing in New York City at which leading public health and food control experts gave us the benefit of their advice and judgment.² In addition the investigating staff of this Commission compiled a large amount of pertinent material and made necessary field trips to secure first-hand data from livestock producers, meat packers, public health and agriculture officials. The Commission conducted a skin test on one hundred and twenty-six hogs.³ It was also active in informing the general public that trichinosis can be prevented by thorough cooking of pork products.

Acknowledgments

The Commission wishes to express its appreciation to the hundreds of individuals who assisted and cooperated in its work. Particularly do we wish to thank the officials of the United States Public Health Service, United States Department of Agriculture, New York State Health Department, New York State Department of Agriculture and Markets, New York State Veterinary College, New York State College of Agriculture, and New York City Health Department.

Report and Recommendations

The report of this Commission is divided into two parts. The first part consists of this letter of transmittal and recommendations of this Commission. The second part consists largely of reports of studies and investigations prepared for this commission

¹See Appendix A.

²See Appendix B.

³ For full account of this test, see pages 129-132,

by various authorities and compiled by Albert J. Abrams, who coordinated the research activities of the Commission.

Respectfully submitted,

STATE SENATOR THOMAS C. DESMOND, *Chairman*

ASSEMBLYMAN ERNEST J. LONIS, *Vice-Chairman*

ASSEMBLYMAN HAROLD L. CREAL, *Secretary*

STATE SENATOR CHAUNCEY B. HAMMOND

STATE SENATOR EDWARD J. COUGHLIN

ASSEMBLYMAN ROY H. RUDD

MRS. FRANCIS DONALDSON,

*Former President, New York League of
Women Voters*

DR. GEORGE H. RAMSEY,

*Commissioner, Westchester County Health
Department*

PROFESSOR O. R. MCCOY,

*School of Medicine and Dentistry,
University of Rochester*

CHAPTER II

RECOMMENDATIONS OF THE NEW YORK STATE TRICHINOSIS COMMISSION FEEDING OF HOGS

- I. Adoption of a statute forbidding any municipality to dispose of garbage to hogs unless it is cooked first in accordance with regulations of the State Department of Agriculture and Markets.
- II. Adoption of a law that no municipality shall give or sell garbage to hog raisers or permit collection of garbage by hog raisers unless they agree to cook it before feeding.
- III. Requirement that state institutions shall not dispose of garbage to hogs unless it is first cooked in accordance with regulations of the State Department of Agriculture and Markets.
- IV. Requirement that state institutions shall not give or sell garbage to private hog raisers unless the latter agree to cook it before feeding, in accordance with regulations of the State Department of Agriculture and Markets.
- V. Outlaw feeding of uncooked offal from slaughter houses.

PORK PRODUCTS

- VI. Passage of a bill requiring that intra-state pork products customarily eaten without cooking be processed to destroy live trichinae.
- VII. Promulgation by the State Commissioner of Agriculture and Markets of an official regulation, similar to the federal regulation, barring the mixing of pork in hamburgers.

MEAT INSPECTION

- VIII. Adoption of a law authorizing the State Department of Agriculture and Markets to license slaughter houses.
- IX. Continuation of the Commission for another year to make a thorough study of meat inspection. The Commission is of the opinion that a state-wide meat inspection bill should be introduced at the present legislation session, not with a view to its passage this year but for educational purposes.

MISCELLANEOUS

- X. Establishment of an informal interdepartmental committee on trichinosis by members of the State Health Department and members of the State Department of Agriculture and Markets to exchange information, coordinate work of the two departments in the field of trichinosis, and exercise general supervision over trichinosis control work.
- XI. Development of a practical, inexpensive skin test to determine trichinae-infested swine, to be undertaken by public and private agencies.
- XII. Launching of a broad educational campaign by the State Health Department and State Department of Agriculture and Markets to (a) urge housewives to cook pork thoroughly; (b) impress hog raisers with the necessity of cooking garbage to prevent trichinosis and with the necessity of cooking garbage to prevent trichinosis and hog cholera, need for ratproofing buildings and adopting sanitary practices; and (c) inform doctors regarding latest diagnostic aids for trichinosis.

CONTENTS

PART I

| CHAPTER | | PAGE |
|---------|-----------------------------|------|
| I | Letter of Transmittal | 3 |
| | Activities | 3 |
| | Acknowledgments | 3 |
| | Report | 3 |
| II | Recommendations | 5 |

PART II

| | | |
|------|---|-----|
| III | The Story of Trichinosis | 13 |
| | Pork Disease, a National Menace, by Senator Thomas C. Desmond | 13 |
| | Don't Make Pork a Rare Treat, by Senator Thomas C. Desmond..... | 18 |
| | The Medical Aspects of Trichinosis by Drs. Willard H. Wright and Frederick J. Brady..... | 22 |
| IV | Prevalence of Trichinosis: | |
| | Introduction | 31 |
| | Trichinosis in New York State..... | 31 |
| | Incidence of Human Infection with the Trichina Parasite, as indicated by post-mortem examinations by Dr. Willard H. Wright..... | 39 |
| | Trichinosis outbreaks | 52 |
| | Trichinosis control proposed in 1884..... | 61 |
| V | Garbage and Trichinosis: | |
| | Prevalence of Trichinæ in Swine..... | 63 |
| | Role of garbage in spreading Trichinosis..... | 63 |
| | Slaughterhouse offal | 67 |
| | Uncooked garbage and hog cholera..... | 67 |
| | Certain aspects of the Trichinosis situation in California... | 68 |
| | Pork production in New York State by Prof. W. M. Curtiss | 73 |
| | Prevention of feeding of raw garbage..... | 75 |
| | Survey of garbage collection and disposal methods in upstate New York, by Dr. James E. Perkins..... | 79 |
| | Garbage disposal by State institutions..... | 96 |
| | Garbage disposal by Federal institutions..... | 108 |
| | Oregon requires cooking..... | 111 |
| | Canada regulates garbage feeding..... | 112 |
| | Cost and method of cooking garbage..... | 117 |
| | Cooked garbage as hog feed..... | 118 |
| | Separation of pork scraps..... | 119 |
| | The Secaucus situation..... | 119 |
| | A hog shed..... | 120 |
| | Control through price..... | 122 |
| VI | Control through microscopic inspection..... | 125 |
| VII | Control through skin testing of swine..... | 129 |
| | Sanitation on hog farms..... | 133 |
| VIII | Pork products in relation to Trichinosis control..... | 135 |
| | Trichinosis Pork survey in New York State..... | 137 |
| | Processing of Pork..... | 142 |
| IX | Control through Education: | |
| | Educating the housewife..... | 159 |
| | Educating the hog-raiser..... | 160 |

| | PAGE |
|-----|--|
| X | Licensing of slaughter-houses..... 163 |
| XI | Tularemia: |
| | What is tularemia?..... 169 |
| | Prevalence 170 |
| | Control measures 171 |
| | New York State's problem 173 |
| XII | Meat Inspection: |
| | Value of meat 179 |
| | The loop-hole in meat inspection..... 179 |
| | Purpose of meat inspection..... 179 |
| | Federal inspection 180 |
| | What steps can the State take?..... 185 |
| | The California meat inspection system..... 186 |
| | Pennsylvania meat inspection..... 201 |
| | Oregon meat inspection..... 202 |
| | Municipal meat inspection 208 |

APPENDIX A

| |
|--------------------------------------|
| Law creating the Commission..... 265 |
|--------------------------------------|

APPENDIX B

| |
|--|
| Report on public hearing held by the Commission..... 267 |
|--|

APPENDIX C

| |
|---|
| Proposed Legislation: |
| Garbage feeding bill..... 271 |
| Processing of pork bill..... 271 |
| Licensing of slaughter houses bill..... 272 |
| Meat inspection bill..... 274 |
| Extension of the Commission..... 282 |

TABLES

| | |
|------------|--|
| Table 1. | Trichinosis cases in certain states, 1930-1936..... 31 |
| Table 2. | Reported case of Trichinosis in upstate New York, 1935-1939 34 |
| Table 3. | Reported Trichinosis cases and deaths, New York State, 1930-1939 38 |
| Table 4. | Average annual number of reported cases of certain diseases in upstate New York, 1934-1938..... 38 |
| Table 5. | Findings of Trichinella Spiralis in various series of Diaphragm Material examined by the National Institute of Health.... 47 |
| Table 6. | Incidence of Trichinæ in various population groups as found in 3,000 post-mortem examinations..... 48 |
| Table 7. | Incidence and state of Trichinæ by age at death..... 49 |
| Table 8. | Findings of Trichinæ in post-mortem surveys in the United States 50 |
| Table 9. | Incidence of Trichinella Spiralis in Necropsy, material from New York State..... 51 |
| Table 10. | Trichinosis outbreaks, New York State, 1935-1939..... 52 |
| Table 11. | Potsdam outbreak 56 |
| Table 11-a | Epidemiological data 57 |
| Table 12. | Attendance at Potsdam supper, 1939..... 58 |

| | PAGE |
|--|------|
| Table 13. Per cent of cities feeding municipal garbage to swine..... | 67 |
| Table 14. Distribution of Trichinæ infection in swine slaughtered in California, according to the type of food the swine received | 71 |
| Table 15. Classification of the Trichinous swine specimens according to Intensity of infection and type of food the hog received.. | 72 |
| Table 16. The number of times Trichinæ were found in various types of pork products | 72 |
| Table 17. Collection of garbage from homes in New York State according to method of collection and population | 84 |
| Table 18. Collection of garbage from restaurants, butcher shops, etc., in New York State according to method of collection and population | 85 |
| Table 19. Disposal of garbage from homes in New York State according to method of disposal and population group..... | 86 |
| Table 20. Disposal of garbage from restaurants, butcher shops, etc., in New York State according to method of disposal and population | 87 |
| Table 21. Cities and incorporated villages in New York State where garbage from homes is disposed of by hog feeding (raw). | 88 |
| Table 22. Cities and incorporated villages in New York State where garbage from restaurants, butcher shops, etc., is disposed of by hog feeding (raw)..... | 88 |
| Table 23. Cities and incorporated villages in New York State where garbage from homes is disposed of solely by incineration.. | 89 |
| Table 24. Cities and incorporated villages in New York State where garbage from restaurants, butcher shops, etc., is disposed of solely by incineration..... | 89 |
| Table 25. Cities and incorporated villages in New York State where garbage from homes is collected by city or village employees and disposed of by hog feeding (raw)..... | 90 |
| Table 26. Cities and incorporated villages in New York State where garbage from restaurants, butcher shops, etc., is collected by city or village employees and disposed of by hog feeding (raw) | 91 |
| Table 27. Cities and incorporated villages in New York State where garbage from homes is disposed of solely by incineration.. | 92 |
| Table 28. Cities and incorporated villages in New York State where garbage from restaurants, butcher shops, etc., is disposed of solely by incineration | 93 |
| Table 29. Hog farms, New York State..... | 98 |
| Table 30. Garbage disposal by State institutions according to institutional population | 100 |
| Table 31. Garbage disposal by State institutions according to number of institutions | 101 |
| Table 32. Garbage disposal by the State Health Department..... | 102 |
| Table 33. Garbage disposal by the State Correction Department..... | 103 |
| Table 34. Garbage disposal by the State Mental Hygiene Department.. | 104 |
| Table 35. Garbage disposal by the State Education Department..... | 106 |
| Table 36. Garbage disposal by the State Social Welfare Department.... | 107 |
| Table 37. Garbage disposal by the C. C. C. in New York State..... | 109 |
| Table 38. Incidence of Trichinæ infection, Canada and United States.. | 114 |

| | PAGE |
|--|------|
| Table 39. Licensed Canadian hog feeders..... | 114 |
| Table 40. Classification of pork samples..... | 139 |
| Table 41. Classification of parasitized samples..... | 140 |
| Table 42. Tularemia cases reported in New York State..... | 171 |
| Table 43. Ante-mortem and post-mortem inspection of animals, 1939.... | 183 |
| Table 44. Animals Condemned for various diseases, 1939..... | 183 |
| Table 45. Carcasses Condemned for various diseases, 1939..... | 184 |
| Table 46. Number of parts of carcasses Condemned for various diseases, 1939 | 185 |
| Table 47. Animals slaughtered in California, 1939..... | 192 |
| Table 48. Animals inspected and condemned in California, 1939..... | 193 |
| Table 49. Diseased animals condemned under California meat inspection | 194 |

FIGURES

| | |
|--|-----|
| Figure 1. Cycle of transmission of Trichinosis from host to host.... | 12 |
| Figure 2. Cook your pork thoroughly..... | 14 |
| Figure 3. Trichinæ | 19 |
| Figure 4. Trichinæ in muscle | 27 |
| Figure 5. Distribution of reported clinical cases of Trichinosis in the United States | 32 |
| Figure 6. Incidence of Trichinella Spiralis in Necropsy studies in the United States..... | 32 |
| Figure 7. Reported cases of Trichinosis in New York State, exclusive of New York city, 1935-1939..... | 33 |
| Figure 8. Cities of 10,000 population and over in which municipally collected garbage is disposed of by feeding it to the swine.. | 65 |
| Figure 9. Relative importance of different types of swine as sources of human Trichinosis | 66 |
| Figure 10. Type of cooker recommended..... | 113 |
| Figure 11. Furnace used by Canadian hog raiser..... | 116 |
| Figure 12. Wooden boxes in which garbage is heated..... | 116 |
| Figure 13. An inexpensive garbage cooker..... | 116 |
| Figure 14. Furnace used by Canadian hog raiser..... | 116 |
| Figure 15. Injection of Trichinosis Antigen..... | 132 |
| Figure 16. Cooking meat thoroughly | 161 |

CHARTS

| | |
|---|----|
| Chart 1. Transfer of Trichinæ from host to host and the points of appli- cation of the control measures..... | 17 |
| Chart 2. Symptomatology | 24 |
| Chart 3. Collection of garbage from homes in cities and incorporated villages in New York State according to method of collection and population group..... | 94 |
| Chart 4. Disposal of garbage from homes in cities and incorporated villages in New York State according to method of disposal and population group..... | 94 |
| Chart 5. Roles played by cities and incorporated villages of various sizes in the disposal of garbage by feeding it raw to hogs and incineration, New York State..... | 95 |

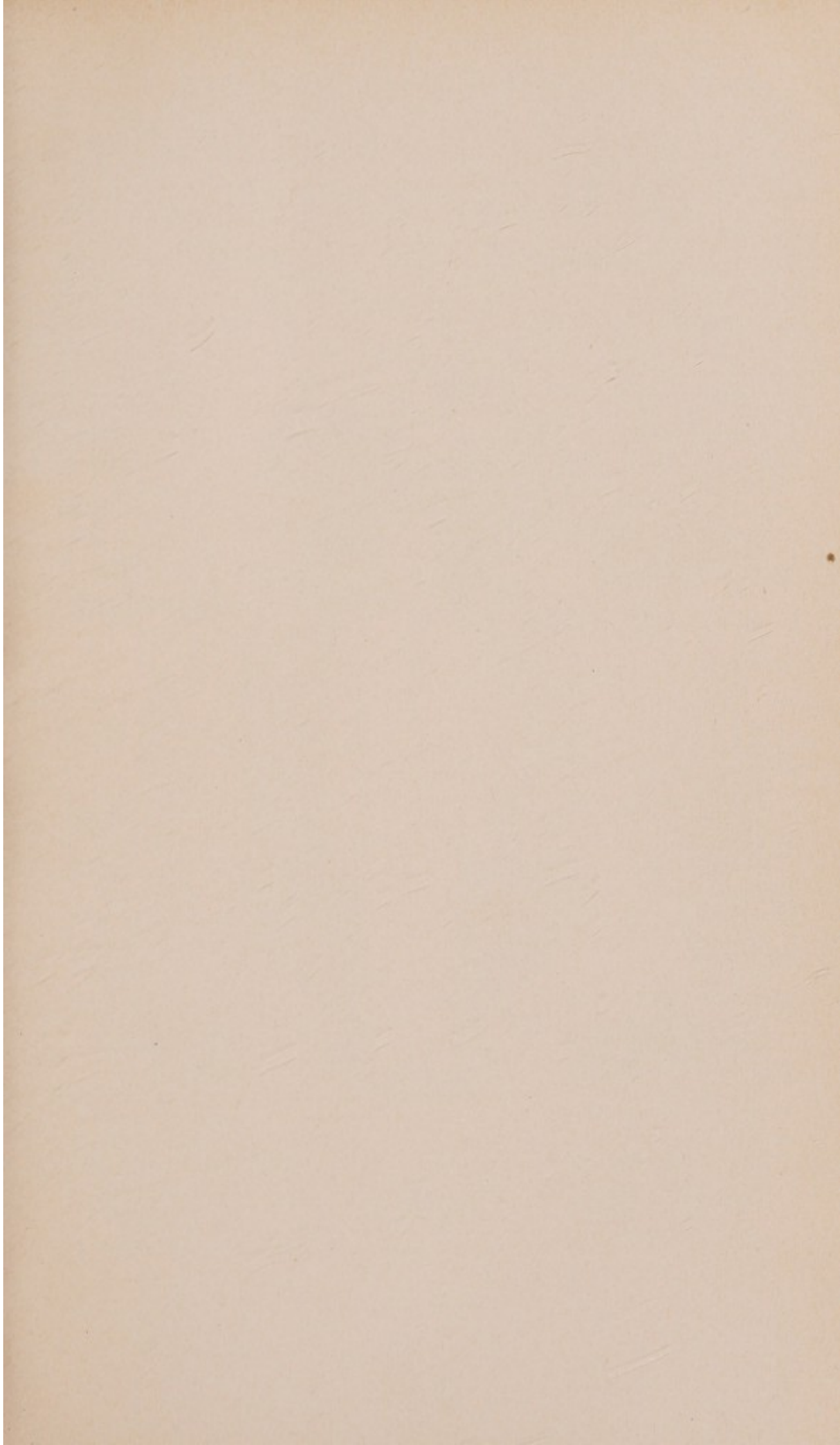
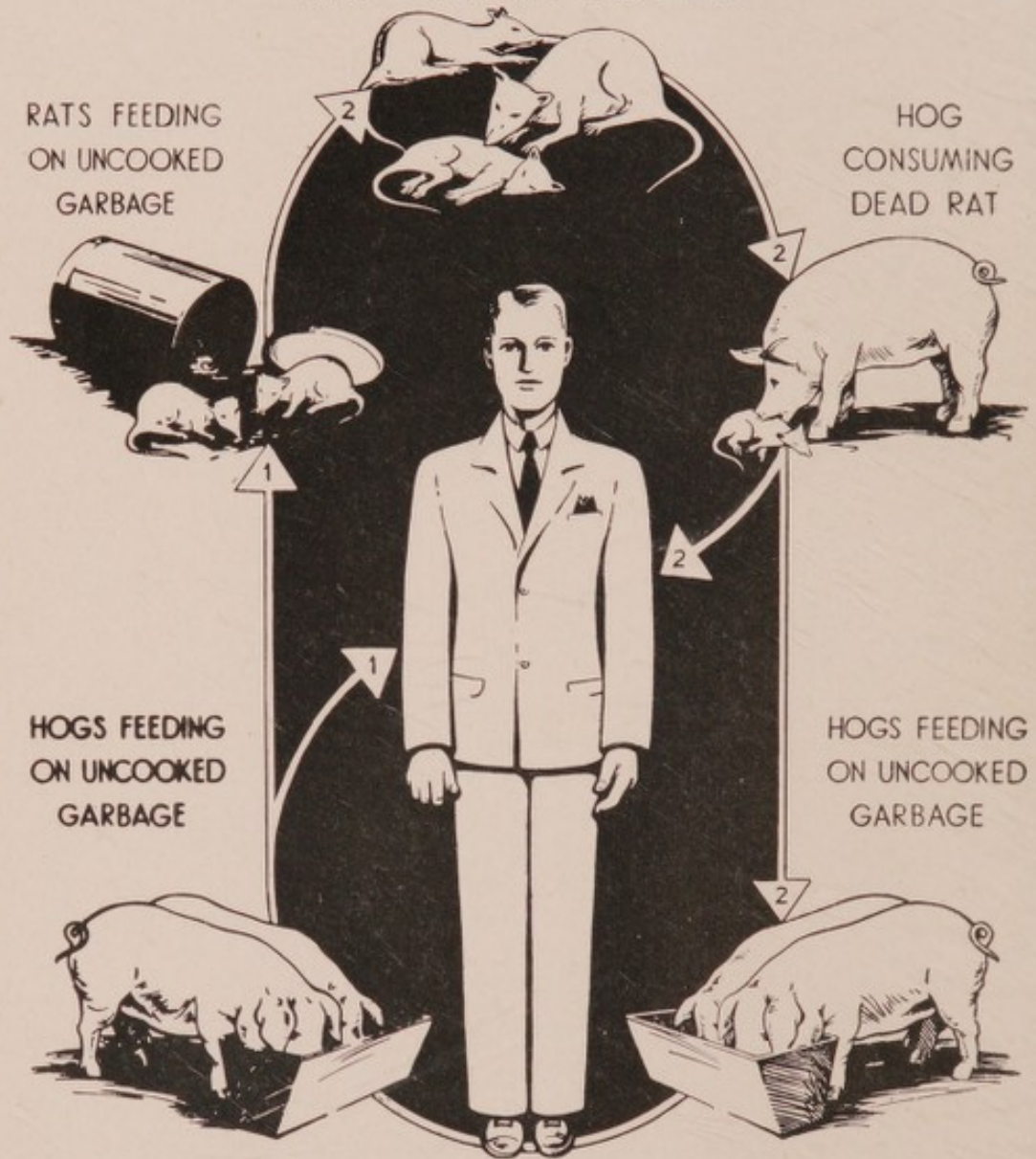


FIGURE 1

CYCLE OF TRANSMISSION OF TRICHINOSIS FROM HOST TO HOST

RATS CONSUMING DEAD RATS



➔ 1 MAJOR ROUTES OF TRANSMISSION
➔ 2 MINOR ROUTES OF TRANSMISSION

Courtesy, National Institute of Health

CHAPTER III

THE STORY OF TRICHINOSIS

What is trichinosis? How can it be prevented? Can it be cured? Is the disease widespread? How can it be recognized? These are some of the questions which the people of this state have been asking since the New York State Trichinosis Commission was created. The answers to these and other questions are contained in the three articles which follow. The first two articles were written for two popular publications by the chairman of this Commission. The third article is a more technical presentation of the medical aspects of the subject. Together, these articles pave the way for a better understanding of the data contained in this report, and for a better appreciation of the significance of trichinosis as a public health problem.

PORK DISEASE, A NATIONAL MENACE¹

BY THOMAS C. DESMOND

Chairman, New York State Trichinosis Commission

For thirty years government officials have been warning the American people to "beware of pink pork" and to "cook pork thoroughly." The advice has gone unheeded. Investigations by Surgeon General Parran's white-froaked scientists indicate that the United States has the largest trichinosis problem of any nation in the world . . . that trichina, the wormlike pork parasite, infects more than 21,000,000 Americans.

These facts constitute a menace and a challenge. In terms of physical consequences, they decidedly outweigh some of the more obvious national problems which make the headlines day after day.

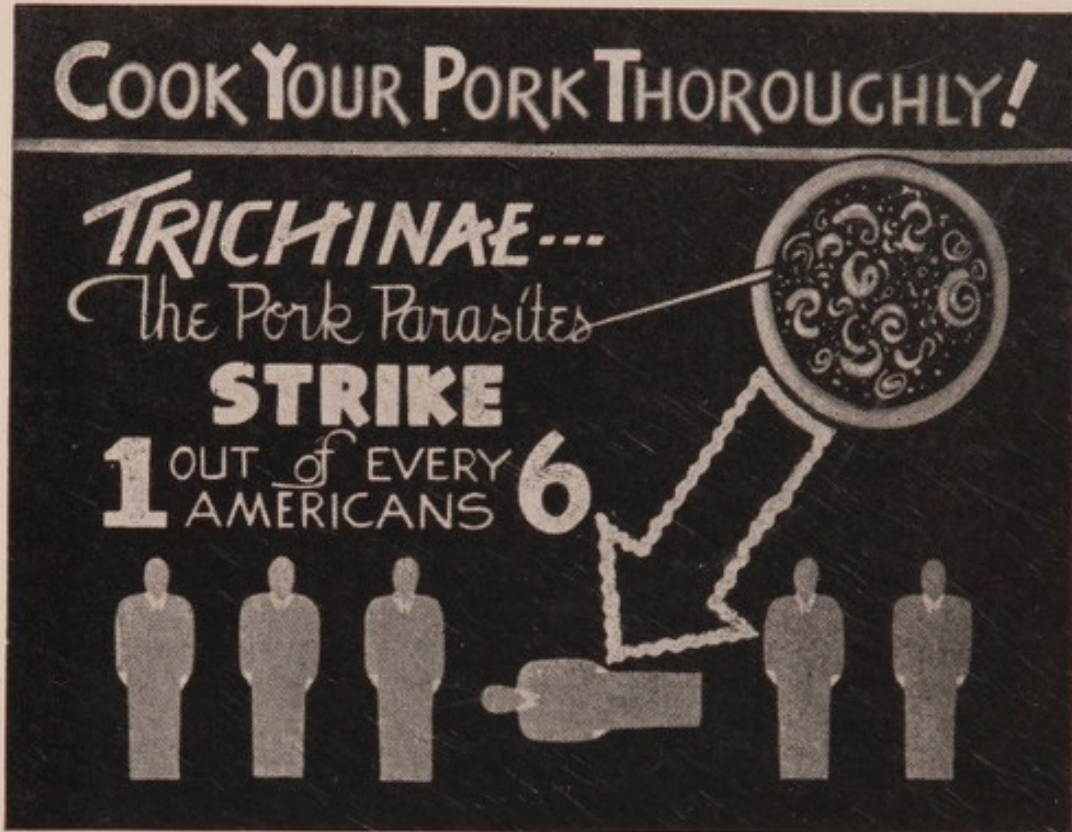
Turn back the years to 1835. In a London dissecting room, a freshman medical student named Paget, barely twenty-one years old, is peering through a pocket lens at a piece of human muscle.

He sees a gray speck. Closer inspection reveals it to be a coiled worm, a parasite until then unknown to man. But Paget, destined to achieve international fame as a surgeon and pathologist, was unaware of the significance of his discovery. Trichina, the parasite that resembles a coiled hair, was looked upon merely as a zoological curiosity. Not until twenty-five years later was it established as the culprit in a painful and sometimes fatal muscle dis-

¹Copyright, 1940, The American Mercury, Inc. Reprinted from The American Mercury, October, 1940.

ease. Today, more than a century after the trichina worm was first discovered, we are still in the dark on many phases of trichinosis. We do not know how to diagnose it accurately. We do not know how to cure it. We don't know exactly how bad an infection must

FIGURE 2



be before causing serious harm. We are just now beginning to learn how to prevent trichinosis on a scale commensurate with its prevalence.

We do not know how the disease is acquired. The parasite that Paget discovered is found in man, hogs, dogs, rats, cats and bears. Trichinosis is transmitted to human beings almost solely through hogs, since the meat of other animals infected with trichinae is rarely eaten by man. Thus the primary cause of human trichinosis is the eating of trichinae-infected pork chops, fresh ham, pork loins and sausages, and other pork products, including those great American institutions, the hot dog and hamburger.

The Disease Has Three Stages

Doctors tell us that there are three stages of the disease. The first, when the organism develops to maturity in the intestine, after ingestion into the human body, is characterized by nausea, diarrhea, intestinal hemorrhages and severe abdominal pains. Later, when

the larvae produced by the adult parasite rush through the blood stream, they cause fever, muscular pain, inflammation of the eye-balls, swelling of the legs and face. The third stage, during which the worms encyst in the muscles, may in serious cases be marked by delirium and coma. The symptoms mentioned here are those most commonly observed, but many others may show up.

The diversity of symptoms, in fact, has been a source of embarrassment and confusion to medical men. In a recent epidemic of trichinosis, a majority of cases were diagnosed as influenza, grippe or sinusitis before the error was discovered. Lacking a reliable diagnostic test, physicians have confused trichinosis with some fifty ailments, ranging from typhoid fever to acute alcoholism. That pain in your arm or leg may be arthritis or rheumatism, but it may be trichinosis; that pain in your back may mean a gall bladder involvement, but it may mean trichinosis. Some day doctors may be armed with an accurate test for this imitative disease, but at present diagnosis is largely a matter of hit-or-miss.

Because the disease is not easily recognized, and because all recognized cases are not reported to health authorities, precise figures on the prevalence of trichinosis are not available. The best evidence of the prevalence of the infection in man is found in the results of studies conducted by the United States Public Health Service during the past four years. "One in every six human specimens examined in the laboratory," Surgeon General Thomas Parran stated, "have been found infected with trichinae." Applied to the population at large, these figures mean that more than 21,000,000 Americans have been infected sometime during their lives with the pork parasite. Several hundred thousands of these cases, according to reliable estimates, have been serious enough to cause severe illness and sometimes death. When New York City Health Commissioner John L. Rice declared trichinosis to be a "major public health problem" he was not being alarmist, but coolly factual.

There Is No Known Cure

No cure for the pork disease is known. In their search for a cure scientists have tried ultra-violet rays, X-rays and various drugs and serums. So far their work has been fruitless. But the unrelenting determination with which medical men are trying to find a cure must some day be rewarded with success. Today, when a doctor is confronted with a trichinosis case, he generally administers a purgative to remove some of the adult trichinae from the intestinal tract. Unfortunately medical treatment is useless, except to alleviate pain, once the larvae have gained entry to the circulatory system or to have lodged in the muscles.

Trichinosis Can Be Prevented

The picture, however, is not entirely gloomy. Trichinosis can be prevented. Ultimately, when government and the public

tackle the problem vigorously enough, it can be reduced if not altogether eliminated.

As individuals, you and I can protect ourselves from the microscopic pork parasite by adhering to a simple rule: Don't eat pork or pork products unless they are thoroughly cooked. How can we be certain that the meat has been sufficiently heated? Simply by remembering that the color tells. When fresh meat is heated to a temperature of 163 degrees Fahrenheit, it loses entirely its pink or blood-red color and turns gray or bleached in appearance. Trichinae are destroyed by 137 degrees of heat, and the difference of 26 degrees represents our safety margin. If you should, while cooking pork, forget this color test for trichinae, remember that thirty-minutes-per-pound is an approximate guide to adequate cooking of large, thick cuts of pork. The best procedure is to use a meat thermometer.

As a nation, however, we cannot remain content to make the war on trichinosis a matter of individual option and private responsibility. We cannot continue to rely as we have in the past solely upon warnings to the public to cook thoroughly. That course has been followed for many years, but trichinosis is still a major danger to the national health. It is time to mobilize federal, state and local governments for a concerted attack against the pork parasite with all the legislative, administrative and scientific weapons available. Our agricultural and health officials must be made to shoulder the responsibility of stamping out the disease.

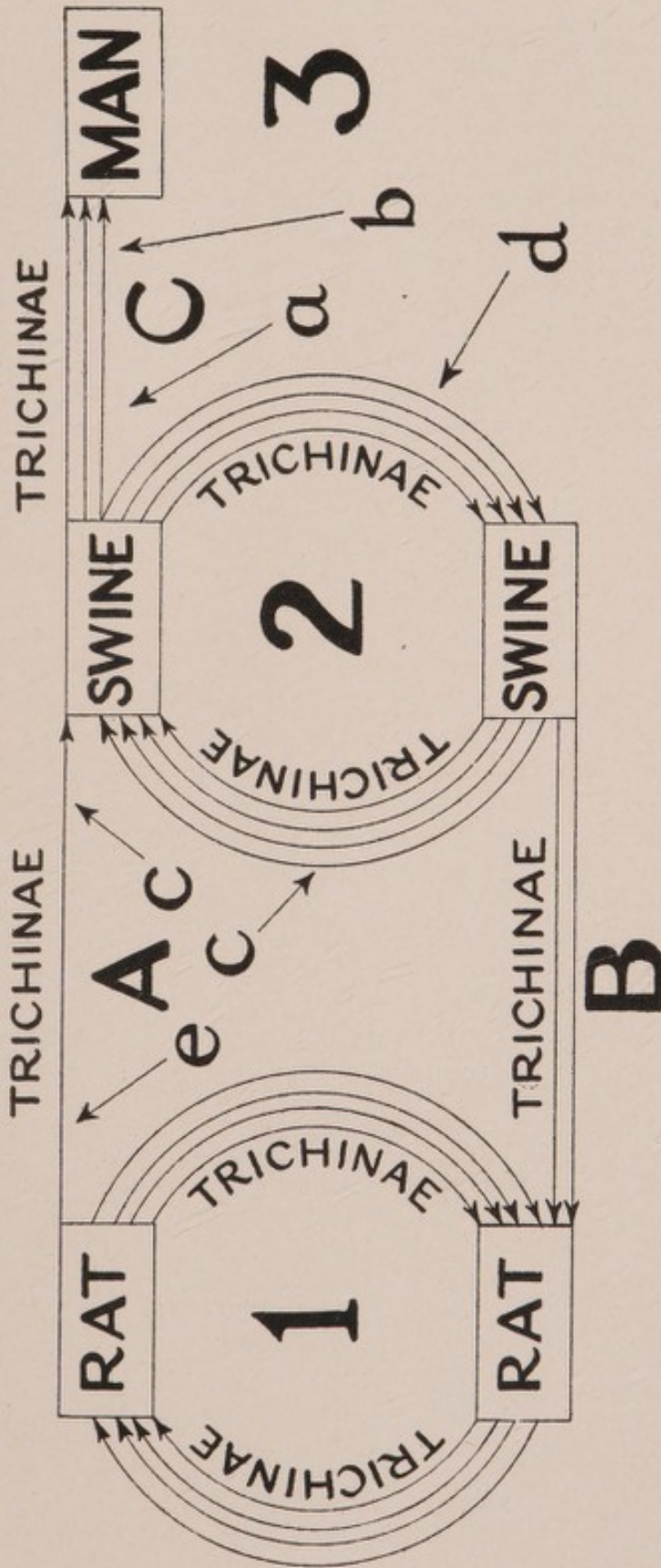
New York Starts the War

A beginning has been made. This year the State of New York created an official Trichinosis Commission to combat the disease at its source. It is the first such official body in the country. The Commission, which the writer heads, is working along three main lines: (1) to prevent the feeding of uncooked garbage to hogs; (2) to establish a state meat inspection service; and (3) investigation of a trichinosis skin test for hogs. The most logical point of attack against the coiled parasite at the present time seems to be to stop hog-raisers from feeding uncooked garbage. Our chances of getting trichinosis are ten times greater if we eat a pork chop from a hog raised on cooked garbage than if that chop came from a grain-fed hog, twenty times greater if the chop came from a pig whose garbage meals had been uncooked. Canada has long required the cooking of garbage fed to hogs. This prevents swine from eating uncooked pork scraps containing trichinae. Today, Canada is virtually free from trichinosis, while along our own Eastern and Western seacoasts, where hogs are commonly fed uncooked garbage, trichinosis is widespread.

What about Uncle Sam's meat inspection service—doesn't that protect us from the pork disease? The answer is mixed. Federal authority extends only to meat which enters interstate commerce.

CHART 1

TRANSFER OF TRICHINAE FROM HOST TO HOST AND THE POINTS OF APPLICATION OF THE CONTROL MEASURES.



- 1 RELATIVELY CLOSED CIRCLE OF RAT TRICHINOSIS.
- 2 THE CIRCLE OF SWINE TRICHINOSIS.
- 3 THE CLOSED CHANNEL OF HUMAN TRICHINOSIS.
- A TRANSFER OF TRICHINAE FROM RAT TO SWINE.
- B TRANSFER OF TRICHINAE FROM SWINE TO RAT.
- C TRANSFER OF TRICHINAE FROM SWINE TO MAN.

- a. APPLICATION OF MEAT INSPECTION.
- b. APPLICATION OF COOKING.
- c, c. APPLICATION OF SWINE SANITATION SYSTEM.
- d. APPLICATION OF COOKING OF GARBAGE.
- e. APPLICATION OF RAT CONTROL MEASURES.

This automatically excludes from its supervision one-third of the meat consumed in this country. In addition, federal regulations requiring destruction of trichinae apply only to pork products customarily eaten without cooking, such as ready-to-eat hams, Canadian style bacon, capicoli, and Italian style hams. The legend "U. S. Inspected and Passed" on fresh pork or on ordinary varieties of cured pork which we generally cook is meaningless as far as protecting us from trichinosis is concerned. Action by state and local governments to supplement federal regulations is therefore essential. Processing of intrastate pork products is just as important as that of interstate pork products. Why does not the federal government require processing not only of pork products customarily eaten without cooking, but also of all those generally cooked before eating? The answer is that the enormous expense of such a regulation is prohibitive and would cause pork prices to rise enormously. Complete protection against trichinosis probably will not come until scientists develop an accurate, inexpensive and rapid skin test which will enable veterinarians to determine whether a pig is infected with trichinae. Once such a test is available, it would be given to all slaughtered hogs, and those found infected would be processed until all trichinae are destroyed. The scourge could thus be entirely removed. The New York Commission is now investigating two such skin tests, recently developed by government scientists, to determine their effectiveness and their cost. If these do not work out, others must be sought. The fight cannot be permitted to lapse. The armies of trichinae parasites which invade our swine and infect our people must be destroyed. Popular pressure on officialdom to speed the war is necessary.

DON'T MAKE PORK A RARE TREAT¹

BY SENATOR THOMAS C. DESMOND

Chairman, New York State Trichinosis Commission

Porky, a 200-pound pig, went to market. When he got there, he promptly lost his life in a slaughter house. Poor Porky. Never caused any harm while he lived. May his soul rest in peace.

That is one side of the story. Here is another.

Porky, like many hogs, was infected with a tiny worm-like parasite called trichina. When he went to market, he was harboring in his body coiled pork worms which are capable of causing in human beings a painful and sometimes deadly disease, known as trichinosis. When slaughtered and placed on sale, Porky's meat still contained those dangerous parasites.

¹Copyright, 1940, by Farrell Publishing Corporation. Reprinted from *The Woman*, January, 1941.

Heat Kills Parasite

Perhaps you ate a piece of Porky when you ordered your last hamburger, hot dog, pork chop or other pork product. But don't fear. If the meat was well done, the parasites were destroyed. Heat kills trichinae.

Thoroughly heated, pork is a healthful, nutritious food, rich in vitamin B. But because a great many people like pork products rare, and because housewives frequently do not cook pork sufficiently to kill the parasites, health officials are considerably alarmed. More than 21 million Americans—one out of every six—are infected at some time during their lives with the microscopic pork parasite. Fortunately most of these people do not get a fatal dose.

You take hygienic precautions with many foods. You wash or peel most fruits and vegetables. Your local government treats your drinking water to destroy harmful bacteria, and your milk company pasteurizes your milk for the same reason. To kill the trichinae, however, it is up to you to heat pork thoroughly.

Cooking Rules

How thorough is "thoroughly?" Scientists inform us that meat heated to 137 degrees Fahrenheit is cooked sufficiently to remove any danger of trichinosis. But how are you going to know when the meat is heated to 137 degrees? The smart way is to stick an

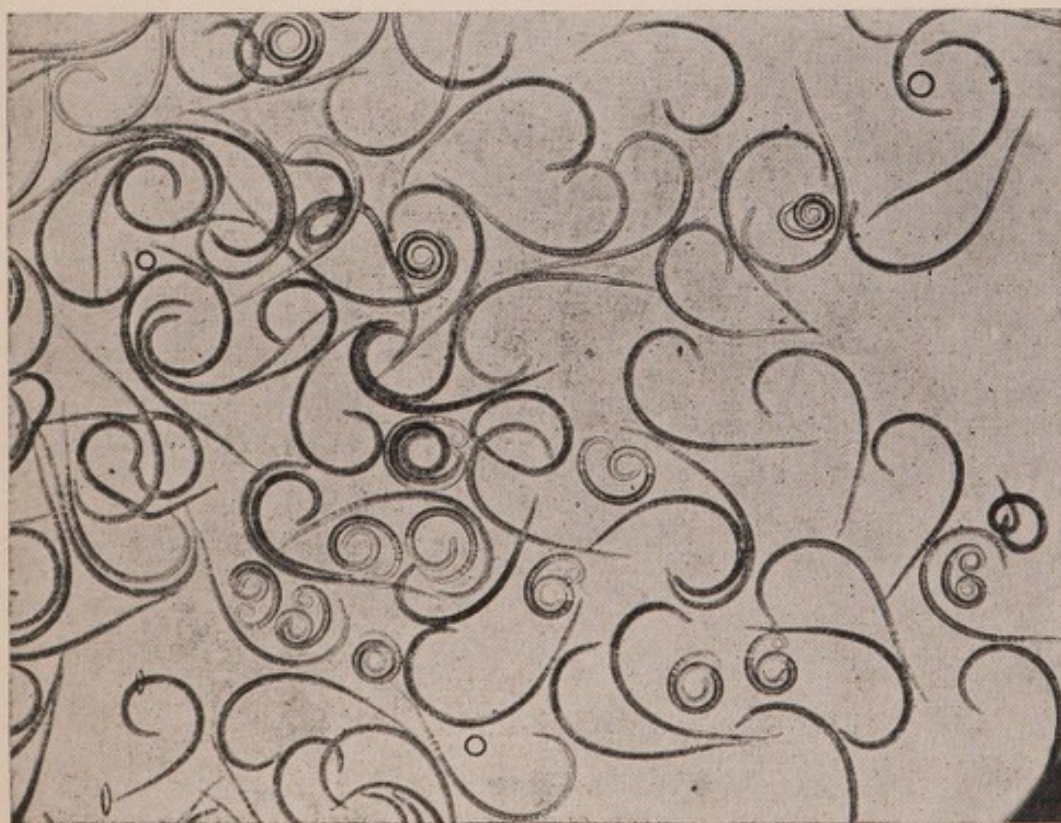


Fig. 3. These microscopic parasites are trichinae.

inexpensive meat thermometer into the meat and watch the mercury rise.

A less accurate guide to sufficient heating of pork is a "rule-of-thumb," which states that 30 minutes to the pound is the approximate amount of time needed for adequate cooking of large thick cuts of pork.

But better than the rule-of-thumb is what might be called a "rule-of-color." This color rule is particularly helpful not only when you are cooking, but when you are dining out. The rule-of-color is based on the knowledge that when pork is heated to 163 degrees Fahrenheit, it loses its pink color and turns grey. The 27 degrees difference between the heat required to kill trichinae and the heat needed to produce a color change is your margin of safety.

If you don't follow these rules, you are courting trouble, for the trichina is a vicious, ruthless parasite.

The Kitchen Battlefront

Entire families have been stricken as a result of eating uncooked or improperly cooked sausage or other products made from the meat of a single hog like Porky. Even tasting uncooked sausages during their preparation to determine whether the seasoning is satisfactory has caused trichinosis. Hastily cooked hamburgers containing a mixture of ground beef and pork are a dangerous source of trichinosis.

These facts prove that the strategic place to fight trichinosis is in the kitchen. But the battlefield in the war against the pork parasite covers many other sectors.

Raw Garbage Is Menace

You will recall that when Porky reached the slaughter house, he was already infected with trichinae. How did he become infected? Farmer Jones fed Porky on uncooked garbage. In that collection of waste foods were scraps of pork. Porky ate the pork scraps which were infected with the coiled worm and thus became a carrier of disease. And that is how other hogs become infested with trichinae. The vicious circle is one of pig eat pig.

If we can stop hog-raisers from feeding uncooked garbage, we will in a comparatively short time reduce enormously the incidence of trichinosis. This is where we may need governmental action.

New York State, aroused by the prevalence of the disease, created a State Trichinosis Commission, first of its kind in this country, to determine what can be done by governmental regulation to check trichinosis. This Commission, of which I am chairman, is digging up all the facts available to determine whether a law should be enacted requiring hog-raisers to cook garbage before feeding it to hogs.

Some hog-raisers complain that the proposed law would mean economic suicide, that the cost of cooking would be enormous. On

the other hand, health officials point out that Canada is virtually free from trichinosis because it has such a requirement. They emphasize that your chance of acquiring trichinosis are ten times greater if you eat a pork chop from a hog raised on cooked garbage than if that chop came from a grain-fed hog, and 20 times greater than if it traced its origin to a pig whose garbage meals had not been cooked.

Meat Inspection Incomplete

In addition to fresh pork, sausages and shoulders, such products as smoked sausages, boneless lions, capicola coppa and forms of dry and summer sausages, are frequent carriers of trichinae when prepared in establishments not under the federal meat inspection service. One-third of the meat consumed in this country does not come under federal scrutiny. Only California has a state inspection service comparable to that of the federal government.

Uncle Sam requires the processing of pork products sold in interstate commerce which are customarily eaten without cooking. But the legend "U. S. Inspected and Passed" on fresh pork or on ordinary varieties of cured pork which you commonly cook is meaningless as far as protecting you from trichinosis is concerned. The expense entailed in processing all pork products would be enormous. The price of pork would rise so steeply as to be prohibitive. That is why Uncle Sam has not extended his regulations to include all pork products entering interstate commerce.

Wanted! A Skin Test

The complete answer to the trichinosis problem would be the development by scientists of an inexpensive, practical method of rapidly determining which pigs are infected with trichinae. At present no such test is available. The New York State Trichinosis Commission, however, is searching for such a test. If one is developed, it will then be simple for Uncle Sam and the various states to require that hogs be given the test before slaughter, and that all infested hogs be processed until the trichinae are killed.

These then, are the steps which governments may take to end the scourge of trichinosis. In the meantime, be sure to cook pork thoroughly.

Symptoms

What happens when the pork parasite manages to get into the human system? First it resides in the intestines, where it frequently causes severe abdominal pains, nausea, general dullness, and sensations of tension and pain. Then, when the parasites produce larvae which burrow through the intestines and rush through the blood stream, there may be skin eruptions and swelling of the legs, forearms and face. When the parasites finally lodge in the muscles, coma or delirium may occur in severe cases. Fever is generally

present during the early stages of the disease, reaching its height about ten days after the first symptoms appear.

The symptoms are extremely varied. Doctors, lacking an accurate diagnostic test, at present, frequently confuse it with more than 50 diseases ranging from typhoid fever to acute alcoholism.

No Medical Cure

No medical cure for trichinosis is known. Scientists have tried ultra-violet rays, X-rays, and many drugs and serums without success. But they are continuing their efforts, and some day their quest for a cure must be rewarded by success. In the meantime, doctors confronted with a trichinosis case try to alleviate pain by administering calomel to expel the parasites from the digestive tract.

It Is Up to You!

We see, therefore, that emphasis must be placed upon prevention, and that you have the power to avoid trichinosis by cooking pork thoroughly. Until our state governments can find an effective way of dealing with trichinosis, it is your job to prevent the disease. Trichinosis can be overcome—with your help.

THE MEDICAL ASPECTS OF TRICHINOSIS

by

WILLARD H. WRIGHT, *Chief*, and FREDERICK J. BRADY,
Passed Assistant Surgeon, Division of Zoology,
National Institute of Health, U. S. Public Health Service

Trichinosis is a disease caused by the small nematode or round-worm parasite, *trichinella spiralis*. The mature worms occur mostly in the small intestine and the infective larvae in the striated or voluntary muscles of the same individual. The adult female worm is 3 to 4 mm. in length and approximately 100 micron in diameter; the male is 1.4 to 1.6 mm. in length and 40 to 50 micron in diameter. The encysted or infective stage larvae in the muscles reach a length of approximately 1 mm. The parasite is found in many carnivorous and omnivorous warmblooded animals. Certain birds have been infected experimentally but the larvae in the muscles do not always undergo normal development. From a practical standpoint, birds are probably not concerned in the transmission of the parasite. So far as is known, cold-blooded animals cannot be infected. Man usually acquires an infection through the consumption of raw or undercooked trichinous pork.

Life History

When an individual consumes trichinous meat, the larvae are freed from their cysts by the action of the gastric juice and migrate

from the stomach to the small intestine. Here the sexes develop to maturity usually within 72 hours and mate promptly. The females worm begins to give birth to living young within 6 to 7 days after infection and larval production may continue for a period of 6 weeks or longer.

At birth the young worms measure about 100 micron in length and 6 micron in width. They find their way to the lymph spaces and are carried to the thoracic duct from which they reach the venous circulation and the right heart. The transfer from the venous to the arterial blood takes place in the pulmonary capillaries. Once in the arterial blood, the larvae are carried to all or nearly all of the voluntary muscles of the body. The young worms are most numerous in the blood stream from the 8th to 25th days after infection. The interval between infection and muscle penetration by the larvae is somewhat variable. Larvae may begin to reach the muscles by the 9th or 10th day after infection but are difficult to find before the 15th day after infection.

After reaching the voluntary muscles, the larvae penetrate the sarcolemma of the muscle fibers and undergo rapid growth. Within 10 days or 2 weeks after penetration, they reach a length of approximately 1 mm. and become spirally coiled. These infective larvae may be found as early as 21 days after infection. Marked degenerative changes occur in the muscle fibers and in 4 to 6 weeks a membranous capsule begins to form around the worm. Usually these ovoid, lemon-shaped cysts each contain a single coiled larva but occasionally two or more larvae may be found in the same cyst. Calcification of the cyst wall begins to take place usually in about 8 to 10 months, although several years may be required for complete calcification. In time the larvae, themselves, dies and are absorbed or become calcified. The longevity of the larvae is extremely variable but in most cases they undoubtedly remain alive for several years.

Symptomatology

The symptoms of trichinosis are very diverse and may affect any system of the body with the possible exception of the reproductive system. The intensity of the disease is extremely variable and is dependent for the most part on the degree of infection and the resistance of the individual. Thus, one may encounter all gradations of symptoms ranging from a mild, almost sub-clinical syndrome to those characterizing a severe, fulminating fatal infection. Because of this, it is not surprising that all cases of the disease are not readily recognized and that the symptoms are sometimes confused with those of half a hundred other diseases which they may simulate.

In some cases, the initial response to infection is referable to the gastro-intestinal tract and is manifested by nausea, vomiting and diarrhea. These symptoms may be noticed as early as 24 to

SYMPTOMATOLOGY

| STAGES | TIME OF ONSET AFTER INFECTION | LOCATION OF PARASITES | SYMPTONS WHICH MAY BE EXHIBITED | SOMETIMES TENTATIVELY DIAGNOSED AS: |
|------------|-------------------------------|---|--|--|
| ENTERAL | 24 TO 72 HOURS | LARVAE AND ADULTS IN INTESTINAL LUMEN AND VILLI | <ul style="list-style-type: none"> NAUSEA VOMITING DIARRHEA CONSTIPATION ABDOMINAL PAIN | <ul style="list-style-type: none"> TYPHOID FEVER FOOD POISONING INTESTINAL INFLUENZA COLITIS APPENDICITIS |
| PARENTERAL | AFTER 4 TO 5 DAYS | LARVAE IN BLOOD STREAM AND MUSCLES | <ul style="list-style-type: none"> EOSINOPHILIA IRREGULAR HYPERTYREXIA EDEMA (ESPECIALLY SUBORBITAL) CONJUNCTIVITIS PHOTOPHOBIA MYALGIA SORE THROAT DYSPNOEA COUGH SCARLATINIFORM RASH ROSE SPOTS URTICARIA PLEURISY PNEUMONIA | <ul style="list-style-type: none"> ARTHRITIS RHEUMATISM UPPER RESPIRATORY INFECTION LARYNGITIS CONJUNCTIVITIS INFLUENZA INTERCOSTAL NEURITIS MEASLES FRONTAL SINUSITIS ASTHMA PLEURISY PNEUMONIA |
| | | LARVAE PASSING THROUGH HEART | <ul style="list-style-type: none"> CHEST PAIN TACHYCARDIA APICAL MURMURS DICROTIC PULSE | <ul style="list-style-type: none"> MYOCARDITIS ENDOCARDITIS |
| | | LARVAE IN BRAIN AND MENINGES | <ul style="list-style-type: none"> SEVERE HEADACHE MALAISE MARKED HYPERTYREXIA DISORIENTATIION DELIRIUM COMA | <ul style="list-style-type: none"> ENCEPHALITIS MENINGITIS POLIOMYELITIS |

48 hours after the ingestion of the trichinous meat. Occasionally, they appear later. Many cases of trichinosis show no gastrointestinal symptoms; such symptoms are most likely to be encountered in severe infections. The fever in most cases is irregular with a peak of about 103 F. However, there are recorded cases in which the temperature has gone higher with a plateau typhoid-like curve or with the intermittent septic type of temperature. The fever usually subsides by lysis during convalescence.

A persistent edema of the face may appear about the 9th or 10th day of illness. This edema is most apparent in the suborbital tissue and may also involve the conjunctivae with bulbar chemosis. The patient may complain of photophobia. Edema in other parts of the body, particularly the dependent portions, may occur later in the course of the disease.

Muscle tenderness and soreness are frequently present. Pain is evidenced mostly on movement of the muscles. The myalgia is frequently most pronounced in the large muscle masses such as those of the thighs, calves, shoulders and back. However, mastication and deglutition may be painful and marked involvement of the diaphragm and the intercostals may lead to respiratory difficulties. The tenderness and pain usually reach their height 4 to 6 weeks after onset and may not completely subside until a year or two after acute illness.

Petechiae and ecchymoses may occur subcutaneously in various parts of the body. Subungual splinter hemorrhages are said to be a diagnostic feature but occur only in a relatively small proportion of the cases. There may be an annoying pruritus with or without skin lesions.

Electrocardiographic studies indicate that myocardial damage may occur during the acute phase of illness due to the passage of large numbers of larvae through the heart muscle. Not infrequently there is involvement of the central nervous system due to the invasion of the larvae with a resulting clinical syndrome which may simulate closely that of encephalitis, meningitis or myelitis. The passage of the larvae through the lungs may result in severe congestion which may be followed by bronchopneumonia with fatal termination in the 5th or 6th week of illness. The urine may show a slight amount of albumin and contain casts.

The acute phase of the disease usually subsides in about 6 to 8 weeks. However, symptoms of muscle pain and tenderness and inordinate fatigue may incapacitate the patient for months and persist for a year or more.

Diagnosis

The textbook picture of trichinosis is undoubtedly an over-simplified picture and only exceptionally does the physician encounter a really typical case of the disease. For this reason, the informa-

tion afforded by the symptomatology should be supplemented by the employment of the several other diagnostic methods available.

The Blood Picture

In the majority of cases of trichinosis there is a definite leucocytosis, the number of leucocytes ranging usually from 10,000 to 20,000. However, not all cases of trichinosis show a rise in the leucocyte count and in some individuals a leucopenia may even be present.

The presence of an eosinophilia is of definite diagnostic significance. Most cases of the disease show some eosinophilia although persons suffering from concomitant bacterial or virus infections and those having an overwhelming invasion of trichinae may not show any change in the differential blood picture. The eosinophilia may rise as high as 80 percent although in most cases it is usually lower. There is no definite correlation between the degree of infection and the percentage of eosinophiles.

The eosinophilia usually makes its appearance on the 7th or 8th day after infection, although it may not become evident before the 3rd week. The percentage of eosinophiles usually progresses rapidly to a peak but during the period of illness considerable variation may be noted in the daily differential counts. In severe cases a rapid drop may occur just before fatal termination.

It must be remembered that an eosinophilia may be associated with parasitic diseases other than trichinosis and with burns, bronchial asthma, allergic states, myelogenous leukemia, scarlet fever, certain skin diseases, liver therapy following pernicious anemia, periarteritis nodosa and certain other conditions. Its presence is therefore not always to be linked with trichinosis and this fact, together with the fact that some cases of the disease never show an eosinophilia, should be definitely taken into consideration. However, a differential blood count is indicated in acute illnesses characterized by a rise in temperature, suborbital edema and evidence of muscle involvement, with or without gastro-intestinal symptoms. The presence of an eosinophilia under these conditions is strong presumptive evidence for a diagnosis of trichinosis.

Examination for Larvae

Examination of the blood, spinal fluid and feces for trichina larvae is frequently made in cases of trichinosis. While positive findings are significant, negative findings do not necessarily indicate that the patient may not have trichinosis. As a matter of fact, isolation of larvae from these sources is accomplished in only a relatively small percentage of cases. There is more hope of success in heavily infected cases but even in such cases the findings are not consistent.

Biopsy

A biopsy is of considerable inconvenience to the patient but is not a dangerous procedure. If positive, it affords definite proof of infection. However, success in finding the larvae depends greatly on the degree of infection, the time after infection at which the biopsy is made, and the method of examining the biopsied muscle. In lightly infected cases, opportunities for detecting the larvae are conditioned largely by chance, since the muscles commonly biopsied are not those which are most heavily infected. Biopsies made before the 21st day after infection will frequently be negative since in many cases larvae will not have reached the muscles in sufficient concentration to be easily detected. It is advisable to examine press preparations of muscle between heavy plate glass slides rather than to depend on sectioning the material. After the press preparation has been carefully examined, the entire amount of muscle should be digested in artificial gastric juice. Both types of examination should be made, since young larvae which have not reached the infective stage may be partly digested and not be recovered. Careful search of the press preparation should be made, particularly if the biopsy is taken before the 21st day after infection, for the reason that many of the larvae at this stage are still relatively small and are not yet coiled within the muscle fiber. Their detection is difficult for this reason. Because of the varying factors involved, detection of the larvae in biopsied muscle cannot be expected in every case of trichinosis. Consequently, a negative finding is not definite evidence that the patient is not suffering from trichinosis.

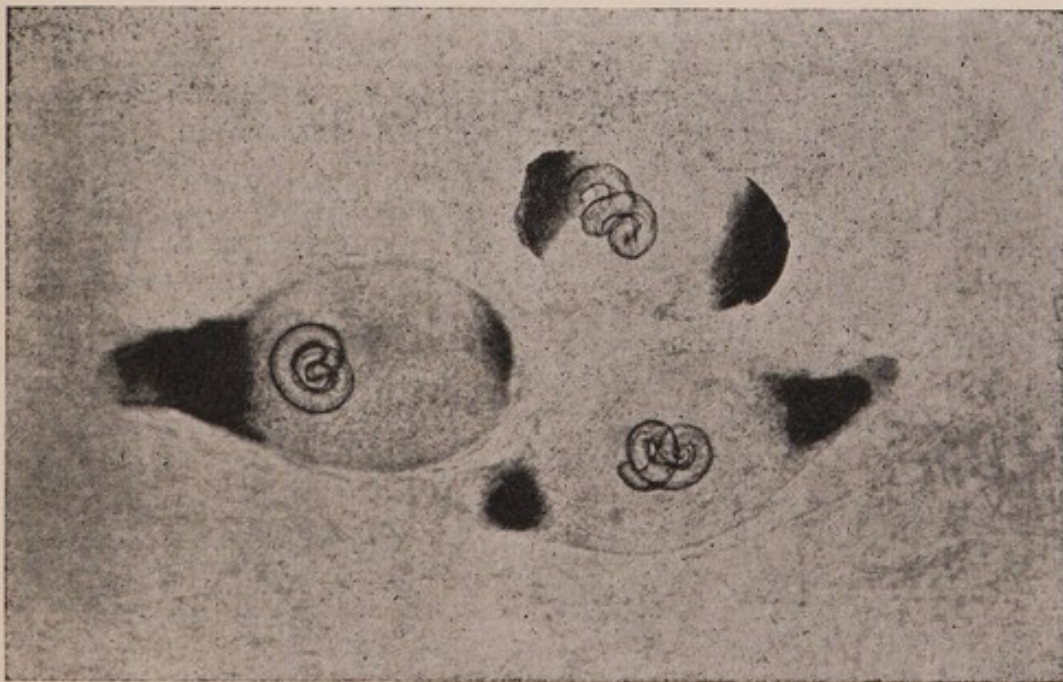


FIGURE 4.—TRICHINAE LODGE IN A MUSCLE

Intradermal and Precipitin Tests

The development and refinement of these tests during the past few years have provided additional valuable aids in the diagnosis of trichinosis. The antigen employed in the tests is prepared from powdered trichina larvae. As produced in the National Institute of Health, the powder is extracted with neutral physiological saline solution, the resulting material is sterilized fractionally by heat and is dispensed in 2 cc hermetically sealed vials each containing 0.10 cc, an amount more than sufficient for one intradermal test. Samples of this antigen exposed to sunlight and room temperature for a period of 6 months have shown no less of potency when tested by the precipitin method, and presumably the antigen will retain its potency for even longer periods of time if stored in the refrigerator.

Tests with this antigen have indicated to date its species specificity in that it usually elicits positive reactions in patients infected with *trichinella spiralis* but does not produce positive reactions in patients harboring such common intestinal parasites as *ascaris lumbricoides*, *necator americanus*, *enterobius vermicularis* and *trichuris trichiura*. However, in using the antigen in suspected cases of trichinosis, it should be borne in mind that examinations made in the National Institute of Health on approximately 4,900 diaphragms from unselected necropsies in various sections of the United States indicated that 16.4 percent were positive for trichinae. If one person in six is infected with the parasite, it may be expected that some infected individuals will give a positive reaction to the intradermal test with trichina antigen even though their illness may not be related to clinical trichinosis. In fact, experimental evidence indicates the validity of this assumption. Furthermore, it should be borne in mind that tissue sensitivity to *t. spiralis* antigen may be present for years after a person has suffered from an attack of trichinosis and such persons may react positively to the intradermal test with trichina antigen for relatively long periods of time. Under these circumstances, a positive reaction to the intradermal test with trichina antigen may mean that the patient is suffering from clinical trichinosis at the time of the test; it may mean that the patient has had in the past a trichina infection of a degree sufficient to produce persistent tissue sensitivity or it may mean that the patient has at the time of the test a non-clinical trichina infection to which his present illness is unrelated etiologically. Considerable care should therefore be exercised in interpreting the results of the intradermal test. Due cognizance should be taken also of the fact that the intradermal test is usually not positive until after the second week of infection; if the test is applied earlier than this, the patient may fail to react. Positive reactions to the intradermal test are usually of the immediate type and appear within 15 or 20 minutes after the injection of the antigen. However, in exceptional cases, par-

ticular in early stages of infection, there may occur a delayed type of reaction which does not reach its height before 24 hours.

The precipitin test has the disadvantage of eliciting a positive response even later in the course of infection than does the intradermal test, since positive reactions are usually not obtained until after the third week of infection. However, circulating antibodies disappear before tissue sensitivity, and positive precipitin reactions are usually not obtained for longer than 1 to 2 years after infection. When possible, it is of advantage to make use of both tests in connection with suspected cases of trichinosis, since every infected individual does not always react positively to each test. However, too much reliance should not be placed on these tests in diagnosing suspected cases of trichinosis but rather the results of the tests should be given due consideration in connection with the clinical syndrome, the differential blood picture, the history of the case, and other factors. Occasionally individuals not infected with trichinae may react positively to these tests. The reasons for this are not apparent at the present time. It is possible that some kinds of drug therapy and certain malignancies may influence the reaction to the tests.

At the present time, production of the antigen is not sufficient to warrant its general distribution for use in making the precipitin tests. However, until such time as the antigen is more readily available, precipitin tests will be made in the National Institute of Health on samples of blood serum submitted for that purpose. In the past, many samples of serum submitted for test have been unsuitable for use because of the fact that they contained bacterial growth or hemolyzed blood, or were extremely chylous. If possible, the directions given below should be followed in obtaining and supplying samples of serum for this test.

1. Serum for the precipitin test should be secured either before, or 24 hours after, the application of the intradermal test.

2. The patient should be bled before breakfast in order to avoid chylous specimens and prevent deterioration of the sample en route.

3. All apparatus used for collecting specimens should be washed free of alkali and acid before sterilization.

4. Only sterile apparatus should be used.

5. The syringe used in drawing the blood should be rinsed with physiological saline solution to prevent hemolysis.

6. The serum should be separated from the clot before hemolysis begins to take place, and rendered perfectly free from red cells and particles by centrifuging.

7. At least 2 cc of perfectly clear serum should be submitted; about 5 cc of blood will provide this amount of serum.

8. Do not heat or add preservative of any nature.

Treatment

There is no specific treatment available at the present time. Many drugs have been tried for the removal of adult trichinae from the intestinal tract but there is no evidence to indicate that anthelmintic medication is of any value for this purpose. Larvae in the blood stream and muscles are very resistant to drug therapy and no means of destroying these larvae is known at present. Results from the use on experimental animals of various chemotherapeutic agents, immune serum, and forced calcification of trichina cysts by viosterol or parathormone do not warrant the employment of these measures in the treatment of human infections.

Supportive treatment is of value and should be directed toward the preservation of the patient's strength and the alleviation of symptoms as they arise. Rest in bed, the use of a liquid or semi-soft diet rich in carbohydrates, and good nursing are indicated.

CHAPTER IV

PREVALENCE OF TRICHINOSIS

Introduction

How prevalent is trichinosis? Surgeon General Thomas Parran, of the United States Public Health Service, answers this question by stating:

“Complete information as to the incidence of human trichinosis is not available. The small number of clinical cases reported to the Public Health Service annually by state health departments is not an adequate index of the prevalence of the disease in the United States. Trichinosis is not easily recognized, and all recognized cases are not reported to the health authorities. The best available evidence of the prevalence of the infection in man is found in the results of studies conducted by the Public Health Service during the past four years. One in every six human specimens examined in the laboratory have been found infected with trichinae.”¹

Dr. Willi Sawitz, of Tulane University, reports that only 4,543 cases of trichinosis have been diagnosed and recorded in the United States from 1842 to 1936.²

Trichinosis in New York State

Dr. Sawitz's figures for the average annual number of reported cases in the various states from 1930 to 1936, inclusive, rank New York State as third highest with a rate of 10.25. Maine had a rate of 11.29 and California, a rate of 12.03.

TABLE I
TRICHINOSIS CASES
REPORTED TO THE U. S. PUBLIC HEALTH SERVICE
IN CERTAIN STATES 1930-1936*

| <i>State</i> | <i>1930</i> | <i>1931</i> | <i>1932</i> | <i>1933</i> | <i>1934</i> | <i>1935</i> | <i>1936</i> | <i>Average Annual Rate Per 1,000,000 Population</i> |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---|
| California..... | 143 | 40 | 80 | 51 | 52 | 91 | 40 | 12.028 |
| Maine..... | .. | 1 | .. | .. | .. | 62 | .. | 11.292 |
| New York..... | † | 75 | 68 | 132 | 197 | 240 | 172 | 10.247 |
| New Jersey... | 12 | 10 | 17 | 23 | 39 | 11 | 9 | 4.277 |
| Pennsylvania.. | 50 | 21 | 6 | 14 | 16 | 12 | 14 | 1.854 |
| Connecticut... | 1 | 15 | 11 | 17 | 28 | 19 | 11 | 9.601 |
| Illinois..... | 6 | 6 | 9 | 16 | 12 | 20 | 9 | 1.460 |
| Iowa..... | .. | 1 | 2 | 1 | 11 | 11 | .. | 1.500 |
| Massachusetts | 19 | 13 | 15 | 41 | 46 | 47 | 13 | 6.522 |
| Oregon..... | .. | .. | 17 | 1 | .. | 3 | .. | 3.147 |

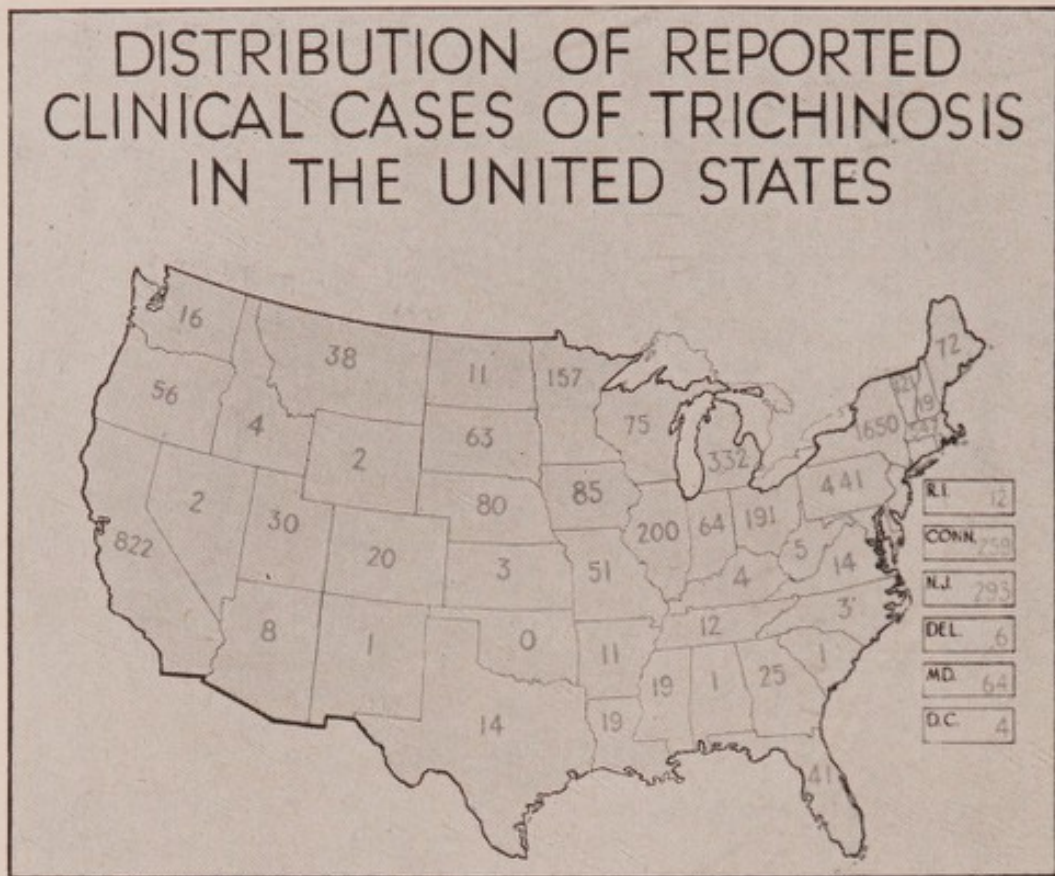
* From Public Health Reports, 53:365, March 11, 1938.

† Note that this tabulation does not list a single case of trichinosis in New York State during 1930; actually, 60 cases were reported.

¹Statement on Trichinosis, prepared for the New York Daily News, and dated December 27, 1939.

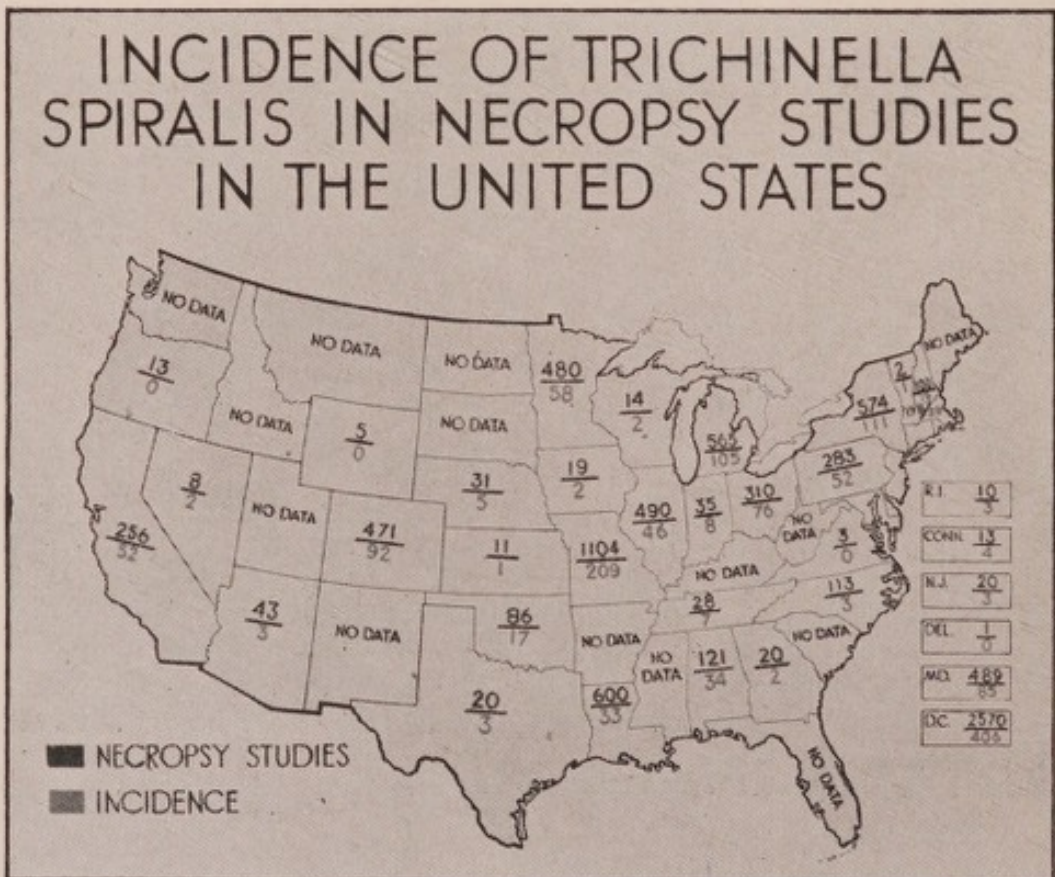
²Public Health Report, 53:365, March 11, 1938.

FIGURE 5



Courtesy, National Institute of Health

FIGURE 6



Courtesy, National Institute of Health

“The point is that it seems likely similar cases are occurring in other communities throughout the State, for Broome County does not have any more of a racial disproportion than numerous other communities. It would appear possible that the high degree of reporting of cases from Broome County is due principally to the local physicians’ recognizing and reporting the disease to a greater extent than physicians in other communities in upstate New York. This seems to be further confirmed by information from the Binghamton district office to the effect that the diagnosis of trichinosis has been stressed at meetings of the local medical profession, particularly among the physicians employed by the Endicott-Johnson Company.

“Undoubtedly trichinosis is considerably more of a public health problem in New York State than is indicated by our morbidity reports.”¹

TABLE 2
REPORTED CASES OF TRICHINOSIS IN UPSTATE NEW YORK
(1935—1939)

| AREA | 1935 | 1936 | 1937 | 1938 | 1939 |
|---|------|------|------|------|------|
| New York State (excl. of N. Y. C.)..... | 137 | 114 | 124 | 52 | 69 |
| Albany County | 1 | 1 | — | — | 3 |
| Coeymans T. | — | 1 | — | — | — |
| Rensselaerville T. | — | — | — | — | 3 |
| Westerlo T. | 1 | — | — | — | — |
| Broome County | 2 | 17 | 1 | — | 21 |
| Binghamton C. | — | 15 | 1 | — | 17 |
| Johnson City V. | 2 | — | — | — | 1 |
| Maine T. | — | — | — | — | 1 |
| Union T. | — | 2 | — | — | 2 |
| Cattaraugus County | 4 | 10 | — | — | — |
| Olean C. | — | 8 | — | — | — |
| Allegany T. | 4 | 2 | — | — | — |
| Cayuga County | — | 1 | — | — | — |
| Sterling T. | — | 1 | — | — | — |
| Chemung County | — | 1 | — | 1 | — |
| Elmira C. | — | 1 | — | 1 | — |
| Clinton County | 3 | — | — | 4 | 1 |
| Clinton T. | — | — | — | 1 | — |
| Ellenburg T. | — | — | — | 3 | — |
| Plattsburg T. | 3 | — | — | — | — |
| Dannemora State Hospital..... | — | — | — | — | 1 |
| Columbia County | 7 | 6 | — | — | — |
| Canaan T. | — | 6 | — | — | — |
| Ghent T. | 7 | — | — | — | — |

¹Health News, Vol. 17, No. 36, Sept. 2, 1940, p. 148.

REPORTED CASES OF TRICHINOSIS
(Continued)

| AREA | 1935 | 1936 | 1937 | 1938 | 1939 |
|-------------------------|------|------|------|------|------|
| Dutchess County | — | — | — | — | 1 |
| Poughkeepsie C. | — | — | — | — | 1 |
| Erie County | 3 | 7 | — | 4 | 1 |
| Buffalo C. | 3 | 2 | — | 4 | — |
| Amherst T. | — | 5 | — | — | — |
| West Seneca T. | — | — | — | — | 1 |
| Franklin County | — | — | — | 1 | 1 |
| Chateaugay V. | — | — | — | — | 1 |
| Chateaugay T. | — | — | — | 1 | — |
| Fulton County | 3 | 2 | — | 1 | — |
| Gloversville C. | — | 2 | — | — | — |
| Johnstown C. | 3 | — | — | — | — |
| Oppenheim T. | — | — | — | 1 | — |
| Genesee County | — | — | — | 4 | — |
| Batavia C. | — | — | — | 4 | — |
| Jefferson County | 1 | — | — | — | — |
| Watertown C. | 1 | — | — | — | — |
| Lewis County | 1 | — | — | — | — |
| Turin T. | 1 | — | — | — | — |
| Livingston County | — | 1 | — | — | 1 |
| Geneseo V. | — | 1 | — | — | — |
| Groveland T. | — | — | — | — | 1 |
| Monroe County | 18 | 9 | 90 | 3 | 9 |
| Rochester C. | 16 | 9 | 90 | 3 | 9 |
| Irondequoit T. | 2 | — | — | — | — |
| Montgomery County | — | — | 1 | — | — |
| Amsterdam C. | — | — | 1 | — | — |
| Nassau County | 42 | 5 | 15 | 1 | 2 |
| Hempstead V. | — | — | 2 | — | — |
| Cedarhurst V. | 2 | — | — | — | 1 |
| East Rockaway V. | 6 | — | — | — | — |
| Garden City V. | — | — | 1 | — | — |
| Mineola V. | 2 | — | 1 | — | — |
| Westbury V. | — | — | 10 | 1 | — |
| Hempstead T. | 26 | 1 | — | — | 1 |
| North Hempstead T. | 6 | — | 1 | — | — |
| Oyster Bay T. | — | 4 | — | — | — |
| Niagara County | 20 | — | 1 | 6 | — |
| Niagara Falls C. | 20 | — | 1 | 6 | — |
| Onondaga County | — | 13 | — | 2 | — |
| Syracuse C. | — | 3 | — | 1 | — |
| Solvay V. | — | 10 | — | 1 | — |
| Ontario County | — | — | — | — | 1 |
| Clifton Springs | — | — | — | — | 1 |

REPORTED CASES OF TRICHINOSIS
(Continued)

| AREA | 1935 | 1936 | 1937 | 1938 | 1939 |
|------------------------------------|------|------|------|------|------|
| Orange County | — | — | 6 | — | — |
| Highlands T. | — | — | 6 | — | — |
| Otsego County | — | — | — | 5 | — |
| Cooperstown V. | — | — | — | 2 | — |
| Morris V. | — | — | — | 1 | — |
| Milford T. | — | — | — | 2 | — |
| Worcester T. | — | — | — | — | 1 |
| Rensselaer County | 1 | — | — | — | — |
| Troy C. | 1 | — | — | — | — |
| Rockland County | — | — | 2 | 1 | 3 |
| Haverstraw V. | — | — | — | 1 | — |
| Hillburn V. | — | — | 2 | — | — |
| Clarkstown T. | — | — | — | — | 3 |
| St. Lawrence County | — | — | — | — | 12 |
| Potsdam V. | — | — | — | — | 12 |
| Saratoga County | — | 1 | — | 2 | — |
| South Glens Falls V. | — | 1 | — | 2 | — |
| Schenectady County | 1 | 4 | — | 1 | — |
| Schenectady C. | 1 | 1 | — | 1 | — |
| Rotterdam T. | — | 3 | — | — | — |
| Seneca County | 1 | — | 2 | — | — |
| Seneca Falls V. | 1 | — | — | — | — |
| Waterloo V. | — | — | 1 | — | — |
| Waterloo T. | — | — | 1 | — | — |
| Steuben County | — | 15 | — | — | — |
| Hornell C. | — | 15 | — | — | — |
| Suffolk County | — | 3 | — | 1 | — |
| Brookhaven T. | — | 2 | — | — | — |
| Islip T. | — | — | — | 1 | — |
| Central Islip State Hospital | — | 1 | — | — | — |
| Tompkins County | — | — | — | — | 1 |
| Ithaca C. | — | — | — | — | 1 |
| Ulster County | 2 | — | — | — | — |
| Ulster T. | 2 | — | — | — | — |
| Warren County | 2 | — | — | — | — |
| Stony Creek T. | 2 | — | — | — | — |
| Wayne County | 1 | 3 | — | 4 | 3 |
| Clyde V. | 1 | — | — | — | — |
| Newark V. | — | — | — | 2 | — |
| Marion T. | — | 3 | — | — | — |
| Ontario T. | — | — | — | — | 3 |
| Rose T. | — | — | — | 2 | — |

REPORTED CASES OF TRICHINOSIS
(Continued)

| AREA | 1935 | 1936 | 1937 | 1938 | 1939 |
|--------------------------|------|------|------|------|------|
| Westchester County | 24 | 15 | 6 | 11 | 8 |
| Mamaroneck V. | 1 | — | — | — | — |
| Mount Vernon C. | 2 | 2 | — | — | — |
| New Rochelle C. | 1 | — | 1 | 2 | 1 |
| Ossining V. | — | 1 | — | — | — |
| Port Chester V. | — | 1 | — | — | 1 |
| White Plains C. | 2 | 7 | 2 | 3 | 1 |
| Yonkers C. | 1 | — | — | 6 | 2 |
| Ardsley V. | 1 | — | — | — | — |
| Dobbs Ferry V. | 14 | 1 | — | — | — |
| Pelham Manor V. | 1 | — | — | — | — |
| Rye V. | — | 2 | — | — | — |
| Bedford T. | — | — | 1 | — | — |
| Cortlandt T. | — | — | 1 | — | — |
| Harrison T. | — | 1 | — | — | 2 |
| Lewisboro T. | — | — | 1 | — | — |
| Mamaroneck T. | 1 | — | — | — | — |
| Mt. Pleasant T. | — | — | — | — | 1 |

Dr. Harry Most, of the Department of Clinical Pathology, New York University College of Medicine, presented at the public hearing held by this Commission on November 28, 1940, a report showing that of one hundred bodies examined in New York City, 22 per cent were infested by trichinae. An abstract of his paper follows:

"In recent years the incidence of trichinosis in various parts of America has gained widespread publicity in both lay and medical journals. Incidence varying from 3 to 36 per cent have been reported from various parts of the country with a probable average incidence of 17 per cent for the whole United States as judged from a large series of 3,000 cases studied at the National Institute of Health in Washington. This large incidence is very much in excess of the clinical experience with trichinosis in general practice. Apparently the widespread nature of this disease is not appreciated and relatively infrequently is the disease recognized clinically. The present study was instituted to discover the incidence of trichinosis in New York City. One hundred bodies were studied exhaustively by a combination of press, section and digestion methods. The bodies were selected at random from the Medical Examiner's Office of New York City and the cases of death were unrelated to trichinosis. It was found that 22 per cent of the bodies so studied were infested by larvae *trichinella spiralis*. While it is appreciated that this figure is alarmingly high and the series studied relatively small, one cannot escape the conclusion that trichinosis must be widespread in its distribution in New York as well as other large metropolitan communities.

The most feasible and satisfactory method of discovering the infestation in this study was shown to be the digestion method.

This proved particularly satisfactory in picking up light infestations. It is suggested that further studies of this nature be continued in an effort to establish an exact incidence of trichinosis in New York and measures be taken to combat infection."

TABLE 3
REPORTED TRICHINOSIS CASES AND DEATHS
New York State, 1930-1939

| Year | New York State | | New York City | | New York State (exclusive of N.Y.C.) | |
|-----------|----------------|--------|---------------|--------|---|--------|
| | Cases | Deaths | Cases | Deaths | Cases | Deaths |
| 1930..... | 60 | 2* | 21 | * | 39 | 2 |
| 1931..... | 90 | 3 | 33 | .. | 57 | 3 |
| 1932..... | 69 | 4 | 48 | 2 | 21 | 2 |
| 1933..... | 145 | 3 | 36 | 1 | 109 | 2 |
| 1934..... | 198 | 7 | 125 | 1 | 73 | 6 |
| 1935..... | 241 | 5 | 104 | 3 | 137 | 2 |
| 1936..... | 170 | 5 | 56 | .. | 114 | 5 |
| 1937..... | 177 | 3 | 53 | 2 | 124 | 1 |
| 1938..... | 126 | 5 | 74 | 4 | 52 | 1 |
| 1939..... | 127 | 1 | 58 | 1 | 69 | 0 |
| Total... | 1403 | 38 | 608 | 14 | 795 | 24 |

* Figures not available for New York City in 1930.

More trichinosis cases were reported in New York City during the first eleven months of 1940 than during any single year since the disease was made reportable, in 1930. A total of 136 cases was reported in New York City from January 1, 1940, to November 22, 1940.

The following table was prepared by Dr. James E. Perkins, Director of the Division of Communicable Diseases, New York State Health Department. It shows that trichinosis, during the five years, 1934-1938, ranked fifteenth among reported diseases in New York State.

TABLE 4
AVERAGE ANNUAL NUMBER OF REPORT CASES OF CERTAIN
DISEASES IN UPSTATE NEW YORK
(1934-1938)

| Disease | Cases | Disease | Cases |
|---------------------------|--------|------------------------------|-------|
| Measles | 29,859 | Typoid fever | 301 |
| Pneumonia | 16,299 | Undulant fever | 225 |
| Scarlet fever | 15,834 | Meningococcus meningitis ... | 130 |
| Chickenpox | 15,182 | Trichinosis | 120 |
| Whooping cough | 13,369 | Ophthalmia neonatorum | 82 |
| German measles | 12,231 | Epidemic encephalitis | 56 |
| Vincent's angina | 1,040 | Tetanus | 44 |
| Septic sore throat | 841 | Paratyphoid fever | 42 |
| Bacillary dysentery | 583 | Smallpox | 37 |
| Poliomyelitis | 308 | Amebic dysentery | 37 |
| Diphtheria | 302 | Malaria | 30 |

Post-mortem examinations conducted by the U. S. Public Health Service indicate that more than 21,000,000 people in this country may be infected with the trichina parasite, at some time during their lives. It should be made clear, however, that the fact that a person harbors trichinae does not necessarily mean that he is ill. Whether or not the trichinae will cause illness depends on the intensity of the infection. At present, it is not known how intense an infection must be to cause clinical trichinosis.

The following report presents the findings of the National Institute of Health and contains data showing the incidence of trichinella spiralis in necropsy material from New York State.

THE INCIDENCE OF HUMAN INFECTION WITH THE
TRICHINA PARASITE, TRICHINELLA SPIRALIS, AS
INDICATED BY POST-MORTEM EXAMINATIONS.

by

WILLARD H. WRIGHT

*Chief, Division of Zoology,
National Institute of Health,
U. S. Public Health Service.*

During the past 40 years various investigators have conducted a search for the trichina parasite in individuals coming to necropsy in different parts of the United States. Possibly as a result of a growing appreciation of the importance of trichinosis as a public health problem, the number of such reports has increased greatly during the past few years and the total examinations have now reached a point where the results are of considerable significance. It is the purpose of the writer to report briefly on the incidence studies carried out in the National Institute of Health and to summarize the published findings of other workers.

National Institute of Health Studies

The survey in the National Institute of Health has been based on the examination of diaphragm material from persons coming to necropsy in hospitals in Washington, D. C., and elsewhere. In the case of hospitals outside of Washington, the material has been forwarded in dry boric acid which acts as a preservative and at the same time has no effect on any trichina parasites which may be present in the muscle.

Each diaphragm has been examined by two methods. A detailed description of these methods has been published by Nolan and Bozicevich¹ and by Kerr, Jacobs and Cuvillier.² In substance, a direct microscopic examination is made of a representative 1-gram sample which is pressed between two heavy plate glass slides held in a steel frame tightened by means of thumb screws. This material is examined under a low power dissecting microscope and the number of larvae and the condition of the larvae, i.e., whether they are alive or dead, calcified or uncalcified, are recorded. The remainder of the diaphragm is ground in a food chopper, is digested in artificial gastric juice for approximately 18 hours and is then examined for trichina larvae by the use of the Baermann apparatus which is described in detail in the above-mentioned reports. Each technique supplements the other. Records indicate that either of them is only approximately 66 per cent effective in detecting positive cases. The direct microscopic examination is most efficient in detecting infections with dead larvae while the digestion-Baermann method is most efficient in detecting infections with live larvae. The use of the two methods results in the finding of very close to 100 per cent of all infections of the order of one larvae per gram or more. It is probable that some infections consisting of dead larvae of the order of less than one per gram may be missed. Actually, therefore, the reported incidence on the examinations made in the National Institute of Health is probably somewhat below the true incidence of the parasite in the material examined.

Table 1 gives the results at this writing of the several thousand examinations made in the National Institute of Health. The various series of examinations are differentiated in accordance with the source of the material. These series are defined as follows:

1. The base series consists of diaphragms furnished by 10 hospitals in Washington, D. C., and 4 U. S. Naval Hospitals and 2 U. S. Marine Hospitals in eastern seaboard cities. It has been pointed out by Hall and Collins³ that necropsy examinations from persons from the District of Columbia would probably be more representative of the population of the country as a whole than would material coming from any other one section. The population of Washington, D. C., is one of very cosmopolitan character because of the relatively low percentage of native-born individuals as compared with the very high percentage of persons who have come to

¹Nolan, M. O., and Bozicevich, John. Studies on trichinosis. V. The incidence of trichinosis as indicated by post-mortem examinations of 1,000 diaphragms. Pub. Health Rep., 53, 17:652-673 (April 29), 1938.

²Kerr, K. B., Jacobs, Leon, and Cuvillier, Eugenia. Studies on trichinosis. XIII. The incidence of human infection with trichinae as indicated by post-mortem examination of 3,000 diaphragms from Washington, D. C., and five eastern seaboard cities. (In press, Pub. Health Rep.)

³Hall, Maurice C., and Collins, Benjamin J. Studies on trichinosis. I. The incidence of trichinosis as indicated by post-mortem examinations of 300 diaphragms. Pub. Health Rep., 52, 16:468-490 (April 16), 1937.

Washington because of government employment or because of other opportunities afforded by the marked expansion in population in recent years.

2. The rural series consists of diaphragms from persons who had resided on farms or in villages of 1,000 population or less. The series is designed to furnish evidence as to the incidence of trichinae in a population group which is exposed to infection in a manner somewhat different than persons residing in urban areas.

3. The negative series includes diaphragms from persons who had resided in states in which clinical trichinosis had never been reported at the time this survey was inaugurated.

4. The traumatic series is composed of diaphragm material from persons who suffered traumatic death and were not hospitalized.

5. The random series consists of diaphragm material selected at random from hospitals chosen entirely on a chance basis.

6. The Jewish series includes diaphragms from orthodox and unorthodox Jews.

7. The Puerto Rican series consists of material from individuals born in Puerto Rico and hospitalized on the Island.

780 of 4,975 Diaphragms Positive

At this writing, a total of 4,975 diaphragms have been examined, of which 780, or 15.7 per cent, were positive for trichinae. If the Jewish and Puerto Rican series are omitted from the reckoning, the other examinations total 4,741 diaphragms, of which 779, or 16.4 per cent, were positive. This figure is probably somewhat closer to the true incidence figure than is that of 15.7 per cent because of the very low incidence in the Jewish series and the negative findings in the Puerto Rican series.

The incidence of trichinae in the base series corresponds so closely to that obtained for the survey as a whole, it is believed that the percentage of individuals positive for trichinae in this series will not differ materially from that which may be found in necropsy material from similar population groups elsewhere in the United States.

The traumatic series was designed to negate any possible criticism that the hospitalization of the individuals involved in surveys of this sort may have been influenced either directly or indirectly by their trichina infection. The number of cases is still inadequate in the way of deciding the point at issue. However, statistically the results from a larger number of cases would not vary markedly and it is probable that the examination of material from persons coming to necropsy in hospitals provide valid information concerning the incidence of the trichina parasite in that part of the general population represented in the present sampling.

The random series represents entirely a random sampling of the population in various parts of the United States. The hos-

pitals which cooperated in the series were selected by lot from a list of hospitals approved annually by the American Medical Association for residencies or fellowships. The selection of the diaphragms was also on a chance basis. If the total number of autopsies conducted during the year was between 100 and 200, the hospital was requested to supply every other diaphragm. In cases in which the total number of autopsies yearly was between 200 and 300, every third diaphragm was selected and so on up to every tenth diaphragm if the number of yearly autopsies was over 1,000. At the present time, this series includes material from 110 hospitals in 27 states. Because of the chance selection and the divergent origin of the material, the results obtained in the examination of diaphragms in this series offer strong support in the way of validating the findings in the other series.

The incidence figure of 10.4 per cent in the rural series appears to be significantly different from the rate obtained in the base series representing material from persons who came mostly from the urban population. While a larger number of diaphragms is desirable in this series, the evidence would tend to indicate that those individuals residing on farms or in villages are less frequently infected than are persons from the urban population. It has been quite well established that swine fed on uncooked garbage represent the chief source of trichina infection in market pork and such hogs, for the most part, go on the market in the cities. Those who reside on farms or in villages usually buy less market pork than do urban dweller and might reasonably be less exposed to infection through pork from swine commercially raised on uncooked garbage.

Incidence of Trichinae in Various Population Groups

Certain data have been secured in connection with all of the cases represented in examinations in the National Institute of Health. These data concern such items as age, sex, race, occupation, social-economic level, military-civilian status and mental hospitalization. Summaries are not available for the total number of cases but Table 2 presents the incidence by population groups in 3,000 examinations in the base series.

There would appear to be no significant differences between the incidence rates encountered in the various population groups enumerated in Table 2 and the rate obtained for the base series as a whole. In some of the groups, the incidence rate is conditioned somewhat by the average age of some or all of the individuals included in the particular group. For instance, the military group, consisting of commissioned officers, warrant officers and enlisted men of the Army and Navy, has an incidence of 12.9 per cent. Among commissioned and warrant officers in this group, there was an incidence of 16.4 per cent and in the group of enlisted men an incidence of 10.9 per cent.

The incidence of 12.9 per cent for the group as a whole is therefore conditioned by a lower incidence among the enlisted men. The average age of enlisted men would probably fall within the decade of 20 to 29 and the incidence is very close to the incidence figure for these age groups as indicated in Table 3.

The group of veterans, consisting mostly of World War veterans, has an incidence figure of 20.6 per cent which is considerably above the incidence for the 3,000 cases as a whole. However, the average age of these individuals would probably fall within the 45 to 54 bracket which has according to Table 3 an incidence of 19.2 per cent. The incidence of trichinae in the veterans' group is therefore conditioned by the age factor and the higher incidence is in itself not significant.

The group of those having occupations at sea has an incidence figure of 12.9 per cent. The incidence in this group is also conditioned by the fact that it contains the group of enlisted men in the Navy and the group from the Merchant Marine made up chiefly of seamen, the ages of which fall within the lower brackets.

At the present time, it appears that there is no correlation *per se* between trichina infection and persons in the various population groups cited. The number of persons in some of the groups in Table 2 is not yet sufficiently large to offer valid appraisal of the question and definite conclusions cannot be drawn until more data are available.

The occupations represented in these 3,000 cases include nearly all those encountered in civil life. There is no evidence to indicate that occupation in itself has any influence on the incidence of trichina infection. Certain occupations which theoretically might provide increased exposure to trichina infection include those of butcher, cook and domestic. Among the 3,000 cases, there were 5 butchers, of whom 2 were positive and 3 were negative. Obviously, this number is not sufficient upon which to base any conclusions. A total of 40 cooks were represented, of whom 7 were positive and 33 negative, an incidence figure of 17.5 per cent. There were 360 domestics represented, including waiters, butlers and restaurant help. Of these 360, 56, or 15.6 per cent, were infected with trichinae. From available evidence, therefore, it does not appear that cooks or domestics are more frequently infected with trichinae than are individuals having other occupations.

Data are available concerning the nationalities and racial stocks involved in the 3,000 cases represented in the base series. In some cases, the individuals were citizens of foreign countries. In the other cases, we have been guided in sorting nationalities by the name of the individual. Naturally, such a selection is

open to considerable error since names may be highly misleading and especially so in the case of married women. Furthermore, the habits of individuals of foreign extraction tend to change in accordance with the period of time during which such individuals have resided in the United States. Second or third generation offspring of immigrants may have adopted entirely the American mode of living together with American food habits. However, for purposes of comparison, we have separated nationalities and racial groups represented in the 3,000 cases in the base series with the following results: Of the American negroes and whites of English-Scotch-Irish descent, there were 2,627, of whom 400, or 15.2 per cent, were infected with trichinae. The 3,000 cases included 10 North American Indians and 27 whose nationality or race was unknown. The remaining individuals total 336 representing citizens of foreign countries or persons whose names definitely indicated that they were of nationalities other than those mentioned above. Of these 336 individuals, 86, or 25.6 per cent, were infected with trichinae. These cases include 164 Germans, of whom 45, or 27.4 per cent, were infected and 32 Italians, of whom 11 were infected. The combined German and Italian groups total 196, of whom 56, or 28.6 per cent, were infected. These data bear out the prevailing assumption that persons of foreign extraction are more commonly exposed to trichina infection because of their food habits. In particular is this true of the Germans and Italians who originated and are still very fond of pork products customarily eaten without cooking. Such products represent frequently very important sources of trichina infection and it is probable that the relatively high incidence figure obtained in these two racial groups is correlated at least to some extent with this particular food habit.

Incidence and State of Trichinae by Age at Death

Table 3 presents the data on the incidence and state of trichinae by age at death in the 3,000 cases in the base series. The age groups are arranged in accordance with the practice of the Bureau of the Census. While the number of positive cases in the first two decades and in the group of 75 years and over is entirely too low to establish a sequence, in general there is a rise in incidence of trichina infection with increase in age up to the group, 45 to 54. It is logical to expect such a sequence if it is assumed that long life offers greater opportunities for acquiring infection. However, such assumption should be followed by an increasingly high incidence in the age groups above 45 to 54. In the 3,000 cases, this has not actually occurred. However, the incidence figures in the age groups above 54 do not

vary widely from the peak and it seems probable that an increasing incidence with age will be encountered when the number of cases involved is larger and therefore of greater statistical significance.

Surveys by Other Investigators

Table 4 summarizes the results of examinations for trichinae conducted by investigators in various parts of the United States; the summary does not include any examinations made in the National Institute of Health. The total number of examinations in these surveys is 5,531, of which 774, or 14 per cent, were positive for Trichinae. This incidence figure is based on the actual findings and includes no allowance for the several factors which might influence the results. In many cases the direct microscopic examination only was utilized. It has been pointed out previously in connection with the National Institute of Health studies that the direct microscopic examination alone has detected only about two-thirds of the positive cases. There are other variables concerned in the figures reported in Table 4. In some of the cases, muscles other than the diaphragm have been sampled. Naturally, the sampling of additional muscles increases the opportunities for detecting infection and, in general, higher incidences have been obtained in surveys in which several muscles have been employed. Differences in incidence are obtained also when relatively large samples of muscles are used as compared to relatively small samples. Any increase in the quantity of muscle examined will in a large series of cases result in the finding of a greater number of positive cases. In the survey of Harrell and Johnson at Durham, North Carolina, most of the material came from individuals who resided in rural areas. This fact no doubt influenced to some extent the relatively low incidence figure obtained by these investigators.

Unfortunately, some of the investigators have not reported completely concerning the several factors mentioned and for this reason it is not possible to apply to the findings as a whole correction figures for differences involved. However, it may be assumed that the incidence figure of 14 per cent is probably the minimum incidence and that the actual incidence would be considerably higher because of the many surveys in which only one method of examination was employed.

Incidence of Trichinae in Examinations in New York State

Table 5 summarizes the results of the examination for trichinae of necropsy material from persons who have died in hospitals in New York State. These data include the results of examinations in the National Institute of Health and examinations by others at Buffalo and Rochester. In the National Institute of

Health examinations of material in the base and random series, 39 of 253 diaphragms were positive for trichinae, an incidence figure of 15.4 per cent. The 200 cases represented in the Jewish series included diaphragms from orthodox and unorthodox Jews coming to necropsy in Montefiore Hospital, New York City. Only one of the 200 cases was positive for trichinae. In the examinations other than those conducted in the National Institute of Health, only one method of examination was employed. If both the microscopic and digestion-Baermann methods had been used, there is no doubt that the incidence figures obtained by these investigators would have been much higher than the reported incidences.

The number of examinations which have been reported from New York State total 1,180, of which 123, or 10.4 per cent, were positive for trichinae. It must be emphasized that this figure is probably considerably below the actual incidence of trichinae which might be encountered in a random sampling of individuals coming to necropsy in New York State because of the overloading of the series by the 200 cases from orthodox and unorthodox Jews with an extremely low incidence and the presence of a large number of cases in which only one method of examination was used. If due allowance is made for these factors, it is believed that the incidence of trichinae will not differ materially from that found elsewhere in the United States.

Summary

This report summarizes the results of studies of the occurrence of the trichina parasite in persons coming to necropsy in various parts of the United States.

In the National Institute of Health studies, necropsy material has been examined from 4,975 cases from 144 hospitals in 36 States, the District of Columbia and Puerto Rico. Of these cases, 780, or 15.7 per cent, were positive for trichinae. Omitting certain special series of examinations in which the findings were nil or practically nil, the representative cases total 4,741, of which 779, or 16.4 per cent, were positive.

An analysis of 3,000 of these cases indicates that there was no direct correlation between trichina infection and sex, race, civil or military status, past military service, occupation, mental hospitalization or social-economic status.

The 3,000 cases included 336 persons of foreign citizenship or whose names indicated foreign extraction, of whom 86, or 25.6 per cent, were infected. Individuals in the German and Italian groups totaled 196, of whom 56, or 28.6 per cent, were infected. A comparison of these figures with a 15.2 per cent incidence in 2,627 American Negroes and whites of English-Scotch-Irish descent would seem to indicate that persons of foreign extraction are more frequently exposed to trichinosis.

Considering the 3,000 cases, the peak of *Trichina* incidence fell in the age group 45 to 54. Data on a larger number of cases will probably show the peak of incidence in higher age brackets.

Examinations other than those conducted in the National Institute of Health total 5,531, of which 774, or 14 per cent, were positive for trichinae. Because of inadequacies in the methods employed in many of these surveys, the actual incidence in the material was probably higher.

A total of 1,180 examinations have been made from New York State, of which 123, or 10.4 per cent, were positive for trichinae. Because of certain stated reasons, it is probable that a higher incidence would be encountered in random samplings of necropsy material from the State.

TABLE 5

FINDINGS OF *TRICHINELLA SPIRALIS* IN VARIOUS SERIES OF DIAPHRAGM MATERIAL EXAMINED IN THE NATIONAL INSTITUTE OF HEALTH FROM 144 HOSPITALS IN 36 STATES, THE DISTRICT OF COLUMBIA AND PUERTO RICO.

| SERIES | Total number of diaphragms examined | Total number of diaphragms found positive | Percent diaphragms positive |
|--|-------------------------------------|---|-----------------------------|
| Base (diaphragms from ten hospitals in Washington, D. C., two Marine and four naval hospitals) | 3,006 | 488 | 16.2 |
| Rural (diaphragms from persons residing on farms or in villages) | 251 | 26 | 10.4 |
| Negative (diaphragms from states in which clinical trichinosis had never been reported) | 207 | 35 | 16.9 |
| Traumatic (diaphragms from persons suffering traumatic death and not hospitalized) | 275 | 48 | 17.5 |
| Random (diaphragms selected at random from hospitals selected at random) .. | 1,002 | 182 | 18.2 |
| Total | 4,741 | 779 | 16.4 |
| Jewish (diaphragms from orthodox and unorthodox Jews) | 200 | 1 | 0.5 |
| Puerto Rico (diaphragms from natives domiciled on the Island) | 34 | 0 | 0 |
| Grand total | 4,975 | 780 | 15.7 |

TABLE 6

INCIDENCE OF TRICHINAE IN VARIOUS POPULATION GROUPS
AS FOUND IN 3,000 POST-MORTEM EXAMINATIONS

Base Series Nos. 1 to 3,000, incl.

| GROUP | Total No. in group | No. infected | Percent infected |
|---|-----------------------|-----------------|---------------------|
| Males | 2,205 | 374 | 17.0 |
| White | 1,475 | 257 | 17.4 |
| Colored | 710 | 116 | 16.3 |
| North American Indians | 7 | 1 | |
| Chinese | 2 | 0 | |
| Filipinos | 8 | 0 | |
| Mexican | 1 | 0 | |
| Race unknown | 2 | 0 | |
| Females | 792 | 113 | 14.3 |
| White | 300 | 37 | 12.3 |
| Colored | 488 | 75 | 15.4 |
| North American Indians | 3 | 0 | |
| Mexican | 1 | 1 | |
| Sex unknown | 3 | 1 | |
| Whites | 1,775 | 291 | 16.6 |
| Negroes | 1,198 | 191 | 15.9 |
| Other races | 22 | 2 | |
| Race unknown | 5 | 1 | |
| Military (Army-Navy) | 318* | 41 | 12.9 |
| Officers (commissioned and warrant) | 116 | 19 | 16.4 |
| Enlisted men | 202* | 22 | 10.9 |
| Army | 197‡ | 28 | 14.2 |
| Navy | 122‡ | 13 | 10.7 |
| Families and relatives of military men | 64 | 11 | 17.2 |
| Civil | 2,678 | 440 | 16.7 |
| Civilian Conservation Corps | 54‡ | 5 | 9.3 |
| Farmers | 48 | 7 | 14.6 |
| Veterans, mostly World War | 754‡ | 155 | 20.6 |
| Military Civil status unknown | 4 | 1 | |
| Sea (Navy-Merchant Marine) | 295 | 38 | 12.9 |
| Merchant Marine | 176 | 25 | 14.2 |
| Land | 2,705 | 450 | 16.6 |
| Mentally deranged under hospital ization | 582 | 89 | 15.3 |
| Mentally sound or not under hos pitalization | 2,418 | 399 | 16.5 |
| High economic-social status | 673 | 113 | 16.8 |
| Low economic-social status | 2,228 | 36‡ | 16.3 |
| Status unknown | 99 | 1 | 11.1 |
| Total cases | 3,000 | 488 | 16.3 |

*One case, both soldier and sailor, counted only once.

‡Two cases, both CCC and veteran, counted in both groups.

‡One case, both soldier and sailor, counted in both groups.

TABLE 7

INCIDENCE AND STATE OF TRICHINAE BY AGE AT DEATH

Base series Nos. 1 to 3,000 incl.

| <i>Age at death</i> | <i>Total number of cases</i> | <i>No.</i> | <i>Positive</i> | | | <i>State of trichinae</i> | | |
|---------------------|------------------------------|------------|------------------|-------------|----------------------------|---------------------------|--------------|-------------|
| | | | <i>Per- cent</i> | <i>0-44</i> | <i>Percent 45 and over</i> | <i>Live</i> | <i>Mixed</i> | <i>Dead</i> |
| Under 5..... | 52 | 1 | 1.9 | .. | .. | 1 | .. | .. |
| 5-9..... | 26 | 0 | .. | .. | .. | .. | .. | .. |
| 10-14..... | 23 | 5 | 21.7 | .. | .. | 2 | 2 | 1 |
| 15-19..... | 56 | 5 | 8.9 | .. | .. | 3 | 1 | 1 |
| 20-24..... | 116 | 13 | 11.2 | 13.7 | .. | 7 | 3 | 3 |
| 25-29..... | 107 | 12 | 11.2 | .. | .. | 7 | 5 | 0 |
| 30-34..... | 134 | 20 | 14.9 | .. | .. | 12 | 5 | 3 |
| 35-44..... | 616 | 99 | 16.1 | .. | .. | 37 | 27 | 35 |
| 45-54..... | 668 | 128 | 19.2 | .. | .. | 50 | 25 | 53 |
| 55-64..... | 571 | 101 | 17.7 | .. | .. | 33 | 14 | 54 |
| 65-74..... | 415 | 70 | 16.9 | .. | 17.8 | 15 | 6 | 49 |
| 75 and over..... | 204 | 34 | 16.7 | .. | .. | 8 | 1 | 25 |
| Unknown..... | 12 | 0 | .. | .. | .. | 0 | 0 | 0 |
| Totals..... | 3,000 | 488 | 16.3 | .. | .. | 175 | 89 | 224 |

TABLE 8
FINDINGS OF TRICHINAE IN POST-MORTEM SURVEYS IN THE
UNITED STATES

| <i>Author</i> | <i>Date</i> | <i>Place</i> | <i>Number of examina- tions</i> | <i>Number posi- tive</i> | <i>Percent posi- tive</i> | <i>Method</i> |
|-----------------------------------|-------------------|-------------------------------------|---|----------------------------------|-----------------------------------|---|
| Whelpley..... | 1891 | St. Louis, Mo..... | 20 | 1 | 5.0 | Microscopic |
| Thornbury..... | 1897 | Buffalo, N. Y..... | 21 | 3 | 14.3 | Microscopic |
| Williams..... | 1901 | Buffalo, N. Y..... | 362 | 21 | 5.8 | Microscopic |
| | | Philadelphia, Pa... | 7 | 0 | 0.00 | Microscopic |
| | | Baltimore, Md..... | 126 | 5 | 4.0 | Microscopic |
| | | Denver, Colo..... | 10 | 1 | 10.0 | Microscopic |
| Queen..... | 1931 | Rochester, N. Y... | 344 | 59 | 17.2 | Digestion |
| | | Boston, Mass..... | 58 | 16 | 27.6 | Digestion |
| | 1937 ¹ | Denver, Colo..... | 431 | 70 | 16.2 | Digestion |
| Riley and Scheifley... | 1934 | Minneapolis, Minn... | 117 | 20 | 17.1 | Microscopic |
| Hinman..... | 1936 | New Orleans, La.. | 200 | 7 | 3.5 | Digestion |
| McNaught and Anderson..... | 1936 | San Francisco, Cal. | 200 | 48 | 24.0 | Digestion |
| Magath..... | 1937 | Rochester, Minn... | 220 | 17 | 7.7 | Microscopic |
| Sawitz..... | 1937 | New Orleans, La.. | 200 | 10 | 5.0 | Microscopic and Digestion |
| Pote..... | 1937 | St. Louis, Mo..... | 1060 | 163 | 15.4 | Microscopic |
| Scheifley..... | 1938 | Minneapolis and St. Paul, Minn.. | 118 | 15 | 12.7 | Microscopic |
| Walker and Brecken- ridge..... | 1938 | Birmingham and Tuscaloosa, Ala. | 100 | 33 | 33.0 | Microscopic and Digestion |
| Evans..... | 1938 | Cleveland, Ohio... | 100 | 36 | 36.0 | Microscopic and Digestion |
| Hood and Olson..... | 1939 | Chicago, Ill..... | 208 | 12 | 5.8 | Digestion |
| | | | 220 | 25 | 11.4 | Microscopic and Digestion |
| Sawitz..... | 1939 | New Orleans, La.. | 200 | 14 | 7.0 | Microscopic and Digestion |
| Butt and Lapeyre... | 1939 | Los Angeles, Cal... | 170 | 31 | 18.2 | Digestion |
| Harrell and Johnson.. | 1939 | Durham, N. C.... | 44 | 0 | 0.0 | Digestion |
| | | | 6 | 0 | 0.0 | Microscopic |
| | | | 55 | 3 | 5.4 | Microscopic and Digestion |
| Oosting..... | 1940 | Dayton, Ohio..... | 134 | 27 | 20.1 | $\frac{3}{8}$ Digestion $\frac{1}{8}$ Microscopic and Digestion |
| Catron..... | 1940 | Ann Arbor, Mich.. | 30 | 6 | 20.0 | Digestion |
| | | | 270 | 38 | 14.1 | Microscopic and Digestion |
| Gould..... | 1940 | Eloise, Mich..... | 90 | 11 | 12.2 | Digestion |
| | | | 410 | 82 | 20.0 | Microscopic and Digestion |
| Totals..... | | | 5,531 | 774 | 14.0 | |

¹ Reported by Scheifley, 1938.

TABLE 9

INCIDENCE OF TRICHINELLA SPIRALIS IN NECROPSY
MATERIAL FROM NEW YORK STATE

| <i>Hospital</i> | <i>City</i> | <i>Series</i> | <i>Total number of cases</i> | <i>Total number of positives</i> | <i>Percent positive</i> |
|---|---------------|---------------|--|--|-----------------------------|
| <i>Examinations in the National Institute of Health</i> | | | | | |
| Presbyterian..... | New York.... | Random.... | 10 | 0 | 0 |
| Bellevue..... | New York.... | Random.... | 10 | 1 | 10 |
| Mt. Sinai..... | New York.... | Random.... | 10 | 1 | 10 |
| Kings County..... | New York.... | Random.... | 10 | 1 | 10 |
| Cornell University..... | New York.... | Random.... | 10 | 2 | 20 |
| Lenox Hill..... | New York.... | Random.... | 10 | 4 | 40 |
| Montefiore..... | New York.... | Random.... | 17 | 1 | 5.9 |
| Brooklyn State..... | Brooklyn.... | Random.... | 10 | 3 | 30 |
| Long Island College... | Brooklyn.... | Random.... | 10 | 1 | 10 |
| Norwegian Lutheran... | Brooklyn.... | Random.... | 10 | 3 | 30 |
| Cumberland..... | Brooklyn.... | Random.... | 10 | 1 | 10 |
| Coney Island..... | Brooklyn.... | Random.... | 8 | 3 | 37.5 |
| U. S. Naval..... | Brooklyn.... | Base..... | 5 | 1 | 20 |
| U. S. Marine..... | Stapleton.... | Base..... | 63 | 7 | 11.1 |
| Buffalo City..... | Buffalo..... | Random.... | 10 | 3 | 30 |
| Buffalo General..... | Buffalo..... | Random.... | 10 | 1 | 10 |
| Grasslands..... | Valhalla..... | Random.... | 10 | 2 | 20 |
| Albany Medical College | Albany..... | Random.... | 10 | 1 | 10 |
| Queens General..... | Jamaica..... | Random.... | 10 | 0 | 0 |
| Hudson River State... | Poughkeepsie. | Random.... | 10 | 3 | 30 |
| | | | 253 | 39 | 15.4 |
| Montefiore..... | New York.... | Jewish..... | 200 | 1 | 0.5 |
| <i>Examinations by others</i> | | | | | |
| <i>Author</i> | | <i>Date</i> | | | |
| Thornbury..... | Buffalo..... | 1897 | 21 | 3 | 14.3 |
| Williams..... | Buffalo..... | 1901 | 362 | 21 | 5.8 |
| Queen..... | Rochester.... | 1931 | 344 | 59 | 17.2 |
| Totals..... | | | 1,180 | 123 | 10.4 |

Trichinosis Outbreaks

The New York State Health Department has furnished to this Commission reports on trichinosis outbreaks in Niagara Falls in 1935, in Solvay in 1936, in Rochester in 1937, and in Potsdam in 1939.

TABLE 10

TRICHINOSIS OUTBREAKS
New York State, 1935-1939
(Exclusive of New York City)

| Year | Place | Cases | Deaths |
|------|-------------------------------------|-------|--------|
| 1935 | Niagara Falls | 20 | 0 |
| 1936 | Solvay ((Onondaga County) | 6 | 0 |
| 1937 | Rochester | 85 | 1 |
| 1938 | | — | — |
| 1939 | Potsdam (St. Lawrence County) | 11 | 0 |

Niagara Falls

On February 9, 1935, 20 cases of trichinosis were reported from Niagara Falls. All of these persons were relatives living in the same house on Ferry Avenue, Niagara Falls. Four Italian families were involved. The following persons were ill:

Family "A"

Peter—father—age 31.
Alberta—mother—age 29.
Rocco—son—age 8.
Mary—daughter—age 4.

Family "B"

Peter—father—age 28.
Frances—mother—age 27.
Frank—son—age 5.

Family "C"

Joseph—father—age 31.
Nancy—mother—age 29.
Mary—daughter—age 8.
Rocco—son—age 2.

Family "D"

Anthony—father—age 54.
Anna—mother—age 46.
Edith—daughter—age 29.
Nancy—daughter—age 24.
Joseph—son—age 22.
Nellie—daughter—age 19.
Rocco—son—age 17.
Carmen—son—age 14.
Eleanor—daughter—age 11.

The following story was obtained from Mrs. N. M.:

On December 31, 1934, at 2 p.m. Mrs. N. M. bought 20 pounds of fresh Boston pork butts from Mr. J. M., a butcher in Niagara Falls. She placed the meat on ice until January 1, 1935, at which time she ground the pork and made sausages. She fried the sausages until the outer casings were of a brown color, and the entire group of 20 persons ate them on the same day at a dinner given in the home of Family "A." In addition to the pork, the group ate baked and stewed chicken, macaroni, celery and fruit. Five other persons in these families, two infants ages

4 months and 1 year, two children ages 5 and 6, and one adult, age 20, who did not eat the pork sausages did not become ill. Everyone who ate the pork sausages became ill. A visit to the butcher, Mr. J. M., revealed that he had bought 53½ pounds of fresh Boston pork butts from "X" Company, Chicago, Illinois. The meat was shipped from Chicago on December 24, 1934, and arrived at the butcher shop on December 27, 1934. It was sold to Mrs. N. M. on December 31, 1934.

The affected family bought 20 pounds of the meat and the remaining 33½ pounds were sold to other families. The butcher and his wife and son ate of this same shipment of pork. No other people have reported any illness after eating of this same meat. Names of other persons who bought the pork were not available. No samples of the pork in question were obtainable at the butcher shop or affected family.

The incubation periods varied from four to sixteen days. All patients had generalized muscular pains and severe weakness. Eighteen of the patients had edema of the eyelids. Six of the patients had a generalized papulopustular eruption which itched, and which appeared seven to fourteen days after onset of illness. The patients were obliged to remain in bed from four to thirty-two days. The five mild cases were 2 to 8 years of age. Only one patient, P. P., age 31, was hospitalized, with orbital cellulitis. Only three blood counts were done, one on each of three patients. These counts revealed eosinophilias of 23%, 21% and 11%. There were no fatalities in this epidemic, although most of the patients as late as February 21 still complained of weakness and muscular pains. No biopsies of muscle were taken.

Summary

An epidemic of 20 cases of trichinosis is reported in people who are relatives, and who ate pork sausages at a New Years' Day dinner given at the home of Mr. P. P., Niagara Falls. Persons in other families who ate of the same shipment of pork did not complain of illness. It would appear, therefore, that a portion of this shipment of pork had been insufficiently cooked and caused this outbreak.

Solvay

On April 29, 1936, Doctor J. D. Wands, Health Officer of Solvay, reported six cases of trichinosis. Four additional cases were subsequently reported. The following persons were ill:

| | Initials | Age | Sex | Date of Onset | | Initials | Age | Sex | Date of Onset |
|------|----------|-----|-----|---------------|--|----------|-----|-----|---------------|
| | P. T. | 55 | M | 4-20-36 | | B. A. | 33 | M | 4-26-36 |
| | J. T. | 57 | M | 4-20-36 | | M. A. | 23 | F | 4-28-36 |
| Mrs. | J. P. | 60 | F | 4-23-36 | | A. S. | 50 | M | 4-22-36 |
| | E. F. | 21 | M | 4-23-36 | | T. F. | 30 | F | 4-13-36 |
| | J. A. | 36 | F | 4-23-36 | | M. F. | 25 | M | 5-8-36 |

Pork sausages was obtained from Mr. T. N. of Solvay. This man is a retired butcher who manufactures sausage on the premises of his son-in-law who conducts a butcher shop in Solvay. He purchases pork trimmings from various packing houses, makes it up into sausage and peddles it to his customers.

Of the first 6 cases reported, all were Italian adults and are known to have eaten the sausage raw. Other members of the households in which these cases occurred had eaten boiled or thoroughly cooked sausage and did not become ill.

Rochester

On August 29, 1937, an Italian social organization held a picnic which was attended by about two hundred members. Among the foods served were sausages in which a large percentage of the meat was pork.

In the weeks which followed, 85 cases of trichinosis, with one death, were reported. The source of infection of all the cases was pork consumed at the picnic. None of the sausages nor of the meat from which they were made was available for laboratory examination. A few of the cases were hospitalized but the majority were mild and were treated at home. Several of the victims were over 70 years of age and the youngest was 3 years old.

Potsdam

The following detailed memorandum on the outbreak at Potsdam in 1939 was sent by Dr. James E. Perkins, Director of the Division of Communicable Diseases of the New York State Health Department, to district state health officers and county health commissioners. This memorandum is of such interest to local health officials, doctors and others that it is printed in full. It should be noted that this outbreak was due to pork from hogs fed raw garbage by the village garbage collector. Note, too, that the village garbage collector immediately after the epidemic "promised that he will cook the garbage that he feeds to the hogs." This Commission checked up on this matter to find out whether the garbage collector is now cooking his garbage, and whether Potsdam passed any ordinance forbidding feeding of raw garbage to hogs. We find that the garbage collector still feeds garbage raw to his hogs and that no local action was taken to prevent future outbreaks from the same source.

Names and addresses of merchants and infected persons connected with this outbreak have been eliminated from the memorandum.

NEW YORK STATE DEPARTMENT OF HEALTH
ALBANY

December 14, 1939.

From: DR. PERKINS.

To: *District State Health Officers and County Health Commissioners.*

Subject: Report of an outbreak of trichinosis.

This is in further reference to my memorandum of November 10 to all District State Health Officers and County Health Commissioners, in which it was stated that from time to time reports on particularly interesting outbreaks which have been well investigated and well reported, would be mimeographed and forwarded to District State Health Officers and County Health Commissioners.

The following is such a report from Drs. Sayer and Levy of the Government District, relative to cases of trichinosis which occurred recently in Potsdam village, St. Lawrence County.

Introductory

This investigation was initiated by a telephone report to Dr. Sayer from Dr. S. Pope Brown, Health Officer of the village of Potsdam, the evening of Sunday, November 26, 1939, of the reporting by two physicians of seven cases of trichinosis in the village of Potsdam. Six of these were hospitalized in the Potsdam Hospital.

On Monday morning, November 27, 1939, Dr. Sayer and Dr. Levy went to Potsdam and interviewed Dr. Brown, Health Officer, Dr. Reynolds, Dr. O'Toole, and Mr. Hogan, laboratory technician. Sufficient information was obtained to make a preliminary report (memorandum, November 27, 1939). At that time, it was learned that two more cases had been diagnosed and hospitalized. On November 28, 1939, Dr. Levy was able to interview the eight patients hospitalized and also several individuals who had attended the church supper but were not ill, viz. Mr. "A," one of the waiters at the supper, and the village clerk, Mr. "B", who sold tickets at the supper. Arrangements were made with Miss Helena Walsh, village public health nurse, to visit persons who had attended the dinner and were not ill.

On Friday, December 1, 1939, one other ill person was seen by Dr. Levy. Mr. "C," who had charge of the dinner, was seen. Dr. Brown was also seen in regard to local publicity.

Eleven ill with trichinosis had attended the pancake and pork sausage supper at the Presbyterian Church on Wednesday, October 25, 1939. Of these, six deny that they had eaten any other pork for a month prior to the onset. Three state that they attended no other public gatherings at which food was served. There was no other public supper or dinner attended by any

at which pork was served. Four had attended a chicken pie supper given by the Presbyterian Church on 11-2-39, and other such church suppers were attended by others of the group. The pancake and pork sausage supper is the only one attended by all eleven who are ill.

Clinical Data

TABLE 11

POTSDAM TRICHINOSIS OUTBREAK

The following cases of trichinosis have been reported:

| Case No. | Age | Sex | Date of onset | Clinical Symptoms | Laboratory (Potsdam Hospital) | |
|----------|-----|-----|---------------|---|-------------------------------|----------------------------|
| | | | | | | White cells Eosinophils |
| 1 | 54 | M | 10-27-39 | Nausea, vomiting, diarrhea, cramps, 10-27-39, fever, 10-27-39, swelling of eyelids, 10-29-39, generalized muscular pains 10-29-39. | 11-18-39 | 14,800 15% |
| 2 | 62 | F | 11- 1-39 | Nausea, vomiting, diarrhea, cramps, 11-1-39, fever, swelling of eyelids, 11-3-39, generalized muscular pains 11-3-39. | 11-16-39 11-17-39 | 11,800 15% 18% |
| 3 | 51 | F | 11- 4-39 | Diarrhea and cramps 11-4-39 and 11-8-39, fever 11-20-39, swelling of eyelids 11-18-39, pains in shoulder and back of neck muscles 11-24-39. | 11-22-39 | 8,000 15% |
| 4 | 26 | M | 11- 4-39 | Diarrhea and cramps 11-4-39, fever, swelling of eyelids 11-12-39, general muscular pains 11-13-39, chills 11-13 and 11-14-39. | 11-21-39 | 18,200 45% |
| 5 | 67 | M | 11-10-39 | Poor appetite 11-15-39, fever — no edema — severe prostration and weakness 11-10-39. | 11-22-39 | 11,000 55% |
| 6 | 35 | M | 11-10-39 | Poor appetite 11-10-39, fever 11-13-39 edema of eyelids 11-13-39, pains in shoulder, back and leg muscles 11-13-39, "Eczema" 11-14-39. | 11-22-39 | 13,500 46% |
| 7* | 35 | M | 11-13-39 | Diarrhea 11-13-39, fever 11-22-39 edema of eyelids 11-20-39, pains in leg (calf) muscles 11-22-39, weakness 11-20-39. | 11-27-39 | 7,000 8% |
| 8 | 45 | M | 11-15-39 | Chills and fever 11-22-39 edema of eyelids 11-22-39, pains in shoulder, back, and thigh muscles 11-15-39. | 11-21-39 12- 4-39 | 16,200 25% 18,200 55% |
| 9 | 32 | M | 11-19-39 | Fever, 11-22-39, edema of eyelids 11-19-39, pains in neck muscles and generalized aching 11-19-39. | 11-25-39 | 7,800 15% |
| 10 | 55 | M | .. | No symptoms except occasional muscular pains. Has worked every day. | 12- 1-39 | 28,000 13% |
| 11 | 57 | M | 11-19-39 | Nausea 11-19-39, slight fever 11-19-39, puffiness of eyelids 11-19-39, pains in calves of legs 11-19-39. | 12- 4-39 | 15,700 26% |

* Treated at home — all others at Potsdam Hospital.

Epidemiological Data

There were 114 tickets sold for the dinner but according to informants, there were about 125 or 130 dinners served when waiters and kitchen help, who did not purchase tickets, were included.

The following information was obtained from those ill relative to their attendance at a pancake and park sausage supper held October 25, 1939, by the Men's League of the Presbyterian Church in Potsdam:

TABLE 11-a

| Case No. | Onset | Attended Church Supper 10-25-39 | Time Served P.M. | Ate Pork on Other Occasions Before Onset | Attended other Public Gatherings Where Food Was Served |
|----------|----------|---------------------------------|------------------|--|---|
| 1 | 10-27-39 | Yes | 6:30 | No | 11-2-39 chicken pie supper Presbyterian Church |
| 2 | 11- 1-39 | Yes | 6:00 | No | Sept. Colton and Hannawa Falls—no pork served |
| 3 | 11- 4-39 | Yes | 6:00 | No | 11-2-39 chicken pie supper Presbyterian Church |
| 4 | 11- 4-39 | Yes | 6:30 | Yes | No |
| 5 | 11-10-39 | Yes | 6:00 | No | Sept. Colton and Hannawa Falls—no pork served |
| 6 | 11-10-39 | Yes | 7:00 | No | No |
| 7 | 11-13-39 | Yes | 7:00 | Yes | 11-2-39 chicken pie supper Presbyterian Church |
| 8 | 11-15-39 | Yes | 6:30 | Uncertain | Sept. Parishville—no pork served; Colton, turkey served; South Colton—chicken and biscuits served |
| 9 | 11-19-39 | Yes | 6:15 | Uncertain | 11-2-39 chicken pie supper Presbyterian Church |
| 10 | ? | Yes | 6:45 | Uncertain | Unknown |
| 11 | 11-19-39 | Yes | 6:10 | No | No |

The following table gives pertinent information as to the food eaten at the church supper by those ill and by 76 of those who attended and were not ill:

TABLE 12
 ATTENDED PANCAKE AND PORK SAUSAGE SUPPER
 OCTOBER 25, 1939
 Presbyterian Church, Potsdam, N. Y.

| Food | ILL | | | NOT ILL | | |
|----------------|-----|-------------|----------------------------|---------|-------------|----------------------------|
| | Ate | Did not eat | Unknown or do not remember | Ate | Did not eat | Unknown or do not remember |
| Pancakes..... | 11 | 0 | 0 | 76 | 0 | 0 |
| Sausage..... | 11 | 0 | 0 | 67 | 7 | 2 |
| Syrup..... | 10 | 1 | 0 | 70 | 6 | 0 |
| Butter..... | 9 | 2 | 0 | 74 | 2 | 0 |
| Coffee..... | 8 | 3 | 0 | 57 | 18 | 1 |
| Doughnuts..... | 5 | 6 | 0 | 43 | 32 | 1 |
| Milk..... | 4 | 6 | 1 | 11 | 53 | 12 |
| Salad..... | 4 | 6 | 1 | 57 | 18 | 1 |

All eleven ill with trichinosis ate the pancakes and the sausage. Of those not ill, from whom information was obtained, all ate the pancakes, and 67 (90%) ate the sausage.

The pancakes were prepared by a representative of a pancake flour company.

Some Thought Sausage "Well Done"

The sausage was made from pork bought from Mr. "C." Fifty pounds of sausage was made by grinding the meat from a hog slaughtered on October 23 and delivered to the butcher shop of Mr. "D." The pork was inspected by the village meat inspector, Dr. Grace, and passed inspection. Ten pounds of this sausage was returned to Mr. "C" for his own use and forty pounds was sold to the Men' League for use at the supper. The sausage was prepared for serving by patting into hamburger shapes by hand by Mrs. "E" who had been engaged to do the cooking. The sausages were fried and then kept warm in a warming oven until ready to serve. A considerable number were prepared ahead of time. As people came in to have supper, the sausage were taken from the oven by the waiters. It is stated that at no time did the cook fall behind and find it necessary to rush through some of the frying. Information was obtained as to whether those in attendance at the supper had noticed whether the sausage was "under done" or "well done." Seven of those ill did not take notice of this point. Three who did notice called it "well done" and the other had some of each. Of those not ill from whom information was obtained, only one called the sausage "under done," two did not notice, and 64 called it well done. In fact, some of those who indicated they

did not eat the sausage said they had not done so because it was too "well done" or almost burned.

The salads were prepared by at least nine different persons. They were all vegetable salads with cabbage as the main ingredient. It was stated that none of the salads contained any pork.

In the serving, four pancakes and two sausages were placed on a plate and brought by the waiter to the seated persons. Syrup and butter were on the tables, as was the salad. Each person helped himself to these. Doughnuts, coffee, and milk were also brought by the waiters. Additional pancakes and sausages were available on request.

Since the pork was the object of suspicion, and all those ill remembered definitely having eaten the pork, this lead was further followed. It was learned by inquiry that the pork used for the sausage was purchased from Mr. "C" and was ground by "D," butcher, who is accustomed to purchase hogs from Mr. "C." Mr. "C" is the village garbage collector. He is paid \$750 per year to collect and remove the garbage from the village of Potsdam. This he does each day. He takes the garbage to a farm in the town of Potsdam where he has a piggery having about 200 hogs there. He is accustomed to feed the collected garbage to the hogs, uncooked, as their main food supply. In the winter he warms up the garbage to thaw it out but this could not be considered cooking. He does, however, cook the garbage he feeds to the little pigs. He is also accustomed to feed the entrails of slaughtered hogs to the others. The piggery is stated to be relatively free from rats.

Laboratory Data

The diagnoses were greatly facilitated by the blood counts including white cell count and differential. All the cases had eosinophilia. There were two other individuals who attended the church supper with eosinophilia of 10% and 9% with no symptoms and not considered clinical cases.

There was none of the sausage remaining at the time of the investigation for laboratory examination. There was a story that some of the remaining sausage had been taken home by Mrs. "F" but was not used because it appeared "spoiled." This could not be confirmed and was later denied. However, a hog delivered to "D's" butcher shop, also from Mr. "C's" farm, was inspected on November 28, 1939, and specimens were taken from the neck muscles, ham, and diaphragm. These specimens were examined at the Potsdam Hospital branch of the St. Lawrence County Laboratory and it was reported that "trichina spiralis was found."

To this point in the investigation, the evidence indicated this to be a localized outbreak limited to the persons who had attended the church supper. There was some curiosity as to

why the disease was not more widespread throughout the community since pork from the "C" hogs, which were probably generally infected, was sold at "D's" meat market. Mr. "D" was said to be the only butcher in town who had used "C" hogs for his source of pork. However, on December 5, 1939, a case of trichinosis was reported in the person of Mrs. "G" who had not attended the church supper on October 28, 1939. Her onset was November 16, 1939, with nausea and vomiting. She also had fever November 27th, pain after motion in the thighs and shoulder muscles on November 29, 1939, and slight edema of the eyelids on December 2, 1939. She was hospitalized (Potsdam Hospital) on December 2, 1939. A blood count on that date revealed white cell count 10,000 with 50% eosinophils. She stated that she had purchased pork sausage from "D's" butcher shop on November 11, 1939, and had eaten a piece of it raw as that was the way she preferred it. She cooked it for her husband and three children, all of whom remain well to the present. She had purchased pork chops at the "H" store in October, 1939, and had attended no church suppers whatsoever this fall.

Summary

1. There have been twelve cases of trichinosis reported among residents of the village of Potsdam from November 27, 1939, to the present (December 9, 1939).

2. The diagnosis of eleven of the twelve cases is based on clinical and laboratory evidence. In one case, the diagnosis is based on laboratory evidence of leucocytosis and eosinophilia, and a history of exposure to the same source of infection as the other cases.

3. Eleven of the twelve cases had attended a pancake and pork sausage supper given on October 25, 1939, by the Men's League of the Presbyterian Church in Potsdam.

4. All of these eleven had eaten the pork sausage which was prepared by grinding at "D's" meat market pork purchased from Mr. "C."

5. Mr. "C" is the village garbage collector. He feeds the uncooked garbage and entrails of slaughtered hogs to his hogs.

6. A specimen taken from a hog inspected on November 28, 1939, was found to be infected with *trichina spiralis*.

7. The twelfth case had not attended the church supper but had eaten raw pork sausage purchased at "D's" meat market.

Conclusions

1. There has been an outbreak of trichinosis in the village of Potsdam.

2. The source of infection is indicated to be pork purchased from Mr. "C," one of whose hogs, at least, is known to have been infected with *trichina spiralis*.

3. The mode of transmission in eleven cases is indicated to be pork sausage served at a church supper at the Presbyterian Church attended by about 125 persons on October 25, 1939.

In one case, the mode of transmission was pork sausage eaten raw, purchased from the same place that the sausage used at the church supper came.

Addendum

Mr. "C" owns about two hundred hogs. He is accustomed to sell them throughout this north section at Potsdam, Norwood, Massena, Malone—wherever he can find a market. He is paid \$750 per year for collecting and removing the garbage from the village of Potsdam.

He has for the present promised that he will cook the garbage that he feeds to the hogs and that he will bury the entrails instead of feeding them to the hogs.

The village board of Potsdam has instructed its attorney to write to the State Department of Agriculture and Markets for advice as to what action they may take to remove this danger from the village. They are also considering some change in their method of garbage disposal, but this is still in rather vague form.

TRICHINOSIS CONTROL PROPOSED IN 1884

A half century ago, New York State health officials were concerned about the prevalence of trichinosis.

An outbreak of twelve trichinosis cases at Arietta, New York, in 1884, caused the New York State Board of Health to have a full scientific investigation made.

The Committee on Vital Statistics reported to the State Board of Health:

"No doubt can be entertained of the correctness of the diagnoses made, and the lessons conveyed are plain and practical. They point first to the importance of impressing upon the minds of the people the danger of consuming uncooked or partially cooked ham or pork, and of making sure that such meat is entirely and perfectly cooked before eating; and second, to the necessity for more care in selecting and preparing porcine flesh for the market. Statistics show that trichinous infection is not at all uncommon in the flesh of swine, that many hams and sides are infected therewith. In view of these facts when the trichinoscope is an instrument which any butcher can use with ease, some legal enactment should be made to prevent the sale of trichinous meat, and some penalty imposed for the sale of an article so dangerous to the life and health of the people."¹

¹Fifth Annual Report of the State Board of Health, Sen. Doc. 47, 1885, pp. 112-119. The trichinoscope, employed chiefly in Germany, is an enlarging device used to detect trichinae. It would be impractical, authorities agree, to require butchers to use it.

Mr. William Hailes, of the Pathological Laboratory of Albany Medical College, recommended to the Committee on Vital Statistics the following control measures:

Prevention of Trichinosis

"1. Meat should not be eaten raw or in a partially cooked condition.

"2. Thorough cooking is a perfectly efficient means of killing trichinae. Large masses of meat (such as a ham), however, require several hours continuous cooking, for the heat to penetrate throughout the entire mass. A medium sized ham boiled for thirty minutes reaches a temperature of a little above 100 degrees Fahr. It requires 140 degrees Fahr. to positively kill the parasite. In the case of chops, teaks and other small portions, a much shorter time will suffice. A thorough broil of a few minutes will effectually destroy the life of the trichinae. Ordinary salting and smoking does not destroy the parasite.

"3. Thorough inspection of the meat. A regular examination should be made by the State. The matter is easily accomplished. The parts required for a perfectly satisfactory examination are two small fleshy masses situated near the kidneys, called the pillars of the diaphragm. These pieces belong to the 'trimmings' and their removal in no way interferes with the value of appearance of the dressed hog.

" 'All hogs should be subjected to microscopic examination by experts, and no hog allowed to be cut up for sale as food until such an examination had been made. Those found invaded should be branded trichinous and their sale as food forbidden by law under penalty of a heavy fine.'—Billings.

"A certificate could be given if examination proved satisfactory.

"4. Prevent hogs from feeding upon raw offal and excrement and avoid using the offal, etc., of animals subject to trichinosis as fertilizer.

"5. The thorough destruction of all offal, excrement, etc., so that vermin (rats, etc.) may not devour it and become the carrier of this dread malady.

"Rigid legislative enactment regulating the inspection of meat, the proper disposal of offal, excrement, etc., etc., would, if properly enforced, go far toward stamping out this loathsome disease."

GARBAGE AND TRICHINOSIS

Prevalence of Trichinae in Swine

Dr. Benjamin Schwartz, Chief of the Zoological Division of the United States Bureau of Animal Industry, reports¹ that between 1933 and 1938 diaphragms of 25,000 hogs were examined for trichinae. The average incidence of infection in the garbage-fed hogs was 5.7 per cent, while in the hogs fed mainly on forage, grain and other feeds, including, in some cases, more or less garbage, the incidence was 0.95 per cent. Thus the average incidence of infection with trichinosis was six times as great as that of the other hogs. Dr. Schwartz estimates that the average incidence of trichinae in all swine, assuming that 10 per cent of the hogs marketed are garbage-fed, would be approximately 1.5 per cent.

The United States Agriculture Department estimated that on January 1, 1940, there were 58,312,000 hogs on farms in this country, and that the total number of garbage-fed hogs was about 1,250,000 a year. Assuming that as few as 600,000 of these are infested with trichinae, the importance of the problem becomes clear when we realize that if each pig furnishes about 100 meals, our present hog crop may provide us with 60,000,000 trichinae-infested meals.

Role of Garbage in Spreading Trichinosis

Human trichinosis is based almost entirely on porcine trichinosis. And porcine trichinosis is based almost entirely upon feeding hogs raw garbage containing trichinae infested pork scraps.

“The common occurrence of pork scraps, including those not so cooked or processed as to kill trichinae, in garbage and swill, and the eating of such scraps by large numbers of swine, are well-established facts,” Dr. Hall pointed out. “Americans throw into the garbage cans much more food than is thrown away by other nations, and as they rank about fifth in amount of meat per capita purchased, the discarded food includes a great deal of meat. This is especially true of so-called hotel garbage, which is definitely high in discarded meat, although the less valuable alley garbage, the household garbage, contains more meat in the United States than it does in other countries.

“It is the testimony of the field veterinarians of the Federal

¹The Trichinosis Situation in the United States, Benjamin Schwartz, (mimeo.) February, 1940, United States Department of Agriculture.

Bureau of Animal Industry that pork scraps are usually present in garbage and swill. The veterinary field force engaged in hog-cholera control has paid special attention to this subject for many years in tracing outbreaks of hog cholera; and in the State of Maryland, where this subject was given particular investigation by Dr. I. K. Atherton and his field force, approximately 80 per cent of outbreaks of hog cholera were traced to garbage containing uncooked pork scraps. The extent of garbage feeding varies locally in accordance with the amount and kind of feed available, and over the Middle West, with plenty of grain available, there is relatively less garbage feeding than along our seaboards. It varies also with the price of pigs above 6 cents a pound, garbage feeding is profitable in Maryland, and with prices below 6 cents it is not profitable. The precise critical price would vary with different swine growers and other factors.

“There are, usually, approximately thirty million to forty million hogs slaughtered annually in the United States, and the scraps of pork from these millions of hogs are trimmed out in butcher shops, hotels, homes, and elsewhere for various reasons—spoilage, discoloration, etc.—and these trimmings and other discards are thrown into the garbage. Between 1 and 5 of every 100 of these discards, on an average, will contain live trichinae, and the total scraps, from almost 100,000 hogs daily, which will contain live trichinae from approximately an indicated 1,000 to 5,000 infested hogs, will run into many thousands daily. The feeding of swine of such scraps, as constituents of garbage or swill, constitutes a dependable, large-scale, year-round source of trichinae for swine. At times the feeding of pork scraps in garbage takes the form of a case reported in the New Jersey press in 1933, in which part of the sausage responsible for 28 clinical cases of human trichinosis, with at least 1 death, was thrown into garbage cans and the garbage distributed to many hog pens.”¹

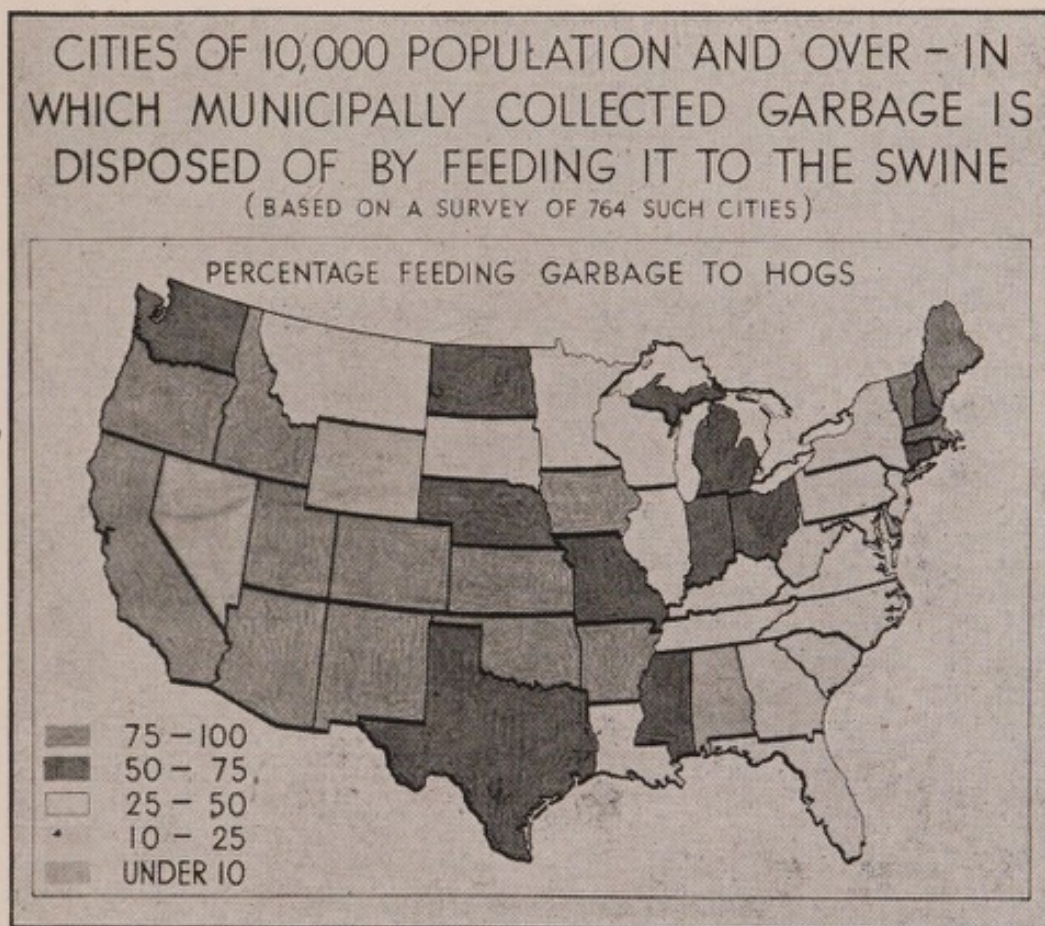
Geographical areas in which many hogs are raised on garbage are the areas having the most cases of clinical trichinosis.¹

Dr. Willard H. Wright, of the National Institute of Health, reports that there is “even some further correlation between the percentage of cities feeding garbage to hogs and the trichinosis morbidity rate. For instance, the Pacific Coast States, in which 82.8 per cent of the cities concerned dispose of garbage by feeding it to swine, have the highest morbidity rate of any section. The New England States, with the next highest morbidity rate,

¹ Hall, Maurice C., Studies on Trichinosis, IV. The role of the garbage-fed hog in the production of human trichinosis. Pub. Health Rep. 52:873-886 (July 2, 1937).

lead all other geographical areas in the number of cities using the hog-feeding method of disposal."¹

FIGURE 8

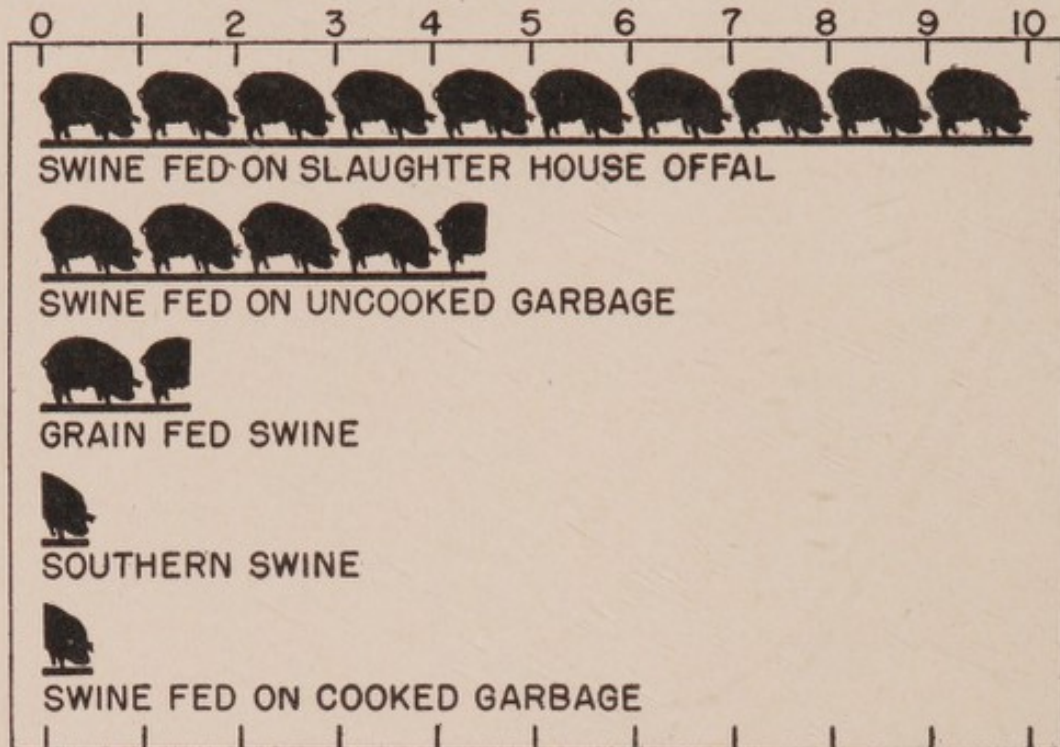


Courtesy, National Institute of Health

¹ Wright, Willard H., Studies on Trichinosis, XIV. A survey on Municipal Garbage Disposal Methods as Related to the Spread of Trichinosis. Pub. Health Rep. Vol. 55, No. 24, June 14, 1940, p. 1074.

FIGURE 9

RELATIVE IMPORTANCE OF DIFFERENT TYPES OF SWINE AS SOURCE OF HUMAN TRICHINOSIS



Courtesy, National Institute of Health

Swine fed on cooked garbage and Southern swine raised generally in fields and woods and without easy access to garbage or kitchen scraps rank in the lowest order of importance as sources of human trichinosis. Only about 0.5 per cent of these swine have been found to harbor trichinae.

Next in order of importance are so-called grain-fed swine, as represented largely by swine from the Central West, of which 1.05 to 1.5 per cent have been found infested with trichinae. If we exclude the rat as a major factor in the causation of swine trichinosis, it is apparent that these so-called grain-fed swine have not been raised exclusively on grain or on pasture crops but that many of them have received some garbage, probably in the form of scraps or swill from the farm kitchen.

Swine fed on uncooked garbage rank next in the order of importance as a source of human trichinosis and probably today represent the chief source of the disease in man. Since 4.5 to 5.0 per cent of these swine are infested with trichinae, they are approximately 10 times more important as a source of trichinosis than are Southern swine and swine fed on cooked garbage.¹

¹Studies on Trichinosis, II, p. 124-125.

TABLE 13

PER CENT OF CITIES FEEDING MUNICIPAL GARBAGE TO SWINE¹

| <i>Group of States</i> | <i>Per Cent of Cities of 10,000 Population or More Feeding Municipal Garbage to Swine</i> |
|-----------------------------|---|
| New England | 85.2 |
| Pacific | 82.8 |
| Mountain | 78.9 |
| West North Central | 69.6 |
| West South Central | 62.3 |
| East North Central | 55.6 |
| East South Central | 34.1 |
| South Atlantic | 28.9 |
| Middle Atlantic | 19.8 |
| New York | 23.0 |
| Average of all States | 52.7 |

Slaughter-House Offal

“Evidence indicates that swine fed on slaughter-house offal are very frequently infested with trichinae, since these swine show incidences of trichinae of 10 to 20 per cent. However, the practice of feeding offal to swine has been largely discontinued and this discontinuance, merely as a result of general improvements in sanitation, represents one of the few advances made in the control of swine trichinosis in this country since the disease was first recognized.”²

A section of the pure food and drug act of the state declares that “food shall be deemed to be adulterated” if it is the product of an animal “that has been fed upon the uncooked offal from a slaughterhouse.”³

This statute is not effective in preventing the feeding of uncooked offal, which contains trichinae. In the first place, it is difficult to check up on a piece of pork, to determine whether it came from a hog fed on uncooked offal. In the second place, the statute is so worded that it does not give the state authority to prevent feeding of uncooked offal from a slaughterhouse; it only authorizes quarantine and seizure of food from animals fed uncooked offal.

It has been suggested that while there is no need for repealing this provision in our law, it should be supplemented by a specific prohibition against the feeding of uncooked offal from a slaughterhouse.

Uncooked Garbage and Hog Cholera

Of hog diseases, hog cholera causes the greatest loss.⁴ There is no known cure for hog cholera. It must be controlled by pre-

¹ Compiled from Studies on Trichinosis, XIV, pp. 1075-1076.

² *Ibid.*, p. 125.

³ Section 200 New York State Agriculture and Markets Law.

⁴ Swine Production, U. S. Department of Agriculture, Farmers' Bulletin No. 1437, p. 34.

vention. Hog cholera is a highly contagious swine disease caused by a virus present in the blood, feces, urine, and secretions of the eye and nose of a hog affected with this disease. Hogs are safe from possible attack only when immunized by the virus-serum treatment.¹

The New York State Bureau of Animal Industry in its report for the year 1939 declares:

"Hog cholera has been reported as having existed in the counties of Cayuga, Cortland, Kings, Monroe, Ontario, Oswego, Richmond, Saratoga, Ulster, Warren and Westchester. It has been observed that the greater number of cases have occurred where raw garbage was fed. Such garbage often contains uncooked bacon or ham rinds or ham bones or uncooked pork scraps, which may have come from swine killed when in the first stages of the disease. In outbreaks of this disease all swine on the premises (except those in the advanced stages of the disease) should be given the serum and virus treatment, known as the double or simultaneous method, using increased doses of serum. Where an immunity of but short duration is desired—that is, where swine are to be slaughtered for market within a few weeks—serum alone may be used. Where an immunity of longer duration is desired, however, serum and virus should be administered."²

The year 1940 found two states, New York and California, separated by thousands of miles, beginning independent surveys to determine how best to combat trichinosis. The findings of California are of interest here in New York State. The following report reviews the work accomplished by those in charge of the trichinosis work in California from February 14, 1940, to October 1, 1940:

CERTAIN ASPECTS OF TRICHINOSIS SITUATION IN CALIFORNIA

K. B. KERR, *Zoologist*

*State of California Department of Public Health*³

In accordance with the resolutions of the Board of Health of the State of California adopted November 19, 1939, a survey has been instituted by the State Department of Public Health for

¹ *Ibid.*, p. 167.

² Work of the Bureau of Animal Industry of the New York State Department of Agriculture and Markets, Circular 599, Reprint from the Annual Report of the Department for the year, 1939, Publishers Printing Co., N. Y.

³ Laboratory space for this work has been generously supplied by the U. S. Public Health Service in the Plague Suppressive Measures Laboratory at San Francisco. Thanks are due to Surgeon L. B. Byington for his generous cooperation.

the purpose of obtaining factual information regarding the trichinosis situation in this state. This study has been in progress since February 15, 1940, and the work accomplished between that date and October 1, 1940, is summarized herein.

Trichina infection in swine is known to be the chief source of human trichinosis; therefore, the prime efforts of the survey have so far been directed towards determining the situation with regard to the incidence, degree and intensity of infection in swine. Through the courtesy of Dr. C. U. Duckworth, Director, Division of Animal Industry, State Department of Agriculture, and his associates, data have been supplied to us regarding the annual slaughter of swine in this state. The average annual slaughter for the five-year period 1935-1939 is about 1,550,000 head of hogs. All but 140,000 to 150,000 of these hogs were slaughtered annually in inspected establishments. California is a deficit hog producing area, supplying only about 40 per cent of the swine slaughtered annually in the state, or about 675,000 head. The other 60 per cent of hogs slaughtered are supplied from out of state sources. Somewhat more than one-third of the hogs are fed in whole or in part upon garbage from municipalities, resorts and camps of various sorts.

The problem resolved itself into securing specimens from the slaughterhouses, identifying the specimens as to the ranch from which they originated, finding that ranch and determining the type of food fed to the hog, the sanitary condition of the ranch, and whether rodents were present. For the most part, the specimens taken consisted of the diaphragm of the hog and as much of this muscle as was available was taken. On the whole an adequate sample was obtained, for the mean weight of the 2,600 specimens was 39.1 ± 9.6 grams.

The specimens were examined by the usual artificial gastric digestion method, the details of which are described by Kerr and Jacobs (in press, Public Health Reports). The only essential variation from the technique used by these authors was that continual stirring was not employed for all specimens. After the completion of the first thousand examinations, all specimens for which more than a liter of digest was necessary were stirred by bubbling a fine jet of air through the digest.

The data as presented in Table 14 are divided into the several categories as a result of information gathered from the visits to the ranches. The basis for this division was as follows: Those specimens coming from hogs which had received grain, forage or other types of food in which there was no possibility of meat scraps being present were placed in the grain-fed category; those specimens from hogs fed on scraps from the ranch kitchen in addition to grain or forage were placed in the grain and kitchen scraps group; those fed cooked offal and no other meat scraps were placed resorts or camps were placed in the raw garbage category, or if the garbage was cooked by the hog producer, in the cooked garbage

group; those fed cooked offal and no other meat scraps were placed in the cooked offal group. The hogs raised and fed at the various state institutions were placed in the institutions group although they were fed garbage from the institution. This was done because these hogs were slaughtered by the institution and the pork was consumed on the premises. All hogs which could not be traced to the ranch or ranches from which they originated were placed in the food not determined group. Thus, all specimens from hogs raised outside of California fall into this group. The specimens from grain fed hogs came from 117 ranches, those from grain and kitchen scrap fed hogs from 62 ranches and those fed on garbage from 32 ranches.

The data shown in Table 14 does not present a final and decisive picture with regard to the trichina infection in swine slaughtered in California. For each proportion a standard error was computed by means of the formula $\sqrt{\frac{pq}{n}}$, where p is the per cent infected, q the per cent not infected and n the number of specimens. The standard error of the differences between the proportions has been determined by means of the formula $\sqrt{\frac{p_1q_1}{n_1} + \frac{p_2q_2}{n_2}}$. Thus, the difference between the proportions in the grain and raw garbage groups is 5.5. The standard error of this difference is ± 1.1 . Since the difference is more than twice the standard error, it appears likely that it is a significant difference. A similar significant difference exists between the raw garbage and grain and kitchen scrap categories.

The positive specimens in the cooked offal group all came from one place. Five of the seven specimens secured were trichinous. At the first visit to this place the inspector made a notation doubting the adequacy of the method in use for cooking the offal.

Table 15 shows the intensity of infection in the specimens which contained trichinae. They are also classified according to the various food categories. The actual number of trichinae found in these specimens varied from 1 to 31,000. This is a variation from 0.02 larvae per gram to 337.0 larvae per gram of diaphragm muscle. More than one larva per gram of muscle were found in 44.6 per cent of the infected specimens.

The part that the rodent may play in the transmission of trichinae to swine is being considered. An attempt is being made to secure rodents from all ranches from which trichinous specimens are obtained and from all ranches on which garbage is fed to hogs. At this time, only *Rattus rattus norvegicus* has been found infected, and infected specimens have only been secured from ranches feeding garbage. However, specimens from swine infected with trichinae have not been secured from all of these ranches. When sufficient material has been secured some light may be shed on the role of the rat in this problem.

A further aspect of the survey is the determination of the frequency of trichina infection in pork purchased in the same man-

ner as the consumer. The results of the examination of these specimens are presented in Table 16. The pork products are listed under two general headings, those processed to kill trichinae and those products which are not so processed. The former type are usually eaten without further cooking on the part of the consumer while the latter must be thoroughly cooked by the consumer to be safe. These products have been gathered from many parts of California.

No trichinae have been found in the 92 products from inspected establishments and thus presumably processed in such a manner that trichinae were killed. The mean weight of these specimens was 203.8 ± 179.5 grams. The results of the examination of the fresh products showed that 3 specimens of 73 samples (4.1%) of bulk sausage were infected with trichinae, and one specimen in 85 (1.2%) of link sausage was infected. No trichinae were found in the 83 specimens of chops examined. The mean weight of the fresh type of product was 126.0 ± 78.6 grams. The degree of infection in these infected specimens varied from 0.3 to 4.2 larvae per gram of specimen.

It should be borne in mind that this is a progress report and, therefore, the data presented are not conclusive. It is hoped that at the conclusion of the work the data obtained will be of considerable significance relative to the frequency of trichinae infection in swine according to the type of food the hog received. Likewise, the results of the market pork aspect of the survey may be an aid in determining the source of human trichinosis, since it should determine the types of products most commonly infected.

TABLE 14

DISTRIBUTION OF TRICHINA INFECTION IN SWINE SLAUGHTERED
IN CALIFORNIA ACCORDING TO THE TYPE OF FOOD THE
SWINE RECEIVED

| TYPE OF FOOD | Number of Specimens Examined | Number of Specimens Containing Trichinae | Per cent of Specimens Containing Trichinae |
|------------------------------------|------------------------------------|---|---|
| <i>Hogs raised in California</i> | | | |
| Grain | 566 | 3 | 0.5 ± 0.3 |
| Grain and kitchen scrap..... | 401 | 6 | 1.5 ± 0.6 |
| Raw garbage | 502 | 30 | 6.0 ± 1.1 |
| Cooked garbage | 1 | 0 | 0.0 |
| Cooked offal | 62 | 5 | 8.0 ± 3.4 |
| Food not determined | 462 | 2 | 0.4 ± 0.3 |
| Total | 1994 | 46 | 2.3 ± 0.3 |
| Institutions | 152 | 0 | 0.0 |
| <i>Hogs raised in other states</i> | | | |
| Food not determined | 454 | 1 | 0.2 ± 0.2 |
| Grand total | 2600 | 47 | 1.8 ± 0.3 |

TABLE 15

CLASSIFICATION OF THE TRICHINOUS SWINE SPECIMENS ACCORDING TO INTENSITY OF INFECTION AND TYPE OF FOOD THE HOG RECEIVED

| <i>Number of trichinae per gram of muscle</i> | <i>Grain</i> | <i>Grain and kitchen scraps</i> | <i>Raw garbage</i> | <i>Cooked offal</i> | <i>Food not determined</i> | <i>Total</i> | <i>per cent of total</i> |
|---|--------------|---------------------------------|--------------------|---------------------|----------------------------|--------------|--------------------------|
| 0.0 to 0.09 | 1 | 1 | 9 | 0 | 2 | 13 | 27.7 |
| 0.1 to 0.99 | 0 | 0 | 12 | 0 | 1 | 13 | 27.7 |
| 1.0 to 9.99 | 1 | 2 | 7 | 2 | 0 | 12 | 25.5 |
| 10.0 to 49.99 | 0 | 1 | 1 | 1 | 0 | 3 | 6.4 |
| 50.0 to 99.99 | 1 | 0 | 1 | 2 | 0 | 4 | 8.5 |
| 100.0 and over | 0 | 2 | 0 | 0 | 0 | 2 | 4.3 |
| Total | 3 | 6 | 30 | 5 | 3 | 47 | |
| Per cent of total | 6.4 | 12.8 | 63.8 | 10.6 | 6.4 | | |

TABLE 16

THE NUMBER OF TIMES TRICHINAE WERE FOUND IN VARIOUS TYPES OF MARKET PORK PRODUCTS PURCHASED IN THE SAME MANNER AS PURCHASED BY THE CONSUMER

| <i>Type of product</i> | <i>Number of specimens examined</i> | <i>Number of specimens containing trichinae</i> | <i>Per cent of specimens containing trichinae</i> |
|---|-------------------------------------|---|---|
| <i>Products not processed to kill trichinae</i> | | | |
| Fresh link sausage | 85 | 1 | 1.2 |
| Fresh bulk sausage | 73 | 3 | 4.1 |
| Fresh pork chops | 83 | 0 | 0.0 |
| Fresh pork scraps | 1 | 0 | 0.0 |
| Miscellaneous | 1 | 0 | 0.0 |
| Total | 243 | 4 | 1.6±0.8 |
| <i>Products processed to kill trichinae</i> | | | |
| Chorritos | 4 | 0 | 0.0 |
| Salami | 27 | 0 | 0.0 |
| Cervelat | 3 | 0 | 0.0 |
| Salametti | 1 | 0 | 0.0 |
| Mettwurst | 8 | 0 | 0.0 |
| Head cheese | 1 | 0 | 0.0 |
| Garlic sausage | 5 | 0 | 0.0 |
| Blood and tongue sausage | 1 | 0 | 0.0 |
| Summer sausage | 1 | 0 | 0.0 |
| Linguisa | 3 | 0 | 0.0 |
| Liver sausage | 7 | 0 | 0.0 |
| Bologna | 2 | 0 | 0.0 |
| Various loaves | 4 | 0 | 0.0 |
| Thuringer | 1 | 0 | 0.0 |
| Wieners | 4 | 0 | 0.0 |
| Miscellaneous | 20 | 0 | 0.0 |
| Total | 92 | 0 | 0.0 |
| Grand total | 335 | 4 | |

Before consideration is given to various specific control measures, it would be well to consider the factual data presented in the following report on pork production in New York State. This report was presented at the public hearing held by the New York State Trichinosis Commission on November 28, 1940.

PORK PRODUCTION IN NEW YORK STATE

W. M. CURTISS

*Department of Agricultural Economics and Farm Management,
New York State College of Agriculture, Ithaca, New York*

The growing of hogs and the production of pork on New York farms is of minor importance compared with other farm enterprises. In 1939 only 1.3 per cent of the total cash farm income on New York farms came from the sale of hogs, pork and lard.

The 1935 census reported 49,945 farms, or 28 per cent of all farms in New York, with 189,871 swine of all ages. These amounted to about one hog per farm or 3.8 per farm reporting swine. Only 12,000 farms reported breeding females. On January 1, 1940, 259,000 swine were reported on New York farms.

The Swine Enterprise on New York Farms

The most usual situation with regard to swine production on New York farms is the buying of one or two pigs at an early age and feeding them on the wastes from the household plus a limited amount of grain and butchering them for home use. One farmer in 10 or 15 keeps a brood sow and sells young pigs to his neighbors for home butchering.

A survey of more than 5,000 New York farms in 1939 indicated that the farms slaughtered an average of one hog per farm, keeping three-fourths for home use and selling one-fourth.

Garbage Feeding of Hogs

Around practically every large city, hog feeding establishments are set up to make use of garbage and other waste food products from the city. Such feeds as skim milk, whey, dried bread, cake, old pop corn, etc., as well as garbage are used.

The Bureau of Agricultural Economics, U. S. Department of Agriculture, in April, 1940, made a survey to determine the extent of garbage feeding of hogs in each state. In New York State they had reports from 54 counties out of 62 counties reporting a total of 272 feeders, each feeding more than 100 head of hogs annually.¹

¹Extent of Garbage Feeding of Hogs, United States Department of Agriculture, Bureau of Agricultural Economics, Washington, D. C., June, 1940, (Mimeo) States showing largest number of garbage-feeding hog farms, annually feeding 100 head or more, are Indiana, 339; California, 325; Massachusetts, 315; New York, 272; Virginia, 145; New Jersey, 123, and Missouri, 103.

The total number of garbage-fed hogs marketed annually from these 54 counties was 45,600. Of these, 62 per cent were fed exclusively on garbage, the others receiving some other feeds.

About 66 per cent of the garbage-fed hogs marketed were sold to local butchers.

County agricultural agents who supplied the information on this survey, indicated that the garbage feeding of hogs is declining in New York State. Twelve agents in New York reported that outbreaks of disease, especially hog cholera, had been associated with garbage feeding of hogs.

New York Metropolitan Pork Supply

Practically all of the live hogs received at public stock yards in the metropolitan area are slaughtered locally. The number received in 1939 at the Jersey City, Newark, and New York yards, totalled 1,651,000 head. These were in addition to those shipped directly to packers and which did not pass through the public stock yards.

In 1936-37, the Buffalo stock yards received about 265,000 hogs. Of these, about 57,000, or 21 per cent, came from New York State. In the same year, the Jersey City stock yards received around 260,000 hogs, with only 1,500 or less than 1 per cent coming from New York State.

The total supply of pork in Metropolitan New York in 1939, as estimated by the Agricultural Marketing Service, U. S. D. A., was as follows:

| | | |
|---------------------------------|-------------|--------|
| Western dressed carcasses | 6,991,420 | pounds |
| " " cured pork | 45,739,447 | " |
| " " smoked meats | 15,411,246 | " |
| " " cuts | 106,557,832 | " |
| " " trimmings | 4,818,340 | " |
| " " sausage | 5,964,930 | " |
| Total western dressed | 185,483,215 | " |
| Locally dressed carcasses | 290,136,812 | " |
| (2,339,813) | | |
| Country dressed carcasses | 331,440 | " |
| (4,143) | | |
| Imports | 39,673,082 | " |
| Total pork supply | 515,624,549 | " |

Assuming that all of the 45,600 garbage-fed hogs went into the metropolitan area, they would amount to only about 8,000,000 pounds of pork compared with a total supply of more than 500,000,000 pounds.

Meat Supply in Upstate Cities

Locally produced pork is apparently a higher proportion of the total supply in upstate cities than in the metropolitan district. A

recent study of the Syracuse meat supply disclosed that out of a total of more than 13,000,000 pounds of pork which came into the city in one year, about 2,300,000 pounds, or about 18 per cent, were from locally grown hogs. It would be difficult to estimate what proportion of the 18 per cent were garbage-fed hogs.

Summary

Pork production on New York farms is largely for home consumption. Most farmers who raise their pork depend on buying one or two young pigs, fatten them on waste products from the farm and then butcher them. A few farmers keep breeding stock and sell young pigs to their neighbors, or may fatten a few hogs for market.

Of the total pork supply in New York State, a very small percentage comes from hogs grown in the state. The bulk is shipped in either alive or dressed from other areas.

There are relatively few swine in New York fed on garbage. These are probably a source of trichinosis. A state law requiring the cooking of garbage fed to these hogs would probably be effective in eliminating this source of trichinosis. The law should be carefully drawn so as not to work undue hardship on the many farmers growing hogs for home consumption.

Although the incidence of trichinae is said to be 5 to 10 times as great in garbage-fed hogs as in grain-fed hogs, a state law requiring the cooking of garbage would not be an effective control for the thousands of live hogs and millions of pounds of dressed pork shipped into the state which may also be a source of trichinosis and are a far more important proportion of the pork supply than garbage-fed hogs from New York State.

In addition to the problem of trichinosis, consideration should be given to state-wide inspection of meat both before and during slaughter. The state is served by several hundred butchers operating in small slaughter houses receiving little if any inspection or supervision from any source. Some cities have an inspection service. Federal inspection is available in most of the metropolitan slaughter houses, but in only a few upstate establishments.

Prevention of Feeding of Raw Garbage

“The situation today plainly indicates,” Dr. Wright states, “that methods of garbage disposal have not kept pace with the marked improvements effected during recent years in other municipal sanitary services. While no effort has been made to obtain such information, it seems safe to assume that nearly all, if not all, of the cities utilizing the hog-feeding method of garbage

disposal have sewage and water systems sufficiently adequate for the prevention of fecal-borne diseases. Many of them have food-inspection services and probably most of them have milk ordinances based on the standard ordinance of the United States Public Health Service or ordinances equivalent to that ordinance. Thus, most of these municipalities have probably provided adequate protection against most of the diseases spread through food or water; however, in the case of trichinosis they are not only failing to provide adequate safeguards but are contributing to the spread of infection.

“The persistence of such an outmoded method of garbage disposal is accounted for in part by the revenue which many cities derive from such refuse. Some municipalities receive a sizable amount of income from the sale of garbage. Others, which merely furnish the garbage gratis to hog feeders, while not profiting directly, are relieved of the expense of disposal. With the present burden of taxation, any method of refuse disposal which represents a saving to the municipality appeals alike to the city official and the taxpayer. The general application of any suitable method or methods for the sterilization and processing of garbage so that its value as an animal food might be safely conserved would help solve the present problem. However, the economic factor is not the factor of prime importance. With such things as the use of night soil as fertilizer, we have long since disregarded the economic factor in favor of benefits to community health.

“State and local health officials may well assume the leadership in remedying the present anomalous situation. Effort should be made to encourage disposal by methods which are accordant with accepted public health standards. Until facilities are available for sanitary methods of disposal, it would be desirable for cities to include in contracts for garbage removal and disposal provisions for adequate cooking of garbage before its consumption by swine. In those cities already employing sanitary methods of disposal but benefiting from garbage sold or furnished gratis to farmers and hog feeders, the public health aspects of the matter should be considered and effort made to curb such practices . . . Under present conditions, it would appear that little can be accomplished in the way of controlling trichinosis so long as our cities and towns continue their substantial contributions to the spread of the disease and serve as flagrant examples for others to do likewise.”¹

¹A survey of Municipal Garbage Disposal Methods as Related to the Spread of Trichinosis, Studies on Trichinosis XIV, Willard H. Wright, Public Health Reports, Vol. 55, No. 24, June 14, 1940, p. 1075-1077.

AMERICAN JOURNAL OF PUBLIC HEALTH

"This journal has repeatedly called attention to the risks of feeding raw garbage to hogs. Many of the cities which indulge in this bad practice have adequate food inspection, good milk ordinances, pure water supplies and satisfactory sewerage systems. In other words, these municipalities have provided protection against most of the diseases spread through food and drink, but have failed to guard their citizens against trichinosis. Indeed we might say that they are fostering the disease.

"The reasons for this situation are apparently almost entirely commercial. Some cities are themselves directly to blame since they maintain hog farms of their own. In others pressure has been brought to bear against the passage of ordinances designed to protect the citizens against the menace of raw garbage-fed pork. In at least two states legislation to control the feeding of raw garbage to swine has been blocked by organizations of those engaged in the business. If, as Wright holds and we believe, the hog is the chief source of human trichinosis, little can be accomplished in the way of control until cities and towns refuse to dispose of their garbage in this unsanitary and disease-spreading fashion.

"Here is the job for health officers."

Excerpt from editorial, Oct., 1940

The Governing Council of the American Public Health Association on October 27, 1938, adopted the following resolution:

"Whereas, Thousands of necropsy examinations in many sections of the United States indicate that about one person in every six is infested with the trichina parasite, *trichinella spiralis*, and that approximately 2.5 per cent of positive cases represent infestations of a degree capable of producing clinical trichinosis;

"Whereas, These facts, together with a marked increase in the number of cases reported during the past few years, would seem to indicate that trichinosis is a public health problem of greater importance than has been realized previously; and

"Whereas, The methods now employed in the United States are not sufficiently effective nor sufficiently inclusive to form a basis for any adequate control of the disease; and

"Whereas, Human trichinosis is based for the most part on swine trichinosis, and the most important factor in the causation of swine trichinosis is the practice of feeding uncooked garbage, containing scraps of raw pork to swine; and

"Whereas, It would appear that 40 to 50 per cent of American municipalities dispose of their garbage by feeding it to swine, a practice which is directly responsible for the dissemination of the trichina parasite in the local population; and

“Whereas, The control of the practice of feeding garbage to swine appears at the present time to be the most practical, the most inexpensive and the most logical approach to the problem of trichinosis control; therefore be it

“Resolved, That the American Public Health Association lend all encouragement possible to any plan looking to the control of human trichinosis, and urge that all public health officials be requested to give active support to any campaign for the control of this disease; that local and state health officials be requested to take due cognizance of local conditions as related to trichinosis and endeavor, when possible, to make provision for suitable cooking of garbage for a period of time sufficient to destroy all trichinae, and the supervision of such plants by health departments or other suitable agencies; and

“That health officials of cities and towns should take active steps to encourage the use of methods of garbage disposal other than disposal by feeding to swine, or to encourage the cooking of municipal garbage before its consumption by swine, as a health measure for the protection of citizens of the municipality.”

“All available evidence on the trichinosis problem in the United States points to the necessity for the institution of adequate control measures by state and local health departments. The chief source of human trichinosis is pork from hogs fed with uncooked garbage. The practice of feeding uncooked garbage to swine is very common in the United States, and since hogs fed in this way are more frequently and more heavily infected with the parasite than hogs given any other type of feed, the problem assumes considerable public health importance.”

THOMAS PARRAN,

Surgeon General of the United States.

A survey in 1938 and 1939 by Dr. Willard H. Wright in 764 cities of 10,000 population and over revealed that municipal garbage in 403 or 52.7% of these cities was fed to swine.¹ “In the aggregate,” Dr. Wright states, “American municipalities either directly or indirectly are probably the largest feeders of raw garbage to swine and would therefore appear to be chiefly responsible for the dissemination of trichinosis. Many hogs maintained on municipal garbage are slaughtered locally and many cities are thus contributing indirectly to the ill health of their own citizens.”²

¹Ibid. p. 1072.

²Ibid. p. 1074.

About one-third of the municipalities in New York State, representing about one-fourth of the population in cities and incorporated villages, dispose of their garbage by feeding it raw to hogs, according to the following significant study:

SURVEY OF GARBAGE COLLECTION AND DISPOSAL METHODS IN UPSTATE NEW YORK

DR. JAMES E. PERKINS, *Director,*
Division of Communicable Diseases, New York State Departemnt
of Health

Introduction

During recent years there has been displayed an increasing interest in trichinosis as a public health problem. Much of this interest has been stimulated through papers published by the Division of Zoology, National Institute of Health, United States Public Health Service. The first articles,¹ most of which have appeared in "Public Health Reports," were published by the late Maurice C. Hall, Director of the Division, and since his death in 1938, by his successor, W. H. Wright. These studies indicate that about seventeen per cent of the general population are infested at some time during life with the trichina parasite. This estimate is based upon a standard method of examination of diaphragmatic muscle tissue of individuals dying from various causes and this is a relative index, of course. It does not mean that a comparable percentage of individuals suffer during life from clinical symptoms of the disease.²

These studies also appear to demonstrate a correlation between the incidence of trichinosis and the practice of feeding garbage raw to hogs. Upon the basis of these findings the Division of Zoology has been advocating legislation by the states and local municipalities prohibiting disposal of municipal garbage through feeding it raw to hogs.

Furthermore, the American Public Health Association at its

¹Hall, Maurice C., and Collins, Benjamin J., Studies on Trichinosis I. The incidence of trichinosis as indicated by post-mortem examination of 300 diaphragms, P. H. Reports, 52:468, April 16, 1937; and subsequent reports.

²A rough estimate has been made that the proportion of the 17% infested individuals who suffer a sufficiently intensive infestation to give clinical symptoms is 2.5%; or 0.4% of the general population (Am. P. H. Assn. Year Book, 1938-1939, p. 25).

annual meeting in 1938 passed a resolution recommending that "health officials of cities and towns should take active steps to encourage the use of methods of garbage disposal other than by disposal by feeding to swine, or to encourage the cooking of municipal garbage before its consumption by swine. . . ."¹

In the early part of 1939, therefore the Division of Communicable Diseases of the New York State Department of Health conducted a survey of all cities and incorporated villages in New York State, exclusive of New York City, as to the methods of garbage collection and disposal, so as to determine to what extent improper disposal of garbage by municipalities might be contributing to the trichinosis problem in upstate New York.

Method of Conducting the Survey

A questionnaire was prepared and distributed through the district state health officers to the local health officers of the 592 cities and incorporated villages in upstate New York. All but two questionnaires were returned. Of these, 580 were filled in sufficiently well to be used in the statistical analysis of the results so far as data concerning domestic garbage (garbage from homes) are concerned; and 550 sufficiently complete for analysis of the data concerning commercial garbage (garbage from restaurants, hotels, etc.). All of the incompletely filled in forms were for small municipalities and the difference between the number of forms available for domestic garbage and commercial garbage is due to the fact that many small places have no restaurants, hotels, or other sources of the latter type of garbage.

For statistical analysis of the data, it was decided, after preliminary tabulations, to group the methods of collection as follows:

1. City or village employees.
2. City or village employees and others.
3. Others.
4. No method of collection provided.

Similarly it was decided to group the methods of disposal as follows:

1. Hog feeding (raw).
2. Hog feeding (cooked).
3. Solely by incineration (or reduction).
4. Other methods (dumping, burying, etc.).

Results of the Survey

Collection

In Table 17 are presented the data concerning collection of garbage from homes. It will be noted from this Table that there is a

¹Am. P. H. Assn. Year Book, 1938-1939, supplement to February, 1939 issue of the Am. J. of P. H., p. 24.

decrease in the percentage of communities which have arranged for the collection of garbage solely through city or village employees in direct proportion to the diminishing size of the population group; that is, both of the two cities having a population of 250,000 or over have the garbage collected by city employees, six of the 10 cities 50,000 to 250,000 population have this service, 39 per cent of the 10,000—50,000 group, 36 per cent of the 2,500—10,000 group, and only 20 per cent of the villages with a population under 2,500. Conversely, and as one would expect, no place with a population of 10,000 or over had failed to arrange for some sort of municipal method of collection, while 1.6 per cent of places with populations of 2,500 to 10,000, and 27 per cent of the places under 2,500 population have no method of collection. These data are shown graphically in Chart 1.

Table 18 presents the same data as Table 1 but with regard to garbage from restaurants and butcher shops, etc., rather than garbage from homes. It will be noted the findings are essentially the same as with regard to domestic garbage.

Disposal—Feeding Raw to Hogs

Data concerning the disposal of garbage from homes are presented in Table 19. As to disposal through feeding the garbage raw to hogs, neither of the two places in the 250,000 or over group disposes of garbage in this manner. In all other population groups, from 20 to 36 per cent of the municipalities use this method of disposal, without any consistent shift in the percentage according to population. The percentage of places disposing of garbage solely by incineration is directly in proportion to the size of the population, ranging from 100 per cent in the case of the two cities with populations of 250,000 and over, to 11 per cent in places under 2,500. The utilization of other methods of disposal, such as dumping and burying, increases in inverse proportion to the size of the population. It will be noted from this Table that only 6 communities of the entire 580 cities and incorporated villages claimed to dispose of their garbage through hog feeding but with preliminary cooking. All 6 of these communities, it will be noted, are in the under 2,500 population group. These data are presented graphically in Chart 4.

Table 20 presents similar data concerning commercial garbage, and here again it will be noted the percentages do not vary appreciably from those concerning domestic garbage.

Table 21 presents in more detail the data concerning the cities and incorporated villages disposing of domestic garbage through feeding it raw to hogs. Twenty-nine per cent of all incorporated villages and cities dispose of garbage in this manner; or on a population basis, garbage from 23 per cent of the total population of incorporated villages and cities is disposed of by this method. The twenty cities with this method of disposal in the population group

of 10,000 to 50,000 account for only 3.4 per cent of all the cities and incorporated villages but account for 10 per cent of the population. The upper part of Chart 5 depicts these statements graphically.

Table 22 presents the same data as Table 21, but for garbage from restaurants, butcher shops, etc., instead of home garbage. The results, it will be noted, are very similar to those presented for domestic garbage, except that there is a slightly but consistently higher percentage of places disposing of commercial garbage through feeding it raw to hogs in comparison with domestic garbage. Considering all municipalities together, 35 per cent dispose of commercial garbage through this method, in comparison with 29 per cent in the case of domestic garbage.

Cooked Garbage

It will be noted that eight municipalities claimed disposal of their commercial garbage through feeding it to hogs after preliminary cooking, in comparison with six such municipalities with regard to domestic garbage. Incidentally, with three exceptions, these are not the same municipalities, so that the two together represent eleven municipalities.

Since preliminary cooking of garbage prior to hog feeding is of interest as a means of controlling trichinosis, further information was secured with regard to the municipalities claiming this method of disposal. As mentioned previously, all eleven of these municipalities had populations of less than 2,500, six of them, in fact, having a population of less than 1,000. The additional information received indicated that in all but two instances the methods actually employed, or the proportion of garbage treated in this manner were such that one would not be justified in claiming this method of disposal. In each of the two instances in which the procedure apparently was properly and completely practiced (Chateaugay, population 1,169, domestic garbage; and Oakfield, population 1,919, domestic and commercial garbage), all of the garbage was collected and cooked by one farmer. The cost of cooking in each instance was negligible, but the amounts of garbage treated were so small that these instances do not assist us in our attempt to determine whether or not this procedure is a practical trichinosis control measure. Essentially, therefore, feeding of cooked garbage to hogs is not a method of garbage disposal practiced by cities and incorporated villages in New York State.

Incineration

Incineration (or reduction) is probably the ideal method of garbage disposal from a sanitary standpoint, and Tables 27 and 28 present data in more detail concerning municipalities disposing of their garbage solely by incineration. Considering Table 27, which deals with domestic garbage, the two cities with populations of 250,000 and over account for only 0.3 per cent of all cities and

incorporated villages, but they account for 23 per cent of the total population of these municipalities. Considering all incorporated villages and cities, 17 per cent are served by garbage incineration, or 55 per cent of the entire population.

Table 28 presents the same data for garbage from commercial sources, and with a similar picture.

Summary

A survey of methods of collection and disposal of garbage in incorporated villages and cities in upstate New York was conducted in 1939. From this survey, it appears that about one-sixth of the communities have garbage collected through city or village employees, and about one-sixth of the places have no system of collection whatsoever. As would be expected, the percentage of places with municipal collection through city or village employees is in direct proportion to the size of the population. All places with a population of 10,000 or over have some method of collection but about 1 per cent of the places of 2,500 to 10,000 population, and one-fourth of the places in the under 2,500 population group provide no method of collection.

As to methods of disposal, about one-third of the municipalities, representing about one-fourth of the population in cities and incorporated villages, dispose of their garbage by feeding it raw to hogs. About one-sixth of the municipalities dispose of garbage solely through incineration.

TABLE 17

Collection of garbage from HOMES in cities and incorporated villages in New York State (exclusive of New York City) according to method of collection and population group

1939 Survey New York State Department of Health

| | NUMBER OF PLACES | | | | | | PER CENT TOTAL PLACES IN EACH POPULATION GROUP | | | | | |
|---|-------------------------|----------------|---------------|-------------|------------|-------|--|----------------|---------------|-------------|------------|-------|
| | <i>Population group</i> | | | | | | <i>Population group</i> | | | | | |
| | 250,000+ | 50,000-250,000 | 10,000-50,000 | 2500-10,000 | Under 2500 | Total | 250,000+ | 50,000-250,000 | 10,000-50,000 | 2500-10,000 | Under 2500 | Total |
| <i>Collected By:</i> | | | | | | | | | | | | |
| City or village employees.... | 2 | 6 | 22 | 45 | 78 | 153 | 100.0 | 60.0 | 39.3 | 36.3 | 20.1 | 26.4 |
| City or village employees and others..... | ... | 3 | 6 | 1 | 9 | 19 | ... | 30.0 | 10.7 | 0.8 | 2.3 | 3.3 |
| Others..... | ... | 1 | 28 | 76 | 195 | 300 | ... | 10.0 | 50.0 | 61.3 | 50.3 | 51.7 |
| Not collected..... | ... | ... | ... | 2 | 106 | 108 | ... | ... | ... | 1.6 | 27.3 | 18.6 |
| Total..... | 2 | 10 | 56 | 124 | 388 | 580 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Questionnaire incomplete..... | ... | ... | ... | 1 | 11 | 12 | | | | | | |

TABLE 18

Collection of garbage from RESTAURANTS, BUTCHER SHOPS, ETC., in cities and incorporated villages in New York State (exclusive of New York City) according to method of collection and population group

1939 Survey New York State Department of Health

| Collected By: | NUMBER OF PLACES | | | | | | PER CENT TOTAL PLACES IN EACH POPULATION GROUP | | | | | |
|---|------------------|----------------|---------------|-------------|------------|-------|--|----------------|---------------|-------------|------------|-------|
| | Population group | | | | | | Population group | | | | | |
| | 250,000 + | 50,000-250,000 | 10,000-50,000 | 2500-10,000 | Under 2500 | Total | 250,000 + | 50,000-250,000 | 10,000-50,000 | 2500-10,000 | Under 2500 | Total |
| City or village employees..... | 2 | 6 | 19 | 36 | 71 | 134 | 100.0 | 60.0 | 33.9 | 29.0 | 19.8 | 24.4 |
| City or village employees and others..... | ... | 3 | 6 | 10 | 11 | 30 | ... | 30.0 | 12.5 | 8.1 | 3.1 | 5.4 |
| Others..... | ... | 1 | 31 | 77 | 189 | 298 | ... | 10.0 | 53.6 | 62.1 | 52.8 | 54.2 |
| Not collected..... | ... | ... | ... | 1 | 87 | 88 | ... | ... | ... | 0.8 | 24.3 | 16.0 |
| Total..... | 2 | 10 | 56 | 124 | 358 | 550 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| No garbage present or questionnaire incomplete... | ... | ... | ... | 1 | 41 | 42 | | | | | | |

TABLE 19

Disposal of garbage from HOMES in cities and incorporated villages in New York State (exclusive of New York City) according to method of disposal and population group

1939 Survey New York State Department of Health

| | NUMBER OF PLACES | | | | | PER CENT TOTAL PLACES IN EACH POPULATION GROUP | | | | | | |
|-------------------------------|-------------------------|----------------|---------------|-------------|------------|--|----------|----------------|---------------|-------------|------------|-------|
| | <i>Population group</i> | | | | | <i>Population group</i> | | | | | | |
| | 250,000+ | 50,000-250,000 | 10,000-50,000 | 2500-10,000 | Under 2500 | Total | 250,000+ | 50,000-250,000 | 10,000-50,000 | 2500-10,000 | Under 2500 | Total |
| <i>Disposed By:</i> | | | | | | | | | | | | |
| Hog feeding (raw)..... | ... | 2 | 20 | 39 | 109 | 170 | ... | 20.0 | 35.7 | 31.5 | 28.1 | 29.3 |
| Hog feeding (cooked)..... | ... | ... | ... | ... | 6 | 6 | ... | ... | ... | ... | 1.5 | 1.0 |
| Incineration solely..... | 2 | 6 | 19 | 27 | 44 | 98 | 100.0 | 60.0 | 33.9 | 21.8 | 11.3 | 16.9 |
| Other methods..... | ... | 2 | 17 | 58 | 229 | 306 | ... | 20.0 | 30.4 | 46.7 | 59.1 | 52.8 |
| Total..... | 2 | 10 | 56 | 124 | 388 | 580 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Questionnaire incomplete..... | ... | ... | ... | 1 | 11 | 12 | | | | | | |

TABLE 20

Disposal of garbage from RESTAURANTS, BUTCHER SHOPS, ETC., in cities and incorporated villages in New York State (exclusive of New York City) according to method of disposal and population group

1939 Survey New York State Department of Health

| | NUMBER OF PLACES | | | | | PER CENT TOTAL PLACES IN EACH POPULATION GROUP | | | | | | |
|---|-------------------------|----------------|---------------|-------------|------------|--|----------|----------------|---------------|-------------|------------|-------|
| | <i>Population group</i> | | | | | <i>Population group</i> | | | | | | |
| | 250,000+ | 50,000-250,000 | 10,000-50,000 | 2500-10,000 | Under 2500 | Total | 250,000+ | 50,000-250,000 | 10,000-50,000 | 2500-10,000 | Under 2500 | Total |
| <i>Disposed By:</i> | | | | | | | | | | | | |
| Hog feeding (raw)..... | ... | 3 | 24 | 47 | 118 | 192 | ... | 30.0 | 42.9 | 37.9 | 33.0 | 34.9 |
| Hog feeding (cooked)..... | ... | ... | ... | 1 | 7 | 8 | ... | ... | ... | 0.8 | 2.0 | 1.5 |
| Incineration solely..... | 2 | 6 | 17 | 24 | 46 | 95 | 100.0 | 60.0 | 30.3 | 19.4 | 12.8 | 17.3 |
| Other methods..... | ... | 1 | 15 | 52 | 187 | 255 | ... | 10.0 | 26.8 | 41.9 | 52.2 | 46.3 |
| Total..... | 2 | 10 | 56 | 124 | 358 | 550 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| No garbage present or questionnaire incomplete... | ... | ... | ... | 1 | 41 | 42 | | | | | | |

TABLE 21

Cities and incorporated villages in New York State (exclusive of New York City) where garbage from HOMES is disposed of by HOG FEEDING (RAW)

1939 Survey New York State Department of Health

| Population Group | All cities and incorporated villages | | Places where garbage is disposed of by hog feeding (raw) | | | |
|-----------------------|--------------------------------------|-----------------------------------|--|--------------------------------|--|--|
| | Number | Estimated population July 1, 1939 | Number | Estimated population so served | Per cent of all cities and incorporated villages | Per cent of total population of all cities and incorporated villages |
| 250,000+ | 2 | 945,040 | .. | .. | .. | .. |
| 50,-250,000 | 10 | 1,079,830 | 2 | 231,931 | 0.3 | 5.6 |
| 10,-50,000 | 56 | 1,138,272 | 20 | 407,800 | 3.4 | 9.8 |
| 2500-10,000 | 124 | 637,233 | 39 | 194,621 | 6.7 | 4.7 |
| Under 2500 | 388 | 368,962 | 109 | 117,107 | 18.8 | 2.8 |
| Total | 580 | 4,169,337 | 170 | 951,459 | 29.3 | 22.8 |

TABLE 22

Cities and incorporated villages in New York State (exclusive of New York City) where garbage from RESTAURANTS, BUTCHER SHOPS, ETC., is disposed of by HOG FEEDING (RAW)

1939 Survey New York State Department of Health

| Population Group | All cities and incorporated villages | | Places where garbage is disposed of by hog feeding (raw) | | | |
|-----------------------|--------------------------------------|-----------------------------------|--|--------------------------------|--|--|
| | Number | Estimated population July 1, 1939 | Number | Estimated population so served | Per cent of all cities and incorporated villages | Per cent of total population of all cities and incorporated villages |
| 250,000+ | 2 | 945,040 | .. | .. | .. | .. |
| 50,-250,000 | 10 | 1,079,830 | 3 | 310,722 | 0.5 | 7.5 |
| 10,-50,000 | 56 | 1,138,272 | 24 | 490,026 | 4.4 | 11.8 |
| 2500-10,000 | 124 | 637,233 | 47 | 240,974 | 8.5 | 5.8 |
| Under 2500 | 358 | 343,426 | 118 | 130,318 | 21.5 | 3.1 |
| Total | 550 | 4,143,801 | 192 | 1,172,040 | 34.9 | 28.3 |

TABLE 23

Cities and incorporated villages in New York State (exclusive of New York City)
where garbage from HOMES is disposed of solely by INCINERATION

1939 Survey New York State Department of Health

| Population Group | All cities and incorporated villages | | Places where garbage is disposed of by incineration solely | | | |
|-----------------------|--------------------------------------|-----------------------------------|--|--------------------------------|--|--|
| | Number | Estimated population July 1, 1939 | Number | Estimated population so served | Per cent of all cities and incorporated villages | Per cent of total population of all cities and incorporated villages |
| 250,000+ | 2 | 945,040 | 2 | 945,040 | 0.3 | 22.7 |
| 50,-250,000 | 10 | 1,079,830 | 6 | 695,976 | 1.0 | 16.7 |
| 10,-50,000 | 56 | 1,138,272 | 19 | 443,899 | 3.3 | 10.6 |
| 2500-10,000 | 124 | 637,233 | 27 | 177,278 | 4.6 | 4.3 |
| Under 2500 | 388 | 368,962 | 44 | 33,444 | 7.6 | 0.8 |
| Total | 580 | 4,169,337 | 98 | 2,295,637 | 16.9 | 55.1 |

TABLE 24

Cities and incorporated villages in New York State (exclusive of New York City)
where garbage from RESTAURANTS, BUTCHER SHOPS, ETC., is disposed
of solely by INCINERATION

1939 Survey New York State Department of Health

| Population Group | All cities and incorporated villages | | Places where garbage is disposed of by incineration solely | | | |
|-----------------------|--------------------------------------|-----------------------------------|--|--------------------------------|--|--|
| | Number | Estimated population July 1, 1939 | Number | Estimated population so served | Per cent of all cities and incorporated villages | Per cent of total population of all cities and incorporated villages |
| 250,000+ | 2 | 945,040 | 2 | 945,040 | 0.4 | 22.8 |
| 50,-250,000 | 10 | 1,079,830 | 6 | 695,976 | 1.1 | 16.8 |
| 10,-50,000 | 56 | 1,138,272 | 17 | 401,948 | 3.1 | 9.7 |
| 2500-10,000 | 124 | 637,233 | 24 | 147,692 | 4.4 | 3.6 |
| Under 2500 | 358 | 343,426 | 46 | 35,515 | 8.4 | 0.8 |
| Total | 550 | 4,143,801 | 95 | 2,226,171 | 17.3 | 53.7 |

TABLE 25

Cities and incorporated villages in New York State (exclusive of New York City) where garbage from HOMES is collected by city or village employees and disposed of by HOG FEEDING (RAW)
1939 Survey New York State Department of Health

| Population Group | All cities and incorporated villages | | Places where garbage is collected by city or village employees and disposed of by hog feeding (raw) | | Per cent all places in each population group so served | Per cent population in each population group so served | Of all places so served per cent contributed by each population group | Of entire population so served per cent contributed by each population group |
|-------------------|--------------------------------------|-----------------------------------|---|--------------------------------|--|--|---|--|
| | Number | Estimated population July 1, 1939 | Number | Estimated population so served | | | | |
| 250,000 + | 2 | 945,040 | 2 | 231,931 | 22.2 | 23.7 | 6.5 | 59.2 |
| 50,-250,000 | 9 | 977,369 | 5 | 89,790 | 17.9 | 16.2 | 16.1 | 22.9 |
| 10,-50,000 | 28 | 554,187 | 10 | 52,252 | 21.7 | 19.7 | 32.2 | 13.3 |
| 2500-10,000 | 46 | 264,633 | 14 | 17,845 | 16.1 | 20.0 | 45.2 | 4.6 |
| Under 2500 | 87 | 89,104 | | | | | | |
| Total | 172 | 2,830,333 | 31 | 391,818 | 18.0 | 13.8 | 100.0 | 100.0 |

TABLE 26

Cities and incorporated villages in New York State (exclusive of New York City) where garbage from RESTAURANTS, BUTCHER SHOPS, ETC., is collected by city or village employees and disposed of by HOG FEEDING (RAW)

1939 Survey New York State Department of Health

| Population Group | All cities and incorporated villages | | Places where garbage is collected by city or village employees and disposed of by hog feeding (raw) | | Per cent all places in each population group so served | Per cent population in each population group so served | Of all places so served per cent contributed by each population group | Of entire population so served per cent contributed by each population group |
|-------------------|--------------------------------------|-----------------------------------|---|--------------------------------|--|--|---|--|
| | Number | Estimated population July 1, 1939 | Number | Estimated population so served | | | | |
| 250,000 + | 2 | 945,040 | 3 | 310,722 | 33.3 | 31.8 | 8.8 | 58.8 |
| 50,-250,000 | 9 | 977,369 | 7 | 131,201 | 28.0 | 26.1 | 20.6 | 24.8 |
| 10,-50,000 | 25 | 502,926 | 12 | 71,385 | 26.1 | 27.3 | 35.3 | 13.5 |
| 2500-10,000 | 46 | 261,848 | 12 | 15,571 | 14.6 | 18.8 | 35.3 | 2.9 |
| Under 2500 | 82 | 82,622 | 12 | 15,571 | 14.6 | 18.8 | 35.3 | 2.9 |
| Total | 164 | 2,769,805 | 34 | 528,879 | 20.7 | 19.1 | 100.0 | 100.0 |

TABLE 27

Cities and incorporated villages in New York State (exclusive of New York City) where garbage from HOMES is disposed of solely by INCINERATION

1939 Survey New York State Department of Health

| Population Group | All cities and incorporated villages | | Places where garbage is disposed of by incineration solely | | Per cent all places in each population group so served | Per cent population in each population group so served | Of all places so served per cent contributed by each population group | Of entire population so served per cent contributed by each population group |
|----------------------|--------------------------------------|-----------------------------------|--|--------------------------------|--|--|---|--|
| | Number | Estimated population July 1, 1939 | Number | Estimated population so served | | | | |
| 250,000 + | 2 | 945,040 | 2 | 945,040 | 100.0 | 100.0 | 2.0 | 41.2 |
| 50,-250,000. | 10 | 1,079,830 | 6 | 695,976 | 60.0 | 64.5 | 6.1 | 30.3 |
| 10,-50,000. | 56 | 1,138,272 | 19 | 443,899 | 33.9 | 39.0 | 19.4 | 19.3 |
| 2500-10,000. | 124 | 637,233 | 27 | 177,278 | 21.8 | 27.8 | 27.6 | 7.7 |
| Under 2500. | 388 | 368,962 | 44 | 33,444 | 11.3 | 9.1 | 44.9 | 1.5 |
| Total. | 580 | 4,169,337 | 98 | 2,295,637 | 16.9 | 55.1 | 100.0 | 100.0 |

TABLE 28

Cities and incorporated villages in New York State (exclusive of New York City) where garbage from RESTAURANTS, BUTCHER SHOPS, ETC., is disposed of solely by INCINERATION
1939 Survey New York State Department of Health

| Population Group | All cities and incorporated villages | | Places where garbage is disposed of by incineration solely | | Per cent all places in each population group so served | Per cent population in each population group so served | Of all places so served per cent contributed by each population group | Of entire population so served per cent contributed by each population group |
|-------------------|--------------------------------------|-----------------------------------|--|--------------------------------|--|--|---|--|
| | Number | Estimated population July 1, 1939 | Number | Estimated population so served | | | | |
| 250,000 + | 2 | 945,040 | 2 | 945,040 | 100.0 | 100.0 | 2.1 | 42.4 |
| 50,-250,000 | 10 | 1,079,830 | 6 | 695,976 | 60.0 | 64.5 | 6.3 | 31.3 |
| 10,-50,000 | 56 | 1,138,272 | 17 | 401,948 | 30.3 | 35.3 | 17.9 | 18.1 |
| 2500-10,000 | 124 | 637,233 | 24 | 147,692 | 19.4 | 23.2 | 25.3 | 6.6 |
| Under 2500 | 358 | 343,426 | 46 | 35,515 | 12.8 | 10.3 | 48.4 | 1.6 |
| Total | 550 | 4,143,801 | 95 | 2,226,171 | 17.3 | 53.7 | 100.0 | 100.0 |

Chart 3. Collection of garbage from homes in cities and incorporated villages in New York State (exclusive of New York City) according to method of collection and population group.

1939 Survey New York State Department of Health

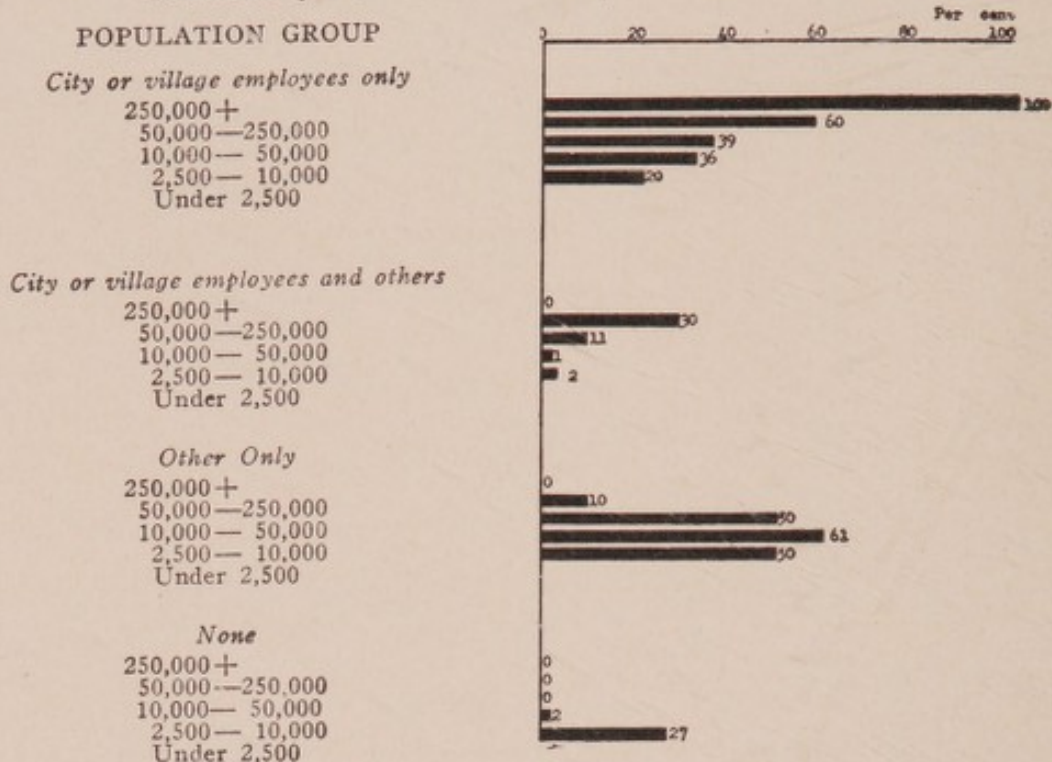


Chart 4. Disposal of garbage from homes in cities and incorporated villages in New York State (exclusive of New York City) according to method of disposal and population group.

1939 Survey New York State Department of Health

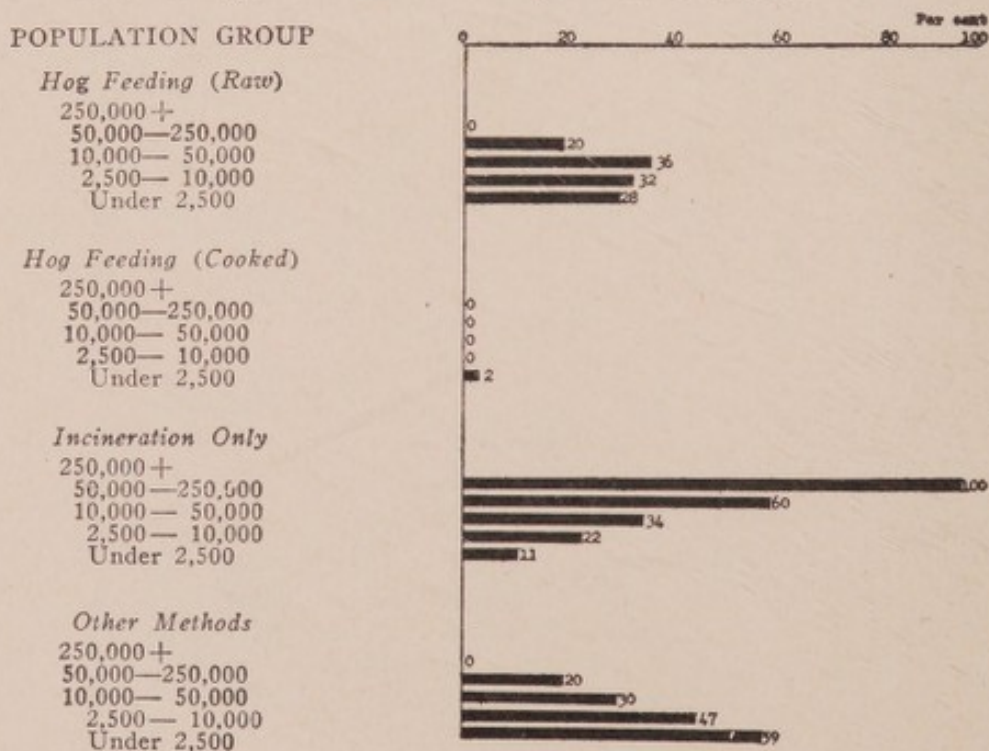
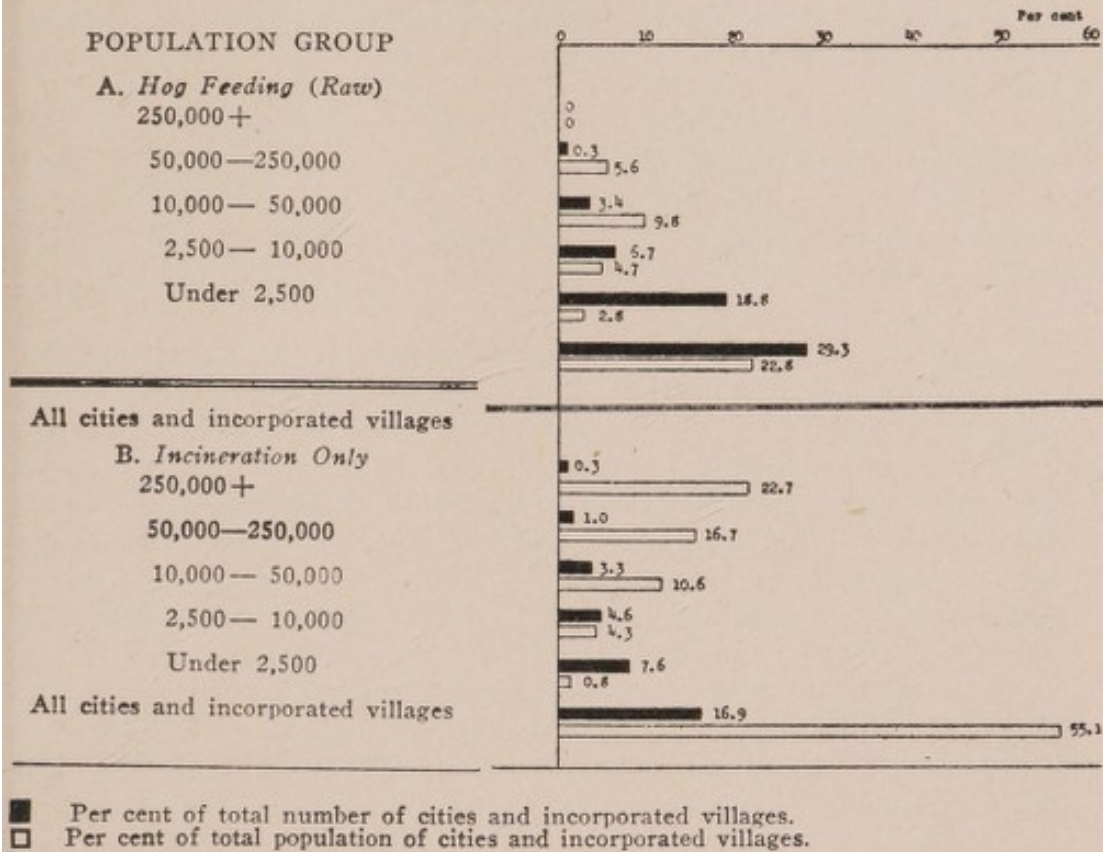


Chart 5. Roles played by cities and incorporated villages of various sizes in the disposal of garbage by (A) feeding it raw to hogs, and (B) incineration. New York State (exclusive of New York City).

1939 Survey New York State Department of Health



In 1935, Mr. Arthur H. Herberger made a study for the New York State Conference of Mayors on the "Collection and Disposal of Refuse in New York State Municipalities." He reported, in part, that:

"In nineteen municipalities (24% of those reporting) all or part of the garbage collected is fed to hogs. Of these, four municipalities fed only part of the garbage to hogs. Twelve municipalities answered the questionnaire on hog feeding, but the data received from them is scant, for in no instance is the farm owned or operated by the municipality, and hence many of the questions were unanswered. It appears that in many instances the municipalities exercise little or no control over the farms, for in some instances the location of the farm was unknown and in other cases the municipalities were not even certain whether the garbage was being fed to hogs or dumped. The lack of control lies in the fact that most of the farms are located three or more miles outside of the corporate limits of

the municipalities, and hence no control by the municipality is possible.

“The collection is usually by contract, and the hog farms are run by the contractors or else the garbage is sold by the collectors to hog farm owners. In two municipalities it is collected by municipal forces and sold. Saratoga Springs receives \$1.00 per load of about 1 ½ tons, and Scotia sells it on a yearly rate basis.

“The number of hogs on the farms varies according to the quantity of garbage collected. In no case is the garbage sterilized before being fed, and in most instances no supplementary food is used. The mortality of the hogs appears to be considerable, even though the hogs are inoculated against hog cholera.

“The fact that a municipality receives no complaints about a hog farm does not mean that the farm is satisfactory and produces no odors. The farm may be in a different township or else in an isolated locality. Hog feeding is not an ideal method of garbage disposal in that not all of the garbage is consumed; and even from that consumed another secondary waste, hog-mature, is produced. The figures on the percentage of uneaten garbage are too few to be of value, but the amount probably runs around 50%.

“The contractor in one municipality keeps the garbage from freezing in the winter months during collection by having the trucks equipped with a vertical steam boiler connected to perforated pipes. Frozen garbage is an undesirable food for hogs and should be thawed out before being fed. However, it should not be boiled, as the particles lose their identity and the hogs cannot reject harmful matter that may be included.

“In small communities hog feeding is probably better than dumping, as usually practiced, but it is far from ideal. The farms are more or less objectionable and therefore must be located in isolated spots. Hence, the haul is usually great and the cost of transportation high. The profits, if any, vary with the market for pork, the mortality of the stock, etc.”¹

Garbage Disposed by State Institutions

At the request of this Commission, the New York State Health Department made a survey of garbage disposal by state institutions. The study was conducted by Dr. Bernard M. Blum, epidemiologist, under the direction of Dr. James E. Perkins, Director, Division of Communicable Diseases.

Reports were received from 72 state institutions in five departments concerning their methods of garbage disposal. Four institu-

¹Conference of Mayors. Publication No. 36, 1935. Arthur H. Herberger: Collection and Disposal of Refuse in New York State Municipalities. pp. 69-70-96.

tions of the Department of Education reported that they have no garbage. Of the remaining 68 institutions 33 or 49% fed raw garbage to their own hogs and 9 more or 13% disposed of their garbage through other persons who fed it raw to hogs.

Thus, it is known that 62% of the institutions reporting, at the present time dispose of their garbage in an unsatisfactory manner.

Furthermore, there are 4 other state institutions, 6% of the total, which reported hog feeding by garbage, but did not specify whether or not such disposal is with or without preliminary cooking. It is likely that most of these institutions do not cook the garbage before disposal. Only 32% of the institutions which have reported are known to dispose of their garbage properly from the standpoint of prevention of trichinosis.

Analysis of garbage disposal on the basis of inmate population makes an even poorer showing as the garbage from only 23% of the population in state institutions is disposed of in a satisfactory manner.

It is of interest to note that the institutions raise more than 7,000 hogs annually. Almost all of these are fed on raw garbage.

TABLE 29
HOG FARMS¹

| Cities | Is garbage sterilized before fed | Harmful matter (needles etc.) separated | How? | Supplementary food used? | Amount of uneaten garbage per ton fed? | Disposal made of uneaten garbage and manure | How do you avoid feeding frozen garbage in winter | Any complaints because of hog farm |
|--------------------|----------------------------------|---|--------------------------------|--------------------------|--|---|---|------------------------------------|
| Albany..... | No | Yes | Collectors will not pick it up | No | 1/3 | Spread on land | Fed as collected | No |
| Geneva..... | No | Yes | By householder | No | 50 T/yr. | Plowed under | Fed as collected | No |
| Hudson..... | .. | Yes | .. | .. | .. | .. | .. | No |
| Jamestown..... | .. | .. | By householder | .. | .. | .. | Steam system in trucks | No |
| Olean..... | No | Yes | By householder* | Yes | 2/3 | Used as fertilizer | Heated by steam | Seldom |
| Rome..... | .. | .. | .. | .. | ? | .. | .. | No |
| Saratoga Springs.. | No | No | .. | No | .. | Buried | Farmers boil | Occasionally |
| <i>Villages</i> | | | | | | | | |
| East Rochester... | No | Yes | Forking over | .. | .. | Plowed under | .. | Yes |
| Mt. Kisco..... | .. | .. | .. | .. | .. | .. | .. | .. |
| Newark..... | .. | .. | .. | .. | .. | .. | .. | .. |
| Nyack..... | .. | .. | .. | .. | .. | .. | .. | .. |
| Scotia..... | .. | Yes | By householder | .. | .. | Used as fertilizer | .. | .. |

* Garbage must be wrapped in paper.

† Corn (200#) fed once per week at cost of \$250 per year.

? Unknown.

¹ From Collection and Disposal of Refuse in New York State Municipalities, Arthur H. Herberger, New York State Conference of Mayors, publication 36 (1935).

TABLE 29 (Cont'd.)
HOG FARMS¹

| Cities | Owner and price paid for garbage | Location of farm | Number of hogs | Are hogs vaccinated? (hog Cholera) | How often | Mortality per year | Bred from grain or garbage stock? |
|------------------|---|-------------------------|----------------|------------------------------------|-------------------|-------------------------|-----------------------------------|
| Albany..... | Privately owned, garbage delivered free of charge | .. | .. | Yes | Once | .. | Garbage |
| Geneva..... | Owned by contractor..... | 4 mi. E. of city..... | 275 | Yes | Once (6 wks. old) | About 20 (all of young) | Both |
| Hudson..... | Contractor makes own arrangement with owner | 1 mi. N. of city..... | .. | .. | .. | .. | .. |
| Jamestown..... | Owned by contractor..... | 5 mi. W. of city..... | .. | .. | .. | .. | .. |
| Olean..... | Progressive Live Stock Co..... | S. E. cor. of city..... | 250-300 | Yes | Once | About 75 | Grain |
| Rome..... | Owned by contractor..... | 4 mi. from city..... | .. | .. | .. | .. | .. |
| Saratoga Springs | Private owners, pay city \$1.00 per load (1½ ton) | 2-3 mi. from city..... | .. | No | .. | .. | Garbage |
| <i>Villages</i> | | | | | | | |
| East Rochester. | Collector..... | 2 mi. from village.... | 70-80 | .. | .. | Sometimes all of them | .. |
| Mt. Kisco..... | Contractor..... | 2 mi. from village.... | .. | .. | .. | .. | .. |
| Newark..... | Private collector..... | 3 mi. from village.... | .. | .. | .. | .. | .. |
| Nyack..... | Contractor makes own arrangement with owner | .. | .. | .. | .. | .. | .. |
| Scotia..... | Private individual pays village \$400/yr. for garbage. He collects it from Municipal Garbage Disposal Bldg. | Schenectady Co..... | 200 | .. | .. | .. | .. |

Geneva — 165 hogs brought \$1,500 (1933)

Saratoga Springs revenue from sale of garbage

| | |
|------------|------------|
| 1928—\$419 | 1931—\$584 |
| 1929— 813 | 1932— 516 |
| 1930— 783 | 1933— 50 |

TABLE 30
GARBAGE DISPOSAL BY STATE INSTITUTIONS
Based on Institutional Populations Using Various Methods of Disposal

| Department ¹ | Total population | Population having no garbage | Population having garbage | DISPOSAL OF GARBAGE | | | | | | | | | |
|--------------------------|------------------|------------------------------|---------------------------|---------------------|-----|---------------|----|---------------------|-----|------------------------------------|----|--------|----|
| | | | | Hog Feeding—raw | | | | Hogs—unknown if raw | | Known proper disposal ² | | | |
| | | | | To own hogs | | To other hogs | | Total raw | | Pop. | % | Pop. | % |
| | | | | Pop. | % | Pop. | % | Pop. | % | Pop. | % | Pop. | % |
| Correction | 17,983 | 0 | 17,983 | 13,743 | 77 | 2,731 | 15 | 16,474 | 92 | 0 | .. | 1,509 | 8 |
| Health | 1,189 | 0 | 1,189 | 0 | .. | 516 | 43 | 516 | 43 | 0 | .. | 673 | 57 |
| Mental Hygiene | 89,800 | 0 | 89,800 | 55,228 | 62 | 2,254 | 2 | 57,482 | 64 | 9,254 | 10 | 23,064 | 26 |
| Social Welfare | 704 | 0 | 704 | 704 | 100 | 0 | 0 | 704 | 100 | 0 | .. | 0 | .. |
| Totals | 109,676 | .. | 109,676 | 69,675 | 64 | 5,501 | 5 | 75,176 | 69 | 9,254 | 8 | 25,246 | 23 |

¹ Institutions of the State Department of Education do not have inmates in the same sense as do other state institutions. Not infrequently food is not served and when served, the volume of garbage is small. It would be misleading to attempt an analysis of these institutions by "population".

² For purposes of this tabulation, "Proper" is considered to include: Cooked to hogs, Dumped, Dumped and buried, Incinerated. If part of the garbage of an institution is improperly disposed of, that institution is listed under the improper method. Thus no institution is counted in more than one category.

TABLE 31
 GARBAGE DISPOSAL BY STATE INSTITUTIONS
 Based on Number of Institutions Practising Various Methods of Disposal

| Department | Total No. institutions reporting | No. having no garbage | No. having garbage | DISPOSAL OF GARBAGE | | | | | | | | | |
|---------------------|----------------------------------|-----------------------|--------------------|---------------------|----------------|---------------|----------------|-----------------------|----------------|-----|----------------|-----|----------------|
| | | | | Hog Feeding — raw | | | | Hogs — unknown if raw | | | | | |
| | | | | To own hogs | | To other hogs | | Total | | No. | | % | |
| | | | | No. | % ¹ | No. | % ¹ | No. | % ¹ | No. | % ¹ | No. | % ¹ |
| Correction..... | 14 | 0 | 14 | 12 | 86 | 1 | 7 | 13 | 93 | 0 | 0 | 1 | 7 |
| Education..... | 21 | 4 | 17 | 2 | 12 | 5 | 29 | 7 | 41 | 2 | 12 | 8 | 47 |
| Health..... | 6 | 0 | 6 | 0 | .. | 2 | 33 | 2 | 33 | 0 | .. | 4 | 67 |
| Mental Hygiene... | 26 | 0 | 26 | 14 | 54 | 1 | 4 | 15 | 58 | 2 | 8 | 9 | 34 |
| Social Welfare..... | 5 | 0 | 5 | 5 | 100 | 0 | .. | 5 | 100 | 0 | .. | 0 | 0 |
| Totals..... | 72 | 4 | 68 | 33 | 49 | 9 | 13 | 42 | 62 | 4 | 6 | 22 | 32 |

¹ All percentages based on number of institutions having garbage.

² For purposes of this tabulation, "Proper" is considered to include: Cooked to Hogs, Dumped, Dumped and buried, Incinerated. If part of the garbage of an institution is improperly disposed of, that institution is listed under the improper method. Thus no institution is counted in more than one category.

TABLE 32
GARBAGE DISPOSAL BY STATE INSTITUTIONS
OF THE STATE HEALTH DEPARTMENT

| Institution | Address | 1940 Pop. | Hog Feeding ¹ | | | | | 2 Dump- ed | 3 Dump- ed and buried | 4 Incin- erated | 5 No Gar- bage | No. of hogs per year | Distribution of hogs |
|---|-----------------------------|--------------|--------------------------------|----------------------------------|-----------------------------------|-------------------------------------|--|------------------|--------------------------------|-----------------------|-------------------------|----------------------------|-----------------------------|
| | | | a. Raw to own hogs | b. Raw to other hogs | c. Cooked to own hogs | d. Cooked to other hogs | e. Un- known cooked or raw | | | | | | |
| Homer Folks Tbc. Hospital..... | Oneonta..... | 210 | .. | .. | .. | .. | .. | .. | x | .. | .. | None | |
| Mt. Morris Tbc. Hospital..... | Mt. Morris. | 208 | .. | .. | .. | .. | .. | .. | x | .. | .. | None | |
| Hermann N. Biggs Mem. Hospital..... | Ithaca..... | 192 | .. | x | .. | .. | .. | .. | x | .. | .. | None | |
| N. Y. S. Reconstruction Home..... | West Haverstraw | 110 | .. | .. | x | .. | .. | .. | x | .. | .. | 66 | Slaughtered— for own use |
| N. Y. State Hospital... State Institute for the Study of Malignant Diseases..... | Raybrook... Buffalo..... | 324 145 | .. | x | .. | .. | .. | .. | .. | .. | .. | None | |
| Totals..... | .. | 1189 | .. | 2 | 1 | .. | .. | .. | 5 | .. | .. | 66 | |

¹ All Institutions which reported "Raw to own hogs", and also stated that they heated garbage in winter only, have been classified as "Raw to own hogs".

| Institution | Address | 1940 Pop. | Hog Feeding ¹ | | | | | 2 | 3 | 4 | 5 | No. of hogs per year | Distribution of hogs |
|---|---------------|-----------|--------------------------|----------------------|-----------------------|-------------------------|---------------------------|----|----|----|-------------------|--|----------------------|
| | | | a. Raw to own hogs | b. Raw to other hogs | c. Cooked to own hogs | d. Cooked to other hogs | e. Un-known cooked or raw | | | | | | |
| Attica Prison..... | Attica..... | 2233 | x | .. | .. | .. | .. | x | .. | .. | 1938-115 | 114 slaughtered— for own use 1 transferred 141 slaughtered— for own use 2 transferred | |
| Auburn Prison..... | Auburn..... | 1661 | x | .. | .. | .. | .. | .. | .. | .. | 90 | Slaughtered— for own use | |
| Clinton Prison..... | Dannemora. | 2054 | x | .. | .. | .. | .. | .. | .. | .. | 275 | Slaughtered— for own use | |
| Great Meadow..... | Comstock... | 1433 | x | .. | .. | .. | .. | .. | x | .. | 72 | Slaughtered— for own use | |
| Sing Sing..... | Ossining..... | 2731 | .. | x | .. | .. | .. | .. | x | .. | None | Slaughtered— for own use | |
| Wallkill Prison..... | Wallkill..... | 455 | x | .. | .. | .. | .. | x | .. | .. | 100-125 | Slaughtered— for own use | |
| Dannemora St. Hosp.. | Dannemora. | 1105 | x | .. | .. | .. | .. | .. | .. | .. | 1938-156; '39-140 | Slaughtered— for own use | |
| Matteawan St. Hosp.. | Beacon..... | 1509 | .. | .. | x | .. | .. | .. | .. | .. | 500 | Slaughtered— for own use | |
| Albion St. Training School..... | Albion..... | 352 | x | .. | .. | .. | .. | .. | .. | .. | 60 | Slaughtered— for own use | |
| Westfield St. Farm.... | BedfordHills | 512 | x | .. | .. | .. | .. | x | .. | .. | 50 | Slaughtered— for own use | |
| Elmira Reformatory... | Elmira..... | 1681 | x | .. | .. | .. | .. | .. | .. | .. | 5 yr. average-153 | Slaughtered— for own use | |
| Institute for Male Delinquents..... | Napanoch.. | 989 | x | .. | .. | .. | .. | .. | x | .. | 150 | Slaughtered— for own use | |
| N. Y. S. Vocational Institute..... | Coxsacke... | 662 | x | .. | .. | .. | .. | .. | .. | .. | 210 | Slaughtered— for own use | |
| Woodburne Institute for Defective Delinquents | Woodburne. | 606 | x | .. | .. | .. | .. | .. | .. | .. | 110 | Slaughtered— for own use | |
| Totals..... | .. | 17,983 | 12 | 1 | 1 | 1 | 1 | 4 | 2 | .. | 2066 approx. | | |

¹ All Institutions which reported "Raw to own hogs", and also stated that they heated garbage in winter only, have been classified as "Raw to own hogs".

TABLE 34
GARBAGE DISPOSAL BY INSTITUTIONS
OF THE STATE MENTAL HYGIENE DEPARTMENT

| Institution | Address | 1940 Pop. | Hog Feeding ¹ | | | | | 2 Dump- ed | 3 Dump- ed and buried | 4 Incin- erated | 5 No Gar- bage | No. of hogs per year | Distribution of hogs |
|---|--------------|--------------|--------------------------------|----------------------------------|-----------------------------------|-------------------------------------|--|------------------|--------------------------------|-----------------------|-------------------------|----------------------------|-----------------------------|
| | | | a. Raw to own hogs | b. Raw to other hogs | c. Cooked to own hogs | d. Cooked to other hogs | e. Un- known cooked or raw | | | | | | |
| Harlem Valley State Hospital..... | Wingdale... | 4430 | x | .. | .. | .. | .. | x | .. | .. | .. | 150 | Slaughtered— for own use |
| Willard State Hospital. | Willard..... | 2996 | .. | .. | x | .. | .. | x | .. | .. | .. | 400 | Slaughtered— for own use |
| Letchworth Village.... | Thiells..... | 3965 | x | .. | .. | .. | .. | .. | x | .. | .. | 1939-345 | Slaughtered— for own use |
| Gowanda St. Homeo- pathic Hospital..... | Helmuth... | 2157 | x | .. | .. | .. | .. | x | .. | .. | .. | Not stated | Slaughtered— for own use |
| Kings Park State Hosp. | Kings Pk... | 5870 | x | .. | .. | .. | .. | .. | .. | .. | .. | 425 | Slaughtered— for own use |
| Middletown St. Homeo- pathic Hospital..... | Middletown | 3231 | x | .. | .. | .. | .. | .. | .. | .. | .. | 268 | Slaughtered— for own use |
| Hudson River State Hospital..... | Poughkeepsie | 4443 | x | x | .. | .. | .. | .. | x | .. | .. | 300 | Slaughtered— for own use |
| Creedmor State Hosp.. | Queens V... | 5212 | .. | .. | .. | x | .. | .. | .. | .. | .. | None | Slaughtered— for own use |
| Pilgrim State Hospital. | Brentwood.. | 8777 | x | .. | .. | .. | .. | .. | .. | .. | .. | 474 | Slaughtered— for own use |
| Binghamton State Hosp. | Binghamton | 2782 | x | .. | .. | .. | .. | .. | x | .. | .. | 338 | Slaughtered— for own use |
| Rockland State Hosp.. | Orangeburg. | 5834 | .. | .. | .. | .. | .. | .. | .. | .. | .. | Not stated | Slaughtered— for own use |
| Syracuse Psychopathic Hospital..... | Syracuse.... | 117 | .. | .. | .. | .. | .. | .. | x | .. | .. | None | Slaughtered— for own use |
| Newark State School.. | Newark.... | 2546 | x | .. | .. | .. | .. | .. | .. | .. | .. | 200 | Slaughtered— for own use |
| St. Lawrence Hospital. | Ogdensburg. | 2101 | x | .. | .. | .. | .. | x | .. | .. | .. | 350 | Slaughtered— for own use |

| | | | | | | | | | | | | | | | | | | | |
|--|-----------------------|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|-----------------------------|
| Wassaic State School.. | Wassaic..... | 4389 | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 150-200 | Slaughtered— for own use |
| Syracuse State School.. | Syracuse.... | 1007 | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 200 | Slaughtered— for own use |
| Craig Colony..... | Sonyea..... | 2276 | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 400 | Slaughtered— for own use |
| Utica State Hospital... | Utica..... | 1722 | .. | .. | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | None | Slaughtered— for own use |
| Rome State School.... | Rome..... | 3391 | .. | .. | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 490 | Slaughtered— for own use |
| Central Islip State Hospital..... | Central Islip | 7254 | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 90-100 | Slaughtered— for own use |
| Brooklyn State Hospital | Brooklyn... | 3687 | .. | .. | .. | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | None | |
| Manhattan State Hosp. | Ward's Island..... | 3420 | .. | .. | .. | .. | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | Not stated | |
| Buffalo State Hospital. | Buffalo..... | 2254 | .. | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | None | |
| Rochester State Hosp. | Rochester... | 3138 | .. | .. | .. | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | None | |
| Psychiatric Inst. and Hospital..... | N. Y. City.. | 311 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | None | |
| Marcy State Hospital.. | Marcy..... | 2490 | .. | .. | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 250 | Slaughtered— for own use |
| Totals..... | .. | 89,800 | 14 | 2 | 3 | 4 | 4 | 2 | 3 | 8 | 4 | .. | .. | .. | .. | .. | .. | 4860 approx. | |

¹ All Institutions which reported "Raw to own hogs", and also stated that they heated garbage in winter only, have been classified as "Raw to own hogs".

TABLE 35
GARBAGE DISPOSAL BY INSTITUTIONS
OF THE STATE EDUCATION DEPARTMENT

| Institution | Address | Approx. Student Pop. ⁴ 1940 | 1 Hog Feeding ⁵ | | | | | 2 Dumped | 3 Dumped and buried | 4 Incinerated | 5 No Garbage | No. of hogs per year ⁶ | Distribution of hogs |
|---------------------------------------|---------------|--|----------------------------|----------------------|-----------------------|-------------------------|---------------------------|----------------|---------------------|----------------|--------------|-----------------------------------|----------------------|
| | | | a. Raw to own hogs | b. Raw to other hogs | c. Cooked to own hogs | d. Cooked to other hogs | e. Un-known cooked or raw | | | | | | |
| State Normal School... | Brockport... | 604 | .. | .. | .. | .. | .. | .. | x | .. | .. | .. | |
| State Normal School... | Oswego..... | 660 | .. | .. | .. | .. | x | .. | .. | .. | .. | .. | |
| State School of Agriculture..... | Alfred..... | 262 | .. | .. | .. | .. | .. | .. | .. | x | .. | .. | |
| State School of Agriculture..... | Canton..... | 271 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| State School of Agriculture..... | Delhi..... | 164 | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| State School of Agriculture..... | Morrisville.. | 240 | x | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| College of Forestry..... | Syracuse..... | 461 | .. | .. | .. | .. | .. | .. | x | .. | .. | .. | |
| St. Ranger School..... | Syracuse..... | 7 | .. | .. | .. | .. | x | .. | x | .. | .. | .. | |
| St. Agric. Experimental Station..... | Geneva..... | ? | .. | .. | .. | .. | .. | x ¹ | .. | .. | .. | .. | |
| School for Blind..... | Batavia..... | 151 | .. | x | .. | .. | .. | .. | .. | .. | .. | .. | |
| St. College for Teachers..... | Albany..... | 1379 | .. | x | .. | .. | .. | .. | .. | .. | .. | .. | |
| St. College for Teachers..... | Buffalo..... | 1119 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| State Normal School..... | Fredonia..... | 831 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| State Normal School..... | Geneseo..... | 943 | .. | x | .. | .. | .. | .. | .. | x | .. | .. | |
| State Normal School..... | Potsdam..... | 1270 | .. | x | .. | .. | .. | .. | .. | .. | .. | .. | |
| N.Y. Veterinary College | Ithaca..... | 154 | .. | .. | .. | .. | .. | .. | .. | x ² | .. | .. | |
| Institute of Applied Agriculture..... | Farmingsdale | 340 | .. | .. | x | .. | .. | .. | .. | .. | .. | .. | |
| State Normal School..... | Plattsburg... | 638 | .. | x | .. | .. | .. | .. | .. | .. | .. | .. | |
| State Normal School..... | New Paltz... | 1187 | .. | .. | .. | .. | .. | .. | x | .. | .. | .. | |
| State College of Ceramics..... | Alfred..... | 337 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Merchant Marine Academy..... | Ft.Schuyler. | 181 | .. | .. | .. | .. | .. | .. | x | .. | .. | .. | |
| Totals..... | .. | 11,192 | 2 | 5 | 1 | .. | 2 | 1 | 6 | 4 | .. | .. | |

¹ Winter months. ² Summer months. ³ Animal waste steam rendered.
⁴ These populations should not be used to calculate approximate amount of garbage since only a fraction of the students' meals are eaten at the institution.
⁵ All institutions which reported "Raw to own hogs", and also stated that they heated garbage in winter only, have been classified as "Raw to own hogs".
⁶ Information not available.

TABLE 36
GARBAGE DISPOSAL BY INSTITUTIONS
OF THE STATE SOCIAL WELFARE DEPARTMENT

| Institution | Address | 1940 Pop ² | Hog Feeding ¹ | | | | | 2 | 3 | 4 | 5 | No. of hogs per year | Distribution of hogs |
|---|--------------|--------------------------|--------------------------------|----------------------------------|-----------------------------------|-------------------------------------|--|----|----|----|----|----------------------------|-----------------------------|
| | | | a. Raw to own hogs | b. Raw to other hogs | c. Cooked to own hogs | d. Cooked to other hogs | e. Un- known cooked or raw | | | | | | |
| State Training School for Boys..... | N. Warwick. | 183 | x | .. | .. | .. | .. | .. | x | .. | .. | 100 + | Slaughtered— for own use |
| State Training School for Girls..... | Hudson..... | 154 | x | .. | .. | .. | .. | .. | .. | .. | .. | Not stated | |
| State Woman's Relief Corps Home..... | Oxford..... | 73 | x | .. | .. | .. | .. | x | .. | .. | .. | 60 | Slaughtered— for own use |
| State Agricultural and Industrial School.... | Industry.... | 205 | x | .. | .. | .. | .. | .. | .. | .. | .. | 60 | Slaughtered— for own use |
| Thomas Indian School.. | Iroquois.... | 89 | x | .. | .. | .. | .. | .. | .. | .. | .. | 75-100 | Slaughtered— for own use |
| Totals..... | .. | 704 | 5 | .. | .. | .. | .. | 1 | 1 | .. | .. | 305 approx. | |

¹ All Institutions which reported "Raw to own hogs", and also stated that they heated garbage in winter only, have been classified under "Raw to own hogs".

² Populations given are the estimated average number taking their meals at the institution. The average total populations are:

| | |
|---|-------------|
| State Training School for Boys..... | 415 |
| State Training School for Girls..... | 390 |
| State Women's Relief Corps Home..... | 209 |
| State Agricultural and Industrial School..... | 368 |
| Thomas Indian School..... | 207 |
| Total Population..... | 1589 |

Garbage Disposal by Federal Institutions

A survey of federal camps, reservations and institutions in New York State shows that garbage collected from approximately one out of every two is fed raw to hogs.

The survey was made at the request of this Commission by the Division of Zoology of the National Institute of Health. Of 49 Civilian Conservation Corps camps reporting, 29 indicated that their garbage was removed by contractors who fed it raw to hogs. Of 12 United States Army reservations, 2 stated that their garbage was fed raw to hogs by contractors. Of 3 United States Navy stations, 2 have their garbage fed raw to hogs by Secaucus, N. J., hog raisers. Garbage from one out of two institutions under supervision of the United States Department of Justice is fed raw to hogs. Two of the three Marine hospitals under jurisdiction of the United States Public Health Service have their garbage collected by hog raisers who feed it raw to hogs. (Measures are being taken now to have this garbage incinerated.) Information on six institutions operated by the Veterans Administration is not clear, but it is known that attempt is made by the Veterans Administration to avoid transmission of infection by banning the placing of uncooked pork in garbage.

Civilian Conservation Corps

Acting Director Charles H. Taylor, of the Civilian Conservation Corps, submitted the following data on the manner of disposal of garbage in C. C. C. camps in New York State.

TABLE 37

GARBAGE DISPOSAL BY THE CIVILIAN CONSERVATION
CORPS IN NEW YORK STATE

| Camp | Place | If garbage is removed by contractor, is it in turn fed to hogs | Is it cooked before consumption by the hogs | Final disposition made of hogs |
|---------|---------------------------|--|---|--|
| SP- 49 | Castile, N.Y..... | Yes | No | Sold in Buffalo, N.Y. market |
| S- 82 | Bolton Landing, N.Y.... | X | X | X |
| S-102 | Plattsburg, N.Y..... | Yes | No | Sold on open market |
| SP- 11 | Laurens, N.Y..... | X | X | X |
| S-134 | Canton, N.Y..... | Yes | Yes | Slaughtered and sold |
| S- 93 | Middleburg, N.Y..... | X | X | X |
| NP- 1 | Cornwall, N.Y..... | Garbage disposed of by burning at incinerator U.S.M.A., West Point, N.Y. | | X |
| SP- 43 | Altamont, N.Y..... | Yes | No | Personal consumption |
| S-106 | Salamanca, N.Y..... | Yes | No | Sold or eaten by contractor |
| SP- 51 | Red House, N. Y..... | Yes | Yes | Hogs are finally slaughtered |
| S- 92 | Almond, N.Y..... | Yes | Yes | Sold to a farmer who resells in Buffalo, N.Y. |
| P- 83 | Boston Corners, N.Y... | Yes | Yes | Killed and eaten by owner |
| P-112 | Carmel, N.Y..... | Yes | No | Sold locally and private consumption. |
| SCS- 3 | Bath, N.Y..... | X | X | X |
| SP- 36 | Fair Haven, N. Y..... | Yes | Yes | Hogs are sold on the hoof |
| CP- 1 | Katonah, N.Y..... | Yes | *Yes | Private consumption |
| FWS- 1 | Port Byron, N.Y..... | Yes | Yes | Raised mostly for home consumption. Excess, if any, sold to neighboring families |
| S- 90 | Speculator, N. Y..... | X | X | X |
| P-135 | Peekskill, N.Y..... | Yes | No | Sold locally |
| SP- 48 | Ithaca, N.Y..... | Yes | No | Sold in the market |
| S-100 | Masonville, N.Y..... | Yes | No | Sold |
| SCS- 9 | Burdett, N.Y..... | Yes | Yes | Sold |
| SCS- 10 | Deansboro, N.Y..... | Yes | No | Home consumption |
| S-122 | Boonville, N.Y..... | X | X | X |
| SP- 44 | Watkins Glen, N.Y.... | Yes | No | Sold in Buffalo, N. Y. |
| SP- 54 | Fishers Landing, N.Y.. | Yes | No | Sold at community market |
| SP- 53 | Hamlin, N.Y..... | Yes | Yes | Sold for butchering |
| S-120 | Brushton, N.Y..... | Yes | Yes | Sold to local packing houses |
| S-118 | Truxton, N.Y..... | Yes | No | Sold |
| SP- 6 | Newfield, N.Y..... | Yes | No | Own use |
| SP- 58 | Pleasant Valley, N.Y... | Yes | No | Sold locally |
| S-125 | Slaterville Springs, N.Y. | Yes | No | Marketed |
| S- 68 | Oxford, N.Y..... | X | X | X |
| SCS- 1 | Attica, N.Y..... | Yes | No | Personal consumption |
| SCS- 5 | Gallupville, N.Y..... | X | X | X |
| S-123 | Beaver Dams, N.Y..... | Yes | Yes | Some for market, some for own consumption |
| S- 94 | Harrisville, N.Y..... | Yes | No | Sold to retailers |
| S-126 | Centerville, N.Y..... | Yes | No | Killed for home consumption |
| S-132 | Norwich, N.Y..... | Yes | No | Killed for own use |
| SP- 56 | Niagara Falls, N.Y.... | Yes | No | Sold |
| S- 60 | Paul Smiths, N.Y..... | X | X | X |
| SP- 12 | Fayetteville, N.Y..... | Yes | *Yes | Butchered for home consumption |
| SP- 47 | Peekskill, N.Y..... | Yes | No | Sold locally and to farmers for breeding |
| S- 95 | Brasher Falls, N.Y.... | Yes | No | Resold for stock or slaughtered and consumed locally |
| CP- 2 | Peekskill, N.Y..... | Yes | Yes | Private consumption |
| S- 80 | Norwich, N.Y..... | Yes | Yes | Home consumption |
| S-129 | Newcomb, N.Y..... | Yes | Yes | Sold locally |
| S-103 | DeRuyter, N.Y..... | Yes | No | Sold locally |
| S-119 | Middleburg, N.Y..... | X | X | X |
| S-131 | Sherburne, N.Y..... | Yes | No | Brood sows used for raising stocks |

* Except for vegetable peelings.

TABLE 37

GARBAGE DISPOSAL BY THE CIVILIAN CONSERVATION
CORPS IN NEW YORK STATE

| <i>Camp</i> | <i>Place</i> | <i>If garbage is removed by contractor, is it in turn fed to hogs</i> | <i>Is it cooked before consumption by the hogs</i> | <i>Final disposition made of hogs</i> |
|---------------------|----------------------------|---|--|---------------------------------------|
| P-111 | Averill Park, N.Y. | Yes | Yes | Slaughtered for own consumption |
| SCS- 11 | Big Plats, N.Y. | X | X | X |
| S-115 | Indian Lake, N.Y. | X | X | X |
| S-116 | Mannsville, N.Y. | Yes | No | Home consumption |
| S- 81 | Van Etten, N.Y. | Yes | Not all | Butchered by farmer |
| S-113 | Camden, N. Y. | Yes | No | Butchered for own consumption |
| NP- 2 | Stillwater, N.Y. | Yes | No | Home consumption |
| MD No. 2 | Schenectady, N.Y. | Yes | Yes | Sold to packers |
| Sub-Dist. No. 10 | Chenango Forks, N.Y. | Yes | No | Sold on the open market |

* Except Vegetable Peels.

United States Navy

At the United States Naval Ammunition Depot, Iona Island, N. Y., garbage is collected each working day by depot employees and disposed of by burning in the depot incinerator.

At the Navy Yard, Brooklyn, N. Y., garbage is removed by contractor to Secaucus, N. J., and fed to hogs in the state in which it is removed from the Yard.

Garbage is removed from the Naval Hospital, Brooklyn, N. Y., by a Secaucus, N. J., hog raiser who feeds it raw to hogs.

United States Department of Justice

At the Ellis Island Immigration Station, incinerators are provided and no garbage is removed by contractor. At the federal jail in New York City garbage is collected by a Secaucus, N. J., hog raiser and fed raw to the hogs.

United States Army

Garbage from Fort Hamilton, Fort Jay, New York Port of Embarkation, Fort Totten, and Fort Wadsworth is disposed of by the City of New York and is not fed to hogs.

At the Madison Barracks, garbage is removed by a contractor near Watertown, N. Y., and fed raw to hogs. At the Plattsburgh Barracks, garbage is collected by a contractor who feeds it raw to hogs at Ingraham, N. Y. The army station at Mitchel Field reports that the hog raiser who collects its garbage cooks it before feeding to hogs at Deer Fork, Long Island. Garbage collected from Fort Niagara is removed to Lewiston, N. Y., by a hog raiser who, it is

¹Data for Coast Guard stations was not available at time of this report.

reported, cooks the garbage prior to feeding. A hog raiser at Oswego, N. Y., collects garbage from Fort Ontario and, according to a report filed with this Commission, cooks it before feeding to hogs.

At West Point, garbage is removed by a contractor to Spring Valley, N. Y., where it is fed to hogs. It is not known whether the garbage is cooked before feeding.

United States Public Health Service

A hog raiser at Cheektowaga, N. Y., has been removing garbage from the Buffalo Marine Hospital for the past six years. The garbage is fed raw to hogs. At the Ellis Island hospital, garbage is burned in an incinerator owned and operated by the Immigration Service. At the Marine Hospital, Staten Island, N. Y., a hog raiser collects garbage and feeds it to his hogs raw. Surgeon General Parran informs this Commission that steps are being taken to contract with the City of Buffalo for the collection and disposal of garbage from the Buffalo Marine Hospital, and that arrangements are being made to incinerate the garbage at the Staten Island Marine Hospital.

Veterans Administration

Garbage at the Veterans Administration Facilities at Bronx, Batavia, Bath and Castle Point, N. Y., is collected by hog raisers. The Veterans Administration operates its own piggeries at its Canandaigua and Northport Facilities, and feeds garbage from these two institutions to its hogs. It is not clear from reports received whether the garbage is cooked before feeding. The Veterans Administration has, however, taken action to avoid transmission of infection by a rule against putting uncooked pork in garbage. Garbage not used in piggeries or sold on contract is incinerated.

Oregon Requires Cooking

The State of Oregon requires that "all offal or fresh animal products shall be thoroughly cooked before being fed to swine."¹ This applies to all farms licensed to conduct the business of feeding garbage or offal or fresh animal products to swine. Oregon also requires that buildings connected with such licensed places shall be of sanitary construction. A license fee of \$10 is charged.

Mr. A. W. Metzger, Chief, Division of Foods and Dairies, of the Oregon Department of Agriculture, states: "We have little difficulty in enforcing this law and are continually seeing that the plants that feed garbage to swine are kept in a sanitary condition. We do not require that vegetable trimmings be cooked—just the animal offal or fresh animal products which might transmit trichinosis or other animal diseases."²

¹Section 57-1703, Oregon Code 1930, as amended by Section 3, Chapter 223, Oregon Laws, 1939.

²Letter, dated November 18, 1940.

Dr. Willard H. Wright states the Oregon law "seems to be adequately enforced for the most part . . . there is little evasion."³

It is interesting to note that the average annual morbidity rate per 1,000,000 population from 1930-36 was 3.147 in Oregon, while in New York it was 10.247.⁴

The Commission is informed that England has long required the cooking of garbage fed to hogs. According to information received here, less than 25 cases of trichinosis were reported in England from 1900 to 1941. Lord Woolton, English Food Minister, on January 31, 1941, following discovery of several cases of trichinosis, warned his people against eating raw or partly cooked sausage.

Canada Regulates Garbage Feeding

Since 1915 Canada has required the cooking of garbage to hogs.

The Quarantine Regulations, Section 93, adopted under the Animal Contagious Diseases Act, state: "The feeding of swine upon garbage or swill, meat scraps and offal, and vegetable refuse, either raw or cooked, obtained elsewhere than on the premises where fed, is prohibited, unless special permission in writing is first obtained from the Veterinary Director General."

Under this regulation, the Veterinary Director General requires all licensees to boil the garbage thoroughly before feeding it to hogs. Small feeders have been allowed to do this in open kettles, larger feeders, having more than twelve pigs, are required to install steam cookers; and both large and small feeders are required to maintain their hogs in a clean, sanitary condition.⁵

Dr. A. E. Cameron, Veterinary Director General of Canada, informs this Commission: "Cooking of garbage is not expensive and many feeders believe their hogs do better."⁶

An effort is made by the Veterinary Director General to have inspections of garbage feeding premises made once a month at irregular intervals. If the sanitary condition of the premise is unsatisfactory or the garbage is not properly cooked, the license

³Letter, dated July 23, 1940.

⁴Prevalence of Trichinosis in the United States. Willi Sawitz, Public Health Reports, Vol. 53, No. 10, March 11, 1938.

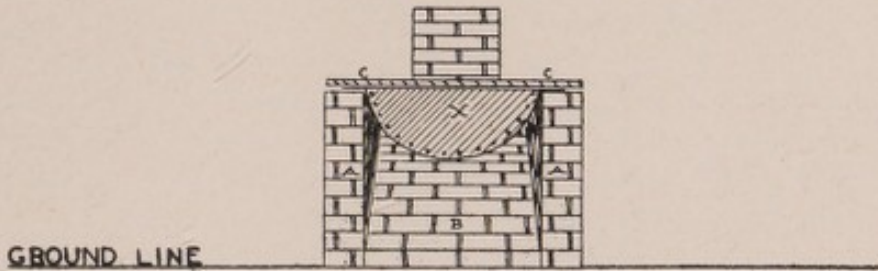
⁵Notice to Garbage Feeders, issued by Health of Animals Branch, Department of Agriculture, Dominion of Canada, (undated).

⁶Letter dated July 8, 1940.

may be cancelled. If prosecution is instituted, the minimum fine on conviction is \$50. "There are not a great many evasions of the law," reports the Veterinary Director General. "It is rarely necessary to prosecute."²

The New York State Trichinosis Commission asked various authorities: Do you think that the Canadian regulation dealing with the cooking of garbage fed to hogs has been effective? There was uniform agreement that this regulation had been effective. For

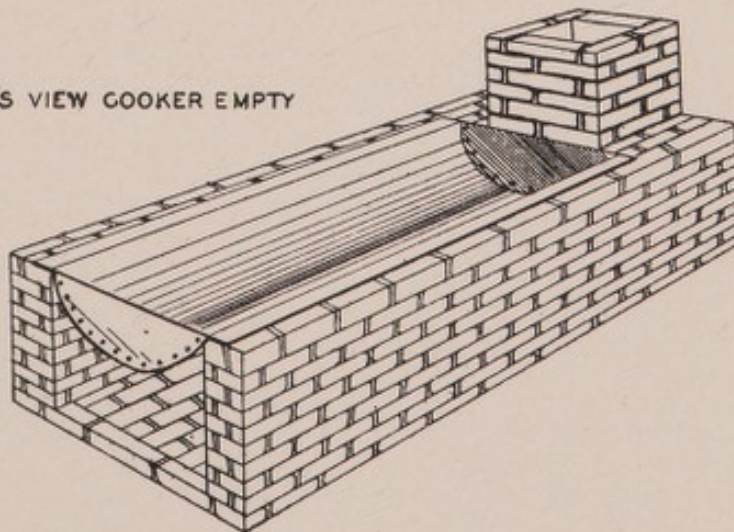
FIGURE 10



- END VIEW COOKER (WOOD FUEL)**
 A _ FIRE BRICK WALL-FIRE BRICK INNER FACE
 B _ FIRE BRICK FLOOR TO FIRE BOX
 C _ LOOSE PLANK 2"X12" GROSS PIECES FOR LID
 X _ CLOSED END $\frac{1}{2}$ " BOILER PLATE BOILER

TYPE OF COOKER RECOMMENDED BY CANADIAN DEPT OF AGRICULTURE

INSPECTOR'S VIEW COOKER EMPTY



²Ibid.

example, Dr. A. W. Miller, Acting Chief of the United States Bureau of Animal Industry, replied that "while cooking of garbage did not altogether eradicate trichinae infection in Canada, *this* procedure proved to be reasonably sound in reducing to practically negligible proportions the incidence of infection of hogs with trichinae."¹ The incidence of trichinae in hogs in Canada is significantly lower than that in the United States, as shown by the following table:

TABLE 38
INCIDENCE OF TRICHINAE INFECTION²

| | <i>Garbage-fed hogs</i> | <i>Others</i> |
|---------------------|-------------------------|---------------|
| Canada | 0.2 | 0.57 |
| United States | 6.0 | 1.00 |

Dr. W. M. Cameron, Director of the Institute of Parasitology at Macdonald College, Quebec, and Professor of McGill University, made a thorough study of the incidence of trichinosis in Canadian hogs and concludes that "cooking of garbage is a reasonably sound method of preventing the condition, even though an occasional case occurs. It is probable that such a case is due to insufficient cooking, although an extraneous source of infection cannot be excluded."³

During the year which ended March 31, 1939, Canada licensed 640 hog raisers having 53,003 swine, as shown by the following table:

TABLE 39
LICENSED CANADIAN FEEDERS AND THEIR SWINE
(Year Ended March 31, 1939)

| <i>Province</i> | <i>Number of licensed feeders</i> | <i>Number of swine</i> |
|---------------------------|-----------------------------------|------------------------|
| Prince Edward Island..... | 6 | 134 |
| Nova Scotia | 35 | 2,342 |
| New Brunswick | 47 | 2,295 |
| Quebec | 148 | 13,339 |
| Ontario | 230 | 22,712 |
| Manitoba | 15 | 1,874 |
| Saskatchewan | 26 | 1,585 |
| Alberta | 44 | 2,862 |
| British Columbia | 89 | 5,860 |
| Total | 640 | 53,003 |

¹Letter dated July 9, 1940.

²Figures for United States, taken from "The Trichinosis Situation in the United States," mimeo), by Benjamin Schwartz, Chief, Zoological Division, U. S. Bureau of Animal Industry; figures for Canada taken from "Investigations on Trichinosis in Canada on the Incidence of Trichinosis in Garbage-Fed Hogs," by Dr. Thomas W. M. Cameron, Professor, McGill University, Canadian Journal of Research, Vol. 18, March, 1940 pp. 83-84.

³Investigations on Trichinosis in Canada on the Incidence of Trichinosis in Garbage-Fed Hogs, Canadian Journal of Research, Vol. 18, March, 1940, p. 84.

The 1939 report of the Canadian Veterinary Director General states: "The enforcement of this regulation is believed to have a direct effect in preventing outbreaks of hog cholera and infestation with trichinea as all garbage fed under license is required to be thoroughly cooked and the premises must be maintained in a sanitary condition."²

The Canadian Department of Agriculture furnishes hog-raisers with a mimeographed statement telling how to build a type of cooker that is both economical and effective. The instructions state that a "satisfactory cooker for use in cooking garbage with wood fuel can be made from a discarded boiler of 3-16 inch or 1.14 inch plate. The boiler is cut lengthwise into halves. Each half will make one cooker. To each long edge and to one short edge of the cut is riveted a flange of boiler plate projecting 6 inches from the outer surface of the boiler at right angles to it. The cooker is now ready to be set up in brick walls . . . of a height sufficient to allow adequate space beneath for firing. A chimney of brick or pipe is provided on the short wall. The front of the fire box is closed by a movable door of sheet metal in which a draft-flap may be provided. Plank 2 inches x 12 inches cut to the length of the overall width of the cooker makes a satisfactory cover and should be laid on two-ply or three-ply of burlap or sacking to prevent escape of steam."

It is estimated that this type of cooker will cost from \$25 to \$60.

²Report of the Veterinary Director General, for the year ended March 31, 1939, p. 10.

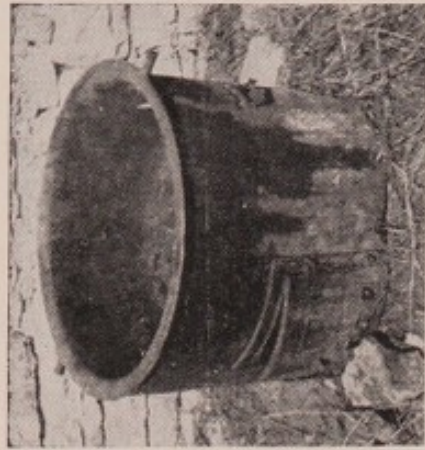


FIGURE 13. An inexpensive garbage cooker which heated garbage for a dozen hogs.



FIGURE 12. Garbage is placed in the wooden boxes where it is "sterilized."

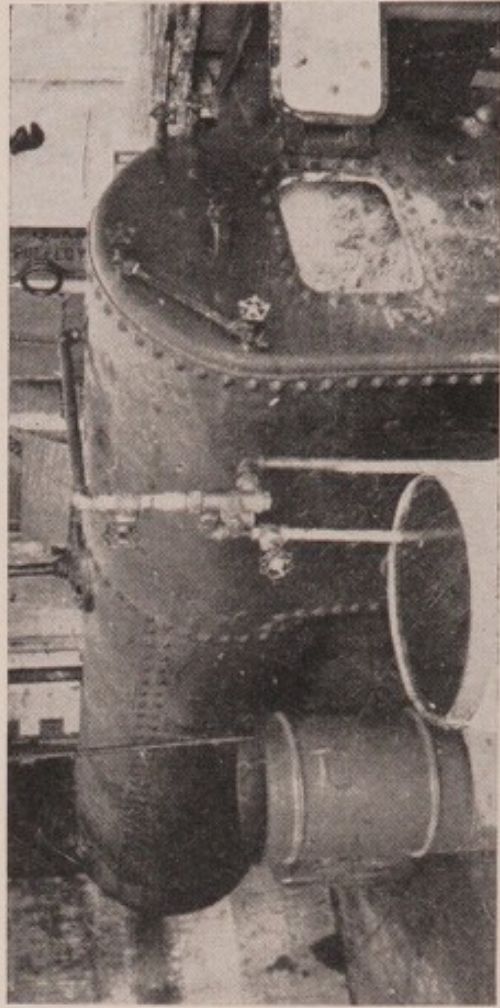


FIGURE 14. A furnace used to supply heat for garbage fed to more than a hundred hogs.

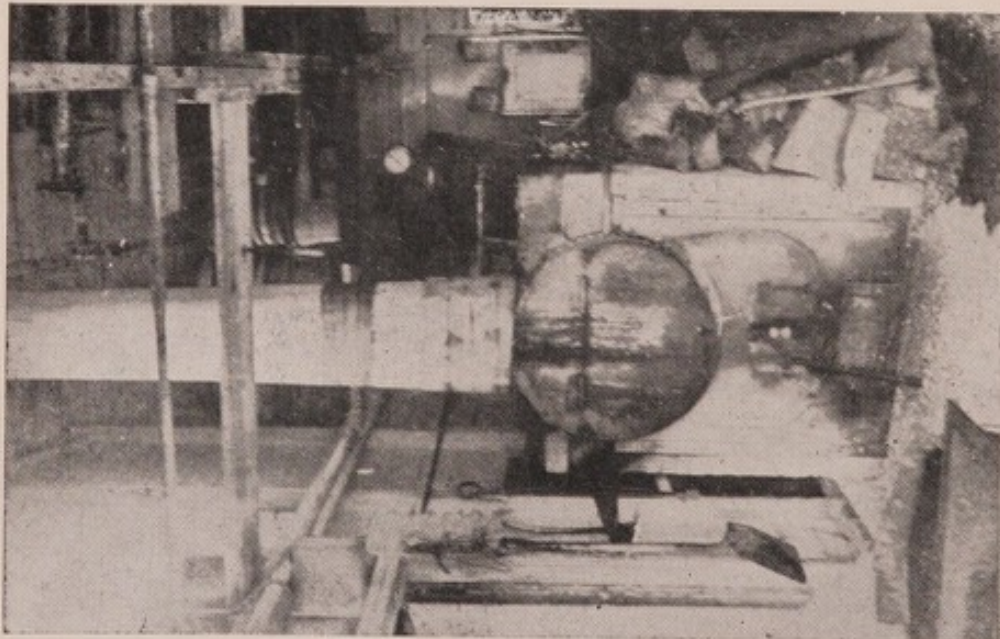


FIGURE 11. Furnace used by a Canadian hog raiser to generate heat which passes through pipes in wooden boxes of the type shown in Figure 12.

Cost and Method of Cooking Garbage

Will a statute requiring the cooking of garbage fed to hogs impose too large a burden on the hog raiser?

It is difficult to secure reliable figures on this point. A Dr. Willard H. Wright points out, "there are many different ways of cooking the material and the cost varies with the process, the capital investment, the efficiency of handling, local wages, of labor, etc."¹ The best figures this Commission has obtained indicate that the cost of cooking ranges from about 90 cents a ton upward. Cost of kettles and steam cookers ranges from \$10 for an open kettle which takes care of 12 hogs to \$200 for an upright boiler taking care of the feeding of 200 hogs, and as high in one case as \$640 for an elaborate cooking system to feed 800 hogs.

Dr. Wright, after visiting ten Oregon ranches on which cooking was done, reported that "for large operations, the cooking is usually done in wooden vats, varying in capacity from 1,000 to 2,500 gallons. These vats are made of Douglas fir and some have been in operation for 15 years without any marked deterioration. Vats of approximately 2,500 gallons capacity cost to install about \$70 each. The steam boiler, equipment and piping necessary for the installation cost generally between \$600 and \$700 . . . the approximate cost of sorting and cooking run around \$2.50 per ton. All of the feeders visited sorted out tin cans, glass, paper, rags, citrus fruits, and other inedible material before cooking the garbage. After cooking, the material is further gone over to remove all glass, sharp spicules of bone and other objects which might injure the hogs.

"In small scale operations, the owners were cooking the garbage in steel oil drums set in a brick furnace. Obviously this type of installation costs next to nothing, as the drums were salvaged and the few bricks, if purchased new, would not have cost over a dollar or two. Wood from discarded crates and boxes was used for fuel."²

The United States Bureau of Animal Industry conducted a survey regarding the cost of cooking garbage and reports that "the cost of equipment ranged from \$195 for 150 hogs (Canada) to \$640 for 800 hogs. The cost of cooking ranged from 90 cents per ton of garbage (Canada) to \$3.50 per ton (Portland, Oregon)."³

Dr. Wright believes that a good percentage of the cooking cost of \$3.50 per ton in Portland is represented by the labor in sorting the garbage and the removal of non-edible objects. He points out that hotel and restaurant garbage contains less rubbish and foreign objects than does residential garbage, and that some cities are more active than others in enforcing ordinances requiring the separation of trash and garbage."⁴

¹Letter dated July 23, 1940.

²Letter dated July 23, 1940.

³Letter dated July 9, 1940, from Acting Chief of the Bureau A. S. Miller.

⁴Ibid.

Cooked Garbage as Hog Feed

Information obtained on this subject is conflicting. Dr. Willard H. Wright states that hog raisers he has interviewed state that in no way did the cooking of garbage affect the animals' appetite for it, although one owner did say that prolonged cooking seemed to render the garbage less palatable and he had changed his routine from boiling for a period of 4 hours to boiling for a period of 2 hours.¹

Representatives of this Commission interviewed numerous hog raisers in Canada and New York State. The Canadian hog raisers were unanimous that cooking of garbage did not make it less palatable. However, on some Canadian hog farms it was noticed that the hogs rejected rinds of orange, lemons, grapefruit and similar material. New York hog raisers differed on this question.

Acting Chief of the United States Bureau of Animal Industry A. W. Miller states: "Hogs will eat cooked garbage, but it is the opinion of most garbage feeders that cooked garbage is not as palatable as ordinary garbage, fed as collected."²

Director W. Lee Lewis, of the Department of Scientific Research of the Institute of American Meat Packers, informs this Commission that while hogs will eat cooked garbage, "cooking tends to make the garbage homogeneous with the result that hogs do not eat it as selectively as they eat raw garbage."³

Live Stock Commissioner H. R. Smith, of the National Live Stock Exchange, agrees with Director Lewis, and adds that by processing garbage by the dry heat method in which the garbage does not come in contact with water, this difficulty could be overcome.⁴

A dehydration process now being developed on the West Coast is based on the heating of the garbage in a double-jacketed steam cylinder under constant stirring. High temperatures are maintained for several minutes, a vacuum is then introduced and a minimum temperature maintained for the remainder of the cooking process. Grain is later introduced through a special vacuum intake in order to produce a balanced ration. The process also embraces certain chemical treatment to promote hydrolysis. This process is supposed to leave the garbage in a palatable state with a proper ratio between proteins and digestible nutrients.⁵ Other pasteurization and dehydration processes are being developed.⁶

¹Ibid.

²Ibid.

³Letter, dated July 17, 1940.

⁴Letter, dated June 27, 1940.

⁵Letters dated September 29, 1940 and October 10, 1940, from John M. Princell, who invented the process.

⁶Engineering News-Record, May 23, 1940, p. 732.

Separation of Pork Scraps

It should be kept in mind that if we could prevent pork scraps from getting into the garbage fed to hogs, an important step will have been taken to prevent trichinosis. Dr. Willard H. Wright does not "believe it feasible to attempt to force farmers to keep kitchen scraps produced on the farm out of the food for hogs. However, educational methods might help in discouraging this practice."¹ Acting Chief A. W. Miller, of the United States Bureau of Animal Industry, agrees that it "would be rather difficult to regulate the feeding of hogs on the farm so as to exclude from the feed of these animals scraps of pork."² Dr. E. T. Faulder, Director of the New York State Animal Industry Bureau, believes it is not feasible to require separation of pork scraps. Commissioner H. R. Smith, of the National Live Stock Exchange, and other authorities agree with this viewpoint.

The Secaucus Situation

Just outside New York, in Secaucus, New Jersey, there are nearly fifty vast hog farms on which garbage collected from New York City and New Jersey is fed raw to hogs. The live or dressed hogs are then shipped into New York City and the metropolitan area, where in the form of pork products they reach the consumer's table.

What can be done about this situation? The fact that the hog raisers are outside of the jurisdiction of New York State complicates the problem.

The City of New York forbids any person to remove, dispose of, convey, or transport upon the streets or bridges or over the ferries in the City, manure, swill, garbage, etc., without having first obtained a permit from the Commissioner of Sanitation.³ Deputy Commissioner John B. Morton, of the New York City Sanitation Department, informs this Commission that as of September 26, 1940, there were "101 permits outstanding to vehicles engaged exclusively in the collection of swill (wet garbage, exclusive of ashes and rubbish). Most of these vehicles collect swill from restaurants and hotels, and, we believe, pay the producer of the swill for the privilege of taking it away."⁴

Of the 101 vehicles engaged in collecting swill, the residence of the operator on 97 of the permits is given as New Jersey; 3, New York City; 1, Rockland County. Deputy Commissioner Morton states: "It is believed that the 97 vehicles, on the permits of which New Jersey is shown as the residence of the operator, are engaged in transporting the swill collected to New Jersey and that it is used

¹Letter dated July 23, 1940.

²Letter dated July 9, 1940.

³Local Law 59, (1938), City of New York.

⁴Letter, dated September 26, 1940.

preponderantly for hog feeding. We know definitely that none of these 97 vehicles use our facilities for the disposal of the swill collected. We do not know how the other 4 vehicles dispose of the swill collected, but we do know that they do not use our facilities for its disposal. We believe that these 4 permit vehicles are disposing of the swill collected for hog feeding; we are certain that they are not using our facilities for its disposal, and to dispose of it otherwise in the City of New York is unlawful."¹

The New York City Sanitation Commission estimated that these 101 licensed trucks collect about 1,212 cubic yards of swill per day. If New York City were to undertake to collect and incinerate this garbage, it would cost the city about 30 cents per cubic yard for incineration and about 65 cents per cubic yard for collection, a total of 95 cents per cubic yard. Thus, if New York City were to ban collection of garbage for hog-feeding purposes, the cost of municipal collection and disposal of this garbage would amount to over \$1,000 a day.

It is perhaps significant that the national meat packers informed this commission that they do not purchase Secaucus hogs. Apparently, these hogs are purchased by the small meat packing concerns.

Dr. J. R. Mohler, Chief of the United States Bureau of Animal Industry, informed this Commission that his Bureau "does not have the authority to compel feeders to cook garbage, even though such garbage is brought from one state to another. This Bureau also lacks the authority to bar interstate shipment of hogs simply because the animals in question were fed garbage. In order for this Bureau to stop the shipment of all hogs from New Jersey to New York unless these hogs have been fed no garbage or only cooked garbage, it would naturally have to obtain appropriate legislation which would apply to the hogs of all the other states as well as those of New Jersey."²

This information was furnished in response to a query by the Commission as to whether or not it would be possible for the federal agency: (a) to require under its quarantine powers that all garbage transported from New York to New Jersey for the purpose of feeding it to hogs be cooked before it is made available as swine feed, or (b) to require that all hog raisers in New Jersey who engage in interstate shipments of hogs cook the garbage before it is fed to swine.

The United States Public Health Service is making a study of the Secaucus problem at the request of this Commission to determine whether it has authority to take action.

Hog Shed

The Secaucus problem raises the whole question as to the desirability and practicability of establishing a "hog shed." Under this

¹Ibid.

²Letter dated September 30, 1940.

proposal, hogs sent into New York State would have to come from states requiring the cooking of garbage or from farms certified as feeding cooked garbage, or the hogs would have to be stamped by a veterinarian or agriculture official as having not been fed raw garbage.

New York State is interested in eliminating interstate trade barriers, not in creating new ones unless they are absolutely essential and effective.

As the report by Professor Curtis indicates, only a small portion of the pork consumed in New York comes from hogs raised in this state.¹

Dr. Willard H. Wright, of the National Institute of Health, says: "If the State of New York should pass legislation prohibiting the disposal of raw garbage by feeding it to hogs or legislation requiring the cooking of garbage, it seems to me that it might also require that slaughter hogs shipped into the State be accompanied by a certificate showing that they have not been fed on raw garbage or have not been exposed to trichinosis in this way. Such certificates could be issued by the State Veterinarian or the State Department of Agriculture in the State of origin. The importation of fresh pork or pork products could be handled in the same way, although the difficulties encountered here would be more serious since such a provision would mean that the meat packing companies would have to maintain identity of pork. There would be objection also from the standpoint that the meat packers do not know, or claim that they do not know, which hogs are fed on grain and which are fed on garbage. This may be true to some extent but it is my belief that buyers are quite generally aware of the type of hogs they are purchasing. Admittedly, I do not know to what extent this would restrict the meat trade or to what extent it might add to the cost of marketing pork. In order to deal fairly with the meat trade and avoid imposing any particular hardship on commercial interests involved, it would probably be necessary to delve rather extensively into the economics of meat distribution in New York State, particularly in an effort to ascertain sources of pork supply, the number of home-raised swine slaughtered within the State, the number of slaughter hogs shipped into the State for butchering, and the amount of fresh pork and pork products imported, together with information concerning the ports of entry."²

Acting Chief A. W. Miller, of the United States Bureau of Animal Industry, informs this Commission: "New York State does not have a sufficient number of swine to meet the requirements of its population. The State depends on shipments of hogs or hog products from other places. It does not seem practical to establish a hog shed because the hogs, from which such products would come,

¹See pp. 73-74.

²Letter dated July 23, 1940.

originate in many States, some of which are a great distance from New York. Furthermore, the hogs from which the products are derived come from thousands of farms, so that it would be difficult and costly to trace each shipment to its original source for the purpose of determining how the pigs were fed and managed."¹

These two conflicting viewpoints are typical of the expressions received by this Commission on the question of a "hog shed."

New York has a "milk shed," under which the State bans the importation of milk from non-inspected farms. In addition, the state requires that all dairy cattle imported be accompanied by a certificate of health from the state of origin. The arrival of the cattle must be reported immediately. If no certificate accompanies the cattle, they are quarantined until inspected. Other states have similar provisions.

If states adjacent to New York were to adopt statutes banning the feeding of uncooked garbage, this step in itself would clear up an important part of the problem of controlling out-of-state hogs. This Commission has already aroused the interest of health authorities and legislators in neighboring states in regard to trichinosis. It is expected that these states will soon seek to take steps to control the pork disease.

Control Through Price

This Commission inquired of various experts as to whether or not effective control of garbage feeding could be established by meat packers through a price control arrangement, under which hogs fed raw garbage would be subject to a discount. The purpose of this proposal would be to encourage hog raisers to either feed cooked garbage or not to feed garbage at all.

Director W. Lee Lewis, of the Department of Scientific Research of the Institute of American Meat Packers, informs this Commission that "garbage-fed hogs are at present discounted on the market because of the inferiority of the flesh. I do not think, however, that the problem of garbage feeding as a source of trichinosis can be solved in this fashion. For example, grubby hides are discounted, but this has done little to eradicate the cattle grub. The commercial garbage feeder would probably rather take the discount and continue his practice than take the alternative course."²

Dr. E. T. Faulder, Director of the New York State Animal Industry Bureau, also believes this proposal is "impractical."³

Dr. Willard H. Wright reports to the Commission that "the majority of meat packers are already discounting the price of hogs known to have been fed on garbage. This discount varies considerably with different packers and with particular lots of hogs. It

¹Letter, dated July 9, 1940.

²Letter, dated July 17, 1940.

³Letter, dated July 2, 1940.

depends also on whether the hogs are fed on garbage alone, garbage plus grain, or whether they are finished off on grain before marketing. Discounts run anywhere from 15 cents to \$2 per 100 pounds. Apparently this discount has not been sufficient to discourage the feeding of garbage.'¹

¹Letter, dated July 23, 1940.



CHAPTER VI

CONTROL THROUGH MICROSCOPIC INSPECTION

Chairman Thomas C. Desmond, at a public hearing held by this Commission, said:

“When Germany and France banned the importation of American pork toward the close of the 1800’s, our federal government required that pork designed for export be subjected to microscopic inspection. A little more than one out of fifty hogs were found to be infected. With the passage of the federal meat inspection act in 1906, microscopic inspection was abandoned, and in its place there was substituted the present regulation requiring the processing of pork products customarily eaten without cooking. Microscopic inspection is in force in Germany today. But most authorities seem to agree that this method is impractical, too costly, and would give our people a false sense of security.”

Dr. Maurice C. Hall, in 1938, wrote:

“The meat-inspection statistics of Germany give convincing evidence that microscopic inspection of pork leads in the direction of eradication of both human and porcine trichinosis in Germany, since the incidence of both have fallen to exceedingly low figures during the past half century. That inspection has fitted into the more leisurely slaughter-house procedures of Germany, and although it now costs many thousands of dollars to find one trichinosis pig, that alone is evidence that it is accomplishing its mission in the control of trichinosis. Under the high-speed procedure of American packing plants, microscopic inspection for trichinae would require the training and use of a regiment of inspectors at a cost exceeding our present total cost for meat inspection. It would be especially expensive and difficult if anything approximating the present speed of plants were maintained, and in all probability it would slow down those procedures. If unaccompanied by changes in our methods of swine production, it would mean enormous expenditures for perhaps 50 or 100 years. Unless it were nationwide, which would call for legislation by all of the States, it would unquestionably be dangerous, since its application by the federal government to interstate shipments alone would give a false sense of security in the consumption of a pork supply that was a mixture of inspected and uninspected pork as marketed and served. So long as there is a simple and inexpensive control measure in sight, this alternative may be regarded as one

of those last painful measures which should be taken only under stress of necessity."¹

Speaking at the public hearing conducted by this Commission, Dr. Benjamin Schwartz discussed meat inspection aspects of trichinosis. A portion of his discussion concerned microscopic inspection of pork products. He said:

"Following the discoveries made in Germany in 1860 regarding the mode of transmission of trichinae through the consumption of raw pork and the demonstration, at about the same time, that these parasites are injurious to human health, the medical profession and, in fact, the general population of that country became trichina conscious and alarmed over the possibility of acquiring from pork a serious and sometimes a fatal disease. Since the people of northern Germany commonly ate raw pork it became quite evident to the sanitary authorities of that country that serious consequences were apt to follow the indulgence in this habit.

"On the heels of the discoveries concerning trichinosis, serious outbreaks of this disease in small towns in Germany actually came to light. As a result of these and other outbreaks of trichinosis, the German government instituted a system of microscopic inspection of pork which, so far as is known has survived until the present time, and has been imitated by other, but not all, countries on the European continent. The establishment of microscopic inspection in any country is a frank recognition by public health authorities that they have to reckon with a custom, deeply rooted in the general population, that regulates the cooking of pork by the palate rather than by the thermometer.

"That the United States at one time had a microscopic inspection of pork for trichinae appears to be well known, owing to the numerous articles on trichinosis that have appeared in newspapers and magazines in recent years. What is not so well known, perhaps, is the fact that the microscopic inspection of pork for trichinae that was practiced in this country under Federal meat inspection for a period of 15 years (1891 to 1906) did not apply to all hogs slaughtered in officially inspected establishments. Actually, it applied only to pork intended for export to certain countries in Europe which required this inspection. The admittance of pork from the United States to certain European countries was prohibited unless the shipments were accompanied by certificates setting forth the facts that the pork had been inspected microscopically and found free from trichinae. In short, the motives that led to microscopic inspection of samples of pork from each hog designed for the export trade were economic rather than hygienic. This inspection did not apply at any time to the total hog slaughter that was subject to Federal inspection.

¹Public Health Reports, Studies on Trichinosis. The Past and Present Status of Trichinosis in the United States, and the Indicated Control Measures. p. 1477. August 19, 1938.

“Although trichina inspection with the microscope, as practiced in this country, was done in the accepted manner by microscopists who were under constant professional supervision, experience with this inspection was such as to warrant the belief that even when carried out conscientiously, such inspection does not and cannot offer an absolute guarantee that any carcass passed as free from trichinae, is really uninfected. According to statements published by German meat inspection experts, samples of pork from this country certified as being free from trichinae were found, in some cases, to be infected after being reinspected at their destination. This is not surprising, considering the fact that only about 3 small samples, each about the size of an oat grain, were examined, in accordance with the usual custom, following their compression between glass slides. Since trichinae are not uniformly distributed throughout the muscles, it is quite possible to miss these parasites in particular samples that happen to be taken for examination. It must be admitted that this possibility diminishes in proportion to the intensity of the infection, the parasites in lightly or moderately infected carcasses being more apt to escape detection than those in carcasses that are heavily infected. That the American system of microscopic inspection of pork was not inferior to that practiced elsewhere was shown as follows: An investigation conducted by the Bureau of Animal Industry of the U. S. Department of Agriculture in Germany showed that out of a total of over 6,000 cases of human trichinosis that occurred in that country in the latter part of the nineteenth century about 33 per cent were caused by pork that had been examined microscopically by German inspectors and certified by them as being free from trichinae.

“Aside from the inherent imperfection of microscopic inspection as a prophylaxis against trichinosis, other objections, equally serious, have been marshalled against this scheme of prevention. It is reasonable to assume that knowledge of the existence of microscopic inspection would tend to encourage the consumption of raw pork and thereby undo much of the good that the inspection might accomplish by eliminating from the channels of trade carcasses showing marked infection. This knowledge would tend to create in the minds of persons who are fond of raw pork a false sense of security and thereby defeat in a measure the very purpose for which the inspection was intended.

“Another, and perhaps, more serious objection to microscopic inspection in this country arises from the following circumstances. Federal inspection of food animals in the United States is limited to plants that engage in interstate and/or foreign commerce. Plants not engaging in such enterprises do not come under the provisions of the meat inspection act of Congress and are subject only to state or municipal inspection, or are entirely without inspection. Moreover, slaughter done on the farm is exempt from

federal and all other inspection. Since few states and not a great many municipalities have a rigid system of meat inspection, it cannot be supposed that all swine carcasses slaughtered in this country would be subjected to microscopic inspection even though such inspection were maintained by the federal government. Very few consumers would take the trouble to differentiate between pork inspected microscopically under Government or equally competent supervision and pork not so inspected. The confusion that would result from this state of affairs would nullify, at least in part, much of the good that would result from microscopic inspection.

“Aside from the objections already cited, there still remains to be considered the rather serious question of the cost of microscopic inspection. Approximately 40,000,000 hogs are slaughtered under federal inspection annually, this representing about 60 per cent of the total hog slaughter in the country as a whole. It is safe to state that the cost of microscopic inspection would average about 25 cents per hog, so that the annual cost of inspecting for trichinae under Government supervision would amount to about \$10,000,000. Considering the fact that this sum is almost twice that of the present total cost of all federal meat inspection, the drain on the public treasury for an inspection which, at best, is only partially effective, would hardly appear to be warranted.”

CHAPTER VII

CONTROL THROUGH SKIN TESTING OF SWINE

This Commission undertook to test an antigen developed by Dr. Abraham Lichterman and Dr. Krohn, employees of the New York City Health Department, and Mr. Irving Kleeman, formerly employed by the New York City Health Department and now a teacher in the Food Trades High School, New York City.

The test was conducted to determine whether it would be practical to require that all hogs be skin tested, and that all found to be infected with trichinae shall be placed in refrigeration until the parasites are destroyed. Such a requirement, if proved practical, would be a tremendous stride forward in the campaign to prevent trichinosis.

In 1939 Mr. Kleeman and Drs. Lichterman and Krohn skin-tested 211 garbage-fed pigs with trichinella antigen. They made a post-mortem examination of the digested diaphragms as a check on the diagnostic accuracy of the skin test. They reported: "In 4 out of 25 pigs diagnosed as trichinous by skin tests, no evidence of infestation was found at autopsy; in 1 pig out of 186 diagnosed as non-trichinous, post-mortem examination showed trichinosis. Of 211 pigs skin-tested, 206 were correctly diagnosed as to the presence or absence of trichinous infestation. This is an error of less than 3 per cent. The error, moreover, is in the direction of safety, being more likely now and then to diagnose a normal animal as trichinous, than to pass a trichinous pig as normal."¹

The Commission, with the cooperation of various state and local officials, sponsored a test of the antigen on 126 hogs in a meat-packing plant in this state. After the injections were made, but before the final results of the test were known, Dr. Lichterman made an interesting report, excerpts from which follow:

"At the beginning of these tests, the procedure of injecting the hogs was as follows: Dr. Krohn or Dr. Crowe (supervising field veterinarian, New York State Department of Agriculture and Markets) would clip the hair at the site of the injection. Then Dr. Crowe would wipe the area with a cloth, dipped in warm water. No alcohol was used. When a capillary dermatitis was present or erythema developed, the point of injection was circled with an indelible pencil so as to make it easier to locate the point of injection.

¹Lichterman, Abraham and Gleeman, Irving, "Detection of Trichinella Infestation in Hogs by Intradermal Test," American Journal of Public Health.

“Dr. Newman, Assistant to Director, New York State Animal Industry Bureau, would wipe the area with a dry cloth and inject the antigen on the inner surface of the distal tibial region (this was used as the site of injection similar to that used at Rikers Island). Dr. Newman used a veterinary tuberculin syringe with a 27-gauge $\frac{1}{2}$ inch needle. About 1-10 c.c. of the 1 to 8,000 antigen was used for injection. Dr. Lynch, Assistant to Director New York State Animal Industry Bureau, injected the control solution about 2 inches away from the point of the antigen injection. his procedure of injecting the hogs continued, with the exception that the cutting of the few hairs at the site of injection was discontinued. Experience has shown that the reading of the reaction was possible without the need of removing the hair at the site of injection.

Restraining the Hog

“At the beginning of this study, the hog was run into a pen. The shackle was placed on its hind legs by means of a rope and pulley. The body was raised by its hind legs. Injections were made according to the above outlined procedure. Soon it developed that raising the hog by the hind legs to make the injection was not advisable because erythema developed. It was also difficult to restrain the hog while in this position. We also found that the skin of the animal became taut and made injecting the antigen very difficult.

“It was found that at the present time the best means of restraining the hog is to throw it on its back and have four laborers restrain the animal while the veterinarians made the necessary injections. The hogs were then placed in a runway and held from 30 to 45 minutes before the reading was made. Arrangements were made to have four laborers throw the hog on its back. These men restrained the hog long enough to examine the site of the injection and make the reading.

Observations

“There was a unanimous feeling of all the veterinarians present that the site of injection (inner surface of the distal tibial region) was ideal for the use of an antigen. That the color of the hair of the hog was not an interfering factor in the reading or interpretation of the skin reaction caused by the use of the antigen.

“That the experiments in the use of this test (if adopted) will bring about mechanical devices whereby the hog can be restrained easily enough without the need of so many laborers. Dr. Newman and Dr. Lynch stated that with more experience it would be relatively simple to make the injections. The reading of the skin reaction will be simple once a uniform procedure is set up to carry on this work under abattoir conditions.

Conclusions

"The experiments conducted at an Albany packing plant confirm:

1. That the site of injection, as reported in our Rikers Island studies is best for the trichinella antigen injection.
2. That the color of the hair of the hog does not interfere with the reading of the reaction.
3. That restraining the hog by raising the body is impractical and interferes with the test.
4. That alcohol should not be used to wash the skin surface.
5. That it is advisable to avoid any undue irritation of the skin of the animal prior to the injection of the antigen.
6. It was necessary to point out to the veterinarian that extreme care must be used to avoid injecting the antigen subcutaneously. In some instances, blood clots developed because of such injections.
7. Although a considerable number of hogs were dark in color, this did not interfere with the reading of the reaction at the site of injection.
8. Pending the outcome of laboratory digestions of the diaphragms of these hogs, no comment can be made as to the accuracy of the use of the trichinella injection at the Albany Packing Plant."¹

Of the 126 hogs injected, 91 were Western or presumably grain-fed hogs, 35 were local or presumably garbage-fed hogs. At the time of injection, only one hog showed a positive reaction, while one was reported as doubtful; all others were reported as negative to the antigen.

After the hogs were slaughtered, their diaphragms were examined by Mr. Eric Simmons, under the supervision of Professor Donald W. Baker, of the New York State Veterinary College, Ithaca, N. Y. Professor Baker reported: "The result as recorded from our examinations during the past two months shows that there were but two positive specimens in the group and 124 negative diaphragms. We adhered strictly to the method of examination which was developed and described by Dr. John Bozicevich, of the United States Public Health Service in Washington. All of the muscular portion of all of the diaphragm was used. The tissue was digested in a pepsin-hydrochloric acid solution for 18 or more hours at 38°C.

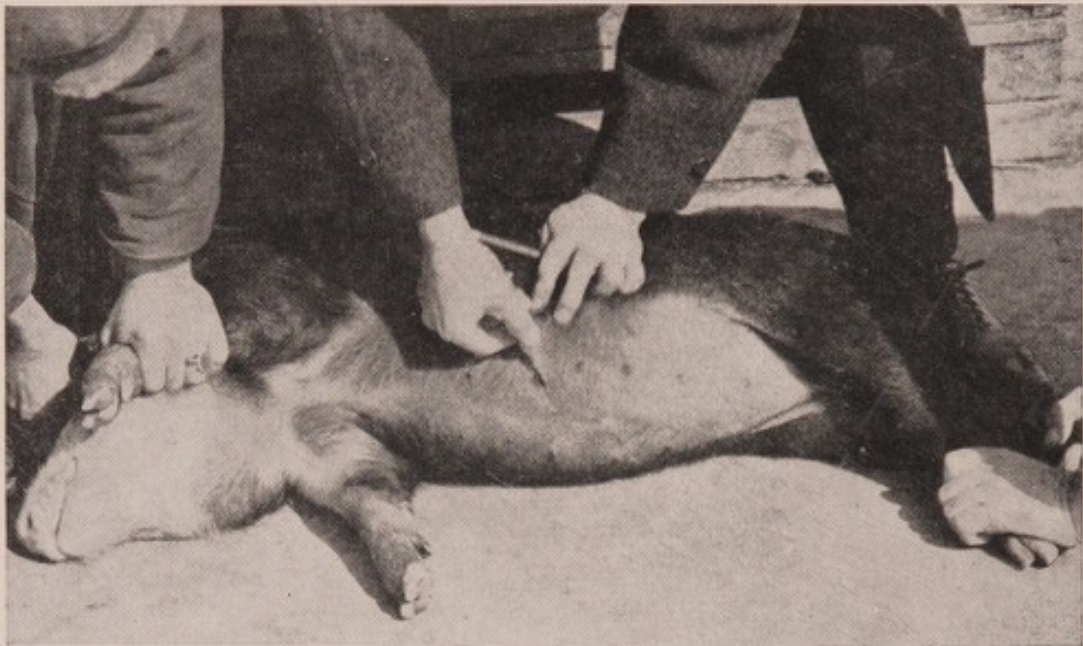
"Of the two positive specimens, one of them marked 072 showed a very few larvae which were alive and active. The other sample, did not have any identification marks, showed a very heavy infec-

¹Report by Dr. Abraham Lichterman to Jerome Trichter, Acting Director, Food and Drugs Bureau, New York City Health Department, dated Sept. 18, 1940.

tion and it was estimated that the sediment contained approximately 300 larvae per cc. of material. This diaphragm was from a pig which had given a negative reaction to the skin test.²

Thus, 123 hogs diagnosed as negative were negative; the one diagnosed as positive was positive; the doubtful one was negative; but one deemed to be negative at the time of diagnosis was actually heavily infested with trichinae.

FIGURE 15. INJECTION OF TRICHINOSIS ANTIGEN.



Courtesy National Institute of Health

Dr. Benjamin Schwartz stated that about a dozen years ago he "began experimenting with the skin test as a possible method of diagnosing trichinosis in live hogs. Since that time this subject has been under investigation in our laboratories, and during the past two years it has been one of our major research projects. The results of over 5,000 such tests made by Spindler and Cross, parasitologists of the Bureau of Animal Industry, were published some time ago. Six thousand additional tests made by these workers, the results of which are as yet unpublished, confirmed their earlier work and showed that, in the main, the extracts of trichinae to be injected into hogs (antigens) prepared by methods that were employed commonly in the past for the diagnosis of trichinosis in man cannot be depended upon to give reliable results when used in hogs that come to slaughter.

"Continued work on the skin test is progressing in our laboratory with encouraging results from time to time. Whether a skin test can be ultimately devised that will combine a high degree of

²Letter, dated November 8, 1940.

specificity in detecting all, or nearly all, infected hogs and give no reaction in all, or nearly all, non-infected hogs, can be determined only by additional investigations which must take into consideration, among other things, rapidity of the application and noting the results of the test, in keeping with the swift pace of hog killing which prevails in practically all establishments operating under federal inspection.¹

A practical, inexpensive skin test would prove to be a powerful weapon in the control of trichinosis. Private and public agencies might well lend their assistance in the task of developing a fool-proof antigen.

Sanitation on Hog Farms

To reduce the danger of infection of hogs by internal parasites, the United States Department of Agriculture has developed a swine sanitation system, known as the McLean County System. This system involves: (1) washing the sow's udder and sides with soap and water before putting her in the farrowing pen shortly before farrowing; (2) cleaning and scalding the farrowing pen with hot water and lye before the pregnant sow is placed in it; and (3) hauling the sow and her litter two weeks after farrowing to a pasture on which no hogs have been for at least a year, and keeping the pigs on a clean pasture until they are at least four months old. An essential feature of the system is avoidance of old hog lots and permanent pastures.²

The McLean County System is not only helpful in preventing infections, but also has proved to be a money-saver for hog raisers. Pigs raised under this system develop more rapidly and have a greater market value at a given age. According to a study of Illinois farms using the swine-sanitation system, as many pigs can be weaned and raised from two sows as from three under ordinary methods of swine management. A saving of feed is also effected.³

Dr. Willard H. Wright informs this Commission that "in the long run, this system of swine sanitation is of value in the prevention of trichinae infection of swine because the animals are removed for the most part from the insanitary surroundings of hog pens and barn-yards. On pasture, the animals have less access to rats and other rodents which may carry infection and are farther removed from proximity to the farm house and less likely to be fed scraps or swill from the farm kitchen."⁴ Livestock Commissioner H. R. Smith points out that "The McLean County sys-

¹Schwartz, Benjamin, "The Trichinosis Situation in the United States," U. S. Agriculture Dept., (mimeo.) p. 7.

²For detailed information on swine sanitation consult United States Department of Agriculture Leaflet No. 5.

³"Trends in Animal Technology," Technological Trends and National Policy, National Resources Committee, 1937, p. 112.

⁴Letter dated July 23, 1940.

tem was inaugurated more particularly to combat the round worm in swine. However, it is a good system to follow under any conditions and might lessen the prevalence of trichinosis."¹ A similar viewpoint is expressed by Dr. E. T. Faulder, Director, New York State Animal Industry Bureau.²

The State of Oregon requires by law that all persons engaged in the business of feeding garbage to swine must have "properly-drained, water-tight floors in all sections where feeding is done, and where feeds are mixed or prepared for feeding. All buildings connected with such licensed places shall be of sanitary construction."³

Canada also requires sanitary facilities on hog farms.⁴

Dr. Benjamin Schwartz advises farmers that "hogs which die on the farm should not be left on the pasture or lot to be eaten by other hogs; the carcasses of such should be buried deeply in quicklime, preferably the carcasses should be burned."⁵

Rat Control

Hog raisers are urged to destroy rats not only to prevent porcine and human trichinosis, but for various other reasons. The rat is believed to be of little importance in connection with the spread of trichinosis.⁶

Dr. Schwartz states: "The role of rats in the transmission of trichinae to swine is still a somewhat debatable point. However, the exceedingly low incidence and low intensity of infection with trichinae in swine fed cooked garbage, as determined in the course of our investigations, would tend to relegate the rat to a comparatively unimportant role in the transmission of trichinae to swine."⁷ But experts consulted by this Commission agree that it is advisable that hog farms be kept as free as possible from rats. Rat-proof construction of buildings and sanitary management of hog farms to exterminate rats are measures generally advocated.

¹Letter, dated June 27, 1940.

²Letter, dated July 2, 1940.

³Section 59-1703, Oregon Code 1930, as amended by Section 3, chapter 223, Oregon Laws, 1939.

⁴See pp. 42-a.

⁵Schwartz, Benjamin, Internal Parasites of Swine, Farmers' Bulletin No. 1787, U. S. Department of Agriculture, Nov. 1937, p. 45.

⁶See Wright, Willard H., The Epidemiology of *Trichinella Spiralis* Infestation and Measures Indicated for the Control of Trichinosis, Studies on Trichinosis, XI., American Journal of Public Health, Vol. 29, No. 2, Feb. 1939, pp. 125-126. Also, Hall, Maurice C., Studies on Trichinosis, IV, Pub. Health. Rep., Vol. 52, No. 27, July 2, 1937, pp. 876-877; and Studies on Trichinosis VII, by the same author, Vol. 53, No. 33, Aug. 19, 1938, pp. 1478-1479.

⁷Schwartz, Benjamin, The Trichinosis Situation in the United States, (mimeo), U. S. Department of Agriculture, Feb. 1940, p. 4.

CHAPTER VIII

PORK PRODUCTS IN RELATION TO TRICHINOSIS CONTROL

For the eleven-year period, 1929 to 1939, inclusive, there were 264 cases of trichinosis reported to the San Francisco Department of Public Health.¹ This department traced the sources of the disease to the following pork products:

| <i>Food</i> | <i>Cases</i> |
|---------------------------------|--------------|
| Pork sausage | 58 |
| Salami | 54 |
| Fresh pork | 36 |
| Mettwurst | 30 |
| Ground pork and meat loaf | 11 |
| Raw pork | 6 |
| Pork chops or steaks | 5 |
| Ham | 4 |

Other foods noted included imported sausage, head cheese, mixed Chinese food, pickled pork, raw bacon, smoked pork, and thirteen cases in which the food was unknown. Seven cases were caused by bear meat.

The New York State Health Department at the request of this Commission compiled a list of the pork products which were the source of infection in trichinosis cases reported upstate during 1939. The compilation showed that trichinosis was caused by the following pork products:

| <i>Food</i> | <i>Cases</i> |
|---------------------|--------------|
| Pork sausage | 19 |
| Pork chops | 6 |
| Ham | 5 |
| Bacon | 4 |
| Pork shoulder | 4 |
| Pork loin | 3 |
| Raw pork | 2 |
| Hamburger | 1 |

In twenty-six cases the food which caused the disease was unknown.

Over a five-year period, the Zoological Division of the United States Bureau of Animal Industry has examined more than 10,000 one-half pound samples of meat food products from federally-inspected establishments and designed to be eaten by the consumer without cooking. Not one of these samples contained trichinae

¹Letter, dated May 22, 1940, from J. C. Geiger, Director, San Francisco Dept. of Public Health.

capable of developing in human beings or in other susceptible animals. However, an examination of 1,000 samples from products not processed under federal requirements revealed 45 contained live trichinae.

The United States Bureau of Animal Industry examined from May 22, 1934, to June 9, 1939, a total of 1,118 half-pound samples of federally-processed frankfurters. The samples were obtained from 175 meat packing establishments located in 30 cities of 25 states including New York State. Only 11 out of 1,118 samples examined (0.9 per cent) contained dead trichinae; the remaining 1,107 samples contained no trichinae. Dr. Benjamin Schwartz concludes: "These facts demonstrate conclusively that processing as conducted under federal meat inspection produces frankfurters that are safe for human consumption even without subsequent cooking by the consumer."¹

"Hamburger, as federally defined," stated Dr. E. S. Dickey at the 1939 annual meeting of the Eastern Iowa Veterinary Medical Association "is presumed to contain only chopped fresh beef. Beef does not harbor trichinae. Unregulated plants, markets and hamburger stands, with no intent whatever to do anything amiss, ignorantly, but nevertheless with utter impropriety, add chopped fresh pork with considerable regularity to their hamburger stock, innocently believing that the hamburger is thereby being much improved. Those who enjoy rare steaks and hamburgers are apt to consume rare the hamburgers which thus unsuspectingly contain pork."²

The federal definition referred to stated that hamburger steak is "commuted fresh beef, with or without addition of suet and/or seasoning." The purpose of the federal definition is to exclude from the meat product substances not mentioned in the definition. Of course, the federal definition applies only to concerns coming under the jurisdiction of the federal government. It has been suggested that the State Commissioner of Agriculture and Markets formally adopt a similar definition for the State of New York.

The May 20, 1940, issue of Health News carried the following account: "Another case was reported in a Mount Vernon resident but investigation demonstrated no connection with the Bronx-New Rochelle outbreak. All patients suffered from symptoms typical of trichinosis and had eosiniphilia, the percentage varying from 12 to 47 per cent.

"The only food common to all of those affected was 'teewurst', purchased directly or indirectly from the same dealer, made of

¹Schwartz, Benjamin, "Freedom from viable trichinae of frankfurters prepared under federal meat inspection," Proceedings of the Helminthological Society of Washington, Vol. 6, No. 2, July, 1939.

²Report printed in Fort Dodge Bio-Chemic Review, 1940 Winter Issue, pp. 3-5, 30.

raw pork smoked at 85° F. for twenty-four hours. Since this dealer does not ship outside of the state, the products he manufactures are not subject to federal regulations. The dates of purchase indicate that all of the teewurst could have been from the same batch. It was not possible to obtain specimens of the product eaten by the patients since the dealer had discontinued the sale of this food about ten days prior to the date the outbreak was reported.

“The reason that more cases were not reported may be that Americans usually cook teewurst before eating it while the German immigrants ate it raw as a spread in accordance with the custom in Germany. Furthermore, the victims apparently were under the impression that the teewurst had been prepared in the kosher manner in which case it would have contained only beef without any pork.”

At the request of this Commission, the Food Laboratory of the New York State Department of Agriculture and Markets made a survey of pork products. Of four hundred seventy-one samples examined, eighteen, or three and eight-tenths per cent, were found to contain trichinae. Living trichinae were found in four samples, dead trichinae in fourteen samples.

TRICHINOSIS PORK SURVEY IN NEW YORK STATE

By DIRECTOR A. H. ROBERTSON
New York State Food Laboratory

Early in July, 1940, the Department of Agriculture and Markets was asked to determine the incidence of trichinae-infected meat products, with special reference to pork, as offered for sale in retail form in New York State. Attention first was focused on locally produced pork but it was soon discovered that federal inspection did not completely assure the absence of living trichinae in the meat. Federal inspection does assure the devitalization of trichinae in all pork products which customarily are eaten without further preparation after sale to the consumer. This means that inspection in itself does not guarantee the destruction of trichinae in products which after sale are customarily cooked in the home.

The method employed for the detection of trichinae is essentially the one outlined by Dr. Benjamin Schwartz, Chief of the Zoological Division, Bureau of Animal Industry, U. S. Department of Agriculture. As used in our laboratory, the entire sample, usually the contents of a full pint Mason jar, was passed through a meat grinder. One hundred grams of the well-mixed ground sample was transferred to a liter Erlenmayer flask. Two-thirds liter of a freshly-prepared artificial gastric juice was added to each flask.

The artificial gastric juice consisted of 5 ml. of hydrochloric acid, c. p., 3 1/3 grams of powdered pepsin, U. S. P. and water to make 2/3 of a liter. The pepsin was dissolved in a portion of the water (temperature about 110° F.) and then added to the remaining portion of the water which had been mixed with the acid.

The flask containing the meat-digest mixture was incubated at 37° C. from 18 to 24 hours. At the end of the first hour of incubation 2 ml. of hydrochloric acid was added to the contents of each liter flask. As soon as the artificial gastric juice was added to each flask, and at hourly intervals during the regular working day, the contents of the flask were shaken vigorously to aid in the dissolution of the fibrous portion of the meat. When the meat was well digested, the contents of the flask were passed twice through a 20-mesh brass screen;—first from the incubating flask into a second flask and then from the receiving flask back to the original flask in which the sample had been digested. The screen was thoroughly washed with a forceful jet of hot water directly into the original flask. The flask then was filled completely with hot water. After allowing the flask to stand undisturbed for forty-five minutes, a small stream of hot water was added carefully to float off the fat and flocculent material which had collected at the surface. Nearly all of the supernatant liquid then was poured out and the flask completely refilled with hot water. Decantation was repeated two or three times at forty-five minute intervals or until the residue was nearly free from objectionable meat fibres.

When the supernatant liquid was practically clear, the residue (10 to 15 ml.) was poured into a petri dish, 100mm. diameter, the subsurface of which had been etched with parallel lines to guide the observer when examining the sediment for trichinae. The sediment was examined under a dissecting microscope adjusted to about 30 magnifications. In doubtful cases, questionable objects were examined under higher magnification to establish their identity.

Trichinae were identified as living, if movement could be discovered, or as dead, if relaxed and no motion was observed when disturbed with the point of a sharp needle. Some dead trichinae appeared to be calcified and were recorded as such.

Meat products (471 samples) were collected in retail shops in such a manner that they were representative by counties of these foods as offered for sale in the state. The collected samples have been grouped into 17 classes. The following table lists these classes and subdivides each class into the number of samples from inspected sources and from uninspected sources. The number of samples by sources were then grouped as to whether they were to be eaten customarily with or without additional cooking.

TABLE 40
CLASSIFICATION OF SAMPLES

| | Classification of meat products examined | Inspected Meat | | Local Meat | | Totals |
|----|--|-------------------------|-----------------------------|-------------------------|-----------------------------|--------|
| | | To be cooked after sale | Cooked or dried before sale | To be cooked after sale | Cooked or dried before sale | |
| 1 | Ham or Shoulder, fresh or smoked..... | 13 | .. | 48 | 2 | 63 |
| 2 | Ham or shoulder, cooked, pressed, minced, etc..... | 2 | 6 | .. | 11 | 19 |
| 3 | Pork chops, loins, etc., fresh..... | 12 | 1 | 38 | .. | 51 |
| 4 | Bacon, Canadian, (lean)..... | 4 | .. | 1 | 1 | 6 |
| 5 | Tongue and tongue loaf..... | .. | 1 | 19 | 1 | 21 |
| 6 | Pork trimmings, sausage meat, etc..... | 6 | .. | 26 | .. | 32 |
| 7 | Pork sausage, fresh..... | 15 | 1 | 80 | 7 | 103 |
| 8 | Pork sausage, smoked..... | 1 | 2 | 1 | 5 | 9 |
| 9 | Pork sausage (summer) dried..... | .. | 11 | 2 | 17 | 30 |
| 10 | Pork sausage (summer) received fresh..... | .. | .. | .. | .. | .. |
| 11 | Bologna..... | .. | 4 | .. | 20 | 24 |
| 12 | Frankfurters..... | .. | 10 | .. | 62 | 72 |
| 13 | Hamburg..... | 1 | .. | 16 | .. | 17 |
| 14 | Liverwurst..... | .. | .. | .. | 5 | 5 |
| 15 | Head cheese, misc. loaf products..... | .. | 2 | 4 | 7 | 13 |
| 16 | Blood or tongue pudding..... | .. | .. | .. | 1 | 1 |
| 17 | Heart..... | .. | .. | 5 | .. | 5 |
| | Totals..... | 54 | 38 | 240 | 139 | 471 |

Eighteen of the 471 samples (3.8 per cent) were found to contain trichinae. Trichinous samples were found in the following counties:—Albany, Alleghany, Erie, Fulton, Genesee, Herkimer, Monroe, Nassau, Oneida, Onondaga and Suffolk. Among the parasitized samples were 10 sausages, 4 frankfurters, 2 hams, 1 “loin chops” and 1 “trimmings”.

Living trichinae were found in 3 samples of sausages and 1 of frankfurter. In the remaining 14 samples the trichinae were dead. Fifteen of the infested samples were deemed to be of local origin. The three Federal inspected samples consisted of one each of pork sausage, peperoni sausage and “Taylor” ham. Living trichinae were found only in the fresh pork sausage, an article which is customarily cooked in the home. Seven of the 18 samples were of such a character that customarily they would not have been cooked in the home. The following table briefly classifies these 18 samples.

TABLE 41

CLASSIFICATION OF PARASITIZED SAMPLES

| Lab. No. | Dept. No. | Article | Trichinae Number per 100 grams | | | Product Fed. Insp. or Local | Product to be cooked after or before sale |
|----------|-----------|----------------------------|--------------------------------|------|-------|-----------------------------|---|
| | | | Living | Dead | Total | | |
| 97587 | T7 | Fresh pork sausage..... | 2 | 1 | 3 | F | A |
| 97906 | T44 | Peperoni sausage..... | .. | 123 | 123 | F | B |
| 97901 | T46 | Pressed Ham..... | .. | 16 | 16* | L | B |
| 98068 | T91 | Coneys (Frankfurters)..... | .. | 1 | 1 | L | B |
| 98168 | T107 | Frankfurters..... | .. | 2 | 2 | L | B |
| 98198 | T127 | Frankfurters..... | .. | 3 | 3 | L | B |
| 98255 | T138 | Pork Sausage..... | .. | 4 | 4 | L | A |
| 98392 | T170 | Pork Sausage..... | .. | 1 | 1 | L | A |
| 98399 | T173 | Pork Sausage..... | .. | 1 | 1 | L | A |
| 98470 | T185 | Pork Sausage..... | 18 | .. | 18 | L | A |
| 98981 | T296 | Frankfurters..... | 2 | 18 | 20 | L | B |
| 99011 | T309 | Taylor Ham..... | .. | 3 | 3 | F | B |
| 99325 | T376 | Pork Sausage..... | .. | 2 | 2 | L | A |
| 99393 | T385 | Loin Chops..... | .. | 66 | 66 | L | A |
| 99394 | T386 | Trimnings..... | .. | 61 | 61 | L | A |
| 99395 | T387 | Pork Sausage..... | .. | 4 | 4 | L | A |
| 99691 | T430 | Pork Sausage..... | .. | 9 | 9 | L | A |
| 99818 | T467 | Pork Sausage..... | 2 | 6 | 8 | L | A |

* Apparently calcified.

Detecting Pork Meat in Hamburg Steak

The laboratory was asked to investigate the presence of pork meat in hamburg products also. While the use of serological methods would undoubtedly detect relatively small amounts of pork when mixed with beef, chemical methods depending upon the detection of linoleic acid (found in pork but not in beef fat) are neither as sensitive nor as accurate because of the variable component fatty materials present. The fat content varies both in the pork meat which might be used as well as in the proportion of such meat that might be present in the mixture.

The Federal Bureau of Animal Industry furnished us a method which depends upon the positive identification of linoleic acid, one of the component fatty acids in pork fat. The method is quite involved but was found to be satisfactory when applied to a 50-50 mixture of pork sausage and hamburg. The procedure follows:—

The fat from 100 grams of meat was extracted by boiling in water. The fat so extracted was saponified, acidified and dried. Ten grams (or the whole amount if less than 10 grams) of the fatty acids were dissolved in 100 grams of glacial acetic acid; chilled in a freezing mixture and bromine added with constant stirring until reddish color persists. The mixture was diluted while stirring with 1000 ml. of ice water, and filtered rapidly by suction. The precipitate was washed several times with portions of ice cold water to remove acetic acid or excess bromine and then dissolved in hot petroleum ether. The solution was dried over anhydrous calcium chloride, filtered and allowed to stand in electric refrigerator until considerable precipitate forms. The precipitate

was filtered off while cold, redissolved in hot petroleum ether, chilled again and the purified precipitate filtered off while cold. The precipitate was then washed with a little ice-cold petroleum ether and the melting point of the purified crystals determined.

The presence of pork in the original sample would be indicated by the formation of linoleic tetrabromide with a melting point at 114-115° C. If the melting point is not quite sharp, it may be necessary to repeat the recrystallization process.

This method has operated satisfactorily with mixtures of equal parts of pork fat and beef fat, as well as with mixtures of equal parts as pork sausage and hamburger. While it is possible to use this procedure for qualitative distinctions, providing the amounts of pork are in sufficient quantities to permit detection, it would not be dependable as a quantitative test in any instance, due to the wide variations in the fat content of the individual meat products which may go into mixtures from time to time.

Summary

Trichinae were found in 18 samples (3.8 per cent) among the 471 meat products sampled to determine the incidence of this parasite in products as offered for sale in the retail markets in New York State. Living trichinae were demonstrated in four of the eighteen instances. In three of these four instances where living trichinae were observed, the product ordinarily would have been cooked before serving in the home. In the fourth instance, living trichinae were found in frankfurters prepared locally. Frankfurters may or may not receive additional cooking in the home.

The presence of pork meat can be detected qualitatively when mixed with hamburger steak provided sufficient pork fat is present to permit the identification of linoleic acid as the tetrabromide salt.

NO BATTLE

Historians tell us that Chancellor Bismarck once challenged the great scientist Virchow to a duel, giving the challengee the choice of weapons. Virchow returned a quick acceptance on these terms:

Two large sausages of identical type would be placed in front of the duellists. One sausage was to contain a large number of viable trichina larvae, the other to contain none. Bismarck was to make his choice.

Needless to say, the duel was called off.

Reprinted from Fort Dodge (Iowa) Bio-chemic Review, 1940 winter issue.

Processing of Pork

A regulation of the United States Department of Agriculture states: "Inasmuch as it cannot certainly be determined by any present known method of inspection, whether the muscle tissues of pork contain trichinae, and inasmuch as live trichinae are dangerous to health, no article of a kind prepared customarily to be eaten without cooking shall contain any muscle tissue of pork unless the pork has been subjected to a temperature sufficient to destroy all live trichinae, or other treatment prescribed by the chief of the bureau."

It should be emphasized that this requirement does not affect meat products made and sold within a single state, and that this requirement does not affect pork products customarily cooked by the consumer. It should also be stressed that the legend "U. S. Inspected and Passed" on fresh pork or on ordinary varieties of cured pork which the consumer customarily cooks does not mean that the product so marked is free from *trichinella spiralis*; it merely means that the meat has been inspected in the same way that all meat is inspected in establishments operating under federal inspection.

Dr. Benjamin Schwartz, speaking at the November 28, 1940, public hearing held by this Commission said: "In the absence of any known practical inspection to determine whether the muscle tissue of pork contains trichinae, no guarantee of any kind as regards the freedom from these parasites can be given in the case of fresh pork in all forms. This includes not only the various cuts of fresh pork, but also fresh sausage containing pork muscle tissue, and such cured or smoked pork as ordinary hams, shoulders, shoulder picnics, bacon, and jowls, all of which are considered as articles which are or should be well cooked in the home and elsewhere. Under federal meat inspection, all products containing pork muscle tissue to be sold as cooked products or as cured products that are fit for consumption without cooking, are treated by methods which are known to be destructive to the vitality of trichinae. In this category are included bologna-style sausage; frankfurt-style sausage; Vienna-style sausage; smoked pork sausage; chopped, cured meat rolls; all forms of summer and dry sausage; cured, boneless pork loin; fresh, boneless loin in casings; boneless, back bacon; roast, baked, cooked or boiled ham, shoulder or shoulder picnic; Italian-style ham; and other products commonly intended for consumption without cooking."

Dr. Schwartz also said in a recent report:

"The treatments prescribed by the Chief of the Federal Bureau of Animal Industry explained for all meat food products containing pork muscle tissue that are prepared to be eaten customarily without cooking, are (1) heating, (2) special refrigeration, and (3) special processing, these procedures having been found by extensive, painstaking scientific investigations to be deleterious to

the life of trichinae. Under the prescribed heating it is required that all meat food products of kinds mentioned must be so heated that they will attain in all parts a temperature of not less than 137 degrees F. The required refrigeration involves the subjection of pork or of articles containing pork muscle tissue to a temperature of not higher than 5 degrees F. for a continuous period of not less than 20 days, provided the meat or articles, not exceeding 6 inches in diameter, are hung singly up or packed in boxes not exceeding 6 inches in thickness. In the case of pork or products packed in barrels or tierces, the period of refrigeration is extended to 30 days.

“Owing to more or less recent improvements in refrigeration, it has been determined that meat packing establishments operating under federal inspection commonly maintain their freezers used for treating pork to destroy the vitality of trichinae at temperatures much lower than 5 degrees F. With this in mind, investigations were conducted recently by the Bureau of Animal Industry to determine the extent to which the required holding period of pork and products could be decreased if the temperature of the freezer is maintained at 10 degrees F. The results of these investigations showed that when pork is packed in boxes not exceeding 6 inches in thickness the required holding period in freezers maintained at —10 degrees F. could be reduced to 10 days and that when the meat or products are packed in tierces, the period of refrigeration need not be extended beyond 20 days. Tests were made also with trichinous pork kept in freezers maintained at a temperature of —20 degrees F. As would naturally be expected, it was determined that the required holding period at this low temperature for pork packed in boxes not exceeding 6 inches in thickness could be still further reduced, actually to 6 days, and for pork packed in tierces the period could be reduced to 12 days. These results show, therefore, continued progress in investigations of and ultimate application of practical methods designed to destroy the vitality of trichinae in pork destined to be converted into products of kinds customarily eaten by the consumer without cooking.”¹

Dr. J. R. Mohler, Chief of the United States Bureau of Animal Industry, informed this Commission as follows:

“The recent regulations concerning the refrigeration of pork at —10 degrees F. and —20 degrees F. are based on 205 distinct tests, each test having been conducted in a large meat packing establishment in Chicago. The tests were conducted as follows: Trichina-infected pork, together with other pork furnished by a large meat packing company, was packed in tierces, 27 inches in diameter, and in boxes not exceeding six inches in diameter. The boxes and tierces were held at temperature of —10 degrees F. and —20 degrees F., respectively, for specified periods. At the end

¹The Trichinosis Situation in the United States, U. S. Dept. of Agriculture, Feb. 1940, (mimeo.) p. 6.

of the holding period, the trichinous meat, which was in the center of the box or tierce, wrapped in muslin, was removed, allowed to thaw, and a small portion of it was digested in artificial digestive fluid in an incubator; the remaining meat, or such portions of it as necessary, was fed to a series of several rats, these animals being kept for at least 30 days before being slaughtered. The sediment of the digestive fluid was carefully examined for trichinae and various tests were made to determine whether the trichinae recovered were dead or alive. The diaphragm of each rat was examined for trichinae and if no worms were found the entire carcass, which was skinned and eviscerated, was digested in artificial gastric juice and the sediment was examined for trichinae.

"In experiments involving refrigeration of trichinous pork in tierces at a temperature of -10 degrees F., 25 distinct tests were conducted and in no instance were trichinae found in the muscles of rats to which this frozen meat had been fed; in experiments in which the trichinous meat was packed in boxes, 79 tests were conducted with consistently negative results.

"In experiments involving a temperature of -20 degrees F., 25 tests were conducted with trichinous pork packed in tierces and 76 tests were conducted with trichinous pork packed in boxes. The results of this series were negative throughout."²

"Special curing methods prescribed by the Chief of the Bureau of Animal Industry, in lieu of the required refrigeration or heating, involve the destruction of the vitality of trichinae by salt, at specified temperatures for definite periods, Dr. Schwartz stated. 'These curing methods, which are based on empirical formulae, were tested in the course of a series of extensive investigations and found to be effective in destroying the vitality of trichinae before their use was permitted in officially inspected establishments.'"³

Federal regulations concerning the treatment of pork and pork products to destroy trichinae are as follows:

B. A. I. Administrative Notice 3. Issued January 30, 1940.
(Effective on and after April 1, 1940)

Sec. 18. Prescribed treatment of pork and products containing pork to destroy trichinae.—Although trichinae are present in only a small proportion of swine in the United States, the regulations governing meat inspection by the United States Department of Agriculture provide for safeguarding consumers of federally inspected foods containing pork muscle tissue which are customarily eaten without cooking in the home or other place of consumption. Inasmuch as it cannot be determined with certainty by any present known practical method of inspection whether the meat of a carcass contains trichinae, and inasmuch as certain articles containing pork muscle tissue are customarily eaten without cooking in the home or other place of consumption, the following revised instructions shall be observed.

All forms of fresh pork, including fresh unsmoked sausage containing pork muscle tissue, and pork such as hams, shoulders, shoulder picnics, bacon, and

²Letter, dated Sept. 30, 1940.

³Op. cit., p. 6.

jowls, which are subjected only to curing or to smoking at temperatures that do not impart to the meat the appearance of being cooked, are classed as products that are customarily well cooked in the home or elsewhere before being served to the customer. Therefor, the treatment of such products at inspected establishments for the destruction of trichinæ is not required.

Products containing pork muscle tissue or the pork muscle tissue which forms an ingredient of such products including, or of the character of, those hereinafter named are classed as articles which shall be effectively heated, refrigerated, or cured, at an inspected establishment to destroy all live trichinæ: Bologna-style sausage; Frankfurt-style sausage; Vienna-style sausage; smoked pork sausage; chopped, cured meat rolls; knoblauch sausage; mortadella; capocollo (capicola, capacola); coppa; all forms of summer or dry sausage, including mettwurst; fresh or cured pork shoulder butts and similar pork products in casings; cured, boneless pork loin; fresh, boneless pork loin in casings; boneless back bacon; boneless back bacon in casings; cooked loaf containing pork; and roasted, baked, boiled, or cooked ham, shoulder, or shoulder picnic; Italian-style ham; and Westphalia-style ham.

(a) METHODS OF TREATMENT.

(1) *Heating*.—All parts of the pork muscle tissue shall be heated to a temperature not lower than 137 degrees Fahrenheit, and the method used shall be one known to insure such a result. On account of differences in methods of heating and in weights of products undergoing treatment it is impracticable to specify details of procedures for all cases.

Procedures which insure the proper heating of all parts of the meat or product shall be adopted. It is important that each piece of sausage, each ham, and other product treated by heating in water be kept entirely submerged throughout the heating period; and that the largest articles in a lot, the innermost links of bunched sausage or other massed articles, and articles placed in the coolest part of a heating cabinet or compartment or vat be included in the temperature tests.

(2) *Refrigerating*.—At any stage of preparation and after preparatory chilling to a temperature of not above 40 degrees Fahrenheit, or preparatory freezing, all parts of the muscle tissue of pork or product containing such tissue shall be subjected continuously to a temperature not higher than one of those specified in table I, the duration of such refrigeration at the specified temperature being dependent on the thickness of the meat or inside dimensions of the container.

TABLE I.—Required period of freezing at temperature indicated

| Temperature | Group 1 | Group 2 |
|-------------|---------|---------|
| ° F. | Days | Days |
| 5 | 20 | 30 |
| —10 | 10 | 20 |
| —20 | 6 | 12 |

Group 1 comprises meat or product in separate pieces not exceeding six inches in thickness, or arranged on separate racks with the layers not exceeding six inches in depth, or stored in crates or open boxes not exceeding six inches in depth, or stored as solidly frozen blocks not exceeding six inches in thickness.

Group 2 comprises meat or product in pieces, layers, or within containers, the thickness of which exceeds six inches but not twenty-seven inches. Such containers include tierces, barrels, kegs, and cartons having an inside diameter not exceeding twenty-seven inches.

The meat or product undergoing such refrigeration or the containers thereof shall be so spaced while in the freezer as to insure a free circulation of air between the pieces of meat, layers, blocks, boxes, barrels, and tierces in order

that the temperature of the meat throughout will be promptly reduced to not higher than 5 degrees F., —10 degrees F., or —20 degrees F., as the case may be.

During the period of refrigeration the meat or product or lot thereof shall be kept separate from other products and in the custody of the Bureau. Rooms or compartments equipped for being made secure with Bureau lock or seal shall be provided. The room or compartment containing meat or product undergoing freezing shall be equipped with accurate thermometers placed at or above the highest level at which the product undergoing treatment is stored and away from refrigerating coils. After the prescribed freezing has been finished, the meat or product shall be kept under close supervision of an inspector until it is prepared in final form or until it is transferred to another establishment for preparation in finished form.

Pork which has been refrigerated as herein specified may be transferred in sealed railroad cars, sealed motortrucks, sealed wagons, or sealed closed containers to another official establishment at the same or another station for use in the preparation of products of a kind customarily eaten without cooking by the consumer. The sealing of closed containers, such as boxes and slack barrels, shall be effected by cording and affixing thereto Bureau seals, and such containers as tierces and kegs shall be held in Bureau custody by sealing with wax impressed with a metal Bureau brand. Railroad cars, motor trucks, and wagons shall, when necessary, be sealed with Bureau car seals. Properly sealed and marked closed containers may be shipped, with other meat, in unsealed railroad cars, motortrucks, and wagons. Containers such as boxes, barrels, and tierces shall be plainly and conspicuously marked with a label or stencil furnished by the establishment, as follows: "Pork product degrees F. days' refrigeration," indicating the temperature at which the product was refrigerated and length of time so treated. For each consignment there shall be promptly issued and forwarded to the inspector in charge at destination a report on M. I. Form 109-F, appropriately modified to show the character of the containers and that the contents are "Pork product degrees F. days' refrigeration." A duplicate copy should be forwarded to the Washington office of the Bureau. M. I. Form 109-J (revised), reporting the importation of such pork product, should be similarly prepared and handled.

(3) *Curing.*—(a) *Sausage.*—Sausage may be stuffed in animal casings, hydrocellulose casings, or cloth bags. During any stage of treating the sausage for the destruction of live trichinæ, these coverings shall not be coated with paraffin or like substance. In the preparation of sausage, any one of the following methods may be used:

Method No. 1: The meat shall be ground or chopped into pieces not exceeding three-quarters of an inch in diameter. A dry-curing mixture containing not less than three and a third pounds of salt to each hundredweight of the unstuffed sausage shall be thoroughly mixed with the ground or chopped meat. After being stuffed, sausage having a diameter not exceeding three and one-half inches, measured at the time of stuffing, shall be held in a drying room not less than twenty days at a temperature not lower than 45 degrees F., except that in sausage of the variety known as pepperoni, if in casings not exceeding one and three-eighths inches in diameter measured at the time of stuffing, the period of drying may be reduced to fifteen days. In no case, however, shall the sausage be released from the drying room in less than twenty-five days from the time the curing materials are added, except that sausage of the variety known as pepperoni, if in casings not exceeding the size specified, may be released at the expiration of twenty days from the time the curing materials are added. Sausage in casings exceeding three and one-half inches, but not exceeding four inches, in diameter at the time of stuffing, shall be held in a drying room not less than thirty-five days at a temperature not lower than 45 degrees F., and in no case shall the sausage be released from the drying room in less than forty days from the time the curing materials are added to the meat.

Method No. 2: The meat shall be ground or chopped into pieces not exceeding three-fourths of an inch in diameter. A dry-curing mixture containing not less than three and one-third pounds of salt to each hundred weight of the unstuffed sausage shall be thoroughly mixed with the ground or chopped meat. After being stuffed, the sausage having a diameter not exceeding three and one-half inches, measured at the time of stuffing, shall be smoked not less than forty hours at a temperature not lower than 80 degrees F., and finally held in a drying room not less than ten days at a temperature not lower than 45 degrees F. In no case, however, shall the sausage be released from the drying room in less than eighteen days from the time the curing materials are added to the meat. Sausage exceeding three and one-half inches, but not exceeding four inches in diameter at the time of stuffing, shall be held in a drying room, following smoking as above indicated, not less than twenty-five days at a temperature not lower than 45 degrees F., and in no case shall the sausage be released from the drying room in less than thirty-three days from the time the curing materials are added to the meat.

Method No. 3: The meat shall be ground or chopped into pieces not exceeding three-fourths of an inch in diameter. A dry-curing mixture containing not less than three and one-third pounds of salt to each hundredweight of the unstuffed sausage shall be thoroughly mixed with the ground or chopped meat. After admixture with the salt and other curing materials and before stuffing, the ground or chopped meat shall be held at a temperature not lower than 34 degrees F. for not less than thirty-six hours. After being stuffed the sausage shall be held at a temperature not lower than 34 degrees F. for an additional period of time sufficient to make a total of not less than 144 hours from the time the curing materials are added to the meat, or the sausage shall be held for the time specified in a pickle-curing medium of not less than 50 degrees strength (salometer reading) at a temperature not lower than 44 degrees F. Finally, the sausage having a diameter not exceeding three and one-half inches, measured at the time of stuffing, shall be smoked for not less than twelve hours. The temperature of the smokehouse during this period at no time shall be lower than 90 degrees F.; and for four consecutive hours of this period the smokehouse shall be maintained at a temperature not lower than 128 degrees F. Sausage exceeding three and one-half inches, but not exceeding four inches, in diameter at the time of stuffing shall be smoked, following the prescribed curing for not less than fifteen hours. The temperature of the smokehouse during the fifteen hour period shall at no time be lower than 90 degrees F. and for seven consecutive hours of this period the smokehouse shall be maintained at a temperature not lower than 128 degrees F. In regulating the temperature of the smokehouse for the treatment of sausage under this method, the temperature of 128 degrees F. shall be attained gradually during a period of not less than four hours.

Method No. 4: The meat shall be ground or chopped into pieces not exceeding one-fourth of an inch in diameter. A dry-curing mixture containing not less than two and one-half pounds of salt to each hundredweight of the unstuffed sausage shall be thoroughly mixed with the ground or chopped meat. After admixture with the salt and other curing materials and before stuffing, the ground or chopped sausage shall be held as a compact mass, not more than six inches in depth, at a temperature not lower than 36 degrees F. for not less than ten days. At the termination of the holding period, the sausage shall be stuffed in casings or cloth bags not exceeding three and one-half inches in diameter, measured at the time of stuffing. After being stuffed, the sausage shall be held in a drying room at a temperature not lower than 45 degrees F. for the remainder of a thirty-five day period, measured from the time the curing materials are added to the meat. At any time after stuffing, if a concern deems it desirable, the product may be heated in a water bath for a period not to exceed three hours at a temperature not lower than 85 degrees F., or subjected to smoking at a temperature not lower than 80 degrees F., or the product may be both heated and smoked as specified. The time consumed in heating and smoking, however, shall be in addition to the thirty-five day holding period specified.

(b) *Capocollo (capicola, capicola)*.—Boneless pork butts for capocollo shall be cured in a dry-curing mixture containing not less than four and one-half pounds of salt per hundredweight of meat for a period of not less than twenty-five days at a temperature not lower than 36 degrees F. If the curing materials are applied to the butts by the process known as churning, a small quantity of pickle may be added. During the curing period the butts may be overhauled according to any of the usual processes of overhauling, including the addition of pickle or dry salt if desired. The butts shall not be subjected during or after curing to any treatment designed to remove salt from the meat, except that superficial washing may be allowed. After being stuffed, the product shall be smoked for a period of not less than thirty hours at a temperature not lower than 80 degrees F., and shall finally be held in a drying room not less than twenty days at a temperature not lower than 45 degrees F.

(c) *Coppa*.—Boneless pork butts for coppa shall be cured in a dry-curing mixture containing not less than four and one-half pounds of salt per hundredweight of meat for a period of not less than eighteen days at a temperature not lower than 36 degrees F. If the curing mixture is applied to the butts by the process known as churning, a small quantity of pickle may be added. During the curing period the butts may be overhauled according to any of the usual processes of overhauling, including the addition of pickle or dry salt if desired. The butts shall not be subjected during or after curing, to any treatment designed to remove salt from the meat, except that superficial washing may be allowed. After being stuffed, the product shall be held in a drying room not less than thirty-five days at a temperature not lower than 45 degrees F.

(d) *Hams*.—In the curing of hams either of the following methods may be used:

Method No. 1: The hams shall be cured by a dry-salt curing process not less than forty days at a temperature not lower than 36 degrees F. The hams shall be laid down in salt, not less than four pounds to each hundredweight of hams, the salt being applied in a thorough manner to the lean meat of each ham. When placed in cure the hams may be pumped with pickle if desired. At least once during the curing process the hams shall be overhauled and additional salt applied, if necessary, so that the lean meat of each ham is thoroughly covered. After removal from the cure the hams may be soaked in water at a temperature not higher than 70 degrees F. for not more than fifteen hours, during which time the water may be changed once; but they shall not be subjected to any other treatment designed to remove salt from the meat, except that superficial washing may be allowed. The hams shall finally be dried or smoked not less than ten days at a temperature not lower than 95 degrees F.

Method No. 2: The hams shall be cured by a dry-salt curing process at a temperature not lower than 36 degrees F. for a period of not less than three days for each pound of weight (green) of the individual hams. The time of cure of each lot of hams placed in cure should be calculated on a basis of the weight of the heaviest ham of the lot. Hams cured by this method, before they are placed in cure, shall be pumped with pickle containing not less than 25 per cent of salt, about four ounces of the solution being injected into the shank and a like quantity along the flank side of the body bone (femur). The hams shall be laid down in salt, not less than four pounds of salt to each hundredweight of hams, the salt being applied in a thorough manner to the lean meat of each ham. At least once during the curing process the hams shall be overhauled and additional salt applied, if necessary, so that the lean meat of each ham is thoroughly covered. After removal from the cure the hams may be soaked in water at a temperature not higher than 70 degrees F. for not more than four hours, but shall not be subjected to any other treatment designed to remove salt from the meat, except that superficial washing may be allowed. The hams shall then be dried or smoked not less than forty-eight hours at a temperature not lower than 80 degrees F., and finally shall be held in a drying room not less than twenty days at a temperature not lower than 45 degrees F.

(e) *Boneless pork loins.*—In lieu of heating or refrigerating to destroy trichinae in boneless loins, the loins shall be cured for a period of not less than twenty-five days at a temperature not lower than 36 degrees F. by the use of one of the following methods:

Method No. 1: A dry-salt curing mixture containing not less than five pounds of salt to each hundredweight of meat.

Method No. 2: A pickle solution of not less than 80 degrees strength (salometer) on the basis of not less than sixty pounds of pickle to each hundredweight of meat.

Method No. 3: A pickle solution added to the approved dry-salt cure provided the pickle solution is not less than 80 degrees strength (salometer).

After removal from cure, the loins may be soaked in water for not more than one hour at a temperature not higher than 70 degrees F. or washed under a spray but shall not be subjected, during or after the curing process, to any other treatment designed to remove salt.

Following curing, the loins shall be smoked for not less than twelve hours. The minimum temperature of the smokehouse during this period at no time shall be lower than 100 degrees F., and for four consecutive hours of this period the smokehouse shall be maintained at a temperature not lower than 125 degrees F.

Finally, the product shall be held in a drying room for a period of not less than twelve days at a temperature not lower than 45 degrees F.

(b) GENERAL INSTRUCTIONS.

When necessary to comply with these instructions, the smokehouses, drying rooms, and other compartments used in the treatment of pork to destroy trichinae shall be suitably equipped, by the establishment, with accurate automatic recording thermometers. Inspectors in charge are authorized to approve for use in sausage smokehouses, drying rooms, and other compartments, such automatic recording thermometers as are found to give satisfactory service.

To insure the effective administration of the foregoing, inspectors who supervise the handling and treatment of pork to destroy live trichinae shall:

(1) Recognize the importance of safeguarding the consumer and follow carefully the instructions concerning the treatment of pork to destroy trichinae.

(2) Check the internal temperatures, with Bureau thermometers, of all products subjected to the heating method.

(3) Test frequently, with Bureau thermometers, the reliability of establishment thermometers (including automatic recording thermometers) and reject for use any found to be inaccurate and unreliable.

(4) Observe Bureau thermometers carefully in order that none be used which have become defective or of questionable accuracy.

(5) Supervise in a methodical manner the handling, in drying, refrigerating, and curing departments, of pork product under treatment for the destruction of live trichinae, and keep conveniently available, at the official establishment, for Bureau use, such records as may be necessary and informative of each lot of product under treatment.

When any article of a kind hereinbefore referred to which requires treatment for the destruction of live trichinae is to be offered for importation into the United States, it shall be accompanied by a certificate as prescribed in regulation 27, section 5, paragraph 6,³ B. A. I. Order 211 (revised). This certificate is in addition to any other certificate required by the regulations.

This notice, which is based on B. A. I. Order 211 (revised), regulation 18, section 7, paragraph 4,⁴ dated September 1, 1922, shall be effective on and after April 1, 1940. It supersedes all instructions heretofore issued regarding the treatment of pork to destroy possible live trichinae, including notices⁵ which appeared in the March 1937 issue of Service and Regulatory Announcements under the caption "Recapitulation of Prescribed Treatment of Pork to Destroy Trichinae."

Massachusetts Regulations

Since the federal requirements concerning the processing of pork products affect only inter-state meat it has been suggested that the various states adopt similar regulations for intra-state meat. California, Oregon and Massachusetts already have such regulations.

The requirements adopted by the Massachusetts Health Department in 1924 state:

Regulations Relative to Hams, Pork Butts and Sausage Containing Pork Products Intended to Be Eaten Without Cooking, Adopted by the State Department of Health of Massachusetts Under the Provisions of General Laws, Chapter 94, Section 192.

“No person shall manufacture, sell, offer for sale or deliver any article of food of a kind prepared customarily to be eaten without cooking containing any muscle tissue of pork, unless the pork has been subjected to a temperature sufficient to destroy all live trichinæ, or unless it be subjected to some other treatment sufficient to destroy all live trichinæ.

“*First*—If the heating method is employed, the muscle tissue of pork shall have been subjected to heat so that all portions shall be heated to a temperature not lower than 137 degrees Fahrenheit.

“*Second*—If refrigeration is employed, the pork shall have been subjected to refrigeration not less than twenty days at a temperature not higher than 5 degrees Fahrenheit, provided, however, that pork does not exceed 100 pounds weight per package. If in barrels or *tierces*, the pork shall have been subjected to refrigeration not less than thirty days at a temperature not higher than 5 degrees Fahrenheit.

“*Third*—If curing methods are employed, sausage meat shall be ground or chopped into pieces not exceeding three-quarters of an inch in diameter. A dry curing mixture containing not less than three and one-third pounds of salt to each one hundredweight of the unstuffed sausage shall be thoroughly mixed with the meat. After stuffing, the sausage shall be held in the drying room not less than twenty-five days at a temperature not lower than 45 degrees Fahrenheit, provided, however, that in preparation of sausage known as Pepperoni, the sausages shall be held in the drying room not less than twenty days.

“*Fourth*—Hams shall be cured by a dry curing process not less than forty days at a temperature not lower than 36 degrees Fahrenheit. The hams shall be laid down in salt not less than four pounds to each hundredweight of ham, the salt being applied in a thorough manner to the lean meat of each ham. When placed in cure, the hams may be pumped with pickle if desired. At least once during the curing process the hams shall be overhauled and additional salt applied, if necessary, so that the lean meat of each ham is thoroughly covered.

“After removal from cure, the hams may be soaked in water at a temperature not higher than 70 degrees Fahrenheit for not more than fifteen hours, during which time the water may be changed once; but they shall not be subjected to any other treatment designed to remove salt from the meat, except that superficial washing may be allowed. The hams shall finally be pale-dried or smoked not less than ten days at a temperature not lower than 95 degrees Fahrenheit.

“*Fifth*—Boneless pork butts for coppa shall be cured in a dry curing mixture containing not less than four and one-half pounds of salt per hundredweight of meat and for a period of not less than eighteen days at a temperature

not lower than 36 degrees Fahrenheit. If the curing mixture is applied to the butts by the process known as churning, a small quantity of pickle may be added. During the curing period the butts may be overhauled according to any of the usual recesses for overhauling, including the addition of pickle or dry salt if desired. The butts shall not be subjected during or after curing to any treatment designed to remove salt from the meat, except that superficial washing may be allowed. After stuffing, the product shall be held in a drying room not less than thirty-five days at a temperature not lower than 45 degrees Fahrenheit."

The Massachusetts Health Department informs this Commission that these regulations were proposed for control of the sausages intended to be eaten without being cooked. In Massachusetts, all sausage factories are licensed by the town in which the factories are located. The Massachusetts Health Department states "We have relied entirely upon the local boards of health to enforce these regulations; and if a sausage maker fails to comply, his license could be revoked by the licensing board."¹

The Oregon Law

The Oregon Law requiring processing of pork products customarily eaten without cooking provides:

Section 41-1415, Oregon Code 1935 Supplement:

"If, upon examination of any establishment, any diseased animal or any unwholesome meat, or any unwholesome meat-food product is found, such animal or meat or product shall be condemned, properly marked or designated, and treated in such a way that it can not thereafter be used for food, and inasmuch as it can not certainly be determined by any present known method of inspection whether the muscle tissue of pork contains trichinæ, and inasmuch as live trichinæ are dangerous to human health, no article of food consisting wholly or in part of pork muscle tissue, such as bologna style sausage, Vienna style sausage, frankfurt style sausage, summer sausage, and all other sausages and/or pork products which are of a kind customarily prepared in meat handling establishments to be eaten by customers without cooking, shall be kept, offered or exposed for sale as food for human consumption, unless the pork muscle tissue entering into the product shall have been subjected to heat either before or after its inclusion in the finished product so that all portions of the pork muscle tissue shall have attained a temperature not lower than one hundred and thirty-seven [137] degrees Fahrenheit, or, as an alternative of this heating method, unless the article of which the pork muscle tissue is an ingredient shall have been subjected to refrigeration for a continuous period of not less than twenty [20] days at a temperature not higher than five [5] degrees Fahrenheit. If the heating method be adopted, sufficient time must be given so that all portions of the product shall reach a temperature of not lower than one hundred and thirty-seven [137] degrees Fahrenheit. Only those methods shall be employed which are known to insure a temperature not lower than one hundred and thirty-seven [137] degrees Fahrenheit in all portions of the product or article which contains pork muscle tissue as an ingredient. The refrigerating process shall be conducted as follows: The pork or product containing pork muscle tissue, after chilling or preliminary freezing, shall be stored in freezers which shall be maintained during the twenty [20] day period at a temperature not higher than five [5] degrees Fahrenheit. If the meat or pork muscle tissue product be stored in tierces, sufficient time must be allowed for the temperature of the meat in the center

¹Letter from Dr. Hermann C. Lythgoe, Director, Division of Food and Drugs, Massachusetts Department of Public Health, dated October 25, 1940.

of the tierces to drop to the required temperature, and in such cases the refrigeration shall be extended for an additional period of ten [10] days, being thirty [30] days in all. If the meat or product containing pork muscle tissue be arranged on racks in lays not exceeding six [6] inches in thickness, or hung in separate pieces, or packed in containers, such as boxes, not exceeding six [6] inches in depth, or stored as frozen solid blocks after removal from such containers, the twenty [20] day period of refrigeration shall be deemed sufficient, but in all such cases such meat or products containing pork muscle tissue must be stored in such manner as to provide a free circulation of air among the layers, pieces, blocks or boxes of meat in order that the temperature of the meat may be reduced promptly to the air temperature of the freezer. In no case shall a shorter time than twenty [20] days be allowed, even if the temperature be made lower than five [5] degrees Fahrenheit. Dry curing and other methods may be adopted for destroying trichinae but no such method shall be adopted or used unless the same shall have been first submitted to the inspection of the state department of agriculture and found by the officials of said department of agriculture to be equally or more efficient than the method above described and permit for its use issued; provided, that any method of treatment of pork or pork products to destroy trichinae accepted by the meat inspection division of the United States bureau of animal industry shall likewise be accepted by the State Department of Agriculture."

California Regulations

California has a state-wide meat inspection system, comparable to that of the federal government. A portion of its meat inspection requirements applies to pork products customarily cooked by the consumer.

Regulation 19 of the "California Meat Inspection Regulations" adopted by the State Director of Agriculture on October 1, 1937, states:

PREScribed TREATMENT OF PORK TO DESTROY TRICHINAE

Section 1. Inasmuch as it can not be determined with certainty by any present known practical method of inspection whether the meat of a carcass contains trichinae, and inasmuch as certain articles containing pork muscle tissue are customarily eaten without cooking in the home or other place of consumption, the following requirements shall be observed:

Fresh pork in all forms, including fresh sausage containing pork muscle tissue, and such cured or smoked pork as ordinary hams, shoulders, shoulder picnics, bacon, and jowls, are classed as articles that are customarily well cooked in the home or elsewhere before being served to the consumer, and, therefore, the treatment of such articles at the inspected establishments for the destruction of trichinae is not required. Articles containing pork muscle tissue, such as or of the character of bologna-style sausages; frankfurt-style sausage; Vienna-style sausage; smoked pork sausage; chopped, cured meat rolls; knoblauch sausage; mortadella; capicola (capicola, capocollo); coppa; all forms of summer or dry sausage, including mettwurst; fresh or cured pork butts and similar pork cuts in casings; cured, boneless pork loin; fresh, boneless pork in casings; boneless back bacon; boneless back bacon in casings; loaf; and roasted, baked, cooked, or boiled ham shoulder or shoulder picnic; Italian-style ham; and Westphalia-style ham are classed as articles that shall be effectively treated at the inspected establishment to destroy all live trichinae that may be present.

Pursuant to paragraph 4, section 7, Regulation 18, the following methods are prescribed for the destruction of live trichinae in pork:

BY HEATING AS FOLLOWS

All parts of the pork muscle tissue shall be subjected to a temperature not lower than 137 degrees F.

Only such methods shall be employed as are known to insure a temperature not lower than 137 degrees F. in all portions of the meat or article. On account of differences in methods of heating and in weights of articles undergoing treatment it is impracticable to specify exact procedures.

Procedures shall be adopted which insure the proper heating of all parts of the meat or article. It is important that each piece of sausage, each ham, and other article treated by heating in water be kept entirely submerged throughout the heating period; and that the largest articles in a lot, the innermost links of bunched sausage or other massed articles, and articles placed in the coolest part of a heating cabinet or compartment or vat be included in the temperature tests.

OR BY REFRIGERATING AS FOLLOWS

At any stage of preparation and after chilling or preliminary freezing, all parts of the pork muscle tissue or article containing such tissue shall be subjected to a temperature not higher than five degrees F. for a continuous period of (a) not less than twenty days in case the meat is in separate pieces or arranged in separate racks with the layers of meat not exceeding six inches in depth, or stored in separate boxes or crates not exceeding six inches in depth, or stored, properly separated, as solidly frozen blocks not exceeding six inches in depth; and (b) not less than thirty days in case the pork to be treated is in layers or in containers of a thickness exceeding six inches but not more than twenty-seven inches, including ordinary tierces. This requirement is necessary in order to allow time for the meat at the center of the layer or container to reach the necessary temperature. The meat undergoing freezing or the containers thereof shall be so spaced while in the freezer as to insure a free circulation of air between the pieces of meat layers, blocks, boxes, barrels, and tierces in order that the temperature of the meat throughout be reduced promptly to five degrees F. or less.

During the period of refrigeration the meat or article or lot of meat shall be kept separate from other products and in the custody of the division. Rooms or compartments equipped for securing with division lock or seal shall be provided. The room or compartment containing meat undergoing freezing shall be equipped with accurate thermometers placed at or above the highest level at which the product undergoing treatment is stored and away from refrigerating coils. After the prescribed freezing has been finished, the meat or article shall be kept under close supervision of the inspector until it is prepared in final form or until it is transferred to another establishment for preparation into finished form.

Pork which has been refrigerated as herein specified may be transferred in sealed railroad cars, sealed autotrucks, sealed wagons, or sealed closed containers to another official establishment for use in the preparation of articles of a kind customarily to be eaten without cooking by the consumer. The sealing of closed containers such as boxes and slack barrels shall be effected by cording and affixing thereto division seals, and such containers as tierces and kegs shall be held in division custody by sealing with wax impressed with a metal division brand. Railroad cars, autotrucks, and wagons shall be sealed with division car seals. Properly sealed and marked closed containers may be shipped in unsealed railroad cars, trucks, and wagons with other meat. Containers such as boxes, barrels, and tierces shall be plainly and conspicuously marked with a label or stencil furnished by the establishment reading as follows: "Pork product five degrees F. twenty days' refrigeration" or "Pork product five degrees F. thirty days' refrigeration" as the case may be. For each consignment there shall be promptly issued and forwarded to the inspector in charge at destination a written notice to show the character of the container and that the contents are "Pork product five

degrees F. twenty days' refrigeration'' or ''Pork product five degrees F. thirty days' refrigeration.'' A duplicate copy should be forwarded to the Sacramento office of the division.

OR BY CURING AS FOLLOWS

SAUSAGE

In the preparation of sausage under methods Nos. 1, 2, 3, and 4, as hereinafter provided, the sausage may be stuffed in animal casings hydrocellulose casings, or cloth bags. During any stage of treating the sausage for the destruction of live trichinae, these coverings shall not be coated with paraffin or like substance.

Method No. 1.—The meat shall be ground or chopped into pieces not exceeding three-fourths inch in diameter. A dry-curing mixture containing not less than three and one-third pounds of salt to each hundredweight of the unstuffed sausage shall be thoroughly mixed with the ground or chopped meat. After being stuffed, the sausage having a diameter not exceeding three and one-half inches, measured at the time of stuffing, shall be held in a drying room not less than twenty days at a temperature not lower than forty-five degrees F., except that in the case of sausage of the variety known as pepperoni, if in casings not exceeding one and three-eighths inches in diameter measured at the time of stuffing, the period of drying may be reduced to fifteen days. In no case, however, shall the sausage be released from the drying room in less than twenty-five days from the time the curing materials are added, except that sausage of the variety known as pepperoni, if in casings not exceeding the size specified, may be released at the expiration of twenty days from the time the curing materials are added. Sausage in casings exceeding three and one-half inches in diameter at the time of stuffing, but not exceeding a diameter of four inches, shall be held in a drying room not less than thirty-five days at a temperature not lower than forty-five degrees F. and in no case shall the sausage be released from the drying room in less than forty days from the time the curing mixture is added to the meat.

Method No. 2.—The meat shall be ground or chopped into pieces not exceeding three-fourths inch in diameter. A dry-curing mixture containing not less than three and one-half pounds of salt to each hundredweight of the unstuffed sausage shall be thoroughly mixed with the ground or chopped meat. After being stuffed, the sausage having a diameter not exceeding three and one-half inches, measured at the time of stuffing, shall be smoked not less than forty hours at a temperature not lower than eighty degrees F., and finally held in a drying room not less than ten days at a temperature not lower than forty-five degrees F. In no case, however, shall the sausage be released from the drying room in less than eighteen days from the time the curing mixture is added to the meat. Sausage exceeding three and one-half inches in diameter at the time of stuffing, but not exceeding a diameter of four inches, shall be held in a drying room, following smoking as above indicated, not less than twenty-five days at a temperature not lower than forty-five degrees F., and in no case shall the sausage be released from the drying room in less than thirty-three days from the time the curing mixture is added to the meat.

Method No. 3.—The meat shall be ground or chopped into pieces not exceeding three-fourths inch in diameter. A dry-curing mixture containing not less than three and one-third pounds of salt to each hundredweight of the unstuffed sausage shall be thoroughly mixed with the ground or chopped meat. After admixture with the salt and other curing materials and before stuffing, the ground or chopped meat shall be held at a temperature not lower than thirty-four degrees F. for not less than thirty-six hours. After being stuffed the sausage shall be held at a temperature not lower than thirty-four degrees F. for an additional period of time sufficient to make a total of not less than 144 hours from the time the curing mixture is added to the meat, or the sausage shall be held for the time specified in a pickle-curing

medium of not less than fifty degrees strength (salometer reading) at a temperature not lower than forty-four degrees F. Finally, the sausage having a diameter not exceeding three and one-half inches, measured at the time of stuffing, shall be smoked for not less than twelve hours. The temperature of the smokehouse during this period at no time shall be lower than ninety degrees F.; and for four consecutive hours of this period the smokehouse shall be maintained at a temperature not lower than one hundred and twenty-eight degrees F. Sausage exceeding three and one-half inches in diameter at the time of stuffing, but not exceeding a diameter of four inches, shall be smoked, following the prescribed curing, for not less than fifteen hours. The temperature of the smokehouse during the fifteen-hour period shall at no time be lower than ninety degrees F. and for seven consecutive hours of this period the smokehouse shall be maintained at a temperature not lower than one hundred and twenty-eight degrees F. In regulating the temperature of the smokehouse for the treatment of sausage under this method, the temperature of one hundred twenty-eight degrees F. shall be attained gradually during a period of not less than four hours.

Method No. 4.—The meat shall be ground or chopped into pieces not exceeding one-fourth inch in diameter. A dry-curing mixture containing not less than two and one-half pounds of salt to each hundredweight of the unstuffed sausage shall be thoroughly mixed with the ground or chopped meat. After admixture with the salt and other curing materials and before stuffing, the ground or chopped sausage shall then be held as a compact mass, not more than six inches in depth, at a temperature not lower than thirty-six degrees F. for not less than ten days. At the termination of the holding period, the sausage shall be stuffed in casings or cloth bags not exceeding three and one-half inches in diameter, measured at the time of stuffing. After being stuffed, the sausage shall be held in a drying room at a temperature not lower than forty-five degrees F. for the remainder of a thirty-five day period, measured from the time the curing mixture is added to the meat.

At any time after stuffing, if a firm deems it desirable, the product may be heated in a water bath for a period not to exceed three hours at a temperature not lower than eighty-five degrees F., or subjected to smoking at a temperature not lower than eighty degrees F., or the product may be both heated and smoked as specified. The time consumed in heating and smoking, however, shall be in addition to the thirty-five day holding period specified.

CAPACOLA (CAPICOLA, CAPOCOLLO)

Boneless pork butts for capicola shall be cured in a dry-curing mixture containing not less than four and one-half pounds of salt per hundredweight of meat for a period of not less than twenty-five days at a temperature not lower than thirty-six degrees F. If the curing mixture is applied to the butts by the process known as churning, a small quantity of pickle may be added. During the curing period the butts may be overhauled according to any of the usual processes of overhauling, including the addition of pickle or dry salt if desired. The butts shall not be subjected during or after curing to any treatment designed to remove salt from the meat, except that superficial washing may be allowed. After being stuffed, the product shall be smoked for a period of not less than thirty hours at a temperature not lower than eighty degrees F., and shall finally be held in a drying room not less than twenty days at a temperature not lower than forty-five degrees F.

COPPA

Boneless pork butts for coppa shall be cured in a dry-curing mixture containing not less than four and one-half pounds of salt per hundredweight of meat for a period of not less than eighteen days at a temperature not lower than thirty-six degrees F. If the curing mixture is applied to the butts by the process known as churning, a small quantity of pickle may be added.

During the curing period the butts may be overhauled according to any of the usual processes of overhauling, including the addition of pickle or dry salt if desired. The butts shall not be subjected during or after curing to any treatment designed to remove salt from the meat except that superficial washing may be allowed. After being stuffed, the product shall be held in a drying room not less than thirty-five days at a temperature not lower than forty-five degrees F.

HAMS

Method No. 1.—The hams shall be cured by a dry-salt curing process not less than forty days at a temperature not lower than thirty-six degrees F. The hams shall be laid down in salt, not less than four pounds to each hundredweight of hams, the salt being applied in a thorough manner to the lean meat of each ham. When placed in cure the hams may be pumped with pickle if desired. At least once during the curing process the hams shall be overhauled and additional salt applied, if necessary, so that the lean meat of each ham is thoroughly covered.

After removal from the cure the hams may be soaked in water at a temperature not higher than seventy degrees F. for not more than fifteen hours, during which time the water may be changed once; but they shall not be subjected to any other treatment designed to remove salt from the meat, except that superficial washing may be allowed. The hams shall finally be dried or smoked not less than ten days at a temperature not lower than ninety-five degrees F.

Method No. 2.—The hams shall be cured by a dry-salt curing process at a temperature not lower than thirty-six degrees F. for a period of not less than three days for each pound of weight (green) of the individual hams, calculating the time of cure of each lot of hams placed in cure upon a basis of the weight of the heaviest ham of the lot. Hams cured by this method, before they are placed in cure, shall be pumped with pickle containing not less than twenty-five per cent of salt, about four ounces of the solution being injected into the shank and a like quantity along the flank side of the body bone (femur). The hams shall be laid down in salt, not less than four pounds of salt to each hundredweight of hams, the salt being applied in a thorough manner to the lean meat of each ham. At least once during the curing process the hams shall be overhauled and additional salt applied, if necessary, so that the lean meat of each ham is thoroughly covered. After removal from the cure the hams may be soaked in water at a temperature not higher than seventy degrees F. for not more than four hours, but shall not be subjected to any other treatment designed to remove salt from the meat, except that superficial washing may be allowed. The hams shall then be dried or smoked not less than forty-eight hours at a temperature not lower than eighty degrees F., and finally shall be held in a drying room not less than twenty days at a temperature not lower than forty-five degrees F.

BONELESS PORK LOINS

In lieu of heating or refrigerating to destroy trichinae in boneless loins, the following treatment is prescribed:

The loins shall be cured for a period of not less than twenty-five days at a temperature not lower than thirty-six degrees F. under one of the following methods:

No. 1.—A dry-salt curing mixture containing not less than five pounds of salt to each hundredweight of meat.

No. 2.—A pickle solution of not less than eighty degrees strength (salometer) on the basis of not less than sixty pounds of pickle to each hundredweight of meat.

No. 3.—A pickle solution may be added to the approved dry-salt cure, provided the pickle solution is not less than eighty degrees strength (salometer).

After removal from cure, the loins may be soaked in water for not more than one hour at a temperature not higher than seventy degrees F. or washed under a spray, but shall not be subjected, during or after the curing process, to any other treatment designed to remove salt.

Following curing, the loins shall be smoked for not less than twelve hours; the minimum temperature of the smokehouse during this period at no time shall be lower than one hundred degrees F., and for four consecutive hours of this period the smokehouse shall be maintained at a temperature not lower than one hundred and twenty-five degrees F.

Finally, the product shall be held in a drying room for a period of not less than twelve days at a temperature not lower than forty-five degrees F.

GENERAL

The smokehouses, drying rooms, and other compartments, as may be necessary, used in the treatment of pork to destroy trichinea shall be suitably equipped by the establishment with accurate automatic recording thermometers. Inspectors in charge are authorized to approve, for use in sausage smokehouses, drying rooms, and other compartments, such automatic recording thermometers as are found to give satisfactory service.

In addition to the foregoing, inspectors who supervise the handling and treatment of pork to destroy live trichinae shall:

(a) Recognize the importance of safeguarding the consumer and follow carefully the instructions concerning the treatment of pork to destroy trichinae.

(b) Check the internal temperatures, with division thermometers, of all products subjected to the heating method.

(c) Test frequently, with division thermometers, the reliability of establishment thermometers (including automatic recording thermometers) and reject for use any found not accurate and reliable.

(d) Observe division thermometers carefully in order that none be used which has become defective or questionable as to accuracy.

(e) Supervise, in a methodical manner, the handling in drying, refrigerating, and curing departments, of pork product under treatment for the destruction of live trichinae, and keep, conveniently available at the official establishment for division use, such records as may be necessary and informative of each lot of product under treatment.

Recommended for New York City

The Manufacturers' Division of the Meat Trade Institute, Inc., 270 Broadway, New York City, has recommended to the New York City Board of Health that an amendment to the sanitary code be adopted to require, in part:

"No processed meat articles of a kind prepared customarily to be eaten without further cooking, which contain muscle tissue of pork, shall be brought into the City of New York or held, kept, offered for sale or sold for human food therein unless such meat articles shall have been inspected and passed as fit for human food by a duly authorized inspection of the United States Department of Agriculture and shall have been so identified, or unless such meat articles or the pork muscle tissue contained therein shall have been treated to destroy trichinae in the manner prescribed by the Department of Health of the City of New York and such articles shall have been processed in an establishment operated by authority thereof and identified in the manner hereinafter provided.

"All such meat articles processed in an establishment operated by authority of the Department of Health of the City of New York but not under inspection of the United States Department of Agriculture shall bear, upon

the container, casing or wrapper thereof or upon a suitable tag attached thereto or to the massed bundle thereof, the number of the smoking permit issued or other special number assigned to the processor thereof by the Department of Health of the City of New York and the legend "Treated as approved by the Department of Health of the City of New York and ready to eat." All such meat articles processed under inspection of the United States Department of Agriculture in an establishment operated by authority of the Department of Health of the City of New York may bear such number and legend in addition to the inspection number and legend required by the United States Department of Agriculture."

CONTROL THROUGH EDUCATION

Dr. Willard H. Wright has stated: "We might inaugurate an intensive campaign of publicity and thus sound a general alarm, warning the public that one in every six persons is probably infested with trichinae, that trichinosis is rife, that pork is dangerous and that illness lurks in this important item in the diet of most of our people. Considering that various agencies have for years been utilizing nearly every available means to warn the public to cook pork well, and that these warnings have been followed by no decline in the incidence of the parasite, it does not appear that a continuation or extension of such measures will be of any more value than formerly. It seems that the use of widespread publicity would not only be a futile gesture toward the control of trichinosis but might work incalculable harm to the swine grower and the meat-packing industry. It is evident that a certain portion of the American public prefers its pork rare, just as it prefers its beef rare, and it will probably continue to indulge in its tastes regardless of warnings to the contrary."¹

The immediate aim of education in the field of trichinosis is to impress the consumer with the need of eating pork thoroughly cooked. But, as Senator Desmond pointed out at the public hearing of this Commission, "We can no longer make the attack on this pork disease a matter of individual option and private responsibility alone."

For years, government officials have been urging housewives and others to cook pork thoroughly. Regardless of what control measures are adopted, it seems clear that this educational campaign must be continued and expanded. An extensive publicity campaign will undoubtedly be helpful in preventing trichinosis, but it is far from being the final solution to the problem.

This Commission has engaged in considerable educational work, stressing not only the fact that pork should be well cooked, but also that well cooked pork is a healthful, nourishing food. Daily and weekly newspapers, the press associations, and magazines have cooperated in informing the public as to how trichinosis may be prevented.

It has been suggested that a coordinated, intensive educational drive by our State Health Department, Department of Agriculture and Markets, and Education Department might well be launched. Every media of education might be used. The United States Department of Agriculture has printed some pamphlets and posters urging thorough cooking of pork. The American Meat

¹Jour. A. V. M. A., Vol. XCIV, N. S. 47, No. 6, June, 1939, p. 605.

Institute has done some work in this field. But it is obvious that much more remains to be accomplished. The goal of a trichinosis educational campaign should be to impress each consumer with the need for eating only pork which is thoroughly cooked.

“It appears to be a legitimate demand that when a man exchanges dollars for pork, he should not do it on the basis that he may be purchasing his death warrant, and that for a day when foods of all sorts are assumed to be, and quite generally are, safe and wholesome as produced and marketed, no one has a right to demand that an exception be made for pork in order that the custom of feeding raw pork scraps to swine may be preserved.”

—*Dr. Maurice C. Hall*

Education by Legislation

The Meat Trade Institute, Inc., has recommended that “All processed meat articles of a kind prepared customarily to be cooked at the place of consumption shall bear upon the container, casing or wrapper thereof, or upon a suitable tag attached thereto or to the massed bundle thereof the legend, ‘Cook Thoroughly,’ and may bear, in addition thereto, such other directions for the preparation of the article as will assure thorough cooking.”

Dr. E. T. Faulder, Director of the State Bureau of Animal Industry, believes that such a requirement might well be adopted by the State. Others believe that it would be impossible to require such tags, particularly in the case of meat that is sliced, and that such a requirement would seriously interfere with the sale of pork.

The proposal has been made that butcher shops be required to place in conspicuous places signs urging consumers to cook pork thoroughly.

Professor Thurlow W. Nelson, of Rutgers University, speaking at the public hearing held by this Commission, stated: “It seems to me it is quite unfair to the pig growers that any such sign should be put up in butcher shops that the meat the customers are buying should be cooked because it may have worms.

“I happen to be advisor to our Board of Shell Fisheries, and we have to go through this matter with oysters. Such statements in shops do not invite public confidence, and what we want is a product that is safe to begin with so that we do not have to tell people that they have to treat it in a certain way before it will be safe for us to eat it.”¹

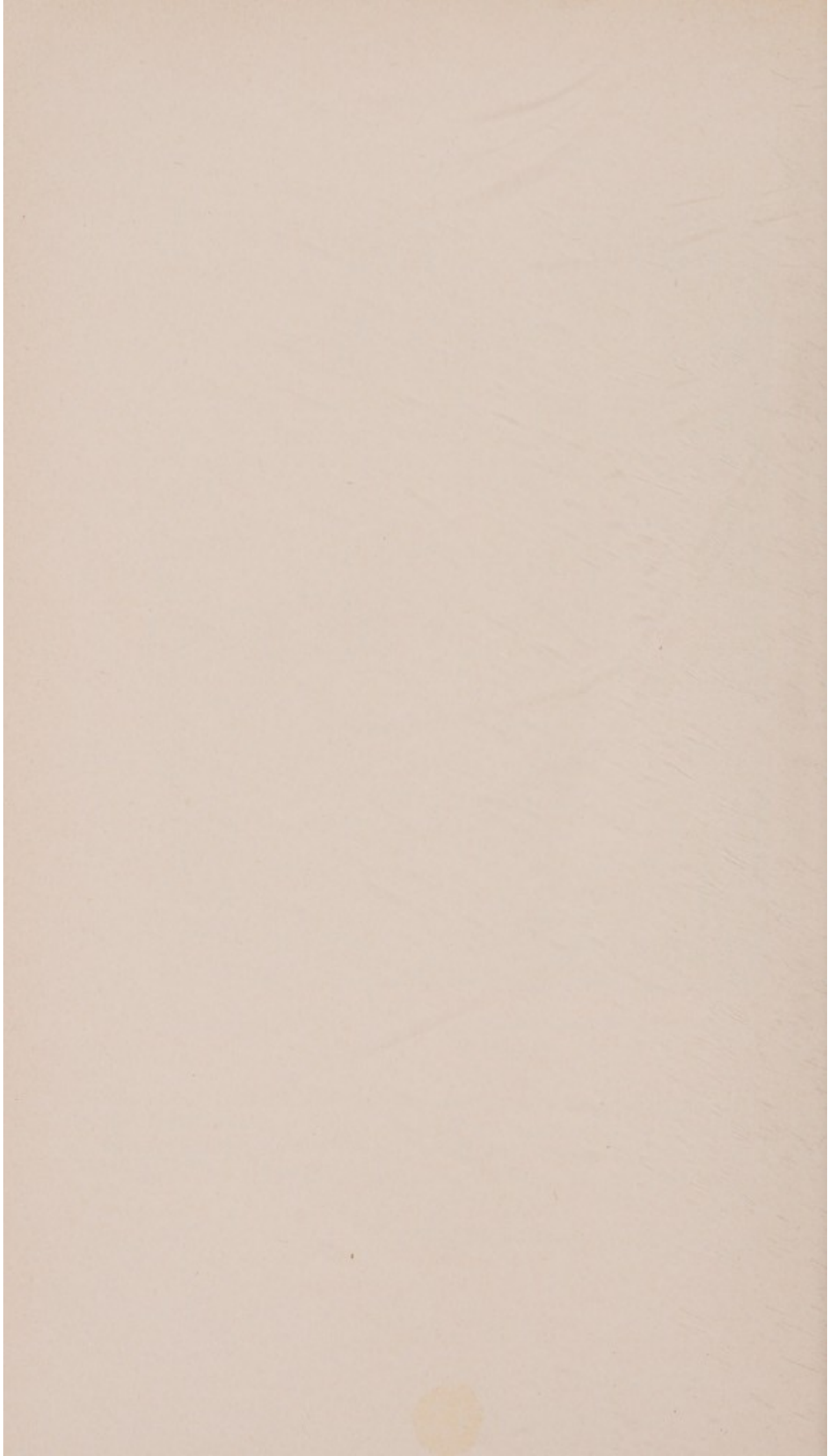
¹Minutes of Public Hearing, p. 51.



FIGURE 16. HOUSEWIVES HAVE GOT TO BE TOLD OF THE NEED FOR COOKING MEAT THOROUGHLY.

On the other side of the fence is the League Against Food and Drug Frauds which recommends that health departments print placards for distribution to all delicatessens, provisions stores and cafeterias, warning the public to eat only thoroughly cooked pork products.¹

¹ Report submitted to this Commission, p. 3.



CHAPTER X

LICENSING OF SLAUGHTER-HOUSES

At the public hearing held by the Commission, Senator Desmond reported that the "State Department of Agriculture and Markets has found deplorable conditions in slaughter-houses, particularly in regard to small operators in rural communities. The Department informs this Commission that many slaughter-houses are dirty and lack hot water and drainage facilities, that slaughter-houses in many instances have refused to install sanitary equipment or to use sanitary methods. The State Department of Agriculture and Markets is powerless at present to prevent these objectional practices. The Department seeks the power to license slaughter-houses, a power possessed by similar departments in other states. This will enable the state to eliminate conditions which should not be tolerated."

There are approximately 600 slaughter-houses in New York State. Slaughter-houses in New York City are controlled by the New York City Health Department. It is with the upstate slaughter-houses that the State Department of Agriculture and Markets is chiefly concerned.

Upstate, inspectors have found that offal is frequently fed to hogs adjacent to the slaughtering operation, and instances have been found where swine had access to the killing floor. Carcasses of healthy animals and of animals that had died other than by slaughter were found to have been boned-out at the same time and with the same equipment, and some of the meat of dead animals (other than by slaughter) was traced to channels for human consumption.

The Department of Agriculture and Markets declares that "It has been difficult to exercise much control over these conditions, since the Department's only real power under the law was the condemnation of unwholesome meat. The meat can be condemned only after conclusive proof has been obtained, and the acquiring of such proof is exceedingly difficult, requiring days of constant watching and the tracing of particular pieces of meat to channels for human consumption. While nearly sixty tons of meat have been condemned and destroyed in the past three months, the loss of meat has not deterred the operators from continuing business and their insanitary methods.

"While the licensing of slaughter-houses should eventually require additional office help, it will add little to the duties of the inspection forces, since it will enable the inspectors to operate more efficiently. For example, it took four men nearly a week

to gain evidence that certain carcasses which the operator said were consigned to a cat and dog factory were really to be sold for hamburger, etc. Had the licensing of slaughter-houses been in effect, they could have been forced to clean up or to be closed in considerably less time.

"Under the present powers of the Department some meat has been kept off the market, but little else has been accomplished. With this bill in effect, constructive work of the kind that is vital to the protection of the state's food supply can be done, and with less expenditure in time and travel."¹

Mr. C. R. Plumb, Director of the State Bureau of Food Control, has informed this Commission that "Our food laws do give us some control over the operators of slaughter-houses, but practically the only thing we can do is to destroy meat that we find in these slaughter-houses, that is, destroy the carcasses of dead animals that are dressed out, boned out, ground up, horse meat, dead horses, and dead calves."²

The Commission has studied reports of inspectors which support his statement that "in many cases slaughter-houses are slaughtering sick cows and also dressing out dead cows and horses with the same implements and in the same places that cattle are being dressed out for human consumption, and in but a few instances have we found proper facilities for washing and sterilizing the floors and other equipment before changing from one operation to another. This, to my mind, is very unsatisfactory and should be stopped.

"We have also found in quite a number of instances that the meat from the sick cows and dead horses as well as meat from dead cows has been boned out and from our investigations we have found that a great deal of this meat found its way into the channels of trade for food purposes. Of course, in every case where we were able to intercept same, a hearing was called and the products destroyed. However, it is my opinion that until such time as we have better control over the operations in slaughter-houses in New York State, these deplorable conditions in operating some of them will continue because of our failure to have a requirement that all slaughter-houses be licensed."³

Oregon Regulates Slaughter-Houses

The State of Oregon requires a high standard of cleanliness in its slaughter houses, and permits its State Department of Agriculture to close any slaughter house which, after due notice, refuses to eliminate defective or unsanitary methods. The pertinent provisions of the regulations of the Oregon Department of Agriculture follows:

¹Memorandum from Mr. Howard R. Waugh, Secretary of the Department of Agriculture and Markets, dated Feb. 28, 1940.

²From Minutes of the Public Hearing of the New York State Trichinosis Commission, Nov. 28, 1940, pp. 57-58.

³Memorandum, dated March 22, 1940.

RESPONSIBILITY OF OWNERS, MANAGERS, ETC.

Owners, lessees, occupiers or managers of all abattoirs, slaughtering, packing, meat canning, meat manufacturing or rendering establishments and of places or vehicles where meat is prepared, stored, sold or transported, are required by law to construct, arrange, equip, manage and care for such establishments in such manner that the meats or meat products therein prepared, stored or sold shall not be injuriously affected as to soundness, healthfulness or wholesomeness, nor otherwise rendered unfit for human food. The terms "meats" and "meat products," wherever used in these regulations, shall include and apply to all carcasses, or parts of carcasses of cattle, sheep, swine, and goats, and the meat or meat food products thereof.

No person, firm or corporation, or any officer or agent of such person, firm or corporation, shall sell, offer for sale, expose with intent to sell, or prepare for use as human food, any meat or meat product from an animal that is in such condition that its flesh is unsound, unhealthful, unwholesome or otherwise unfit for human food; provided, that the meat or meat product of any immature animal shall be deemed and taken to be unlawful, unwholesome, and unfit for human food. Nor shall any unsound, unhealthful, or unwholesome meat or meat product be sold, or offered for sale, or exposed with intent to sell, for use as human food, or be manufactured or prepared for use as human food.

CONSTRUCTION AND SANITATION OF BUILDINGS

Buildings used for slaughtering, packing, canning or manufacturing meats or meat products shall not be used as dwellings, or places of residence, nor for any purpose that may have a tendency to affect injuriously the meats or meat products therein prepared. If any part of the building is used as a permanent stable for animals, there shall be no avenue of communication within the building between the stable and the room used for the preparation of the meats or meat products, but pens for animals about to be slaughtered may be maintained in connection with the slaughtering room. Manure from such stables or pens shall not be stored adjacent to the buildings used for slaughtering, storing or preparing meats or meat-food products, nor at any place on the premises or in such a manner as to bring about insanitary conditions.

All buildings used for such purposes, and for storing or selling meats or meat products, shall be properly fitted and equipped for the purpose used, and shall be so managed and cared for that meats and meat products prepared therein may not be rendered unclean, unsound, unhealthful or unwholesome or otherwise unfit for human food.

(a) Floors shall be smooth and impervious and so laid that they will drain freely and rapidly into a drain and, when possible, this drain shall be connected with a sewer. No low or broken places beneath, or in which fluid or solid refuse may lodge, shall be allowed to exist.

(b) Walls of rooms in which animals are slaughtered or meat stored shall be tight, smooth, free from projections or crevices for the accumulation of filth, and shall be kept in a cleanly condition. Ceilings, partitions and pillars shall also be kept clean by brushing, spraying or washing. Frequent white-washing or painting of walls, ceilings, pillars and partitions is requested unless the same are painted or made of an impervious material.

(c) All wagons, trucks, trays and other receptacles, all tables, chutes, platforms, racks, etc., and all knives, saws, cleavers, meat grinders, sausage fillers, scalding kettles and other tools, utensils and machinery used in slaughtering, moving, handling, cutting, chopping, mixing, canning, or other process, shall be thoroughly cleansed daily, if used.

(d) Aprons, smocks or other clothing of employes coming in contact with meat shall be of material that is readily cleansed and made sanitary, and shall be kept clean. All employes who handle meats or meat products shall be required to keep their hands free from filthy or infectious matter.

(e) All rooms in which meats or meat-food products are prepared, stored, packed, canned, manufactured, or otherwise handled shall be lighted and

ventilated in a manner acceptable to the state department of agriculture, and shall be so located that odors from toilet rooms, catch basins, casings departments, tank rooms, offal or refuse heaps, hide cellars, etc., do not permeate them. All cooling and storage rooms or ice boxes shall, if possible, have a system of ventilation, which permits the entrance of fresh clean air from outside the building.

Rooms used for the slaughter of animals shall be thoroughly cleansed at the close of each day's work. All offal and other refuse shall be removed and the floors and walls shall be flushed and washed. Where water-pipe connections can be obtained they shall be equipped with faucets and hose sufficient for proper cleansing. Toilet facilities adequate for the cleanliness and convenience of the employes shall be provided and shall consist of water closets, urinals, wash basins, soap and clean towels. Such toilet rooms shall not communicate directly or indirectly with any room in which animals are killed or meats stored. The voiding of urine upon the floor of the slaughterhouse is prohibited.

Suitable receptacles shall be provided for blood, offal and similar materials, and such materials shall be put into the offal tank, or, where such tank is not available, removed from the premises as soon as possible, but under no circumstances shall they be permitted to accumulate for more than one day in summer or two days in winter. In no case shall they be permitted to accumulate in or around the slaughterhouse. The feeding of hogs or other animals on uncooked offal and other slaughterhouse refuse shall not be permitted on the premises, and no use incompatible with proper sanitation shall be made of any part of such premises.

Receptacles and vehicles used for storing and transporting such materials shall be kept clean. Stomach and intestinal contents and other refuse shall not be allowed to accumulate on the floor of the slaughter room and shall not be stored on the premises at any place or in such a manner as to render the conditions insanitary.

Cribs or pens for the storage of bones shall not be located within or adjoining any building used for slaughtering, storing or preparing meats or meat-food products, unless the walls are impervious and enclosed.

Hides or pelts shall not be stored on the floor of any room used for slaughtering, storing or preparing meats or meat-food products, but shall be stored in a room set apart for such purpose.

Meats and meat-food products intended for rendering into edible products must be prevented from falling on the floor or coming into contact with any dirty or disease-producing material.

Persons afflicted with tuberculosis, or any other communicable disease, shall not be employed or work in any of the departments of establishments where carcasses are dressed, or meats handled or exposed for sale, and any employee showing evidence of being so affected shall be reported to the state department of agriculture and to the manager or owner of the establishment by any agent of the department or any local meat inspector appointed by authority of the department who may discover the condition.

WHEN DISEASED CARCASSES ARE DRESSED

Butchers who may have dressed diseased carcasses shall cleanse their hands of all grease and then immerse them in a prescribed disinfectant, and then rinse them in clear water, before engaging again in dressing or handling healthy carcasses. All butcher's implements that have been used in dressing diseased carcasses shall be cleansed of all grease and then sterilized either in boiling water or by immersion in a prescribed disinfectant, and then rinsed in clean water before being again used in dressing healthy carcasses.

The premises on which diseased animals may have been killed shall be thoroughly cleansed, and, if necessary, they shall be disinfected, as required by the state department of agriculture, an agent of the same, or any local meat inspector appointed by authority of the department.

Separate trucks, etc., shall be furnished for handling diseased carcasses and parts. Following the slaughter of an animal affected with an infectious disease a stop shall be made until the implements have been cleansed and disinfected, unless another set of clean implements is at hand.

CLEANLINESS OF ESTABLISHMENTS

All parts of establishments used for slaughtering, packing, canning, manufacturing or storing meats or meat products, and the stables and pens used for livestock shall be kept in a cleanly, wholesome condition. They shall be especially cleansed and scrubbed and disinfected, and painted or white-washed when required by authority of the state department of agriculture, an agent of the same or any local meat inspector appointed by the authority of the department.

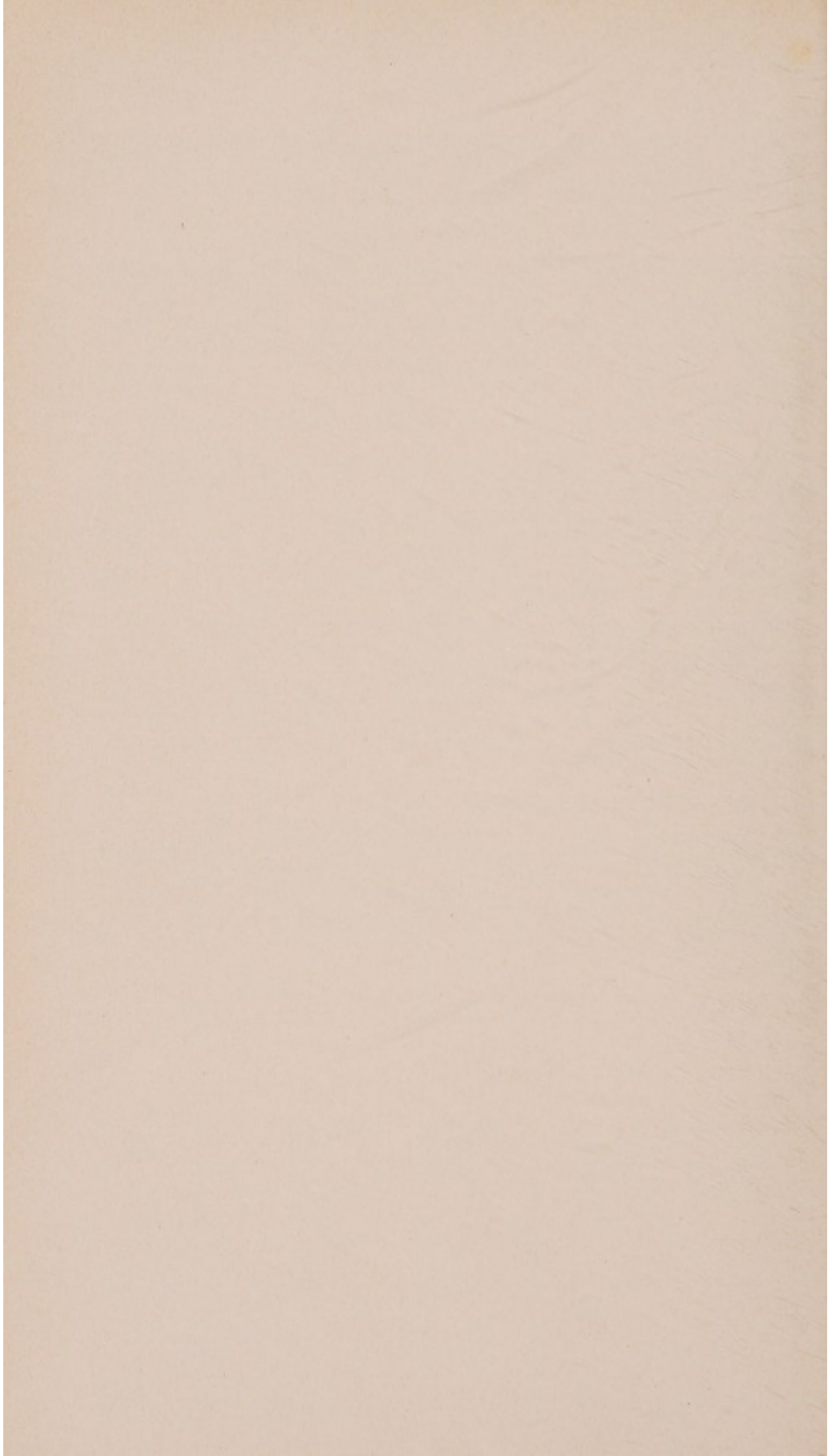
DUTIES AND AUTHORITY OF AGENTS OF THE DEPARTMENT

Agents of the state department of agriculture are authorized by law to make examination of slaughtering, packing, meat canning, rendering, or similar establishments, and of places where meats or meat-food products are manufactured, prepared, stored or sold, for the purpose of ascertaining whether the said establishments or places are constructed, arranged, equipped, managed or cared for in such a way as injuriously to affect the soundness, healthfulness or wholesomeness, or otherwise to render unfit for human food, the meat or meat-food products therein prepared, stored, or sold.

Whenever an establishment, or the manner in which it is arranged, equipped or cared for, shall be found to be defective in such particulars as to make it probable that, by virtue of such defect or defects, the meats or meat-food products may be rendered unsound, unhealthful, unwholesome or otherwise unfit for human food, it shall be the duty of the agent of the state department of agriculture to notify the owner, occupier or manager thereof as to the nature of the particular defects found, and report the same to the state department of agriculture.

PENALTY FOR FAILURE TO REMEDY DEFECTS

In case such defects are not removed or abolished within the time designated by the state department of agriculture, after notice in writing from the department, the said establishment or place may be closed; and the owner, occupier or manager thereof, and all other persons forbidden to use the said establishment or place for the preparation, storage, or sale of meats or meat-food products until the said defect is remedied, removed, or abolished in a way that is approved by an authorized agent of the state department of agriculture.



CHAPTER XI

TULAREMIA

This Commission was organized primarily to study the Trichinosis problem, but also to study other diseases contracted by eating infected meat. One such disease is Tularemia.

What is Tularemia?

Tularemia, the disease commonly known as "rabbit fever," is caused in most cases by direct contact in handling wild rabbits and hares. But it may also result from insufficient cooking of infected meat.

Tularemia received its name from the fact that Dr. G. W. McCoy, of the United States Public Health Service, discovered the disease in Tulare County, Calif., in 1910.

"The disease is carried from animal to animal and to man by the bites of infected deer flies and ticks. Various species of lice also are capable of spreading the infection among animals."¹

Tularemia is infectious not only to rabbits but, contrary to popular opinion, to a great variety of mammals and some birds. The United States Bureau of Biological Survey reports that even catfish have been involved with carrying tularemia and infecting persons.² The bacteria has been found in certain streams, but it is not known whether the fish actually infected the persons or merely made the wounds through which the organisms entered. Infection has arisen also from 24 forms of American wild life, including horseflies, wood ticks, dog ticks, insects, tree squirrels, opossums, ground hogs, muskrats, skunks and some others. However, the wild rabbit is the main source of tularemia.

The disease is particularly prevalent among market men handling rabbits, hunters, housewives and those who dress rabbits for the market.

Dr. Edward S. Godfrey, Jr., New York State Commissioner of Health, issued a public statement on November 27, 1939, describing the case of a man in Brownsville, Jefferson County, New York, who shot a rabbit. "When the patient eviscerated the animal immediately after shooting, he noted nothing abnormal in the appearance of the organs," Doctor Godfrey said. "On return-

¹U. S. Department of Interior Information Service release, March 9, 1940.

²Ibid.

ing home the man skinned the rabbit and in doing so he cut the index finger of his left hand. The patient developed a sore on the index finger of each hand, one of the sores appearing where he had cut his finger.

"The patient developed typical symptoms of tularemia on the day following the killing of the animal. A specimen of the patient's blood was taken and upon examination it was confirmed that the man was suffering from the disease."¹

In man, tularemia is likely to manifest itself first by pain, tenderness, and swelling of lymph glands draining the region where the infection has entered. An inflamed ulcer may develop. This may be accompanied by head aches, pains, chills, prostration, general weakness and fever.²

One attack of tularemia usually confers immunity to man. Though many individuals have died from the disease, most cases in humans are not fatal. They do, however, usually require a long period of recuperation.

The American Public Health Association Journal states: "In spite of some claims to the contrary, there is no specific preventive or curative treatment for the disease. Convalescence is slow. Weakness and disability may persist for 2 or 3 months. The mortality is about 5 per cent, mostly from the supervention of pneumonia."³

Prevalence of Tularemia

In 1939, 2,200 cases of tularemia were reported in the United States with approximately 150 deaths. Dr. Morris Fishbein, editor of the Journal of the American Medical Association, reports that a survey covering 20 large cities showed 145 cases in 1937, with five deaths; 212 cases in 1938, with 20 deaths, 188 cases in 1939, with 35 deaths. Altogether, these cities, with a population of 20,000,000, had 545 cases with 60 deaths.

Baltimore

The Baltimore Health Department reports that its experience with this disease in 1939 was alarming and the sharp increase in cases and deaths over previous years seemed due to the importation into Baltimore of diseased rabbits.

From 1931 through 1939 the recorded cases and deaths of rabbit fever in Baltimore have been as follows: 1931, 9 cases and no deaths; 1932, 11 cases and 3 deaths; 1933, 11 cases, 1 death; 1934, 17 cases, 4 deaths; 1935, 13 cases, no deaths; 1936, 14 cases, 1 death; 1937, 13 cases, 2 deaths; 1938, 13 cases, 3 deaths; and 1939, 31 cases, 8 deaths.

¹New York State Department of Health News Service release, November 27, 1939.

²*Ibid.*

³Vol. 30, October, 1940, p. 1229.

In Philadelphia, Pennsylvania, during 1939-40, 24 cases occurred. Sixteen of these people recovered, and eight died.

From July 1, 1929, when tularemia first became reportable in New York State, until January 1, 1941, 63 cases of the disease have been reported, as shown by the following table:

TABLE 42
TULAREMIA CASES REPORTED IN NEW YORK STATE

| Year | New York State | | New York City | | Rest of State | |
|-------------|----------------|--------|---------------|--------|---------------|--------|
| | Cases | Deaths | Cases | Deaths | Cases | Deaths |
| 1929 | — | — | — | — | — | — |
| 1930 | 2 | — | 1 | — | 1 | — |
| 1931 | 4 | — | 4 | — | — | — |
| 1932 | 9 | 1 | 2 | — | 7 | 1 |
| 1933 | — | — | — | — | — | — |
| 1934 | 3 | 1 | 2 | 1 | 1 | — |
| 1935 | 10 | 1 | 9 | 1 | 1 | — |
| 1936 | 16 | 1 | 13 | 1 | 3 | — |
| 1937 | 7 | — | 7 | — | — | — |
| 1938 | 2 | — | — | — | 2 | — |
| 1939 | 8 | — | 1 | — | 7 | — |
| 1940* | 2 | — | 2 | — | — | — |
| Total | 63 | 4 | 41 | 3 | 22 | 1 |

*Incomplete.

The New York State Health Department traced for this Commission the sources of infection of the 22 cases reported in this state, exclusive of New York City. The source of infection in each case is listed below:

| Cases | Sources of infection |
|-------|---------------------------------------|
| 8 | Rabbits purchased at market |
| 5 | New York State wild rabbits |
| 2 | New York State wild muskrats |
| 1 | A deer |
| 1 | Illinois wild rabbit |
| 1 | Laboratory rabbit shipped from Kansas |
| 1 | New York State wild fox |
| 1 | Deerfly bite (New York State) |
| 1 | Wood tick bite (Missouri) |

Control Measures

To prevent tularemia, persons should never handle the meat of wild rabbits with their bare hands. Preventions consist largely in protecting the hands and the body when dressing wild game, especially rabbits. Hunters particularly should be warned against handling a rabbit that was not active and lively, especially one that could be killed with a stick, as such rabbits are likely to be infected. Persons who handle rabbits should wear rubber gloves.

However, rubber will not completely protect because cases are known to have occurred in people who wore torn gloves and whose skin happened to be pierced by the skinning knife or by fragments of bone.

If the skin is injured while handling the meat of any kind of wild animal, the wound should be immediately washed with soap and water, and thereafter, an antiseptic solution should be applied.

Infected meat may be made by thorough cooking. Ordinary refrigeration will not destroy the tularemia germs.

Three states have passed laws to help prevent tularemia by regulating the purchase, sale or handling of meat of wild rabbits. Dr. Morris Fishbein, Editor, *Journal of the American Medical Association*, recommends adoption of similar legislation in each state.

Connecticut

Connecticut requires:

“No person shall transport into this state any wild hare or rabbit or liberate in this state any such animal which has been so transported, without a permit from the board. The board may quarantine any such animal imported into this state and may make rules and regulations as to importation and liberation of any such animal. Any person who shall violate any provision of this section or any rule or regulation made under any such provision shall be fined not more than one hundred dollars or imprisoned not more than thirty days or both.”¹

New Hampshire

The New Hampshire law, with typical Yankee terseness, declares:

“Wild hares and rabbits may not be bought and sold.”²

Ohio

Ohio has the following law: “Wild hares and wild rabbits, taken within or without the state, shall not be bought or sold at any time. Each wild hare or wild rabbit taken or had in possession, contrary to the provisions of this section, shall constitute a separate offense.”³

Baltimore

Baltimore in 1940 adopted an ordinance to prohibit the importation and sale of wild rabbits and wild hares in the city. The ordinance, in full, is as follows:

Whereas, A number of cases of tularemia has occurred in Baltimore some of which have been fatal, caused by the handling of wild rabbits; and

Whereas, A major outbreak of tularemia has occurred in Baltimore City during the latter part of 1939; and

¹Connecticut, General Statutes, 1930, Vol. 1, Sec. 3102.

²New Hampshire, Laws 1931, Cr. 40.

³Ohio, Code 1940, Sec. 1396, Subd. c.

Whereas, Every effort has been made to educate handlers and consumers of wild rabbits, cautioning them not to handle wild rabbits, such educational measures have included the distribution of circulars, notices in the daily papers and radio broadcasts; and

Whereas, There is no protective measure that can be taken to prevent the infection, no practical means of distinguishing between the infected and non-infected rabbit; therefore

Section 1. Be it ordained by the Mayor and City Council of Baltimore, That no person, firm or corporation shall bring or import into the City of Baltimore for sale any wild rabbits or wild hares, dead or alive, or shall sell or offer for sale any such imported wild rabbits or wild hares. Provided, however, that zoological gardens operated under public authority, or laboratories in which scientific research is being carried out, may receive or import rabbits in conformity with such rules and regulations as may be prescribed by the Commissioner of Health of the City of Baltimore.

Section 2. And be it further ordained, That this ordinance insofar as it prohibits the importation of wild rabbits and wild hares shall not apply to such rabbits or hares known as domesticated rabbits or hares, that have been bred and kept under supervision in properly maintained and sanitary rabbitries.

Section 3. And be it further ordained, That the Commissioner of Health of Baltimore City be and is hereby authorized and empowered to make and adopt such rules and regulations as he may deem proper and necessary for the enforcement of this ordinance and for the better protection of the health of the people of this city.

Section 4. And be it further ordained, That any person violating any of the provisions of this ordinance, or any rule or regulation made and adopted by the Commissioner of Health of Baltimore City in pursuance thereof, shall be guilty of a misdemeanor and shall be subject to a fine of not exceeding fifty dollars (\$50) for each offense, and the rabbits and hares so imported into the City of Baltimore shall be condemned by the Commissioner of Health or his authorized representative and disposed of in satisfactory compliance with the intent of this ordinance and regulations of the Commissioner of Health pertaining thereto.

Section 5. And be it further ordained, That this ordinance shall take effect November 15, 1940.¹

New York State's Problem

There are two aspects to control of the importation of rabbits and hares:

1. Regulation of the importation and sale of rabbits and hares for purposes of game; and

¹City ordinance 294, approved Oct. 30, 1940.

2. Regulation of the importation and sale of rabbits and hares for purposes of consumption.

The New York State Conservation Department, under the authority granted by Section 174 of the Conservation Law, requires permits for importation of rabbits and hares for game purposes; and the department does not grant permits to import such quadrupeds from states in which tularemia is prevalent.

On January 18, 1939, Mr. Gardiner Bump, Superintendent, New York State Bureau of Game, wrote to the Secretaries of all Sportsmen's Clubs and Federations in this state describing the reasons why the Conservation Department believed it of the utmost importance that those rabbits, which very well might be infected with the disease, be kept out of New York State. This letter was followed by another on November 22, 1939, which stated in part:

"We were particularly pleased at the general reaction of the sportsmen in giving wholehearted approval to the importation ban on cottontails since the move was designed not only to protect our own relatively disease-free rabbit population but also the future sport and the health of every individual concerned.

"As I pointed out in my previous letter, tularemia (like many another epidemic disease) is apt to fluctuate in intensity in direct relation to the abundance of its host—the cottontail in this case. As also was pointed out, reports from the Mid-Western states indicated early last winter that rabbit populations were reaching a peak. It was to be expected, therefore, that the tularemia infection was increasing apace. This proved definitely to be the case, according to the reports of the various state departments of health involved and led to the inescapable conclusion that the Mid-West was faced with a severe outbreak of tularemia, both in cottontails and in humans. Thus, the general importation ban was the only way out.

"As we said, the reaction of New York's sportsmen to this necessary taboo on imported rabbits was most gratifying. Everywhere, clubs and individuals were impressed with the seriousness of the situation. Organizations, which had restocked their own cottontails for years, cheerfully cancelled their plans.

"Only one misunderstanding was recorded. That was from a Kansas rabbit shipper who went to considerable pains to broadcast the story that tularemia was a myth and that no cases existed in his trapping territory. Such a report, however, is definitely at variance with the facts as reported by the Health Department of his own State.

"Realizing that an epidemic of tularemia might be expected to last for several seasons, as early as this September the Department launched a new investigation of the occurrence of this disease in the Mid-West. Reports indicated that cottontails had in many areas not reached their peak of abundance last year. Populations were reported even to have doubled in some areas (Missouri). Those

first reports, the Department felt, were significant of what health departments were likely to report later on. Again the assumption proved correct and it was found that tularemia in at least the three major cottontail shipping states had not abated over the previous year and, in fact, had even increased.

“Writes Dr. A. M. Washburn, Director of the Division for Communicable Disease Control in Arkansas: ‘Incidence (of tularemia) is continuing about the same as last year so far. We had a few more cases reported this year than last.’ (For your further information, only 22 cases of tularemia in humans were reported during 1937 in Arkansas against 121 last year. Up to September 1 of this year a total of 87 cases were listed as compared to 74 for the same period in 1938.)

“Dr. C. H. Kinnaman of the Kansas State Board of Health asserts: ‘. . . Tularemia cases reported so far in 1939 are on a par with 1938.’ (In 1938, Dr. Kinnaman reported a marked increase of the disease over previous years.)

“Writes Dr. John W. Williams, Director of the Division of Local Health Administration for Missouri: ‘. . . The total cases for the calendar year 1938 totaled 170. The total number of cases, up to September 1, 1938, was 33, while the total number of cases, up to September 1, 1939, was 43.’ (The number of tularemia cases during 1937 in Missouri was 87, less than half the number reported last year.)

“Dr. G. F. Mathews, Oklahoma Commissioner of Health, reports: ‘. . . The cases are pretty well scattered over the State. In 1938 a total of 50 cases were reported. In 1939, from January to August (8 months) 28 cases were reported.’ (It is indicated by the above report that, since December has shown the highest incidence of the disease in other states, the 1939 number of Oklahoma cases will exceed those reported last year.)

“From the above quotations it is obvious that tularemia in those states from which cottontails normally would be imported is at least as widespread as last year when the importation of cottontails was banned.

“Therefore, every thinking sportsman will agree that it again is of paramount necessity to halt the importation of cottontails until further notice. Once tularemia were introduced into our own rabbit populations, competent authorities assert that it would be difficult if not impossible to wipe it out. Thus it is entirely probable that the importation of cottontails, numbers of which certainly would be infected with tularemia or other diseases and parasites not found in our native rabbit populations, would result in a serious depletion of New York’s game crop rather than an increase.

“Incidentally, it is interesting to note, too, that there is an increasing number of individuals who question the value of importing cottontails at all except in the years of scarcity. The Department is not taking sides in this issue but has assigned a game

research investigator to make a careful study of this problem from all angles. In the meantime, reports from all sections of the State this year indicate cottontails to be more than normally abundant even though none was liberated last year.

"The money which has been set aside for the purchase of rabbits this year will again be expended for the purchase of additional adult pheasants. Last year in excess of 4,500 grown birds were bought and distributed throughout the State with the funds which were not expended on cottontails.

"In the meantime we are also studying the possibility that our own cottontails in this State may be trapped from areas where they are over-abundant and doing substantial damage for liberation in less populated regions.

"We ask and need your cooperation in again impressing the seriousness of this problem upon any sportsmen who may not be fully informed concerning the dangers of cottontail importations. Meantime we feel certain your helpfulness will bring added recreational opportunities to you and your club and that you agree thoroughly that your Department is pursuing the wisest possible course.

"As this letter is being issued, the report has come in regarding an authentic case of tularemia in Jefferson county which was contracted from a cottontail. You will remember that another case was reported in Wayne county last year. These are isolated cases and do not give us cause for any undue alarm. They emphasize again however the importance of taking every possible step to prevent the widespread infection of our own rabbit populations. We hope that, without any reintroduction of the disease, it will die out of its own accord. Certainly the infection is not widespread as yet in New York State."

A strange situation exists with regard to the importation of rabbits into this State.

1. Rabbits from infection centers are not permitted to be brought into this state for game purposes.
2. Rabbits from infection centers are permitted to be brought into this State for food purposes.

However, it is likely that should conditions warrant, the New York State Health Department, under its existing authority, could refuse admission to this state of slaughtered rabbits intended for food.

Following an outbreak of tularemia in New York City in December, 1936, in which about thirteen persons were involved, all receivers of wild rabbits agreed to a procedure for the handling and sale of wild rabbits. This procedure has been strictly adhered to by the trade and since that time only three additional cases of

tularemia have been reported, New York City Health Commissioner John L. Rice informs this Commission.

The procedure followed in New York City is outlined below:

1. Rabbits which are skinned and eviscerated before arrival in New York City may be sold without further inspection by this Department provided that they are clean and sound and fit for human consumption. It is suggested that each rabbit be properly wrapped in wax paper or other suitable wrapping paper at the source of skinning and eviscerating. They should be shipped in clean, suitable packages and preferably under refrigeration.

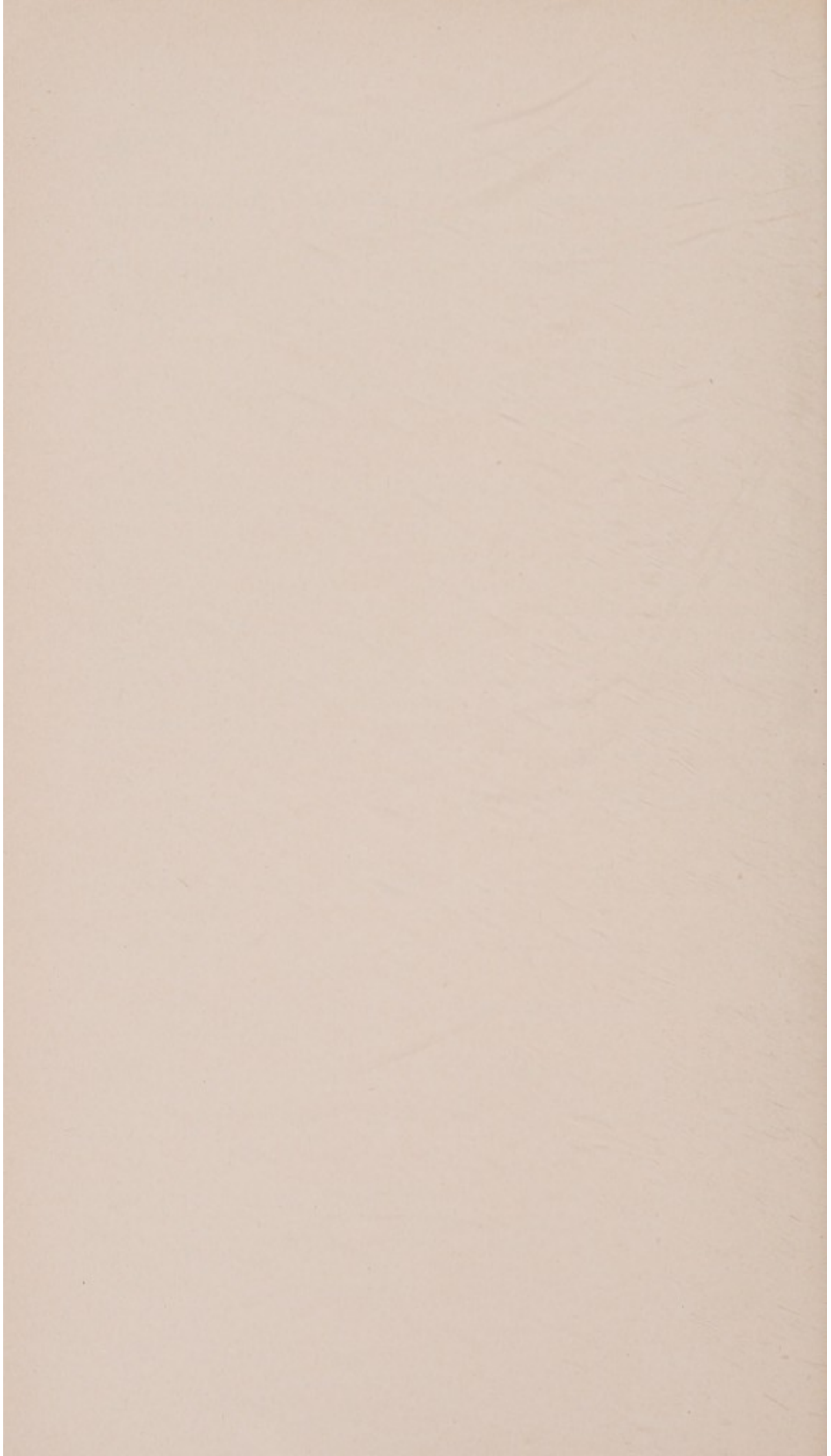
2. Rabbits may arrive in New York City unskinned and not eviscerated under the following condition:

That they be received at a central inspection station provided by the dealers in this product for inspection by this Department which will be furnished gratis. All other charges must be borne by the dealers.

Commissioner Rice says:

"The evisceration, skinning, washing and wrapping of the wild rabbits at point of origin, and their shipment in boxes, has greatly improved the wholesomeness of the product marketed here for the reason that it has tended to eliminate poor and emaciated animals; it is the emaciated animal that may be the infected one. The most important result, however, from this method of marketing wild rabbits is that it eliminates to a large extent the handling and contact with the rabbits on the part of butchers, chefs and housewives. It is the contact of the broken skin of the rabbit handler with the blood or bloody carcass of the infected animal that results in an infection. There are cases on record where contact of the infected blood with an apparently unbroken skin has caused an infection."¹

¹Extract from letter, February 11, 1941.



CHAPTER XII

MEAT INSPECTION

We Americans like meat. In fact, we are the largest consumers of meat in the world. The total amount of meat consumed yearly in this country is nearly 19 billions of pounds, or about 140 pounds per person. Meat is sold over the counters of 160,000 stores at the average rate of 16 tons per minute.

The Value of Meat

The American Meat Institute states: "Meat offers many advantages as the daily source of protein; it is almost completely digested by young and old alike, yielding its amino acids without appreciable loss; the protein of meat, in contradistinction to the proteins obtained from many other sources, is nutritionally adequate, supplying all known essential amino acids in quantities sufficient for growth and for tissue maintenance and replacement without adding undue bulk to the dietary. Many nutritionists assert that meat should be the primary source of protein for the human organism."

The Loop-Hole in Meat Inspection

From the hoof to the can, a large part of America's meat supply is guarded by Uncle Sam's able veterinarians. In packing houses, in slaughter houses, and on farms, the vigilant eyes of America's meat inspectors are alert to detect meat unfit to eat, meat unwholesome to consume, meat which does not conform to the rigid standards of the federal government.

Unfortunately, this condition is not true with respect to one third of the meat consumed in this country. Two thirds of the meat eaten in our country is federally inspected. But, one third of the meat consumed in the United States is sold without crossing a state boundary. Uncle Sam has no authority over this meat. No matter how putrid, no matter how badly infected or diseased, our federal government is powerless to prevent this meat from going into the channels of trade.

Purpose of Meat Inspection

Keeping these facts in mind, let us proceed to analyze some of the objectives of meat inspection.

The object of meat inspection is to assure the wholesomeness of meat sold for food. To be effective, it must:

1. Make certain that the meat is from edible species of animals.
2. Prevent the selling of flesh from animals considered unwholesome.
3. Prevent the slaughter of animals killed for food unless they are in suitable physiological condition.
4. Make certain that the animals are not diseased, especially with maladies transmissible to man or with those which may cause poisoning in the consumer.
5. Require the proper preservation and preparation of meat.

To attain these ends, it is necessary that official inspection of animals killed for food should be made before and after slaughter.

Dr. Benjamin Schwartz declares that an "effective system of meat inspection promotes public health (1) through the condemnation of parts of or entire carcasses of food animals containing parasites that are transmissible to man directly and indirectly; (2) through special processing for the destruction of trichinae, and of cysticerci not discoverable by microscopic examination; and (3) through the condemnation of parts of carcasses or of entire carcasses in which parasitic infestations not transmissible to man, but objectionable from esthetic and other standpoints, are so generalized that the parasites and lesions cannot be removed by trimming.

"Meat inspection is also an effective control measure for certain parasites, notably tapeworms, that occur as immature forms in edible portions of carcasses; through the condemnation of parts of carcasses so affected, the vicious cycle of these parasites is interrupted. Meat inspection must be regarded, therefore, as one of the important prophylactic measures for the control of parasites affecting livestock as well as human beings.

"Certain parasitic infestations transmissible from food animals to human beings cannot be controlled by meat inspection alone; however, a sound inspection system can and does contribute materially to control of certain parasitic infestations of man; in the absence of inspection these parasites would probably constitute a serious human health problem."¹

Federal Inspection

Federal meat inspection is now carried on in 646 establishments in 242 cities and towns. In the 1939 Agricultural Year Book, Dr. Edward C. Joss, who is in charge of the Meat Inspection Division of the United States Bureau of Animal Industry, describes the federal meat inspection problem in the following terms:

"Billions of pounds of meat foods are prepared annually in the United States under federal inspection to protect consumers where they cannot protect themselves.

"Inspection of meat by the federal government was first authorized by Congress in 1890. It was at first designed to satisfy a demand from European countries that American meats be officially

¹Zoological Problems Relating to Meat Inspection and Their Bearing on Public Health, Am. Jour. of Pub. Health, Vol. 29, Oct. 1939, pp. 1138-1139.

inspected before exportation. Subsequent statutes have improved the character and expanded the scope of the inspection until it now applies to about two thirds of the meat produced from cattle, sheep, swine and goats in the United States and to all consignments of meat foods offered for importation.

“Main purposes of the present system of inspection are to search out and destroy diseases and otherwise unfit meat; to see that meat and meat products are kept clean during the stages of preparation into articles of food; to guard against the use of harmful preservatives and other deleterious substances; to cause sound and wholemeat to be marked, ‘Inspected and Passed;’ and to prevent the use of false or deceptive labels and statements on meat foods offered for sale.

“Inasmuch as the authority of the federal government to inspect domestic meat foods is limited to the supply prepared for the channels or interstate and foreign commerce, the inspection service in practical application is restricted to the slaughtering and processing establishments that prepare meat or meat food products for transportation outside the state or territory. About two thirds of the Nation’s supply of beef, veal, mutton, lamb, pork and derived products is examined and its preparation and processing watched over by vets and lay inspectors of the Department of Agriculture. Primarily, their job is to protect consumers of inspected meat at places where they cannot protect themselves. The other third of the domestic supply, with the exception of that part which is adequately inspected under state and municipal authority, receives little or no official attention as to its fitness for human food.

“During the ten-year period, 1930-1939, there was an average annual slaughter of 72,244,260 animals at federally inspected establishments. In the same period the average number of carcasses condemned and destroyed annually was 230,741 and many hundred thousands parts of carcasses were likewise eliminated. Also, several thousand animals were annually found to be unfit for food purposes when submitted to veterinary examinations in the pens of the establishments and these were destroyed by official action.

“The inspection system is well rounded out through authority to continue the examination of meat for soundness and wholesomeness as long as it remains at an establishment where inspection is maintained. These supplemental inspections in the year 1939 included 8,440,446,161 pounds of meat and meat products and resulted in elimination of 5,338,945 pounds as unfit for food.

“The cost to the government of maintaining the federal inspection service for the 1939 fiscal year was 7.6 cents per animal inspected. On the basis of meat and meat food products the cost was about one thirty-ninth of a cent per pound.

“The statutory provisions against false and deceptive labelling of meat and meat food products is emphatic and the enforcement of this part of the law is given careful attention to prevent fraud and deception.

“Before federal inspection is granted to a slaughtering or processing plant, the plant is required to be so constructed, remodeled, equipped and otherwise arranged as to provide the means for the maintenance of proper sanitation, and the plant must be otherwise arranged to furnish facilities necessary for carrying on inspection. Some of the requirements are: Ample space for cleanly operations, abundant supply of potable water, predominance of impervious floors, smooth flat-surfaced walls, means for adequate lighting and ventilating, predominance of impervious material in equipment for handling meats, hot water under adequate pressure, modern plumbing, proper sewerage, pavement with drainage connections for livestock pens, and outside premises free from objectionable conditions.

“Of highest importance in all good systems of meat inspection are the removal from the food supply, and proper disposal, of badly diseased animals and meat. These procedures require the services of vets and technical assistants skilled in the work. Under the federal system, exams begin in the pens at the inspected establishments. Here unfit animals are condemned and promptly destroyed; those less affected are specially marked and placed apart for slaughter; while those appearing normal are allowed to proceed to the slaughter departments.

“Each animal passed on ante-mortem inspection—that is, before slaughtering—is subjected to the close scrutiny of the inspectors from the time it enters the slaughtering department until the dressed carcass is conveyed into the chill rooms. While the carcass is being dressed and eviscerated the inspectors search for lesions and signs of disease. The procedure of inspection of the carcass and its vital organs varies somewhat according to the species, but in each case the veterinary examination is carried to the point where the inspector is sure that he has found and eliminated any possible bad meat. In the event that disease or other sign of unfitness is present, the carcass and its organs are tagged and held in the custody of the inspector until disposition is made of them.

“Animals marked ‘suspect’ and held apart on ante-mortem inspection are slaughtered separately and in a manner to allow the inspector to make an extended examination, if necessary. All condemned carcasses and other condemned materials are so branded immediately and are held in the custody of the inspector until destroyed.

“Carcasses that pass the post-mortem inspection are imprinted with round stamps carrying an abbreviation of the phrase ‘U. S. Inspected and Passed’ and the number used officially to designate the establishment. These stamps constitute the government’s certification that the meat was derived from healthy animals and prepared under sanitary conditions.”

TABLE 43

ANTE-MORTEM AND POST-MORTEM INSPECTIONS OF ANIMALS
BY THE FEDERAL GOVERNMENT, FISCAL YEAR 1939

| Kind of animal | Ante-mortem inspection | | | | Post-mortem inspection | | |
|---------------------------|------------------------|------------------------|------------------------|------------|------------------------|------------------------|------------|
| | Passed | Suspected ¹ | Condemned ² | Total | Passed | Condemned ² | Total |
| Cattle..... | 9,449,813 | 91,425 | 3,064 | 9,544,302 | 9,486,009 | 55,229 | 9,541,238 |
| Calves..... | 5,368,419 | 7,208 | 2,851 | 5,378,478 | 5,366,490 | 17,015 | 5,383,505 |
| Sheep and lambs..... | 17,497,929 | 6,327 | 6,766 | 17,511,022 | 17,467,015 | 37,241 | 17,504,256 |
| Goats..... | 4,000 | 5 | 13 | 4,018 | 3,984 | 21 | 4,005 |
| Swine..... | 38,562,293 | 92,629 | 12,950 | 38,667,872 | 38,563,428 | 93,109 | 38,656,537 |
| Horses ³ | 28,102 | 56 | 105 | 28,263 | 27,980 | 178 | 28,158 |
| Total... | 70,910,556 | 197,650 | 25,749 | 71,133,955 | 70,914,906 | 202,793 | 71,117,699 |

¹ "Suspected" is used to designate animals suspected of being affected with disease or condition that may cause condemnation in whole or part on special post-mortem inspection.

² For causes and additional condemnations see tables 6 to 8 inclusive.

³ Horses are slaughtered and their meat handled and prepared in establishments separate and apart from those in which cattle, calves, sheep, goats, and swine are slaughtered and their meat handled and prepared.

TABLE 44

NUMBER OF ANIMALS CONDEMNED FOR VARIOUS DISEASES AND
CONDITIONS ON ANTE-MORTEM INSPECTION BY THE
FEDERAL GOVERNMENT, FISCAL YEAR 1939

| Cause of condemnation | Cattle | Calves | Sheep and lambs | Goats | Swine | Horses |
|--|--------|--------|-----------------|-------|--------|--------|
| Abscess..... | .. | .. | .. | .. | 18 | 2 |
| Anthrax..... | .. | .. | .. | .. | 1 | .. |
| Arthritis and other bone diseases... | .. | .. | .. | .. | 28 | .. |
| Dermatitis..... | .. | .. | .. | .. | .. | 1 |
| Dropsical diseases..... | 1 | .. | .. | .. | 1 | .. |
| Emaciation..... | 6 | .. | .. | .. | 73 | .. |
| Enteritis..... | .. | 1 | .. | .. | 4 | .. |
| Equine encephalomyelitis..... | .. | .. | .. | .. | .. | 1 |
| Hog cholera..... | .. | .. | .. | .. | 1,181 | .. |
| Immaturity..... | .. | 23 | .. | .. | .. | .. |
| Injuries..... | 2 | .. | .. | .. | 2 | .. |
| Mastitis..... | 3 | .. | .. | .. | .. | .. |
| Metritis..... | 8 | .. | .. | .. | .. | .. |
| Moribund ¹ | 2,946 | 2,823 | 6,759 | 13 | 10,623 | 100 |
| Pericarditis..... | 9 | .. | .. | .. | 1 | .. |
| Pneumonia..... | 31 | 2 | 7 | .. | 53 | .. |
| Pseudoleukemia..... | 1 | .. | .. | .. | .. | .. |
| Pyrexia..... | 12 | .. | .. | .. | 938 | .. |
| Septicemia and pyemia..... | 23 | 1 | .. | .. | 26 | .. |
| Tetanus..... | .. | 1 | .. | .. | .. | .. |
| Tumors, carcinomata, sarcomata, etc..... | 22 | .. | .. | .. | 1 | 1 |
| Total..... | 3,064 | 2,851 | 6,766 | 13 | 12,950 | 105 |

¹ Includes animals found dead in the ante-mortem pens at time of inspection.

TABLE 45

NUMBER OF CARCASSES CONDEMNED FOR VARIOUS DISEASES
AND CONDITIONS ON POST-MORTEM INSPECTION BY
THE FEDERAL GOVERNMENT, FISCAL YEAR 1939

| <i>Cause of condemnation</i> | <i>Cattle</i> | <i>Calves</i> | <i>Sheep and lambs</i> | <i>Goats</i> | <i>Swine</i> | <i>Horses</i> |
|--|---------------|---------------|--------------------------------|--------------|--------------|---------------|
| Actinomycosis..... | 909 | 85 | .. | .. | 3 | .. |
| Anaplasmosis..... | 75 | 7 | .. | .. | .. | .. |
| Anthrax..... | .. | .. | .. | .. | 148 | .. |
| Arthritis and other bone diseases... | 188 | 428 | 786 | .. | 8,314 | .. |
| Asphyxia..... | 2 | 11 | 14 | .. | 333 | .. |
| Blackleg..... | 12 | 3 | .. | .. | .. | .. |
| Caseous Lymphadenitis..... | .. | .. | 4,486 | 4 | .. | .. |
| Cellulitis..... | 1 | .. | .. | .. | 16 | .. |
| Contamination..... | 211 | 2 | 271 | .. | 1,612 | .. |
| Cysticercosis..... | 175 | 17 | 533 | .. | 53 | .. |
| Dropsical diseases..... | 71 | 4 | 18 | .. | 239 | .. |
| Emaciation..... | 5,899 | 2,846 | 9,223 | 9 | 320 | 7 |
| Equine encephalomyelitis..... | .. | .. | .. | .. | .. | 2 |
| Hog cholera..... | .. | .. | .. | .. | 14,641 | .. |
| Hydrocephalus..... | .. | .. | 3 | .. | .. | .. |
| Hydronephrosis..... | 6 | 1 | 1 | .. | 85 | .. |
| Icterus..... | 151 | 525 | 2,342 | .. | 4,731 | .. |
| Immaturity..... | .. | 5,103 | .. | .. | .. | .. |
| Influenza..... | .. | .. | .. | .. | 5 | .. |
| Injuries..... | 2,842 | 404 | 1,272 | .. | 1,828 | 9 |
| Johne's disease..... | 1 | .. | .. | .. | .. | .. |
| Melanosis..... | 55 | 99 | 97 | .. | 148 | 22 |
| Necrobacillosis..... | 10 | .. | .. | .. | .. | .. |
| Necrosis..... | 6 | .. | .. | .. | 5 | .. |
| Omphalophlebitis..... | .. | 156 | 1 | .. | .. | .. |
| Parasitic diseases..... | 136 | 3 | 30 | .. | 589 | .. |
| Pneumonia, pleurisy, enteritis, peri- tonitis, etc..... | 25,237 | 5,358 | 13,428 | 1 | 21,716 | 68 |
| Pregnancy and recent parturition... | 67 | .. | 62 | .. | 10 | .. |
| Pseudoleukemia..... | 1,399 | 49 | 15 | .. | 225 | 4 |
| Septicemia and pyemia..... | 9,919 | 1,679 | 3,348 | .. | 20,455 | 10 |
| Sexual odor..... | .. | .. | .. | 5 | 3,849 | .. |
| Skin diseases..... | 7 | 2 | .. | .. | 1 | .. |
| Splenetic fever..... | 7 | .. | .. | .. | .. | .. |
| Swine erysipelas..... | .. | .. | .. | .. | 92 | .. |
| Toxemia..... | 9 | 7 | .. | .. | 3 | .. |
| Tuberculosis..... | 3,254 | 65 | 28 | .. | 13,190 | .. |
| Tumors, carcinomata, sarcomata, etc..... | 4,321 | 117 | 271 | .. | 379 | 56 |
| Uremia..... | 247 | 44 | 1,012 | 2 | 119 | .. |
| Xanthosis..... | 12 | .. | .. | .. | .. | .. |
| Total..... | 55,229 | 17,015 | 37,241 | 21 | 93,109 | 178 |

TABLE 46

NUMBER OF PARTS OF CARCASSES¹ CONDEMNED FOR VARIOUS DISEASES AND CONDITIONS ON POST-MORTEM INSPECTION BY THE FEDERAL GOVERNMENT, FISCAL YEAR 1939

| Cause of condemnation | Parts of carcasses of— | | | | |
|--|------------------------|--------|-----------------|---------|--------|
| | Cattle | Calves | Sheep and lambs | Swine | Horses |
| Actinomycosis..... | 168,035 | 5,777 | .. | 2 | .. |
| Arthritis and other bone diseases..... | 27 | 4 | 85 | 118 | .. |
| Caseous lymphadenitis..... | .. | .. | 9 | .. | .. |
| Cellulitis..... | 11 | 1 | .. | 1,274 | .. |
| Contamination..... | 161 | 143 | 52 | 854 | .. |
| Hydrocephalus..... | 1 | 4 | .. | .. | .. |
| Injuries..... | 1,923 | 198 | 140 | 47,427 | 6 |
| Melanosis..... | 36 | 49 | 1 | 4 | 24 |
| Necrobacillosis..... | .. | .. | 10 | 1 | 1 |
| Necrosis..... | 45 | 2 | .. | .. | .. |
| Parasitic diseases..... | 10 | .. | .. | 2 | .. |
| Tuberculosis..... | 5,071 | 97 | .. | 193,847 | .. |
| Tumors and abscesses..... | 14,086 | 4,356 | 96 | 318,864 | 136 |
| Xanthosis..... | 30 | .. | .. | .. | .. |
| Total..... | 189,436 | 10,631 | 393 | 562,393 | 167 |

¹ In addition to the above parts, 986,510 cattle livers and 41,239 calf livers were condemned on post-mortem inspection.

What Steps Can the State Take?

New York State has no meat inspection service comparable to that of the federal government. It does not have the ante-mortem and post-mortem inspection needed for a sound meat inspection system. While the state now has the power to condemn meat as unfit for human consumption, this power alone is inadequate to protect properly the consumers of this state. At present, our municipalities are free to set up local meat inspection systems, if they wish. As will be shown later in this report, our local meat inspection system is seriously defective.

Since the federal meat inspection service extends to only a portion of the meat consumed in this state, the state might take one of the following steps:

1. Adopt a state-wide compulsory meat inspection system administered completely by the state.

2. Authorize state inspection in any plant desiring it.

3. Adopt a state-wide compulsory meat inspection system administered by local governments in accordance with regulations of the State Department of Agriculture and Markets, with the state engaging in meat inspection work in localities which do not have their own inspection service.

4. Require by law that each locality set up meat inspection service, subject to supervision by the State Department of Agriculture and Markets.

5. Adopt a purely optional state law providing for a local meat inspection system with desirable standards written into the statute.

6. Have the State Department of Agriculture and Markets draft a model local meat inspection act, and then have the department engage in an educational campaign to have the act adopted by local officials.

To determine which of these alternatives should be adopted by the state requires intensive study and research. This Commission concerned itself primarily with trichinosis, and was not, in the limited time available to it, able to make a thorough study of this problem. Meat inspection is of such importance to the people of this state that it warrants careful attention.

The California Meat Inspection System

California is the only state that has a sound meat inspection system. This Commission has made a cursory examination of the California meat inspection service. In California, 436 meat packing plants in 115 cities located in 36 counties are operating under state or state-approved meat inspection. In addition to its own state-administered inspection system, California has supervision over 14 approved municipal and county meat inspection systems. The cost of meat inspection in California is \$370,000 a year, paid in fees by the meat packers, slaughter houses and meat industry. The state bears the cost of the general, administrative and supervisory work connected with meat inspection and this amounts to \$40,000 a year. California meat inspection costs less than a cent per pound of meat slaughtered and processed.

The fee for a Veterinary Meat Inspector is \$283.20 per month; for an assistant Veterinary Meat Inspector, \$200.60 per month. These figures include not only salary but 18% added to cover workmen's compensation, vacation and sick relief, etc. In the case of small establishments, arrangements are made to assign one inspector to two or more places. California has 154 state meat inspectors.

Dr. A. G. Boyd, Assistant Chief, Division of Animal Industry of the California Department of Agriculture, rightfully boasts that California "takes more active interest in assuring the consuming public a wholesome meat supply than does any other state according to authorities throughout the country on meat hygiene."¹

The California meat inspection law requires that no establishment may be operated in the state for the purpose of slaughtering animals, or for the manufacturing of meat food products unless such establishment is operated under federal inspection, state inspection or approved municipal inspection. This requirement does not apply in counties having less than 27,000 population, except that any such county may be covered by the state meat inspection service if it agrees to pay for it.

¹Safeguarding California's Meat Supply, Department of Agriculture Bulletin, November, 1938.

Dr. Boyd gives us a picture of the California meat inspection system in the following words:

"The State Department of Agriculture, through the director, is charged with the responsibility of enforcing provisions of the agricultural code pertaining to meat inspection. This department also is required to approve and supervise municipal meat inspection, and the director is authorized to suspend inspection in any establishment either operating under state or state-approved municipal inspection when regulations are not complied with.

"Meat inspection as conducted in slaughtering and processing establishments under state supervision, in addition to sanitation, is concerned with the health of the animal just previous to and at the time of slaughter, as well as with the manner in which carcass and meat products are handled up to the time they reach the retail butcher shop.

"State, state-approved municipal, and federal meat inspection are conducted under the supervision of especially trained veterinarians. They work under regular supervision of supervising inspectors who travel from place to place and make frequent and irregular visits to official establishments to check the work of meat inspectors.

"The scope of the meat inspector's field is large. Each and every step in the abattoir comes under his eye. He is ever alert to detect conditions and abnormalities which require special attention. He determines whether a carcass shall be passed as wholesome for human food or condemned as unfit for food purposes.

"In recent years it has been learned that slaughtering and meat processing can be done in a sanitary manner only when the plant is properly constructed, equipped, and maintained; otherwise slaughtering animals and dressing their carcasses, and handling and processing meats would be messy and subject to more or less insanitary practices. Plant sanitation, therefore, is considered essential to modern meat inspection.

"This phase of meat inspection includes location, plan, specifications, remodeling, additions, and equipment of plants. The establishment inspector makes frequent inspections of the premises, buildings, drainage, light, water supply, ventilation, refrigeration, and methods used by employees. Particular attention is given also to the elimination of flies and rats.

"An inspector is assigned to duty in each establishment and no part of the establishment may operate except under his supervision. Additional inspectors are assigned to the large establishments where the volume of work is too great to be supervised properly by one inspector. Two or more of the very small establishments, each operating at a designated time, may be assigned to the supervision of one inspector.

"It would be interesting to one not familiar with the duties of a veterinary meat inspector to visit an official establishment and observe the inspector in his daily routine. In this way a very good idea would be obtained of the manner in which the meat supply is protected by the state. Visitors are welcome in these establishments. The inspector will be found on duty when the establishment is operating and it will be observed that he assumes official supervision. His first duty on arrival in the morning is to inspect the premises and various departments to determine if they are in suitable condition to begin operating. The inspector next examines the animals to be slaughtered. Among reasons for this ante-mortem inspection is the detection in animals of diseases and other abnormal conditions which may not be recognized on post-mortem examination when the meat, glands, and organs are examined.

"With mind and eyes trained to detect quickly abnormal conditions, and a knowledge of where they ordinarily are found in the anatomical structure of the animal, the inspector, when animals are slaughtered, conducts the post-mortem examination when the thoracic and abdominal organs and other tissues are exposed during evisceration of the carcass. The inspector views, palpates, and incises the various organs, tissues, and glands as required by

the State Meat Inspection Regulations. His education, technical training, and experience have taught him the procedure necessary for detecting lesions of disease.

"As a result of these examinations, the inspector may find conditions which warrant condemnation of the entire carcass and its organs. In such case, it is stamped with the condemned stamp and either tanked under steam pressure in the establishment and cooked into inedible grease or fertilizer, or is freely slashed and then denatured with a mixture of carbolic acid and sent to a public rendering works where it is cooked under steam pressure into inedible grease and fertilizer.

"It is not always necessary to condemn an entire carcass. Frequently the inspector will detect abnormal conditions such as bruised tissues entirely localized, or an organ containing parasitic lesions, or even an organ with lesions of some disease entirely localized. Under these circumstances, he will condemn and remove only the affected part or organ, and pass the balance of the carcass.

"The carcass and edible organs that are found wholesome and suitable for human consumption are then branded with the purple 'inspected and passed' stamp. This stamp also contains the official number of the establishment and is the state's guarantee that the meat came from healthy animals and was prepared under sanitary conditions.

"The vigilance of the inspector does not terminate with the stamping of the passed meat and organs after the post-mortem examination is completed. Following this, repeated re-inspections are made of the many cuts and parts through various steps of curing, preparing, packing, and labeling. This is done for the detection and condemnation of products that have become soiled, spoiled, and otherwise unfit, and also for enforcement of the regulations relating to adulteration and mislabeling of manufactured meat food products.

"Inspectors frequently collect and forward to the meat inspection laboratory samples of meat and products and of materials used in their curing and preparation. Such laboratory examinations are necessary to determine the presence of harmful preservatives and adulterants which may be added for fraudulent purposes. This applies especially to the addition of harmful preservatives to disguise the spoiled condition of meat, the detection of beef fat in lard, the utilization of cotton seed oil in various fats, the addition of artificial coloring to meat products, and the use of excessive amounts of starchy substances, particularly in connection with the preparation of sausage. Other examinations of a routine nature are made for excessive water in sausage, beef in pork products, rancidity of fats, analysis of gelatin, detection of nitrates and nitrites, and also such prohibited preservatives as sulphites, salicylates, formaldehyde, and boric acid.

"All trade labels used on meat and products thereof in counties where inspection is required must be approved by the department. Inspectors check to determine that only approved labels are used. Labels containing statements or designs which are false or misleading as to ingredients, quality, or origin are not approved. This protects both the public and the meat industry.

"State meat inspection is conducted by graduate veterinarians who have been especially trained in the detection of diseases, parasitic infestations, and other unwholesome conditions affecting meat producing animals. They must qualify for appointment by state civil service examination, and before being assigned to duty they are required to take special training under the guidance of experienced inspectors.

"The merits of meat inspection are self-evident to the live stock producer, the packer, and consumer. Inspectors have made it a point to demonstrate diseases to owners, explaining methods of eradication and prevention. Through this service the farmer has gained confidence in meat inspection work; the slaughterer profits because he is given an opportunity to meet honest competition, while the unscrupulous slaughterer can not be a competitor because his uninspected meat is outlawed on the market.

"New plants, improved plant facilities, latest methods of converting byproducts into marketable commodities, and new ideas on refrigerating problems are dealt with daily in the interest of the abattoir owner and advancement of the industry.

"That state meat inspection is conducted at a very low figure is evidenced by the fact that it has cost only a fraction of a cent a pound of meat slaughtered and processed annually to operate.

"While mentioning expense, it is of interest to relate that the entire cost of meat inspection other than the administration and supervision is financed through fees paid by the slaughterers and processors. Since meat inspection primarily is a public health undertaking, many operators and others feel this is an unfair burden and that the cost should be paid out of the general state treasury in accordance with the method now followed by the federal government in providing free inspection to those engaged in interstate business.

"Although a great deal is being accomplished to insure the majority of California consumers a disease-free and wholesome meat supply, many feel that since the inspection is a public health measure, inhabitants of the entire state, rather than those living only in certain counties, should receive the protection afforded by such inspection.

"There is no reason to believe that a smaller proportion of diseased animals is being slaughtered in uninspected plants. On the contrary, the proportion of diseased animals slaughtered in uninspected plants undoubtedly is greater than in inspected plants because known diseased animals are more likely to find their way into uninspected plants where they may be slaughtered and the meat sold for human consumption without restriction.

"Another matter of importance to consumers in the counties not now under inspection is in connection with the sanitary maintenance and operation of slaughtering and meat processing plants. In inspection areas the plant and operations are under the rigid scrutiny of inspectors while at uninspected plants there is no inspector present. As surveys of plants not under inspection have shown, animals are slaughtered and meat handled in many of them in a most unwholesome manner.

"When the Meat Inspection Law of 1931 was enacted, the reason for making inspection mandatory only in counties of 27,000 population and over was that slaughtering plants in other counties were so remote it was considered inspection could not be carried on without subjecting them to great expense. This no longer applies because inspection can be maintained in counties now exempt from compulsory meat inspection for a cost no greater than that in counties where inspection is mandatory; furthermore later amendment to the Agricultural Code provides for the exempting of plants located in remote sections of the county where in the opinion of the Director of Agriculture it would be impractical or impossible to assign an inspector."

Reporting on operations in the Division of Animal Industry, for 1939, Dr. Boyd declares:

"Nineteen thirty-nine was another record-breaking year in the number of animals slaughtered and the amount of meat food products prepared, as well as in the number of establishments operating under state and state-approved meat inspection.

"During the year 6,222,810 animals were slaughtered in the state which was 232,000 more than were slaughtered the previous year. In this connection it is of interest to note that the 1938 report showed 203,000 more animals slaughtered than in 1937.

"Approximately 93 per cent of meat food products consumed in California is produced under federal, state, or state approved municipal inspection. The remaining 7 per cent being exempt from inspection by law.

“At the close of the year there were 436 establishments operating under state or state-approved meat inspection; an increase of six over 1938. This inspection was conducted in 115 cities located in thirty-six counties. There were engaged in this activity 154 state inspectors. Present indications are that there will be an extension of inspection to additional counties during 1940 as it is expected the census will show some counties now classed as having population below 27,000 as having increased their population above that figure, and, therefore, subject to mandatory meat inspection.

“Continued progress has been made in sanitary facilities to handle meat and products thereof. During the year it has been possible to assign a supervising inspector to devote his full time to major improvements in meat plants. This service has proved of real value to the meat industry and has assisted materially in unifying construction.

Establishments Having State Inspection

“The high standard of inspection and sanitation in establishments operating under state inspection, as required by the law and regulations, has been maintained. In addition to new plants completed and others in course of construction a considerable amount of alterations and additions were made. Six years ago the Department undertook a state-wide program of sanitary improvements of meat plants. Because many places were found in poor condition, as a result of surveys made at the start of this program, it was necessary to classify plants into groups and to work out schedules of improvements and replacements, extending over a considerable period of time. As a result most of the meat plants have today been put in good condition; however, there still remain some places in need of considerable improvement.

“A problem which is involved in the inspection of meat plants is the need of constant and rather costly maintenance in order to insure proper working conditions and sanitation. The very nature of the business is such that without proper attention to maintenance plants deteriorate rapidly. It is of interest to note that many of the operators of newer meat plants have incorporated the latest and most durable materials and equipment as a matter of good business.

“A large number of drawings covering plans for construction were received and reviewed. This service is of material benefit to the builder and the Department. Duplicate copies of drawings are retained by the Department as a matter of record of construction work having to do with sanitary requirements and proper facilities for inspection.

“It was necessary to withdraw state inspection during the year from one establishment because the operators would not make necessary sanitary improvements.

Approved Departments

“The Department has supervision over fourteen approved municipal and county meat inspection systems, comprising 242 establishments. Only three approved departments conduct inspection in establishments doing slaughtering. The other eleven departments give attention only to processing establishments.

“During the year state supervising inspectors made numerous visits to establishments operating under approved departments or to places applying for state approval. One approved department was found to have an adequate number of inspectors to conduct properly the work. As a result of this, many plants operating under this approved department had not been receiving proper attention from the standpoint of inspection of meat and products and also from the sanitary aspect.

“Unfortunately, it has been difficult in some instances to effect proper enforcement of the state law and regulations in some places operating under approved inspection. Apparent resentment on the part of a few individuals to state supervision and a tendency to pass responsibility to the state, espe-

cially in the matter of major sanitary improvements, have contributed to this situation. It is gratifying, however, to report that much improvement was made in many places and several new plants under state approved inspection departments were completed during the year.

Labeling Meat and Meat Products

“Statements and designs on labels used on meat and products thereof which are false or misleading as to quality, ingredients or origin are forbidden to be used under the law and regulations. All labels are required to be sent to the Department for approval. Only those that conform with requirements are approved for use. During the year there were 1,435 labels submitted to the Department. Of these 1,275 were approved and 160 were disapproved.

“There is an increasing appreciation on the part of the consuming public and the meat industry for the need of regulating the use of labels. The Department has been able to give increased attention to this phase of the work during the year.

Inspection Fees Again Increased

“In conformity with the salary scale for Veterinary Meat Inspector set by the State Personnel Board which calls for annual increases of \$15 until the maximum salary of \$260 a month is reached, depending on length of service and efficiency of employee, it was necessary on July 1, 1939, to increase the schedule of fees paid the state by establishment operators using the services of this class of employee. On that date the fee rate was increased from a basic salary rate of \$210 for Veterinary Meat Inspector to \$225 a month plus an additional 15 per cent for overhead to cover relief for sick and vacation leave, as well as compensation insurance and retirement, making the full time fee \$258.75.

“Probably the most unpopular thing about the entire meat inspection work is the necessity for slaughterers and meat processors, operating under state meat inspection, to pay the state a monthly fee to cover the cost of inspection. This condition is aggravated somewhat by the need of revising the fee upward annually to take care of salary adjustments. It would appear, however, that the annual rate of increase will become less as the majority of the inspectors reach the maximum salary.

Slaughtering and Processing Summary

“The tables which follow include figures covering the annual slaughter under the various inspection systems as well as the estimated uninspected slaughter. There also is included a list of the number of animals condemned and the various diseases and conditions involved. The figures, however, do not include the amount of parts of carcasses condemned.

“During the year 85,828,052 pounds of meat food products were manufactured under state inspection and 100,358,385 pounds under approved inspection. The combined increase of meat food products over 1938 amounts to approximately 23,000,000 pounds. A total of 7,954,000 pounds of fresh and processed meats was condemned as unfit for human food in establishments operating under state and state-approved inspection.

“In establishments operating under state inspection there was a reduction of over one-half in the amount of meat condemned on account of tuberculosis for 1939 as compared with the previous year. A total of 942,353 pounds of meat was condemned in, state-inspected plants for tuberculosis; whereas, in 1938 there were 1,983,116 pounds condemned for this disease. This is a good illustration of but one of the economic benefits to the meat industry, livestock producers, and consumers resulting from the bovine tuberculosis eradication program which has been conducted in California jointly by the federal and state departments of agriculture during the past several years.

“Another compilation shows the tremendous losses as indicated by the figures relating to condemnation of livers on account of flukes. During the year 650,538 pounds of beef livers were condemned as unfit for human food because of the presence of flukes. The estimated value of these was \$81,338. It is reasonable to assume that the losses sustained in plants operating under federal and approved meat inspection were proportionately as large.”

TABLE 47

ANIMALS SLAUGHTERED IN CALIFORNIA UNDER FEDERAL,
STATE, AND STATE-APPROVED MUNICIPAL MEAT
INSPECTION PERIOD 1931-1939

| | Year | Cattle | Calves | Sheep | Swine | Total |
|-----------------------|------|---------|---------|-----------|---------|-----------|
| <i>State</i> | | | | | | |
| | 1931 | 274,166 | 208,286 | 801,059 | 522,348 | 1,805,859 |
| | 1932 | 405,981 | 289,046 | 1,120,464 | 749,139 | 2,564,630 |
| | 1933 | 479,898 | 341,617 | 1,097,934 | 916,146 | 2,835,595 |
| | 1934 | 604,132 | 379,276 | 1,028,481 | 743,372 | 2,755,261 |
| | 1935 | 602,587 | 345,002 | 1,255,878 | 502,796 | 2,706,263 |
| | 1936 | 650,647 | 370,498 | 1,241,889 | 616,292 | 2,879,326 |
| | 1937 | 702,104 | 408,030 | 1,244,473 | 688,804 | 3,043,411 |
| | 1938 | 720,219 | 397,479 | 1,480,204 | 791,692 | 3,389,594 |
| | 1939 | 688,349 | 390,788 | 1,420,011 | 945,565 | 3,444,713 |
| <i>State Approved</i> | | | | | | |
| | 1931 | 318,615 | 150,259 | 1,173,547 | 555,776 | 2,198,197 |
| | 1932 | 174,542 | 70,090 | 738,506 | 388,243 | 1,371,381 |
| | 1933 | 131,936 | 31,377 | 578,349 | 270,015 | 1,011,677 |
| | 1934 | 149,351 | 34,316 | 569,072 | 206,996 | 959,735 |
| | 1935 | 116,073 | 31,095 | 445,461 | 136,377 | 729,006 |
| | 1936 | 130,119 | 34,536 | 434,347 | 148,907 | 747,909 |
| | 1937 | 140,810 | 37,541 | 481,893 | 142,246 | 802,490 |
| | 1938 | 106,746 | 23,546 | 350,209 | 131,674 | 612,175 |
| | 1939 | 104,925 | 15,804 | 379,812 | 163,388 | 663,929 |
| <i>Federal</i> | | | | | | |
| | 1931 | 181,392 | 41,456 | 718,624 | 536,966 | 1,478,438 |
| | 1932 | 184,073 | 37,787 | 661,938 | 653,881 | 1,537,679 |
| | 1933 | 207,749 | 45,415 | 640,778 | 617,121 | 1,511,063 |
| | 1934 | 359,681 | 80,708 | 671,785 | 546,998 | 1,659,172 |
| | 1935 | 232,625 | 53,464 | 696,210 | 391,455 | 1,373,754 |
| | 1936 | 257,998 | 53,762 | 724,653 | 538,542 | 1,574,955 |
| | 1937 | 258,726 | 47,715 | 691,952 | 514,060 | 1,512,453 |
| | 1938 | 253,818 | 52,449 | 661,679 | 588,884 | 1,556,830 |
| | 1939 | 236,209 | 45,331 | 659,368 | 741,336 | 1,682,244 |

Grand total animals slaughtered under Federal, State, and State Approved Municipal Inspection during 1939 — 5,790,886.

TABLE 48

NUMBER OF ANIMALS SLAUGHTERED AT FEDERAL, STATE AND MUNICIPAL INSPECTED ESTABLISHMENTS IN 1939, CALIF., AND NUMBER OF WHOLE CARCASSES CONDEMNED; ALSO ESTIMATED NUMBER OF ANIMALS SLAUGHTERED IN UNINSPECTED ESTABLISHMENTS AND ON FARMS, AND ESTIMATED TOTAL NUMBER OF ANIMALS SLAUGHTERED

| <i>Inspection Departments</i> | <i>Cattle</i> | | <i>Calves</i> | | <i>Sheep</i> | | <i>Swine</i> | | <i>Goats</i> | |
|---------------------------------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
| | <i>Insp'd</i> | <i>Cond.</i> | <i>Insp'd</i> | <i>Cond.</i> | <i>Insp'd</i> | <i>Cond.</i> | <i>Insp'd</i> | <i>Cond.</i> | <i>Insp'd</i> | <i>Cond.</i> |
| Riverside City and County..... | 483 | 1 | 276 | .. | 318 | .. | 598 | .. | 101 | .. |
| San Diego County..... | 8,551 | 9 | 5,631 | 2 | 10,510 | 6 | 9,910 | 17 | 6 | .. |
| San Francisco City and County..... | 95,891 | 158 | 9,897 | 13 | 368,984 | 895 | 152,880 | 335 | 1,198 | 3 |
| Approved Municipal Inspection..... | 104,925 | 168 | 15,804 | 15 | 379,812 | 901 | 163,388 | 352 | 1,305 | 3 |
| State Inspection..... | 688,349 | 4,496 | 390,788 | 1,834 | 1,420,011 | 6,926 | 945,565 | 2,095 | 5,602 | 25 |
| Federal Inspection..... | 236,209 | 697 | 45,331 | 62 | 659,368 | 1,542 | 741,336 | 1,865 | 17 | 3 |
| Total Inspected Slaughter..... | 1,029,483 | 5,361 | 451,923 | 1,911 | 2,459,191 | 9,369 | 1,850,289 | 4,312 | 6,924 | 31 |
| *Estimated Uninspected Slaughter..... | 40,000 | .. | 65,000 | .. | 175,000 | .. | 145,000 | .. | .. | .. |
| Estimated Total..... | 1,069,483 | 5,361 | 516,923 | 1,911 | 2,634,191 | 9,369 | 1,995,289 | 4,312 | 6,924 | 31 |

* Estimated Uninspected Slaughter includes the following:

Animals slaughtered on farms.

Animals slaughtered in uninspected slaughtering establishments located in counties of less than 27,000 population, in which compulsory meat inspection is not operative.

TABLE 49
NUMBER OF ANIMALS CONDEMNED FOR VARIOUS DISEASES — STATE INSPECTION (CAL.) — 1939

| Disease | Cattle | | Calves | | Sheep | | Swine | | Goats | | Total | |
|---|--------|-----------|--------|---------|-------|---------|-------|---------|-------|------|--------|-----------|
| | Carc. | Lbs. | Carc. | Lbs. | Carc. | Lbs. | Carc. | Lbs. | Carc. | Lbs. | Carc. | Lbs. |
| Actinomycosis..... | 35 | 15,015 | 2 | 146 | 1 | 40 | .. | .. | .. | .. | 38 | 15,201 |
| Anaplasmosis..... | 32 | 14,842 | 1 | 130 | .. | .. | .. | .. | .. | .. | 33 | 14,972 |
| Arthritis and other Bone Diseases..... | 39 | 16,395 | 16 | 1,525 | 257 | 9,720 | 277 | 43,264 | .. | .. | 589 | 70,904 |
| Asphyxia..... | 1 | 620 | .. | .. | 15 | 838 | 11 | 1,861 | .. | .. | 27 | 3,319 |
| Blackleg..... | 1 | 400 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 400 |
| Carditis..... | 538 | 244,595 | 5 | 915 | 19 | 981 | 12 | 1,952 | .. | .. | 574 | 248,443 |
| Caseous Lymphadenitis..... | .. | .. | .. | .. | 3,069 | 134,111 | .. | .. | .. | .. | 3,069 | 134,111 |
| Coccidioidal Granuloma..... | 5 | 2,581 | .. | .. | .. | .. | .. | .. | .. | 5 | 2,581 | |
| Contamination..... | 4 | 1,663 | 3 | 330 | 6 | 330 | 1 | 125 | .. | .. | 14 | 2,448 |
| Cysticercosis..... | 26 | 12,774 | .. | .. | 46 | 1,918 | 6 | 810 | .. | .. | 78 | 15,502 |
| Cystitis..... | 3 | 1,607 | 3 | 290 | 2 | 70 | .. | .. | .. | .. | 8 | 1,967 |
| Dropsical Diseases..... | 13 | 6,042 | 2 | 350 | 19 | 819 | 20 | 3,023 | .. | .. | 54 | 10,234 |
| Emaciation..... | 424 | 144,036 | 32 | 2,724 | 2,041 | 73,916 | 6 | 623 | 19 | 595 | 2,522 | 221,894 |
| Hemorrhagic Septicemia..... | 7 | 4,200 | .. | .. | .. | .. | 6 | 900 | .. | .. | 13 | 5,100 |
| Hepatitis..... | 1 | 400 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 705 |
| Hog Cholera..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Icterus..... | 39 | 18,130 | .. | .. | .. | .. | 157 | 21,547 | .. | .. | 157 | 21,547 |
| Icterohemoglobinurea..... | 1 | 800 | 5 | 545 | 207 | 8,806 | 192 | 29,118 | 1 | 40 | 444 | 56,639 |
| Immaturity..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Injuries..... | 183 | 80,141 | 1,410 | 86,837 | .. | .. | .. | .. | .. | .. | 1,410 | 86,837 |
| Leukemia..... | 27 | 11,370 | 14 | 1,447 | 87 | 4,020 | 36 | 6,063 | .. | .. | 320 | 91,671 |
| Malignant Edema..... | 1 | 450 | 1 | 90 | .. | .. | 2 | 297 | .. | .. | 30 | 11,766 |
| Melanosis..... | 1 | 395 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 450 |
| Metritis..... | 176 | 80,414 | .. | .. | 32 | 1,631 | 16 | 2,935 | 1 | 20 | 225 | 85,000 |
| Miscellaneous..... | 7 | 3,373 | 16 | 1,555 | 11 | 501 | 4 | 598 | .. | .. | 11 | 3,971 |
| Nephritis..... | 46 | 21,962 | 36 | 2,900 | .. | .. | 20 | 3,449 | .. | .. | 93 | 27,467 |
| Omphalophlebitis..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 36 | 2,900 |
| Parasitic Diseases..... | .. | .. | .. | .. | .. | .. | 1 | 152 | .. | .. | 1 | 152 |
| Pneumonia, Pleurisy, Enteritis, Peritonitis, etc..... | 461 | 198,949 | 178 | 18,095 | 769 | 32,920 | 384 | 60,330 | 2 | 55 | 1,794 | 310,349 |
| Pregnancy and Recent Parturition..... | 36 | 17,365 | 6 | 287 | 6 | 287 | .. | .. | .. | .. | 42 | 17,652 |
| Sarcosporidiosis..... | 3 | 1,690 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1,690 |
| Septicemia and Pyemia..... | 1,070 | 459,972 | 64 | 7,340 | 316 | 15,180 | 353 | 56,738 | 1 | 30 | 1,804 | 539,260 |
| Sexual Odor..... | .. | .. | .. | .. | 5 | 440 | 29 | 8,405 | 1 | 40 | 35 | 8,885 |
| Skin Diseases..... | 1 | 462 | .. | .. | .. | .. | 25 | 4,058 | .. | .. | 26 | 4,520 |
| Toxemia..... | 4 | 1,988 | .. | .. | .. | .. | 2 | 275 | .. | .. | 22 | 2,948 |
| Tuberculosis..... | 1,290 | 577,900 | 46 | 6,142 | .. | .. | 528 | 88,791 | .. | .. | 1,864 | 672,833 |
| Tumors, Carcinomata, Sarcomata, etc..... | 21 | 8,997 | .. | .. | .. | .. | 3 | 450 | .. | .. | 24 | 9,447 |
| Total..... | 4,496 | 1,949,537 | 1,834 | 131,361 | 6,926 | 287,313 | 2,095 | 336,359 | 25 | 780 | 15,376 | 2,705,350 |

The California Meat Inspection Law, in full, provides:

MEAT INSPECTION*

GENERAL PROVISIONS

Title

1. This act shall be known and may be cited as the "Agricultural Code."

Definitions

2. As used in this code, unless otherwise apparent from the context:
 - (a) The present tense includes the past and future tenses; and the future, the present.
 - (b) The masculine gender includes the feminine and neuter.
 - (c) The singular number includes the plural, and the plural the singular.
 - (d) "Department" means the Department of Agriculture of the State of California.
 - (e) "Director" means the Director of Agriculture of the State of California.
 - (f) "Commissioner" means any county agricultural commissioner.
 - (g) "Section" means a section of this code unless some other statute is specifically mentioned.
 - (h) "County" includes city and county.
 - (i) "Person" includes firm, corporation, company, or association.
 - (j) "Sell" includes "offer for sale," "expose for sale," "have in possession for sale," "Exchange," "barter" or "trade."

Construction and Effect

3. The provisions of this code, in so far as they are substantially the same as existing law, shall be construed as continuations thereof, and not as new enactments.
4. All persons who, at the time this code goes into effect, hold office under any of the acts repealed by this code, which offices are continued by this code, continue to hold the same according to the former tenure thereof.
5. No action or proceeding commenced before this code takes effect, and no right accrued, is affected by the provisions of this code, but all procedure thereafter taken therein shall conform to the provisions of this code so far as possible.

Enforcement

6. Any person in whom the enforcement of any provision of this code is vested has the power of a peace officer as to such enforcement.

Prosecution

7. The district attorney of any county in which a violation of any provision of this code occurs shall, upon request of any enforcing officer or other interested person, prosecute such violation; and the prosecutor of any municipality has concurrent jurisdiction as to any violation committed within his territorial jurisdiction.

General Provisions

8. Unless a different penalty is expressly provided, a violation of any provision of this code is a misdemeanor.
9. Whenever any notice, report, statement or record is required by this code it shall be in writing unless it is expressly provided that it may be oral.
10. Whenever any notice, report, statement or record is required by this code to be kept or made in writing it shall be in the English language.

*Extracts from the Agricultural Code, Chapter 25, Statutes 1933, with additions made by 1937 Legislature.

11. Unless otherwise specifically provided, whenever any document is required or permitted by this code to be recorded it shall be recorded in the office of the county recorder of the county in which the property or thing affected is situated.

12. Whenever any power or authority is given by any provision of this code to any person it may be exercised by any deputy, inspector, or agent duly authorized by him unless it is expressly provided that it shall be exercised in person.

13. Whenever any reference is made to any section of this code or to any other law, such reference shall apply to all amendments and additions thereto.

14. As used in this code the word "shall" is mandatory, and the word "may" is permissive.

15. The director may enter upon any premises to inspect the same or any plant, appliance or thing thereon.

Rules and Regulations Authorized

16. The director is hereby authorized to promulgate and adopt rules and regulations for carrying out those provisions of this code which he is directed and authorized to administer or enforce.

DIVISION III

ANIMALS

CHAPTER 1. SLAUGHTERED ANIMALS

Article 1. Meat Inspection

Definitions

301. As used in this article:

(a) "Federal inspection" means the meat inspection maintained by the Bureau of Animal Industry of the United States Department of Agriculture.

(b) "State inspection" means the meat inspection maintained by the Department.

(c) "Municipal inspection" means the meat inspection department of each county or each chartered or incorporated city, whose inspection is performed by persons who have passed a regular civil service meat or market inspector's examination or who have been continuously employed since January 1, 1929, and who hold license from the state to practice veterinary science and whose inspection is performed according to meat inspection regulations equivalent, in health value and protection to the public, to those adopted by the Bureau of Animal Industry of the United States Department of Agriculture.

(d) "Health authority" means the health officer, the chief of meat inspection, or other official designated by the health officer of any city or county of the state.

(e) "Establishments" includes all premises where animals are slaughtered or otherwise prepared for food purposes, meat canneries, sausage factories, curing and smoke houses, and similar places.

(f) "Animals" means cattle, swine, sheep, goats and other large domesticated mammals, but does not include small species such as dogs, cats, and rabbits.

(g) "Slaughter" means kill and prepare for human consumption.

Municipal Inspection Departments

302. Recognition is hereby extended to the various municipal inspection departments now existing or which may hereafter be inaugurated in the state.

Stamp

303. Upon the approval by the director of an establishment operating under municipal inspection, there may be added to the stamp in use in said establishment the words "Cal. approved." Such stamp shall be accorded the same recognition as "Cal. inspected and passed." The director in his supervision of approved municipal inspection departments, or establishments, shall transmit all orders to such establishments through local health authorities.

Labeling

303.1. When any meat or meat food product that has been inspected as provided by this article and marked "Inspected and Passed," shall be placed or packed in any can, pot, tin, canvas, or other receptacle or covering in any establishment where inspection under the provisions of this article is maintained, the person preparing said meat or meat food product shall cause a label to be attached to said can, pot, tin, canvas, or other receptacle or covering under the supervision of an inspector, which label shall state that the contents thereof have been "Inspected and Passed" under the provisions of this article; and no inspection of meat or meat food product deposited or enclosed in a can, pot, tin, canvas, or other receptacle or covering in any establishment where inspection is maintained under the provisions of this article shall be deemed to be complete until such meat or meat food product has been sealed, enclosed in said can, pot, tin, canvas, or other receptacle or covering under supervision of an inspector; and no such meat or meat food product shall be sold by any person in the State of California under any false or deceptive name; but established trade names that are usual to such products and which are not false or deceptive, and which shall be approved by the director are permitted. The director shall confiscate and cause to be destroyed all such labels that are found to be false or deceptive.

(Added by Ch. 862, Stats. 1937.)

Requirements

304. The requirements which must be met by establishments under municipal inspection shall not be higher than the general average actually in force in establishments having state inspection.

Inspection Required

305. No establishment may be operated in the state for the purpose of slaughtering animals, or for the manufacture of meat food products unless such establishment is operated under Federal inspection, state inspection, or approved municipal inspection. No dressed carcasses of animals intended for food purposes, parts thereof, prepared meats or meat food products shall be sold within the state unless the same shall bear the "Inspected and Passed" stamp of an establishment operating under Federal inspection, state inspection, or approved municipal inspection.

This section shall be effective only in counties having a population of 27,000 or over.

Optional Inspection

306. In counties where inspection is not mandatory state inspection may be conducted by the department whenever requested and paid for. Whenever such inspection is requested by the governing body of any county or city and such inspection is inaugurated the provisions of this article shall apply throughout such county or city, as the case may be.

307. Nothing in this article prohibits:

Exemptions from Inspection, Certificate

(a) A livestock producer from slaughtering animals on his own premises that are a part of his own herd for his own consumption or from disposing

of the carcasses and products of those animals thus slaughtered, provided they can be identified as such, and are sound, healthful, wholesome, and fit for human food, and are disposed of in his locality; when cattle, sheep, swine or goats are sold by said producer in the vicinity where produced and slaughtered there shall be attached to said meat or meat products a statement giving substantially the following:

I hereby certify that the uninspected meat (or meat products as the case may be) to which this certificate is attached is from animals slaughtered by the undersigned, a farmer, on his farm and that at this date it is sound, healthful, wholesome, and fit for human food.

(b) A livestock producer or dairyman from slaughtering upon his own premises calves under the age of eight months which are the actual increase of his own herd, if the calves are accompanied by a certificate of ownership, offered for inspection at any point where inspection is maintained in accordance with regulations issued by the director, and are marketed by whole carcass with hide on.

(c) The slaughter of animals of the bovine species under the age of eight months in establishments which meet the sanitary requirements of the department and shipment thereof to counties where state inspection or approved municipal or county inspection is maintained, and said animals so slaughtered shall there be inspected and the carcasses stamped.

(d) Any butcher located in a remote section of a county in which the inspection provisions of this article are mandatory, when in the opinion of the director it is impractical or impossible to assign an inspector, may, upon written application, be granted an exemption certificate to be used in accordance with the regulations of the director; provided, that the meat of animals slaughtered in accordance with such exemption shall be offered for sale only in the immediate locality where the animals were slaughtered.

The certificate must be renewed the first day of January of each year.

Should facilities for inspection become available at any time, the director is empowered to withdraw such exemption certificate. The director is also empowered to withdraw such exemption certificate when, in his opinion, the person to whom the same is issued has not complied with the rules and regulations pertaining to the use thereof.

Inspectors

308. For the purpose of this article, the director may employ persons who have passed a civil service meat or market inspector's examination and are skilled in the inspection of meats and meat food products for wholesomeness and healthfulness, and necessary additional employees, and he may utilize in the enforcement of this article any employee, agent or equipment of the department.

Hours for Slaughtering

309. No animal shall be slaughtered for food purposes in the state except between the hours of 7 o'clock A. M. and 8 o'clock P. M. of any one week day and slaughtering is forbidden on Sundays and legal holidays, unless a special permit in writing is issued by the director or a local health authority.

Ante-Mortem Inspection

310. When it is deemed necessary, in order to safeguard the public health, the director shall cause to be made an ante-mortem inspection of any animals before they are slaughtered for food purposes. Satisfactory facilities shall be provided for conducting such inspection and for separating from the passed animals those deemed unfit for immediate slaughter. If any owner or person in charge is about to slaughter for food purposes any animal which the department believes may be affected with disease, the director shall notify

the owner or person in charge of said animals to refrain from slaughtering them for food purposes until the ante-mortem examination is completed. Any owner or person slaughtering animals for food purposes after such notification by the director shall be guilty of a misdemeanor. No owner or person shall be required to refrain from slaughtering animals for a period longer than seventy-two hours.

Post-mortem Inspection

311. The director may provide post-mortem inspection of all animals slaughtered for food purposes in any establishment in the state. The head, tongue, tail, thymus glands, viscera, and other parts and blood used in the preparation of meat food, meat food products, or medicinal products shall be retained in such a manner as to preserve their identity until after the post-mortem examination has been completed. Carcasses and parts thereof found to be sound, healthful and wholesome after inspection and otherwise fit for human food shall be passed and may be marked in the following manner: "Cal. inspected and passed," or with the inspection legend of an approved municipal inspection department, to which has been added the words "Cal. approved." This mark may also include any number given the establishment. Each carcass or part thereof which is found on post-mortem inspection to be unsound, unhealthful, unwholesome, or otherwise unfit for human food, shall be marked conspicuously by the inspector at the time of inspection with the words, "Cal. inspected and condemned," or with the condemned brand of an approved municipal inspection department and such carcasses or parts thereof, under the supervision of the inspector, shall be rendered unfit for human consumption in a manner approved by the director.

Unstamped Meat

311.1. Inasmuch as it can not be determined for certain, by any present known method of inspection, whether meat is unwholesome unless the organs and other tissues of an animal are inspected when slaughtered, and as meat and products thereof from uninspected animals may be unfit for human food, the director shall seize and destroy for human food purposes any meat or meat food product that does not bear the "Inspected and Passed" stamp, brand, mark, or label, as provided by this article; provided nothing herein shall affect the transportation of dead and condemned carcasses of animals to rendering plants; nor the transportation of dressed carcasses of calves for inspection to points where inspection is maintained in accordance with the provisions of this article; nor meat or meat products to which a statement is attached in accordance with the provisions of section 307, paragraph (a) of this article.

Application for Inspection Service, Fee and Deposit

312. Any person desiring to engage in slaughtering animals or manufacturing meat food products for human consumption in any county of the state, in which section 305 is effective shall apply to the director or the local health authority for the inauguration of an inspection service in the establishment where said animals are to be slaughtered or meat food products manufactured. Such application shall be in writing, addressed to the director or local health authority, on blanks furnished by the department or municipal inspection department. In such application the applicant for inspection shall agree to comply with the provisions of this article and to maintain said establishment in a clean and sanitary manner. Upon receipt of said application, the director or local health authority shall make an inspection of said establishment and if found clean and sanitary, and properly equipped to conduct its business in accordance with the rules and regulations of the department, the director or local health authority shall inaugurate an inspection service therein, and shall give to such establishment an official number, to be used to mark the meat and meat food products of this establishment as provided in this section.

Such establishment shall thereafter be known as "official establishment No. _____," and shall pay for such inspection service a fee in the amount designated by the director or the municipal inspection department having jurisdiction. Such fee paid by any establishment under state inspection shall be credited to the Department of Agriculture fund, and shall be sufficient to cover the total salaries, traveling expenses and premiums on account of workmen's compensation insurance of all inspectors in such establishment. All such fees shall be paid monthly in advance. Each establishment under state inspection shall deposit with the director one-half of the amount of one month's inspection fee to be held in trust by the director to be applied on any fee due the state in the event the establishment discontinues inspection or inspection is suspended for nonpayment of fee. In lieu of such deposit an establishment may file a bond for like amount, satisfactory to the director.

Transportation of Dressed Carcasses

313. The dressed carcasses of all animals intended for human consumption, parts thereof, meats, or meat food products, inspected and marked in accordance with this article, may be transported or sold anywhere in the state without restriction, except that imposed upon meat or meat food products bearing the inspection stamp of the United States Department of Agriculture.

Unlawful Possession of Inspection Stamps

314. It is unlawful for any person, except employees of the United States Department of Agriculture, the department or a municipal inspection department, to possess, keep, or use any mark, stamp, or brand provided or used for marking, stamping, or branding the carcass of any animal, parts thereof, meats or meat food products, or to possess, keep, or use any mark, stamp, or brand having thereon a device or words the same or similar in character or import to the marks, stamps, or brands provided or used by the United States Department of Agriculture, the department or of any municipal inspection department for marking, stamping, or branding the carcasses of animals or parts thereof intended for food purposes, meats, or meat food products.

Rules and Regulations

315. The director shall make rules and regulations necessary for the execution of this article. Such rules and regulations shall conform so far as possible to the rules governing meat inspection of the United States Department of Agriculture.

Sanitary Requirements

316. Every establishment in California, where animals are slaughtered or where meat or meat food products are prepared or processed for human consumption, shall be maintained and operated in a clean and sanitary manner and inspection conducted in accordance with the provisions of this article and the regulations of the director, and in the event that an establishment is not so maintained and operated the director may suspend inspection in any establishment having state inspection or municipal inspection.

317. It is unlawful to maintain a slaughterhouse that is unclean or insanitary.

Dyes and Artificial Coloring

318. It is unlawful to sell any meat or products thereof, sausage casings, or other casings that contain dye or artificial coloring.

For the purpose of this article any meat, products thereof, sausage casings, or other casings that contain any dye or artificial colorings shall be deemed adulterated, and the director shall render the same unfit for human consumption with a suitable denaturing agent.

(Added by Ch. 170, Stats. 1935.)

Retailers' Exemptions

319. Nothing contained in this article shall restrict or prevent a retail meat market as a part of its retail meat business and as a consequence of same or as an incident to same, from making or preparing or selling prepared meat, or meat food products that are made or prepared on its own premises from meats which bear the inspected and passed stamp of Federal inspection, state inspection or approved municipal inspection; provided, that said prepared meat or meat food products are sold on the premises of said retail meat market and are not made or prepared by cooking or drying. No application is required of such retail meat markets, or the owners or operators thereof for the inspection service provided for in this article and no such inspection service is required to enable them to make, prepare or sell such prepared meat or meat food products. Nothing contained in this article shall prohibit a retail meat market from selling or offering for sale meat, prepared meat, meat products, or meat food products which bear the inspected and passed stamp of Federal inspection, state inspection or approved municipal inspection.

(Added by Ch. 251, Stats. 1939.)

Pennsylvania Meat Inspection

The State of Pennsylvania does not have a compulsory meat inspection act. Compulsory meat inspection has been adopted in ordinances by many of the larger cities of Pennsylvania. The state does, however, have a Meat Hygiene Act which gives the State Department of Agriculture authority to maintain state meat inspection upon request of a slaughter house or packing house. The abattoir inspection is paid for by the Company and the inspector is furnished by the state. About thirty-five abattoirs now are operating under state supervision, and the Pennsylvania Bureau of Animal Industry informs this Commission that the plan is working out very well.

The Pennsylvania procedure is as follows:

An abattoir wishing to sell meats into the various cities having compulsory meat inspection ordinances applies to the Bureau of Animal Industry for official state inspection. An agreement is signed with the Bureau specifying certain terms and rules which they agree to abide by. An inspector whose qualifications and integrity have been approved by the Bureau of Animal Industry is then assigned to this plant for duty. The inspector makes a daily report of all activities to the Bureau and acts in the capacity of a Bureau agent. The only difference being the abattoir company pays the salary.

These inspectors are under the supervision of state Meat Hygiene Agents, and if they are found to be inefficient by these agents, they can be removed from their positions.

The agreement required from abattoirs states:

In consideration of your maintaining official meat inspection at our establishment under the supervision of the Bureau of Animal Industry of your Department, we agree to and will carry out the following requirements:

(1) To employ a competent and experienced Veterinary Meat Inspector, at our expense, who shall first be approved by your Department. The salary of said inspector shall be such sum as may be agreed upon by the inspector and the officials of our establishment and then reported to your Department.

(2) To keep and operate our establishment in clean and sanitary condition in accordance with the requirements of the Pennsylvania Meat Hygiene Law which we have read and becomes a part of this agreement.

(3) To provide such arrangements and equipment as may be necessary to facilitate the work of inspection.

(4) To do no slaughtering while the inspector is absent from the killing floor. Also to purchase no meats of any kind, whatever, except those produced under state or Federal supervision; and to notify the inspector in charge immediately upon arrival of such purchases for his examination.

(5) To report promptly to your Department any improper conduct or omission of duty by the inspector.

It shall be discretionary with the office of the Director of the Bureau of Animal Industry to rescind this agreement if any of the above clauses are violated.

Pennsylvania meat inspectors work under the following instructions:

In order to establish uniform inspection in all state inspected abattoirs it shall be the duty of all inspectors to proceed as follows:

1. Make ante-mortem and post-mortem examinations of all animals presented for slaughter. The temperatures of "downers and suspects" should be carefully taken.

2. Supervise sanitation of entire plant—including killing floor, sausage manufacturing room, curing rooms, stables, pens, dressing rooms, toilets, delivery trucks, etc.

Inspection must not begin if the killing floor is in an insanitary condition and clean receptacles, racks or facilities are not placed to properly take care of edible offal such as hearts, livers, heads, tongues, etc.

Necessary equipment for the sanitary handling of condemned carcasses or parts must be properly placed.

3. The water supply must be clean, ample and potable, and the condition of storage tanks shall be checked from time to time.

4. Employees' garments and tools are to be kept as clean as possible.

5. Uninspected carcasses, cuts, parts and meats either fresh or cured will not be admitted to establishments operating under state inspection.

6. Carefully check all containers such as tierces, barrels, trucks, and hooks used for storing, curing or otherwise handling meats.

The use of second hand tubs, lard cans, etc., is prohibited.

7. The use of cereals in the manufacture of sausages is absolutely forbidden. Inspectors must first acquaint themselves with the contents of such products manufactured under their supervision before the state stamp is applied to them. Fats, tallow or other lard ingredients such as butcher scraps and trimmings from outside sources shall not be used in the manufacture of lard under state supervision.

8. Products from other inspected establishments will be admitted providing they are offered for inspection at time of receipt and found to be sound, healthful and wholesome, otherwise such products shall be condemned.

OREGON MEAT INSPECTION

The State of Oregon, like Pennsylvania, provides for meat inspection in any plant that requests it. The Oregon Department of Agriculture appoints local agents to make the ante-mortem and post-mortem examinations. The local agents are paid by the companies.

Pertinent excerpts from the regulations of the Oregon Department of Agriculture follow:

The State of Oregon, like Pennsylvania, provides for meat inspection in any plant that requests it. The Oregon Department of Agriculture appoints local agents to make the ante-mortem and post-mortem examinations. The local agents are paid by the companies.

Pertinent excerpts from the regulations of the Oregon Department of Agriculture follow:

Local Meat Inspectors

Whenever any city of the second class shall appoint and provide for the compensation of local meat inspectors the qualifications of such local meat inspectors, if found satisfactory, shall be certified by the State Department of Agriculture and they shall then have the same authority and duties as are by law conferred on agents of the State Department of Agriculture, and shall be subject to these rules and regulations. Such certificates of qualification may be withdrawn or revoked at any time by the State Department of Agriculture for incompetency or neglect of duty. Local meat inspectors shall have jurisdiction only within the limits of the city of the second class, by and for which they are appointed. Such local meat inspectors shall not be governed by ordinances, rules or regulations that are incompatible with or that conflict with these rules and regulations of the State Department of Agriculture or the law under which they are made.

Appointment of Local Agents for Establishments

Upon the written application of owners or managers of such establishments the State Department of Agriculture will appoint local agents to make complete examination of all animals, carcasses, meats, and meat-food products used, prepared or stored in local slaughtering, packing, canning, rendering, or similar establishments, and to affix an approved stamp or mark to the meats and meat-food products that are found to be sound, healthful, wholesome and fit for human food.

(With the limited staff at its disposal, the State Department of Agriculture will be unable to arrange for the supervision of individual establishments and for the complete examination and stamping or marking of all the meats or meat-food products prepared therein, except as provided in this rule.)

The meats and meat-food products that are found to be unsound, unhealthful, unwholesome, or otherwise unfit for human food, shall be rejected or condemned, and disposed of as provided in these regulations. Such agents shall report to and they may be transferred or dismissed by the State Department of Agriculture. They shall be subject to the regulations governing, and for the guidance of agents of the State Department of Agriculture, and to the law under which they are made.

The funds for the compensation of such local agents shall be furnished by the owner or manager of the establishment that such agent is appointed to oversee, and upon whose request this form of inspection is established. The funds for the payment of such local agents shall be deposited by the owner or manager of such establishment to his own credit, in some bank or trust company to be designated by the State Department of Agriculture, and shall be paid out upon the cheque of such owner or manager, payable to the order of the local agent entitled to compensation, after the bill of such local agent for services has been approved by the authority of the State Department of Agriculture, and the cheque, so drawn for said compensation has been approved by the authority of said department. Employees of the United States Department of Agriculture, engaged in the inspection of animals, meats and meat-food products, may be appointed agents of the State Department of Agriculture and be clothed with the powers of such agents; provided, however, that such employees of the United States Department of Agriculture shall receive no pay or compensation for such services as agents of the State Department of Agriculture.

Sale or Transportation of Unsound or Unwholesome Meat

If any person shall sell or offer for sale, or offer for transportation to market, any meat or meat product which is diseased, unsound, unhealthful, unwholesome or otherwise unfit for human food, knowing that such meat or

meat-food product is intended for human consumption, he shall be prosecuted as provided by law.

Examination of Animals, Dressed Carcasses, Meat-Food Products, etc.

In establishments where a local agent is stationed to examine all animals slaughtered and all meats and meat-food products prepared therein, the examination, slaughter, preparation, marking, and storing of all carcasses, parts of organs, and the disposal of all diseased carcasses, parts, or organs, shall be conducted in accordance with the following rules and regulations. The term "establishment at which complete inspection is maintained" refers to such establishments. These rules and regulations shall also apply to all establishments where meats or meat-food products are prepared or stored and shall be enforced by agents of the State Department of Agriculture wherever they are present to conduct such examination, but the absence of such agent shall not be an excuse for the preparation or sale of unsound, unhealthful or unwholesome meat or meat-food products, or for disregard of these regulations or of the law relating to meat hygiene.

Ante-Mortem Examination

An ante-mortem examination shall be made of all cattle, sheep, swine and goats about to be slaughtered before they shall be allowed to enter the slaughtering room of an establishment at which complete inspection is maintained. Such examination shall be made in pens, alleys or chutes of the establishment at which the animals are to be slaughtered. Owners or managers of such establishments shall provide satisfactory facilities for conducting such examinations and for separating or holding apart from healthy animals those showing symptoms of disease. All animals showing symptoms or suspected of being immature or of being affected with any disease or condition which under these regulations would probably cause their condemnation when slaughtered shall be marked by affixing to the ear a metal tag as provided in Regulation 18 of these regulations, and a notice of quarantine served on the owner. All such animals, except as hereinafter provided, shall be slaughtered separately, either before regular slaughter has commenced or at the close of the regular slaughter, and shall be duly identified by a representative of the establishment to the agent of the State Department of Agriculture or authorized local meat inspector on duty in the slaughter room before the skins are removed or the carcasses opened for evisceration. Reports on such animals shall be made by the agent or local meat inspector as provided in Regulation 18. Animals tagged for immaturity or pregnancy, which have not been exposed to any contagious or infectious disease, are not required to be slaughtered, but before any such animals are removed from the establishment the tag shall be detached by the agent or local meat inspector on duty in said establishment and returned with his report to the State Department of Agriculture. Animals commonly termed "downers" or crippled animals shall be tagged, as provided in Regulation 18, in the abattoir pens for the purpose of identification at the time of slaughter, and shall be passed upon in accordance with these regulations.

Post-Mortem Examination

The agent or local meat inspector on duty in the establishment shall make a careful examination of all animals at the time of slaughter. The head, tail, thymus gland, bladder, omentum, and the entire viscera, and all parts and blood used in the preparation of meat-food products, shall be retained in such manner as to preserve their identity until after the post-mortem examination has been completed, in order that they may be identified in case of condemnation of the carcass. Suitable racks or metal receptacles shall be provided for retaining such parts.

Each establishment at which complete inspection is maintained shall be given an official number, and shall be indicated by said number on all official reports, stamps, marks, labels, etc.

Carcasses and parts thereof found to be sound, healthful, wholesome and fit for human food shall be passed, and in establishments where complete inspection is maintained they shall be stamped or marked by an agent of the State Department of Agriculture as follows:

Upon each dressed beef carcass examined as above and passed there shall be placed by an authorized representative of the State Department of Agriculture at the time of examination 10 stamps or marks bearing the words "Inspected and Passed. Oregon State Department of Agriculture," and the official number of the establishment, or the veterinarian's name who made the inspection.

Upon the dressed carcasses of sheep, swine and goats examined as above and passed there shall be placed by an authorized representative of the State Department of Agriculture at the time of examination, a stamp or mark on each quarter bearing the words "Inspected and Passed. Oregon State Department of Agriculture," and the official number of the establishment, or the veterinarian's name who made the inspection.

Should any lesion of disease or other condition that would probably render the carcass, or part of organ, unfit for food purposes be found on post-mortem examination, such carcass, part, or organ, shall be marked immediately with a tag bearing the words "Condemned. Oregon State Department of Agriculture." Carcasses, parts, or organs, so marked shall not be washed or trimmed and should not be placed in the cooling room or in the refrigerator or ice box with carcasses, parts or organs that have been passed. Such carcasses shall be promptly disposed of as provided in Regulation 17 of these regulations.

The carcasses, parts or organs of all animals which are slaughtered at an establishment where complete inspection is maintained, and which are found at time of slaughter or at any subsequent examination to be affected with any of the diseases or conditions named below, and all carcasses, parts or organs found to be so affected in any establishment examined, shall be disposed of according to the section of this regulation pertaining to the disease or condition existing. As it is impracticable to formulate regulations covering every case and to designate at which particular stage a condition becomes loathsome or a disease noxious, it is understood that the decision as to the disposal of all carcasses, parts or organs, not specifically covered by these regulations shall be left to the discretion of the veterinarian making the examination, the decision in such cases to be based upon the nature, location and extent of the pathological conditions present and upon the principles of meat inspection as prescribed by Ostertag and other authorities.

(a) ANTHRAX.—All carcasses showing lesions of anthrax, regardless of the extent of the disease, shall be condemned and immediately tanked, as provided in Regulation 17, or properly buried or burned, including the blood, hide, hoofs, horns, viscera and all other portions of the animals. The place where the animal was slaughtered shall be disinfected with a 10 per cent solution of the formalin and all tools, implements, etc., which have come in contact with the carcass, shall be treated as provided in Regulation 11.

(b) BLACKLEG.—Carcasses of animals showing lesion of blackleg shall be condemned.

(c) HEMORRHAGIC SEPTICEMIA.—Carcasses of animals affected with hemorrhagic septicemia shall be condemned.

(d) PYEMIA AND SEPTICEMIA.—Carcasses showing lesions either of pyemia or septicemia shall be condemned.

(e) RABIES.—Carcasses of animals which showed symptoms of rabies before slaughter shall be condemned.

(f) TETANUS.—Carcasses of animals which showed symptoms of tetanus before slaughter shall be condemned.

(g) **MALIGNANT EPIZOOTIC CATARRH.**—Carcasses of animals affected with malignant epizootic catarrh and showing generalized inflammation of the mucous membrane shall be condemned.

(h) **HOG CHOLERA AND SWINE PLAGUE.**—Carcasses showing generalized or extensive lesions of hog cholera or swine plague, and carcasses affected with either of these diseases and showing febrile changes shall be condemned. All organs or parts showing lesions of either disease shall be condemned.

(i) **ACTINOMYCOSIS, OR LUMPY JAW.**—Carcasses affected with actinomycosis, showing generalized or extensive localized lesions, or showing malnutrition in addition to the actinomycotic lesions shall be condemned. All organs or parts showing lesions of the disease shall be condemned.

(j) **CASEOUS LYMPHADENTITIS.**—Carcasses showing extensive lesions of this disease in the lungs with or without pleuritic adhesions, or caseous nodules in several of the visceral organs with emaciation, shall be condemned.

(k) **TUBERCULOSIS.**—Carcasses, parts or organs affected with this disease shall be disposed of as follows:

A. The entire carcass shall be condemned:

1. When lesions of tuberculosis exist in the musculature or in other structures that may be eaten with flesh, and when it is not evident that the lesions are purely local and may be completely removed.

2. When there is evidence that tuberculosis bacilli have been carried by the blood.

3. When there are extensive and acutely progressive lesions, even though they be local.

4. When there is evidence of tuberculosis intoxication or associated septic infections.

5. When it was observed before the animal was killed that it was suffering with fever.

6. When there is a tuberculosis cachexia, as shown by anemia and emaciation.

B. An organ or part of a carcass shall be condemned:

1. When it contains a lesion of tuberculosis.

2. When it contains, has been attacked or has been contaminated with tubercle bacilli.

(l) **TEXAS FEVER.**—Carcasses showing sufficient lesions to warrant the diagnosis of Texas fever shall be condemned.

(m) **PARASITIC ICETERO-HEMATURIA.**—Carcasses of sheep affected with parasitic icetero-hematuria shall be condemned.

(n) **MANGE OR SCAB.**—Carcasses of animals affected with mange, or scab, in advanced stages, shall be condemned.

(o) **TAPEWORM CYSTS.**—Carcasses of animals extensively affected with tapeworm cysts shall be disposed of in accordance with the rules and regulations of the bureau of animal industry, United State Department of Agriculture.

(p) **PNEUMONIA, PLEURISY, ENTERITIS, PERITONITIS AND METRITIS.**—Carcasses showing generalized inflammation of one of the following tissues: The lungs, pleura, intestines, peritoneum, or the uterus, whether in acute or chronic form, shall be condemned.

(q) **ICTERUS.**—Carcasses showing an intense yellow or greenish-yellow discoloration, after proper cooling, shall be condemned. Carcasses which

exhibit a yellowish tint directly after slaughter, but lose this discoloration on chilling, may be passed for food.

(r) UREMIA AND SEXUAL ODOR.—Carcasses which give off the odor of urine or sexual odor shall be condemned.

(s) URTICARIA, ETC.—Hogs affected with urticaria (diamond skin disease), *Tinea tonsurans*, *Demodex folliculorum*, or erythema, may be passed after detaching and condemning the cut-out diseased portion of skin, if the carcass is otherwise fit for food.

(t) INFECTIONS THAT MAY CAUSE MEAT POISONING.—All carcasses of animals so affected that consumption of the meat or meat-food products thereof may give rise to meat poisoning shall be condemned. This covers all carcasses showing signs of septicemia or pyemia, whether puerperal, traumatic, or without any evident cause; hemorrhagic or gangrenous enteritis or gastritis; acute inflammation of the lungs, pleura, pericardium, peritoneum, or meninges, acute diffuse metritis, or mastitis; polyarthritis; phlebitis of the umbilical veins; traumatic pericarditis; and any inflammation, abscess or suppurating sore if associated with acute nephritis, fatty and degenerated liver, marked pulmonary hyperemia, and diffuse redness of the skin, either singly or in combination.

Immediately after slaughter of any animal so diseased, the premises and implements used must be thoroughly disinfected as prescribed in Regulation 11.

The part of any carcass coming in contact with the carcass or any part of the carcass of any animal covered by this section, or with the place where such animal was slaughtered, or with the implements used in the slaughter, before thorough disinfection of such places and implements has been accomplished or with any other contaminated object, shall be condemned; in case the contaminated part is not removed from the carcass within two hours after such contact, the whole carcass shall be condemned.

(u) TUMORS.—Any organ or part of a carcass which is the seat of a tumor, malignant or benign, shall be condemned.

(v) MELANOSIS PSEUDOLEUKEMIA.—Carcasses of animals showing any disease such as generalized melanosis, pseudoleukemia, etc., which affects the system of the animals, shall be condemned.

(w) FLUKES.—Any organ (lungs, liver, spleen, etc.) or part of a carcass, which is affected with flukes (*Trema toda*) shall be condemned.

(x) EMACIATION AND ANEMIA.—Carcasses of animals too emaciated or anemic to produce wholesome meat and those carcasses which show a slimy degeneration of the fat or a serious infiltration of the muscles shall be condemned.

(y) PREGNANCY AND PARTURITION.—Carcasses of animals in advanced stages of pregnancy (showing signs of preparation for parturition), also carcasses of animals which have within 10 days given birth to young and in which there is no evidence of septic infection, may be rendered into lard, or tallow if desired by the manager of the establishment, otherwise they shall be condemned.

(z) IMMATURITY.—Carcasses of animals too immature to produce wholesome meat, all unborn and stillborn animals, also carcasses of calves, pigs, kids, and lambs, under three weeks of age shall be condemned.

(aa) DEAD ANIMALS.—All animals that die in slaughterhouse pens, and those in a dying condition before slaughter, shall be condemned. Animals which have died shall not be allowed to pass through compartments in which food products are prepared. No dead animals shall be brought into an establishment for rendering from outside the premises, of such establishment.

(ab) BRUISED PARTS.—When a portion of a carcass is to be condemned on account of slight bruises, which cannot be properly removed until the

carcass is chilled, the carcass shall be tagged and hung up apart from sound carcasses, preferably in a special retaining room. After chilling, the affected portion shall be cut out, marked "Condemned. Oregon State Department of Agriculture," and the remainder of the carcass shall be marked "Examined and Passed. Oregon State Department of Agriculture."

(ac) Owing to the fact that parasites are usually present in hog lungs, also dirt and other foreign matter introduced through inhalation, and dirty water from scalding vats, these organs are rendered unfit for use in meat-food products, and it has been found impracticable to clean or separate the objectionable portions. It will, therefore, not be permissible to use hog lungs in meat-food products and they shall be condemned.

Municipal Meat Inspection

Inspection of meat in the cities of New York State is apparently chaotic. Few of our cities have an adequate meat inspection system. Meat inspection in our cities ranges from the requirement in one municipality that anyone who slaughters an animal unfit for human consumption shall forthwith report such fact to the local health officers to elaborate meat inspection systems, along the lines of federal inspection, in New York City, Buffalo and Schenectady. Some cities have no meat inspection. We have been informed of cases in which meat that could not be sold in one city because of health regulations was sent to another where standards are either lax or non-existent.

This Commission has studied the meat inspection ordinances and regulations of many communities in this state. What is needed now is an intensive investigation of the operations of meat inspection in each community, or in certain typical communities.

Albany

Cattle, Etc., Subject to Disease Not to be Killed or Sold:

Section 25. It shall not be lawful for any person to kill, butcher or sell within the city of Albany, (whether alive or butchered, or if in parts or otherwise) any cattle, sheep or hogs subject to any disease, or that may have been bruised, or so debilitated as to injuriously affect their health. Any person offending against the provisions hereby shall be liable to a penalty of not less than ten dollars nor more than fifty dollars for each offense.

Places May Be Established for Depositing Dead Animals, Etc.:

Section 27. The Common Council or Department of Health of the city of Albany shall, whenever deemed advisable, fix and establish some place or places for the depositing or destruction of any dead animals or offensive matter required to be removed from said city.

Wholesome Food and Drink

Order 5:

No meat, fish, bird, fruit or vegetable, milk, or anything for human food or drink, not being then fresh or properly preserved, sound, wholesome and safe for such use; nor any flesh of any animal which died by disease, or which was at the time of its death in a sickly or unwholesome condition; nor the carcass or meat of any calf which was at the date of its slaughter less than four weeks old, or of any lamb which was at the date of its slaughter less than eight weeks old, or of any pig which was at the date of its slaughter less than five weeks old shall be brought within the limits of this city, nor

offered nor held for sale as food therein. Any violation of any of the provisions of this order shall be punished as prescribed by law and by the seizure of such unsound, unwholesome and immature food substances.

Slaughter House and Markets

Order 8:

No person or persons, without the consent of the Bureau of Health, shall build or use any slaughter house or rendering establishment within the limits of this city; and the keeping and the slaughtering of all cattle, sheep and swine, and the preparation and keeping of all meat, fish, birds or other animal food shall be in the manner best adapted to secure and contain their wholesomeness as food; and every butcher and other person owning, leasing or occupying any place, room or building wherein any cattle, sheep or swine have been or are killed or dressed, and every person being the owner, lessee or occupant of any room or stable wherein any animals are kept, or of any market, public or private, shall cause such place, room, building, stable or market and their yards and appurtenances to be thoroughly cleansed and purified, and all offal, blood, fat, garbage, refuse and unwholesome and offensive matter to be removed therefrom at least once in every twenty-four hours after the use thereof for any of the purposes herein referred to, and shall also at all times keep all woodwork, except floors and counters, in any building, place or premises aforesaid thoroughly painted or whitewashed; and the floors of such building, place or premises shall be so constructed as to prevent blood or foul liquids or washings from settling in the earth beneath; and every person or persons owning or leasing any room, stall or place where fruit or vegetation are kept, stored or exposed for sale, shall cause such place, room or stall, and their yards and appurtenances, to be kept clean, and all refuse, garbage and unwholesome and offensive matter to be removed therefrom at least once in every twenty-four hours.

Amsterdam

Mayor Arthur Carter informs us: "Please be advised that we have no specific ordinances relating to this matter. Any such inspections are made by the sanitary inspector under supervision of the Health Officer and in conformity with existing requirements of the State Department of Health."

Auburn

"No person shall keep, sell, or offer for sale, or bring within the limits of the City of Auburn, any unwholesome, unsound, or impure meat, fish, fowl, vegetables, milk or cream, or milk from any animal not fed on wholesome food, or not properly cared for, or milk from cows not in every way in a healthy condition, or any other unwholesome or impure article to be sold or offered for sale for human consumption. No person shall bring into the city, or sell, or offer for sale, the meat of any animal that is in a sick or diseased condition, or has died from any sickness or any disease, or the meat of any calf less than four weeks old, or any pig less than five weeks old, or of any lamb less than eight weeks old."

Batavia

No data available.

Beacon

Does not have any ordinance relative to inspection of meat. Forbids establishment of slaughter houses within city limits.

Binghamton

Sec. 1. No person, firm or corporation shall sell or offer for sale within the city of Binghamton any beef, veal, lamb or pork unless the same shall have been previously inspected and approved by a United States Government Inspector, a State Department of Agriculture or by a Meat Inspector of the City of Binghamton; and all meat approved by the City Inspector shall be marked or stamped by him with an official stamp containing the words "Inspected by the Binghamton Meat Inspector."

Sec. 2. No carcass shall be marked with the official stamp of the Meat Inspector of the City of Binghamton, unless the same shall be accompanied by the lungs, heart and liver by their natural attachments, and unless the same shall be found sound, wholesome and fit for use as human food.

Sec. 3. No trimmed or tubbed meat shall be brought within the city of Binghamton or sold or offered for sale unless the same has been inspected and approved as provided in Section 1.

Sec. 4. Any person, firm or corporation violating any of the provisions of this ordinance shall, upon conviction, be punished by a fine of not less than \$10.00 or more than \$100.00 for each offense.

Sec. 5. The Commissioner of Public Safety of the City of Binghamton shall designate a place for the inspection of said meat and shall enact rules governing the same.

Buffalo

Sec. 102. The Health Commissioner of the City of Buffalo shall cause to be made by inspectors appointed for that purpose, an examination on the hoof of all cattle, sheep, swine and goats intended to be slaughtered within the City of Buffalo, New York, for human consumption, and said inspectors shall mark or tag as inspected and condemned all animals found to be unsound, unhealthful or otherwise unfit for human food, and shall cause to be destroyed for food purposes, and personally superintend the destruction of all animals found to be unsound, unhealthful or otherwise unfit for human food, and said inspectors shall mark or tag in such manner as will permit of no deception or substitution as inspected and suspended, all animals which show what appear to be symptoms or evidences of a disease or condition rendering the same unfit for human food, if the inspector is in doubt as to the existence of such disease or condition, and cause such animals to be removed to a slaughter house to be designated for such purpose by the Health Commissioner, and such animals shall be slaughtered separately from all other cattle, sheep, swine or goats, and when so slaughtered the carcasses thereof shall be subject to a careful post-mortem examination as provided by the ordinances of the City of Buffalo.

No person shall slaughter within the City of Buffalo any cattle, sheep, swine or goats intended for human consumption until the same shall have been inspected on the hoof by any inspector of the City of Buffalo appointed for that purpose, under a penalty of not to exceed \$250 for each offense. The provisions of this section shall not apply to the slaughter of an animal within the City of Buffalo, intended for consumption by the person slaughtering the same or by the members of his family residing with him.

Sec. 103. The Health Commissioner of the City of Buffalo shall cause to be made by the inspectors appointed for that purpose, a post-mortem examination of all cattle, sheep, swine or goats slaughtered within the City of Buffalo, New York, for human consumption, and the carcasses of all said animals found to be sound, healthful and fit for human food shall be marked or tagged as inspected and passed, which mark or tag shall show on its face the date of the inspection, and said inspectors shall mark or tag as inspected and condemned all carcasses and parts of carcasses of animals found to be unsound, unhealthful or otherwise unfit for human food and said inspectors,

after said first inspection, shall cause to be destroyed for food purposes, and personally superintend the destruction of all carcasses of animals found to be unsound, unhealthful or otherwise unfit for human food and said inspectors, after said first inspection, shall when they deem it necessary, reinspect said carcasses or parts of carcasses or the food products thereof, to determine whether since the first inspection the same has become unsound, unwholesome or in any way unfit for human food, and if any carcass, or any part thereof, or any food product made therefrom, shall, upon examination and inspection, be found to have become unsound, unwholesome or otherwise unfit for human food, said inspectors shall cause the same to be destroyed for food purposes, and personally superintend the destruction of the same notwithstanding said first inspection.

Sec. 104. The Health Commissioner of the City of Buffalo shall cause to be made by inspectors appointed by him for that purpose, an inspection and examination of all meat food products prepared in any slaughtering, canning, salting, packing, cutting, grinding, rendering or similar establishment within the City of Buffalo, and for the purpose of such examination and inspection said inspectors shall have access to every part of said establishment, and said inspectors shall mark or tag as inspected and passed all such products as upon inspection are found fit for human food, which mark or tag shall show on its face the date of such inspection; and said inspectors shall mark or tag as inspected and condemned all such products as upon inspection are found to be impure, unsound, unhealthful or otherwise unfit for human food, and shall cause to be destroyed for food purposes, and personally superintend such destruction of all food products which, upon examination and inspection are found to be impure, unsound, unhealthful or otherwise unfit for human food.

Sec. 105. The Health Commissioner of the City of Buffalo shall cause to be made by inspectors appointed for that purpose, an examination of all carcasses or parts of carcasses of cattle, sheep, swine or goats, or the meat or meat products thereof, except canned or tinned meats, slaughtered or prepared without the City of Buffalo, New York, and brought within the City of Buffalo, New York, for human consumption and the carcasses or parts of carcasses or all said animals, or the meat or meat products thereof, found to have been inspected and marked as inspected in accordance with the laws of the state, or the ordinances of a municipal division thereof, which maintains a system of post-mortem inspection and marking of the standard maintained by the City of Buffalo, or found to be unsound, unhealthful or unfit for human food, shall be marked or tagged as inspected and condemned, and shall be destroyed for food purposes by said inspectors.

Sec. 106. No cattle, sheep, swine or goats or meat or meat products thereof, except tinned or canned meats, which have not been inspected and marked as inspected and passed, in accordance with the provisions of the ordinances of the City of Buffalo, shall be sold or offered for sale, or in any manner disposed of, for human consumption within the City of Buffalo, New York; and no tinned or canned meat products which have not been inspected and marked as inspected and passed, in accordance with the provisions of the City of Buffalo or in accordance with the provisions of the Act of Congress relating to the Federal inspection of meat and meat products intended for interstate commerce, or in accordance with the laws of the state, or the ordinances of a municipal division thereof, which maintains a system of post-mortem inspection and marking of the standard maintained by the City of Buffalo, shall be sold or offered for sale, or in any manner disposed of, for human consumption, within the City of Buffalo, New York. A person, firm, association or corporation, who or which violates the provisions of this section, shall be subject to a penalty of not to exceed \$250.00.

Sec. 107. The inspectors of animals on the hoof and the post-mortem inspectors shall be under the immediate direction of the food and drug inspector, and each inspector shall make weekly reports to him for submission to the Health Commissioner, which shall show the number of animals inspected,

the number condemned at the yard, the number marked suspicious, the number condemned at the slaughter house, the consignee or owner of each condemned animal, and the cause of condemnation, together with such other information as may be required by the Health Commissioner in the interest of the Public Health.

Canandaigua

No data available.

Cohoes

The Board of Health employs a Sanitary Inspector and a Food Inspector; but their powers are unclear. No ante-mortem or post-mortem examination is required.

Corning

Sec. 1. No person shall sell or offer for sale within the City of Corning, N. Y., any meat, unless the same has been inspected by some federal or state inspector and properly stamped by him showing that it is fit for food, without first submitting the same to a duly appointed and qualified meat inspector of said City of Corning, for his inspection and approval as fit for food. Such inspection and approval shall be shown by the stamp of such inspector affixed to such meat in such manner as he may determine.

Sec. 2. In offering or presenting any meat for inspection, any such organ or portion of the animal from which said meat is taken shall be furnished to such inspector as required by him.

Sec. 3. Any meat which shall be offered for sale in violation of this ordinance or which shall be presented for such inspection and shall be found to be unfit for food, may be seized by such inspector and destroyed as he may direct, without any recompense to the owner of the same.

Sec. 4. Any person violating the provisions of this ordinance shall be guilty of a misdemeanor and liable to a fine not exceeding one hundred dollars, or to imprisonment not exceeding one hundred days or both said fine and imprisonment; or to pay to the City of Corning, N. Y., a penalty not exceeding one hundred dollars, to be recovered in a civil action brought by said city.

Sec. 5. This ordinance shall take effect October 1, 1912.

Cortland

Sec. 1. No person, firm or corporation shall sell or offer or expose for sale or keep in his or their possession within the city of Cortland, N. Y., any beef, veal, lamb or pork unless the same shall have been previously inspected and approved by a United States Government inspector, a State Department of Agriculture Inspector or by the Meat Inspector of the City of Cortland, and all meat approved by the City Inspector shall be marked or stamped by him with an official stamp containing the words "Inspected by the Cortland Meat Inspector."

Sec. 2. No carcasses shall be marked with the official stamp of the Meat Inspector of the City of Cortland, unless the same shall be accompanied by the lungs, heart and liver by their natural attachments and unless the same shall be found sound, wholesome and fit for use as human food.

Sec. 3. No tinned or tubbed meat shall be brought or kept within the City of Cortland nor sold or offered for or exposed for sale unless the same has been inspected and approved as provided in Section 1.

Sec. 4. Any person, firm or corporation violating any of the provisions of this ordinance shall be guilty of misdemeanor.

Sec. 5. The Sanitary Inspector appointed by the Board of Health of the city of Cortland shall be the Meat Inspector of said city and shall receive such additional compensation for his services and expenses as such Meat Inspector as the Board of Health may determine.

Said Meat Inspector shall designate the times and places for the inspection of said meat and shall prescribe rules governing the same. Said Meat Inspector shall have power and authority to employ a competent veterinarian to assist him in passing upon meat where he is unable to definitely pass upon the same himself and such veterinarian shall receive such compensation for his services as may be determined by the Board of Health.

Sec. 6. This ordinance shall take effect on the 1st day of May, 1919.

Dunkirk

City Clerk R. C. Schmatz states: "We have no ordinance providing for the inspection of meat and there are no slaughter houses in or near Dunkirk. The Milk and Food Inspector employed by the Board of Health attends to food inspection."

Geneva

No person, firm or corporation shall build or use any slaughter house, cattle-yard, phosphate or fertilizer works or store house, rendering establishment or any soap factory, tannery or any other place or establishment that shall give rise to nauseous or offensive odors within said city without permission from the Common Council.

No person or persons, without the consent of the board of health, shall build or use any slaughter-house within the limits of this municipality and the keeping and slaughtering of all cattle, sheep and swine, and the preparation and keeping of all meat, fish, birds, or other animal food, shall be in the manner best adapted to secure and continue their wholesomeness as food; and every butcher or other person owning, leasing or occupying any place, room or building wherein any cattle, sheep or swine have been or are killed or dressed, and every person being the owner, lessee or occupant of any room or stable wherein any animals are kept, or of any market, public or private, shall cause such place, room, building, stable or market, and their yards and appurtenances, to be thoroughly cleansed and purified, and all offal, blood, fat, garbage, refuse and unwholesome and offensive matter to be removed therefrom at least once in every twenty-four hours after the use thereof for any of the purposes herein referred to, and shall also at all times keep all woodwork, save floors and counters, in any building, place or premises aforesaid thoroughly painted or white-washed; and the floors of such building, place or premises shall be so constructed as to prevent blood or foul liquids or washings from settling in the earth beneath. Any violation of any of the provisions of this ordinance shall subject the offending party to a penalty of five dollars for each day's continuance or repetition of the offense.

Glen Cove

Definitions.

a. When used in this section, the term "abattoir" means any building or part thereof, or premises used or kept for the purpose of canning, curing, dressing, killing, packing, rendering, salting, slaughtering or smoking any calves, cattle, goats, sheep, swine or other animals or meat thereof intended for human consumption; the term "carcass" means all parts, including viscera,

of a slaughtered animal that are capable of being used for human food; the term "condemned" means that animals so marked have been inspected and found to be immature or in a dying condition, or to have died otherwise than by slaughter, or to be affected with some other condition or with some disease that will require means that will require condemnation of its carcass; the term "inspected and condemned" means that the carcasses, parts of carcasses, meat or meat food products so marked are unsound, unhealthful, unwholesome or otherwise unfit for human consumption; the term "inspected and passed" means that the carcasses, parts of carcass, meat, or meat food products so marked have been inspected and passed under this section and that, at the time they were inspected, passed and so marked, they were found to be sound, healthful, wholesome and fit for human consumption; the term "inspection station" means a place provided by the health officer for the inspection and stamping of all carcasses of cattle, calves, hogs, sheep and goats slaughtered without and brought within the city for sale as food for human consumption; the term "meat" means any edible part of the carcass of any cattle, sheep, swine or goat which is not manufactured, cured smoked, processed or otherwise treated, and shall include fish, shellfish, birds, poultry and fowl; the term "meat food product" means any article of food, or any article which enters into the composition of food for human consumption which is derived or prepared, in whole or in part, from any portion of the carcass of any calf, cattle, sheep, swine or goat if such portion is all, or a considerable and definite portion of such article of food.

b. *Permit Required for Sale of Meat.* No person shall sell meat, either wholesale or retail without first having obtained a permit from the health officer. Permits shall be granted only to those who conform to the requirements of this section, after inspection of premises by the health officer or his authorized representative and approval both as to equipment and sanitary condition. All places, including abattoirs, where meat is stored shall be furnished with adequate refrigeration facilities. All permits called for under this section shall expire annually on the 31st day of December and shall be renewable on or before such date in each year. Such permits shall be posted conspicuously on the premises for which they are issued.

The health officer may, however, in his discretion, accept and use in connection with the issuance of such a permit the reports of the health officer of another municipality with reference to conformity to the requirements of this section.

The health officer, when convinced that an applicant is complying or will comply with the requirements of this section, may in his discretion issue to such applicant a temporary permit for a meat industry or abattoir pending the completion of any action necessary to comply with the requirements of this section, but such a temporary permit shall not continue in effect more than thirty days.

c. *Inspection.* No person shall sell or offer for sale, within the city any beef, veal, mutton or pork unless the same shall have been marked or stamped to show it has been previously inspected and approved by the bureau of animal industry of the United States Department of Agriculture, the Bureau of Animal Industry of the New York State Department of Agriculture and Markets or by the Board of Health of the city.

Meat or meat food products in markets, stores, restaurants, or other places of sale, in violation of this section, shall be seized by the health officer or his authorized representative and held as evidence of such violation or disposed of as directed by the health officer. Any meat or meat food product found in such place shall be prima facie evidence of its being offered for sale.

The health officer shall make or shall cause to be made by his authorized representative a post-mortem examination of all cattle, calves, sheep, hogs and goats sold in the city and of all such animals slaughtered within the

city for human consumption and an examination of all carcasses or parts of carcasses of cattle, calves, sheep, hogs or goats, or the meat products thereof, slaughtered or prepared outside the city and brought within the said city for human consumption unless such examinations as are required in this section shall already have been made. Such examinations shall be made in accordance with the regulations for meat inspection of the bureau of animal industry of the United States Department of Agriculture.

All animals plainly showing, upon anti-mortem inspection, any disease or condition which, under the regulations governing meat inspection of the United States Department of Agriculture, would cause condemnation of their carcasses upon post-mortem, shall be condemned and disposed of under the direction of the health officer or his authorized representative and all animals which, on ante-mortem inspection do not plainly show, but are suspected as being affected with any disease or condition that, under this section, may cause condemnation in whole or in part, upon post-mortem inspection, shall be so marked as to retain their identity as suspects until final post-mortem inspection when the carcasses shall be marked and disposed of as provided in this section.

d. *Slaughtering.* No person shall slaughter within the city any cattle, calves, sheep, swine, or goats intended for human consumption, except under the direction of the health officer or his authorized representative. No such animal shall be slaughtered except in an abattoir, except upon the written permission of the health officer. Every portion of any animal slaughtered intended for human consumption shall be inspected by the health officer or his authorized representative and marked by him in accordance with the regulation for meat inspection of the Bureau of Animal Industry of the United States Department of Agriculture.

e. *Inspection of Carcasses.* Carcasses of cattle, calves, hogs, sheep and goats shall be accompanied by the lungs, liver, heart and kidneys. The lungs and kidneys shall be held to the carcasses of cattle by natural attachments. The head, kidneys and feet shall be held to the carcasses of hogs by their natural attachments.

f. *Protection of Meat.* No meat or meat food product which is to be used for human food shall be carted or carried through any street unless the same shall be covered with a clean cover, so as to protect it from dirt, dust and insects. Wagons or vehicles used for the delivery of meat or meat products, together with boxes and barrels and other containers used for meat shall be kept clean.

g. *Abattoir.* No person shall maintain or operate an abattoir without first having obtained a permit from the health officer.

In every abattoir hereafter to be constructed the floor of every room where animals are killed or dressed, and the floor of every room wherein any meat, refuse, offal, fertilizr or other material derived from the slaughter of animals is drained or handled shall be made of cement or some other impervious material and shall be watertight, properly drained and connected with a sewer if such abattoir is adjacent or accessible to such sewer. All walls, doors and casements in any such rooms shall be so constructed as to be capable of being kept clean and shall be kept in a clean and sanitary condition. All yards, pens or other premises connected with any abattoir shall also be kept in a clean and sanitary condition.

h. *Abattoirs and Inspection Stations.* Every abattoir and inspection station shall be supplied with an adequate supply of hot and cold water and such an arrangement of hose and pipes as well enable effective washing of walls, floors and premises. It shall also be supplied with boiling water or live steam for the purpose of sterilizing saws, knives, cleavers and other tools and all utensils and machinery used in the handling of meat products.

All trucks, trays and other receptacles, all chutes, platforms, racks, tables and all knives, saws, cleavers and other tools and all utensils, machinery and

vehicles used in moving, handling, cutting, chopping, mixing, canning or in any other process shall be thoroughly cleaned and sterilized daily.

All refuse and other offensive materials from an abattoir or inspection station shall be placed at once in covered water-tight receptacles and removed at the end of each day.

Every abattoir and inspection station shall be fitted with proper toilet and lavatory accommodations which shall be maintained in a sanitary manner. No such toilet shall open directly into a room where the work of such abattoir or inspection station is carried on.

Soap, running hot and cold water, and individual towels shall be provided for the proper cleansing of the hands of all persons who handle meat or its products in such abattoir or inspection station.

No person shall expectorate upon any floor or wall of an abattoir or inspection station or upon any equipment therein, or upon any animal or carcass or product thereof.

No dog or other animal shall run at large in any abattoir or inspection station or premises thereof. No children shall be permitted in an abattoir or inspection station.

i. *Reports and Records.* The health officer shall make or cause to be made to the City Council, periodic reports, showing the number of animals inspected, the number passed, the number condemned, the name and address of the owner of each animal inspected together with such other information as the Council requires.

The health officer shall cause to be made and filed in his office, a record of all inspections, stamping, storage and other services done.

j. *Revocation of Permit.* Each permit for a meat industry or abattoir granted by the health officer may be suspended or revoked by him for violation of any of the provisions of this section after ten days' notice and a hearing given to the person holding the permit. Revocation of the permit shall include a forfeiture of the permit fee.

k. *Fee.* The fees shall be as follows:

"For each permit for meat industry or abattoir granted by the health officer, the fee shall be \$5.00.

"For the inspection of cattle, sheep, swine or goats, the fee shall be \$1.00 each.

"For the inspection of fowl the fee shall be 10c each."

The health officer shall account for any pay over monthly to the Commissioner of Finance the fees so collected.

Glens Falls

Slaughter houses are not permitted within city limits. "No ordinance has been passed," Mayor John Bazinet informs this Commission, "requiring inspection of meats from animals killed from the outskirts of the city and brought in for sale within the city limits."

Gloversville

It shall be the duty of the meat inspector to examine all markets, refrigerators, slaughter houses or any other place where meat is dressed, stored or kept for sale within the city. It shall be his duty to forbid and take all lawful means to prevent the sale of any meat, bird, fruit, vegetables, milk or any-

thing sold for human food or drink, not being fresh or properly preserved, sound, wholesome and safe for such use, and in case his orders are not promptly obeyed, to report at once to the health officer or Board of Health. He shall report to the Board of Health at least once in each month the condition of all matters under his charge.

Hornell

No data available.

Hudson

Section 14-a. Subdivision 1. All killing for food, slaughtering or dressing of cattle, sheep or swine within the limits of this municipality shall be done only within buildings prepared and arranged for that purpose, and in accordance with subdivision 2 of this section.

Subd. 2. All buildings wherein cattle, sheep or swine are killed for food, slaughtered or dressed shall have floors made of cement, with water connections for flushing and cleansing the floors thereof and sewer connections for draining the same, and all wood-work therein, except counters, shall at all times be kept thoroughly painted or whitewashed.

Subd. 3. No cattle, sheep or swine shall be killed for food, slaughtered or dressed within the limits of this municipality between the hours of 6 o'clock P. M. and 5 o'clock A. M.

Subd. 4. No cattle, sheep, or swine which are to be killed for food shall be kept, housed or stabled in any building wherein the same are killed for food, slaughtered or dressed.

Subd. 5. Immediately after the slaughtering and dressing of any cattle, sheep or swine, all offal, blood, fat, entrails and other refuse parts thereof shall be removed from such building to the place designed by the Board of Health or health officer, and immediately after the removal thereof such building shall be thoroughly washed, cleansed and purified.

Subd. 6. No person, firm or corporation owning or occupying a building wherein cattle, sheep or swine are killed for food, slaughtered or dressed shall refuse at any time to allow such building to be inspected by the Board of Health or health officer.

Subd. 7. Any ordinances or parts of ordinances inconsistent with any of the provisions of this ordinance are hereby repealed.

The penalty for the violation of, or failure to comply with any of the provisions of this section shall be \$50.00 for a single violation or failure.

Sec. 14-b. Subd. 1. Every person, firm or corporation owning or occupying a building or any part of a building within the limits of this municipality as a meat market or fish market, or wherein meat or fish or both are sold, shall at all times keep all wood-work therein, except floors and counters, thoroughly painted or whitewashed, and the floors of such markets shall be so constructed as to prevent blood or washings from running through the same or settling therein.

Subd. 2. Every person, firm or corporation owning or occupying a building or any part of a building within the limits of this municipality as a meat market or fish market, or wherein meat and fish or both are sold, shall not allow offal, blood, fat, bones, entrails or other refuse parts of slaughtered and dressed animals or of fowl or fish to collect therein in an unwholesome or offensive manner, and shall keep such market thoroughly washed, cleansed and purified.

Subd. 3. No person firm or corporation owning or occupying a building or any part of a building within the limits of this municipality as a meat

market or fish market, or wherein meat or fish or both are sold, shall refuse at any time to allow such market to be inspected by the Board of Health or health officer.

Subd. 4. Any ordinances or parts of ordinances inconsistent with any of the provisions of this ordinance are hereby repealed.

The penalty for the violation of, or failure to comply with any of the provisions of this section shall be \$25.00 for a single violation thereof or failure to comply therewith.

(Adopted by the Board of Health August 18, 1911.)

Ithaca

Section 1. The Board of Health shall appoint a licensed graduate veterinarian whose duty it shall be to act as City Meat Inspector. The veterinarian so appointed shall act as a representative of the Board to enforce all regulations relating to the sale of meat and meat products. The veterinarian shall have the power to enter, at any time, any place of business where meat or meat products are sold for human consumption, or where meat carcasses or products are exposed, held or stored.

Section 2. No person shall bring within the city to sell or to offer for sale, for human consumption, the meat of any cattle, sheep, calves, swine, lambs or goats unless in a fit condition. Such animals or parts of carcasses shall be inspected by the City Meat Inspector in accordance with the regulations of the Bureau of Animal Industry of the United States Department of Agriculture.

Section 3. Carcasses of cattle for inspection shall be accompanied by the lungs, liver, heart and kidneys. The lungs and heart shall be held at one-quarter by the natural attachments.

Carcasses of calves for inspection, shall have the lungs, heart, liver and kidneys held together by the natural attachments.

Carcasses of swine shall have the head, lungs, liver, heart and kidneys kidneys by the natural attachments.

Carcasses of lambs, sheep and goats shall have the lungs, liver, heart and kidneys by the natural attachments.

Section 4. All carcasses of meat or parts of carcasses shall be properly covered by clean covers as a protection against dust, dirt, flies and other contamination while being transported to or within the city.

Section 5. Every carcass or part of a carcass shall be stamped on inspection. If fit for human consumption, it shall be stamped "inspected and passed." If not fit for human consumption, it shall be stamped "inspected and condemned."

All carcasses, parts of carcasses and meat products found to be unfit for human consumption shall be destroyed under the personal supervision of the inspector.

Section 6. *Meat Products.* The term meat products shall apply to any form of food for human consumption containing any part of the carcasses of cattle, sheep, lambs, swine and goats.

All meat products shall be made from carcasses, or parts of carcasses which have previously been inspected. Such products shall be packed in packages or containers plainly marked or stamped by an inspector where such products are shipped from outside the city.

Section 7. *Trimmed Meat.* No carcasses or part of carcasses shall be trimmed or sold as trimmed meat unless such parts or carcasses have been previously inspected by the City Meat Inspector.

All trimmed meat shall be packed in a container plainly marked or stamped by an inspector, where such trimmed meat is shipped in from without the city.

Section 8. It shall be unlawful for a meat dealer to return or disposed of meat scraps of any form, except for reduction.

Section 9. No person dealing in meat or meat products shall have in his possession unstamped meat or meat products, except where such meat or meat products are being held for inspection purposes.

Section 10. Any person, firm or corporation engaged in the handling of meat, either as a wholesaler or retailer, shall at all times keep the premises in a clean, sanitary condition.

Jamestown

Mayor Leon F. Roberts informs our Commission that Jamestown has no ordinance regulating slaughter-houses since there are none in this city. No meat inspection ordinance has been adopted. However, meat markets and other places selling meats are regularly inspected by the Sanitary Inspector or the Assistant Sanitary Inspector, under the jurisdiction of the Board of Health.

Johnstown

Has no meat inspection or slaughter-house ordinance.

Kingston

The Board of Health informs this Commission that there are three slaughter-houses in Kingston, two of which are covered by the local meat inspector who is present at the time of slaughter, and the third comes under federal supervision.

Regulation 10-a.

Section 1. Sale of the carcasses of certain animals restricted. No carcasses or parts of the carcasses of cows, bulls, steers, calves, lambs, goats or swine shall be brought into the city of Kingston, N. Y., or held, kept, offered for sale or sold for human food therein until they shall, respectively, have been inspected and passed as fit for human food by a duly authorized inspection of the United States Department of Agriculture, or of any state or municipality, or other inspection service approved by the Department of Health of the City of Kingston, and shall have been marked, stamped or branded as having been so inspected and passed.

Section 2. This regulation shall take effect and be in force from and after passage and publication according to law.

(Adopted, August 13, 1930.)

Section 1. No person, firm or corporation shall keep or have within the limits of the City of Kingston, N. Y., any slaughter house or any house or place where animals are killed for market without the consent of the Board of Health of the said city, which consent shall be revocable by said Board.

(a) All houses or places in said city in which animals are slaughtered, or the meat and meat products are prepared, cured, packed, stored, handled or sold, shall be suitably lighted and ventilated and maintained in a sanitary condition. All work in such establishments shall be performed in a cleanly and sanitary manner.

(b) Ceiling, sidewalks, pillars, partitions, etc., shall be frequently white-washed or painted, or, where this is impracticable, they shall when necessary, be washed, scraped or otherwise rendered sanitary. Where floors or other parts

of a building, or tables or other parts of the equipment, are so old, or in such condition that they cannot readily be made sanitary they shall be removed and replaced by suitable materials, or otherwise put in a condition acceptable to the meat inspector. All floors shall be so constructed that they can be kept clean and sanitary.

(c) All trucks, trays, and other receptacles, all chutes, platforms, racks, tables, etc., all knives, saws, cleavers, and other tools, and all utensils and machinery used in moving, handling, cutting, chopping, mixing, canning or other processes shall be thoroughly cleansed daily, if used.

(d) The aprons, smocks or other outer clothing of employes who handle the meat in contact with such clothing shall be of a material which is readily cleansed and made sanitary, and shall be cleansed daily, if used. Employees who handle meat or meat food products shall be required to keep their hands clean.

(e) The rooms or compartments in which meats or meat food products are prepared, cured, stored, packed or otherwise handled, shall be properly lighted and ventilated.

(f) All toilet rooms, urinals and dressing rooms shall be entirely separated from compartments in which carcasses are dressed, or meat or meat food products cured, stored, packed, handled, prepared or sold. They shall be sufficiently ample in size, in number and fitted with every modern lavatory accommodations, including toilet paper, soap, running water, towels, etc. They shall be properly lighted, suitably ventilated and kept in a sanitary condition.

(g) The room or compartments in which meats, or meat food products are prepared, cured, stored, packed or otherwise handled, shall be properly lighted and ventilated, and shall be so located that odors from toilet rooms, catch basins, casing departments, tank rooms, hide cellars, etc., do not penetrate them. All rooms or compartments shall be provided with cuspidors, which employes who expectorate shall be required to use.

(h) Persons affected with tuberculosis or any other communicable disease shall not be knowingly employed in any of the departments or establishments where carcasses are dressed, meats handled, or meat food products prepared, and any employee suspected of being so affected shall be so reported by the meat inspector to the manager of the establishment and to the health officer.

(i) No use incompatible with proper sanitation shall be made of any part of the premises on which a slaughter house is located. All yards, fenced pens, chutes, alleys, etc., belonging to the premises of such establishment shall, whether they are used or not, be maintained in a sanitary condition.

(j) Butchers who dress diseased carcasses shall cleanse their hands of all grease and then immerse them in a prescribed disinfectant and rinse them in a clear water before engaging again in dressing or handling healthy carcasses. All butchers' implements used in dressing diseased carcasses shall be cleansed of all grease, and then sterilized with either boiling water or by immersion in a prescribed disinfectant and rinsed in clear water, before being used again in dressing healthy carcasses. Facilities for such cleansing and disinfection, approved by the meat inspector, shall be provided by the establishment. Separate trucks, etc., shall be furnished for handling diseased carcasses and parts. Following the slaughter of an animal affected with an infectious disease a stop shall be made until the implements have been cleansed and disinfected unless duplicate implements are provided.

(k) Meats and meat products intended for rendering into edible products must be prevented from falling on the floor, while being emptied into the tanks, by the use of some device such as a funnel.

(l) Butchers who dress carcasses are prohibited from holding in the mouth skewers to be used for such dressing.

(m) Slaughtering shall be done on week days only between the hours of 6 A. M. and 6 P. M. Week day hours are not to apply to a plant where a permanent meat inspector is assigned.

(n) No slaughtering shall be done except under the inspection of a meat inspector of the Board of Health. He is to pass upon its fitness for food after it is dressed; he will stamp each part of the carcass with a stamp marked either "Inspected and Passed" or "Inspected and Condemned."

The days or parts of days during which slaughtering may be done shall be fixed by agreement between the holder of the permit and the meat inspector of the Board assigned to the particular work, and in case agreement cannot be had, the health officer of the city is empowered to designate day and time at which slaughtering shall be done.

(o) Where the work of an establishment is sufficient to demand the entire time of an inspector, the proprietor of such establishment shall furnish office rooms, including heat and lights, washing facilities and rent free for the exclusive use of the inspector, and shall be provided with lockers for storage for supplies and clothing.

(p) A careful inspection shall be made of all animals at the time of slaughter. Should any lesion, disease or other condition be found, such lesion, disease or condition shall be judged in accordance with the regulations relating to the inspection of meat as prescribed from time to time by the Department of Agriculture of the United States.

(q) Any meat or meat food products condemned at establishments which have no facilities for proper disposition of the same by use of tanks shall be freely slashed with a knife and then denatured with crude carbolic acid or other agent prescribed by the health office, and then removed from the establishment in tightly covered cans.

All offal, blood and refuse of establishments which have no facilities for proper disposition of the same by use of tanks shall immediately after slaughtering be placed in tightly covered cans and removed from the premises in the same cans at the end of the slaughtering period.

All condemned carcasses and parts shall be disposed of only in the presence of an inspector of the Health Department and a report of the disposition shall be made by him upon blank forms provided therefor.

Section 2. These regulations amend and supersede Regulation 10 of the Sanitary Code of the City of Kingston, N. Y., wherein said Regulation 10 is in any way inconsistent herewith.

Section 3. Any person who violates any provision or any regulation set forth in section 1 herein, or any provision or any regulation of the Sanitary Code of the City of Kingston, N. Y., or who violates any order or regulation of the Board of Health or the Health Officer of the City of Kingston, N. Y., shall be guilty of a misdemeanor and shall be punished in the manner as prescribed by sections 1740 and 1937 of the Penal Law of the State of New York. The provisions of this section supersede any provisions of Regulation No. 34 of the Sanitary Code of the City of Kingston, N. Y.

Section 4. These regulations shall take effect and be in force from and after passage and publication according to law.

(Adopted May 1, 1930.)

Lackawanna

Section 27. Any person, persons, firm or corporation who shall hereafter kill, in a slaughterhouse within this city, or who shall transport or bring within said city an animal or any part thereof, which is diseased, unwholesome or unfit for human food from any cause, shall forthwith report all the facts concerning the same to the health officer of said city; and no part of such animal shall be disposed of until it has been examined by the health officer or other authorized agent of this Board. No person shall cart through the streets of said city, except it be covered so as to protect it from dust and dirt, a body or any part thereof of any animal which is dressed and to be used for food. Such cart shall be kept in a clean and sanitary condition at all times.

Little Falls

No person shall engage in the slaughtering of animals, or maintain, occupy or use any building or place for the purpose of slaughtering animals in said city, at any point within one-quarter of a mile of any dwelling house or residence, unless such slaughtering shall be done in a building connected with the city sewers and provided with water tight floors, and maintained in a clean and inoffensive condition. A permit in writing for such slaughtering shall be obtained from the Board of Health of said city. Any person violating any of the foregoing provisions of this section shall be guilty of a misdemeanor.—Sec. 107, General Ordinances.

Health Regulations. No meat, fish, bird, fruit or vegetables, milk or anything for human food or drink, not being then fresh or properly preserved, sound, wholesome and safe for such use; nor any flesh of any animal which died by disease, or which was at the time of its death in a sickly or unwholesome condition; nor the carcass on meat of any calf which was at the date of its death less than four weeks old; or of any lamb which was at the date of its death less than eight weeks old; or of any pig which was at the date of its death less than five weeks old, shall be brought within the limits of this city, nor offered or held for sale therein. Every person violating any of the provisions of this section shall forfeit and pay a penalty of \$15 for every such violation.

No person or persons, without the consent of the proper authorities, shall build or use any slaughter house within the limits of this city; and the keeping and slaughtering of all cattle, sheep, swine or fowls; and the preparation and keeping of all meat, fish, birds or other animal food shall be in the manner best adapted to secure and continue their wholesomeness as food; and every butcher and other person owning, leasing or occupying any place, room or building wherein any cattle, sheep, swine or fowls have been or are killed or dressed, and every person being the owner, lessee or occupant of any room or stable wherein any animals or fowls are kept, or of any market, public or private, shall cause such place, room, building, stable or market, and their yards and appurtenances, to be thoroughly cleansed and purified, and all offal, blood, fat, garbage, refuse and unwholesome and offensive matter to be removed therefrom at least once in every twenty-four hours after the use thereof for any of the purposes herein referred to; and the floors of such building, place or premises shall be so constructed as to prevent blood, or foul liquids or washings from steeling in the earth beneath; and every person or persons owning or leasing any room, stall or place where fruit or vegetables are kept, stored or exposed for sale, shall cause such place, room or stall, and their yards and appurtenances to be kept clean, and all refuse garbage and unwholesome and offensive matter to be removed therefrom at least once in every twenty-four hours. Every person violating any provision of this section, or failing to comply therewith, shall forfeit and pay a penalty of \$25 for every such violation.

Lockport

Does not have any ordinance providing for the inspection of meat or slaughter-houses. The Lockport Sanitary Codes states:

Sec. 25. *Meat, Fish, Fowl and Vegetables.* No person shall keep, sell, offer for sale or bring within the city limits any unwholesome, unsound, impure meat, fish, fowls, vegetables, or any other unwholesome article to be offered for sale for use for human food.

Sec. 26. No person shall keep, sell, offer for sale, or bring within the city limits the meat of any calf less than four weeks old, or the meat of any pig less than five weeks old, or the meat of any lamb less than eight weeks old.

Sec. 27. Any person, persons, firm or corporation who shall hereafter kill, in any slaughter house within this city, or who shall transport or bring within said city an animal or any part thereof, which is diseased, unwholesome or unfit for human food from any cause, shall forthwith report all the facts concerning the same, to the health officer of said city; and no part of such animal shall be disposed of until it has been examined by the health officer or other authorized agent of this board. No person shall cart through the streets of said city, except it be covered so as to protect it from dust and dirt, the body or any part thereof, of any animal which is dressed and to be used as food. Such cart shall be kept in a clean and sanitary condition at all times.

Sec. 28. Any person, persons, firm or corporation having in charge or being in possession of any slaughter house or other place within this city where any animal is or shall be slaughtered, shall at all times admit within such slaughter house or other place and to any other place where the meat or any portion of a slaughtered carcass shall be, the health officer, or any member of this board, or any authorized agent of this board for purposes of inspection by said officer, board or agent.

Sec. 29. Every person being the owner or lessee or occupant of any room, stall, store, building or place where meat, fish, vegetables or other articles designed for human food shall be stored, or shall be kept or offered for sale, shall keep such room, stall, store, building or place and its appurtenances, and all yards, grounds, alleys or premises owned, occupied or used by such persons in a clean and wholesome condition; and every person who has charge of or is interested in the care, custody or sale of any meat, fish, fowls or vegetables, or other articles designed for human food shall keep and preserve the same in a clean and wholesome condition.

Sec. 30. No person shall build or use any slaughter house within the limits of this city, nor slaughter any cattle, swine, sheep, lambs, or calves within the limits of this city, without a special written permit from this board, or its health officer.

Sec. 31. No person or persons, corporation or corporations, shall sell, or offer for sale to any one for human consumption as food any meat, fish or fowl that has been treated by any preservative. All fowls that have been dressed for market shall be properly drawn.

Long Beach

Prohibits establishment of slaughter-houses within the city.
Does not have a meat inspection requirement.

Malone

Sec. 1. Resolved, that the rules and regulations of the United States governing meat inspection as amended, effective May 1, 1908, issued under the authority of an act of Congress approved June 30, 1906, in regard to sanitation, ante-mortem and post-mortem inspection, condemnation and disposal of animals and meat unfit for human food, stamping and tagging of carcass or part of carcass inspected and found fit for food, shall be the standard applied to all acts of butchers, inspectors, and other persons, firms, or corporations engaged in or who sell fresh meat in the village of Malone, or within its jurisdiction.

Sec. 2. That on and after the adoption of this ordinance no person, firm, or corporation shall operate any slaughter house or pen for dressing meat for use in the village of Malone, unless the same shall be licensed by the Board of Health of said village. Application for license must be made in writing to the Board of Health, showing the name of applicant, occupation, residence, location of proposed building and his experience in operating such

establishment. Plans and specifications for proposed building and plant shall accompany such application. If upon investigation it is found that said plant will be constructed according to the requirements of this ordinance, the application shall be granted, *otherwise refused*. No animal shall be slaughtered in any such building until the health officer certifies that all requirements have been fulfilled, and the plant in working order.

Sec. 3. That no person, firm or corporation shall sell or offer for sale any fresh meat in the village of Malone, unless the same has been slaughtered and inspected as provided in this ordinance; nor keep, expose or offer for food, nor keep the same for purposes of food, within the village of Malone, any emaciated, tainted, putrid, decaying, decayed, unwholesome or diseased meat. In case of keeping, exposing or offering such for sale the health officer or inspector shall have the power and authority to seize, condemn and confiscate the same.

Sec. 4. The Board of Health shall prescribe and furnish forms for reports, tags, stamps, etc., necessary for use by the inspector, rules governing reports and shall receive and check all reports of the inspector. Said board shall receive all complaints and adjust all difference arising between the inspector and those having property inspected, not otherwise being provided for. The inspector shall be appointed by the joint Health Board and shall be graduate veterinarian, and licensed in the State of New York, and be able to furnish evidences of having experience in the discharge of the duties involved.

Sec. 5. That the requirements of this ordinance shall not be applicable to farmers who are not engaged in the fresh meat business. They may, however, bring their meat into the village for sale, but must take it to the office of the inspector during the hours to be designated by the health officer and the Consolidated Health Board, namely 7 A. M., to 12 M. on Tuesday and Friday of each week, and there have the same inspected in accordance with the requirements of this ordinance and for the purpose of such inspection and the carcass shall have accompanying it, held by their natural attachments, all the following organs of the animal, to wit: The head, lungs, heart, liver and spleen; however, where several animals are to be slaughtered at one place, at the option of the inspector, arrangements may be made to have them inspected on the premises of the owner, on the days and at the hours above designated.

Sec. 6. That any person, firm or corporation violating any of the provisions of this ordinance shall upon conviction, be subject to a penalty of fifty dollars (\$50.00). That this ordinance shall be in force and effect from and after June 1, 1921.

The Meat Inspector is instructed to condemn and confiscate any and all meat found in markets of the city, or offered for sale in stores, or other places, which do not bear the official stamp of the Health Department, or the stamp of the United States Government inspection service or any recognized municipal or state inspection showing that it has been inspected and passed as provided above.

Sec. 7. That all delivery wagons and other vehicles, together with boxes, barrels and other containers used in transporting meats in the village, shall be kept perfectly clean; and no dirty burlap or other dirty cloths shall be used in contact with meat.

NOTE.—That word "Animal" in this ordinance shall be understood to include only cattle and hogs. A charge for inspection of \$1.00 for each hog or calf shall be paid by the person, persons, firms or corporation first selling the carcass in the village of Malone, New York.

Resolved, that the Meat Inspection Ordinance be amended so that "Note" will read as follows: "That word, 'animal' in this ordinance shall be understood to include only cattle and hogs. A charge for inspection shall not exceed \$1.00 for each head of cattle and a charge not to exceed 50 cents for each hog shall be paid by the person, persons, firm or corporation in the village of Malone, N. Y."

Mechanicville

(Adopted February 9, 1920.)

Be it ordained, by the council of the city of Mechanicville in legislative session assembled, that hereafter no slaughter houses shall be maintained or used within the limits of the city of Mechanicville unless the owner or proprietor of said slaughter house shall have first complied with the following conditions:

Section 1. No owner or proprietor of a slaughter house where cattle, sheep, hogs, etc., are slaughtered, shall maintain said slaughter house unless he shall have first obtained from the health officer of the city of Mechanicville a permit for the operation and maintenance of said slaughter house.

Section 2. The health officer of the city of Mechanicville is hereby authorized to issue to the person or persons desiring to operate or operating a slaughter house for the slaughter of cattle, sheep, hogs, etc., providing said owner or proprietor of said slaughter house shall have first complied with the following conditions:

(a) The said slaughter house to be operated or proposed to be operated, shall be constructed with a concrete floor and shall have windows and doors made with fly screens; and shall deposit all blood collected in metallic or glass vessels and carry same to a point distant from the city of Mechanicville satisfactory to the health officer of the said city.

(b) That the said slaughter house shall be kept absolutely clean and free from offensive odors.

(c) That no materials from the slaughter of cattle, sheep, hogs, etc., shall be allowed to remain in said slaughter house for a period longer than twelve hours.

Section 3. The health officer of the city of Mechanicville shall be the sole judge of the compliance with the provisions of this ordinance.

Section 4. Any person or persons desiring to operate or maintain a slaughter house within the limits of the city of Mechanicville shall be required to pay a license fee of \$5.00 per year.

Section 5. Any person or persons violating the terms of this ordinance shall be deemed a Disorderly Person and upon conviction shall be subject to a fine not to exceed \$50.00, and upon failure to pay such fine, shall be confined to the Saratoga County Jail for a period of one day for each dollar of the fine not paid.

This ordinance shall take effect February 15th, 1920.

All ordinances or parts of ordinances in conflict herewith are repealed.

Middletown

“No person shall build, use or maintain any slaughter house within the City of Middletown without permission of the Board of Health.” Sanitary Regulation.

An Ordinance to provide for Meat Inspection.

Section 1. No person, firm or corporation engaged in the sale of meats to the general public shall sell, offer or expose for sale, have or possess, any beef, veal, lamb, goat or pork unless the same shall have been inspected by and bear the stamp of approval of a U. S. Government Inspector, a State Department of Agriculture Inspector, or a Licensed Veterinarian, appointed or approved by the Board of Health of the City of Middletown. The stamp of approval of the Inspector of the City of Middletown shall contain the words, “Inspected for the City of Middletown, N. Y.” Such impression shall be made with ink and easily readable, and shall be placed on at least four different places on each quarter of each animal by said Inspector.

Section 2. No carcass shall be marked with the official stamp of the City of Middletown unless the same shall be accompanied by the lungs, heart and liver by the natural attachments, and unless the same shall be found sound, wholesome and fit for use as a human food.

Section 3. No trimmed or tubbed meat shall be sold, offered or exposed for sale, had or possessed within the City of Middletown unless the same has been inspected and approved as provided in section 1 of this ordinance.

Section 4. The Board of Health of the City of Middletown shall designate a place or places, for the inspection of meats, and shall make, amend and enforce rules and regulations for such inspections.

Section 5. Any person violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and shall, upon conviction, be subject to a fine not exceeding \$100.00 for each offense.

Section 6. This ordinance shall take effect immediately.

Locally slaughtered meats will be inspected at the residence of Dr. B. F. Judson, 188 South St., every week-day between 1 and 2 P. M.

Hearts, liver and lungs must accompany each carcass.

Mount Vernon

UNWHOLESOME FOOD

Section 105. *Diseased Meats.* No person shall bring into the city, sell, offer or have for sale for human consumption in any market, any cattle, sheep, hogs, calves, or any part thereof, or any meat, fish, game or poultry that is diseased or unwholesome, or which for any reason may be unfit for human consumption. And no animal or part thereof that has been examined and condemned by authorized persons shall be held, sold or offered for sale for human food in any market or place in the city, and it shall be the duty of those authorized to condemn and destroy all such whenever found.

SLAUGHTER HOUSES

Section 171. *Permit and Regulations.* The business of slaughtering cattle, sheep, swine, pigs, calves or fowl shall not be conducted in the city of Mount Vernon without permit therefor issued by the Board of Health of said city, or otherwise than in accordance with the terms of said permit and with the following rules and regulations.

1. *Approval of Site, Plans and Specifications.* No permit to conduct a slaughter house will be issued by the Board of Health unless the site and the plans and specifications of the proposed slaughter house shall have been first approved by said Board.

2. *Construction and Maintenance of Premises.* No person, firm or corporation shall kill or slaughter any cattle, calves, sheep or other animals or any fowl within the City of Mount Vernon unless the house, room, yard, pen or place where such killing shall take place shall be provided with a concrete floor or one paved with brick, stone or asphalt. If paved with brick or stone, they shall be laid with water lime cement and shall be tightly sealed. The floor in every case shall slant or descend toward a drain or drains which shall be placed in such manner and position so as to sufficiently and completely receive and carry off all blood and liquid waste. There shall also be a properly constructed cement, concrete or other stone reservoir or trough, containing sufficient drainage facilities. Said reservoir or trough shall be provided with a galvanized iron cover, containing sufficient drain funnels and equipped in such manner as to be constantly flushed with sufficient water to keep such reservoir or trough free from offensive effluvia at all times. Said room or place in which cattle, calves, sheep or other animals are slaughtered or killed shall contain both hot and cold running water and shall further

be equipped with a concrete or galvanized plucking tank, containing proper facilities for sufficient flushing and drainage. Said room or place shall be separate in all respects from the room or other space used as a market or salesroom.

3. *Change of Environment.* When the environment has changed since the granting of the last permit to such an extent that the maintenance of the slaughter house would constitute a nuisance, the application for the maintenance thereof shall be denied, even though the site has been previously approved by the Board of Health.

4. *Inspection.* It shall be the duty of every owner or occupant of a slaughter house to keep the same in good hygienic condition, and to allow inspection of the same by any authorized officer or employee of the Board of Health and upon direction of such officer or employee to place the same in such condition.

5. *Daily Removal of Refuse.* Empty crates shall not be stored on premises. Any accumulation of disused barrels, boxes, crates, or other offensive material or refuse shall be removed daily.

6. *Rendering Animals.* The rendering of dead animals is hereby declared to be unlawful and is hereby prohibited within the limits of the city, and no person shall within said limits render any dead animals. This provision shall not apply to the rendering of parts of animals which have been slaughtered for human food.

7. *Coops.* No owner, proprietor or manager of any slaughter house, butcher shop, market or other place where fowl are kept, bred, sold, killed, or slaughtered shall keep any fowl or permit same to be kept in the coops used for the transportation of said fowl for a longer period than 24 consecutive hours after delivery thereof at said place or places; and every owner, proprietor or manager of any slaughter house, butcher shop, market or other place where fowl are kept, bred, sold, killed, or slaughtered shall provide or have provided sufficient metal release coops of adequate size to accommodate the number of fowl placed therein. Said release coops shall at all times be maintained in a sanitary condition. This regulation shall not apply to any place where fowl are kept solely as pets or for the private use of the person or persons keeping them.

Section 10-a. *Limitations.* No live poultry shall be kept for the purpose of sale, or sold except in a duly licensed poultry market which has secured a license from the Commissioner of Public Health to slaughter live poultry.

§ 171-a. *License.* Licenses to slaughter live poultry shall only be issued to the operator of live poultry markets. The licenses shall be issued annually and expired on the 31st day of December of each and every year. An annual license fee of Ten (\$10.00) Dollars shall be charged for such licenses to slaughter live poultry.

§ 171-b. *Conduct of Business.* All live poultry shall be kept within the poultry market and within the same building that is used as a slaughter house for the live poultry.

§ 171-c. *Fingerprints.* Every applicant for a license to slaughter live poultry shall file with his application impressions of the fingers of his right and left hand. Such impressions shall be placed upon forms furnished by the Police Department. The impressions to be taken under the supervision of the Police Department. No license shall be issued until after the investigation and examination of the fingerprint impressions, and the report thereon to the Commissioner of Health by the Police Department.

Newburgh

8-5 MEAT AND MEAT PRODUCTS.

8-5.1. DEFINITIONS.

The following terms as used in this Code shall have the signification herein given unless specifically provided otherwise.

ABATTOIR, any building or part thereof, or premises used or kept for the purpose of canning, curing, dressing, killing, packing, rendering, salting, slaughtering or smoking any calves, cattle, goats, sheep, swine or other animals or meat thereof intended for human consumption.

CARCASS, all parts, including viscera, of a slaughtered animal, that are capable of being used for human food.

CONDEMNED, that animals so marked have been inspected and found to be immature or in a dying condition or to have died otherwise than by slaughter, or to be affected with some other condition or with some disease that will require condemnation of its carcass.

INSPECTED AND CONDEMNED, that the carcasses, parts of carcasses, meat or meat food products so marked are unsound, unhealthful, unwholesome or otherwise unfit for human consumption.

INSPECTED AND PASSED, that the carcasses, parts of carcasses, meat or meat food products so marked have been inspected and passed under this chapter, and that, at the time they were inspected, passed and so marked, they were found to be sound, healthful, wholesome and fit for human consumption.

INSPECTION STATION, a place provided by the Health Officer for the inspection and stamping of all carcasses of cattle, calves, hogs, sheep and goats slaughtered without and brought within the city for sale as food for human consumption.

MEAT, any edible part of the carcass of any cattle, sheep, swine, or goat which is not manufactured, cured, smoked, processed or otherwise treated, and shall include fish, shellfish, birds, poultry and fowl.

MEAT FOOD PRODUCTS, any article of food, or any article which enters into the composition of food for human consumption which is derived or prepared, in whole or in part, from any portion of the carcass of any calf, cattle, sheep, swine or goat if such portion is all, or a considerable and definite portion of such article of food.

8-5.2. PERMIT REQUIRED FOR SALE OF MEAT.

No person shall sell meat, either wholesale or retail, without first having obtained a permit from the Health Officer. Permits shall be granted only to those who conform to the requirements of this chapter, after inspection of premises by the Health Officer and approved both as to equipment and sanitary condition. All places, including abattoirs, where meat is stored, shall be furnished with adequate refrigeration facilities. All permits called for under this chapter shall expire annually on the first day of May and shall be renewable on or before such date in each year. Such permits shall be posted conspicuously on the premises for which they are issued.

The Health Officer may, however, in his discretion, accept and use in connection with the issuance of such a permit the reports of the Health Officer of another municipality with reference to conformity to the requirements of this chapter.

The Health Officer, when convinced that an applicant is complying or will comply, with the requirements of this chapter, may in his discretion issue to such applicant a temporary permit for a meat industry or abattoir pending the completion of any action necessary to comply with the requirements of this chapter, but such temporary permit shall not continue in effect more than thirty days.

8-5.3. INSPECTION.

No person shall sell, or offer for sale, within the city, any beef, veal mutton or pork unless the same shall have been marked or stamped to show it has been previously inspected and approved by the Bureau of Animal Industry, of the United States Department of Agriculture, the Bureau of Animal Industry of the New York State Department of Agriculture and Markets, or by the Board of Health of the city.

Meat or meat food products in markets, stores, restaurants, or other places of sale, in violation of this chapter shall be seized by the Health Officer and held as evidence of such violation or disposed of as directed by the Health Officer. Any meat or meat food products found in such places shall be prima facie evidence of its being offered for sale.

The Health Officer shall make or cause to be made, a post-mortem examination of all cattle, calves, sheep, hogs and goats sold in the city, and of all such animals slaughtered within the city for human consumption, and an examination of all carcasses or parts of carcasses of cattle, calves, sheep, hogs or goats, or the meat products thereof, slaughtered or prepared outside the city and brought within the said city for human consumption unless such examinations as are required in this chapter shall already have been made. Such examinations shall be made in accordance with the regulations for meat inspection of the Bureau of Animal Industry of the United States Department of Agriculture.

All animals plainly showing upon ante-mortem inspection, any disease or condition which, under the regulations governing meat inspection of the United States Department of Agriculture, would cause condemnation of their carcasses upon post-mortem, shall be condemned and disposed of under the direction of the Health Officer and all animals which, on ante-mortem inspection do not plainly show, but are suspected as being affected with any disease or condition that, under this chapter, may cause condemnation in whole or in part, upon post-mortem inspection, shall be so marked as to retain their identity as suspects until final post-mortem inspection when the carcasses shall be marked and disposed of as provided in this chapter.

8-5.4. SLAUGHTERING.

No person shall slaughter within the city, any cattle, calves, sheep, swine or goats intended for human consumption, except under the direction of the Health Officer. No such animal shall be slaughtered except in an abattoir, except upon the written permission of the Health Officer. Every portion of any animal slaughtered intended for human consumption, shall be inspected by the Health Officer and marked by him in accordance with the regulations for meat inspection of the Bureau of Animal Industry of the United States Department of Agriculture.

8-5.5. INSPECTION STATION.

The Health Officer shall provide within the city a place properly equipped for the inspection of meat and meat products. An inspector shall be on duty at the inspection station on such days and during such hours as may be specified by the Health Officer. Carcasses or parts thereof found to be sound, healthful, wholesome and satisfactory for human (consumption) food shall be passed and marked with the official stamp "Inspected and Passed." Carcasses and parts thereof found to be unsound, unhealthful, unwholesome and unfit for human food shall be condemned and stamped with the official stamp "Inspected and Condemned" and disposed of as directed by the Health Officer.

8-5.6. INSPECTION OF CARCASSES.

Carcasses of cattle, calves, hogs, sheep and goats shall be accompanied by the lungs, liver, heart and kidneys. The lungs and kidneys shall be held to the carcasses of cattle by natural attachments. The head, kidneys and feet shall be held to the carcasses of hogs by their natural attachments.

8-5.7. PROTECTION OF MEAT.

No meat or meat food product which is to be used for human food shall be carted or carried through any street unless the same shall be covered with a clean cover, so as to protect it from dirt, dust and insects. Wagons or vehicles used for the delivery of meat or meat products, together with boxes and barrels and other containers used for meat, shall be kept clean.

8-5.8 ABATTOIR.

No person shall maintain or operate an abattoir without first having obtained a permit from the Health Officer.

In every abattoir hereafter to be constructed, the floor of every room where animals are killed or dressed, and the floor of every room wherein any meat, refuse, offal, fertilizer or other material derived from the slaughter of animals is drained or handled shall be made of cement or some other impervious material and shall be watertight, properly drained and connected with a sewer if such abattoir is adjacent or accessible to such sewer. All walls, doors and casements in any such rooms shall be so constructed as to be capable of being kept clean and shall be kept in a clean and sanitary condition. All yards, pens or other premises connected with any abattoir shall also be kept in a clean and sanitary condition.

8-5.9. ABATTOIRS AND INSPECTION STATIONS.

Every abattoir and inspection station shall be supplied with an adequate supply of hot and cold water and such an arrangement of hose and pipes as will enable effective washing of walls, floors and premises. It shall also be supplied with boiling water or live steam for the purpose of sterilizing saws, knives, cleavers and other tools and all utensils and machinery used in the handling of meat products.

All trucks, trays and other receptacles, all chutes, platforms, racks, tables and all knives, saws, cleavers and other tools and all utensils, machinery and vehicles used in moving, handling, cutting, chopping, mixing, canning or in any other process shall be thoroughly cleaned and sterilized daily.

All refuse or other offensive material from an abattoir or inspection station shall be placed at once in covered watertight receptacles and removed at the end of each day.

Every abattoir and inspection station shall be fitted with proper toilet and lavatory accommodations which shall be maintained in a sanitary manner. No such toilet shall open directly into a room where the work of such abattoir or inspection station is carried on.

Soap, running water, (hot and cold), and individual towels shall be provided for the proper cleansing of the hands of all persons who handle meat or its products in such abattoir or inspection station.

No person shall expectorate upon any floor or wall of any abattoir or inspection station or upon any equipment therein, or upon any animal or carcass or product thereof.

No dog or other animal shall run at large in any abattoir or inspection station or premises thereof. No children shall be permitted in an abattoir or inspection station.

8-5.10. REPORTS AND RECORDS.

The Health Officer shall cause to be made to him periodic reports, showing the number of animals inspected, the number passed, the number condemned, the name and address of the owner of each animal inspected, together with such other information as he may require.

The Health Officer shall cause to be made and filed in his office, a record of all inspection, stamping, storage and other services, with the names of the persons for whom such inspection, stamping, storage or other services were done.

8-5.11. RIGHT OF APPEAL.

The manager of any official establishment or any agent or owner of a carcass or parts thereof rejected by the Inspector may appeal from such decision to the Health Officer in a written communication containing the name and address of the appellant, the grounds of the appeal, the decision,

the name of the Inspector, and the date and place where the decision was made. Pending any such appeal, the carcass or parts thereof that are the subject of appeal shall be kept separate and apart from others under the supervision of the Inspector. Expense of storage is to be borne by the owner in case of adverse opinion by the Health Officer.

8-5.12. REVOCATION OF PERMIT.

Each permit for a meat industry or abattoir granted by the Health Officer may be suspended or revoked by him for violation of any of the provisions of this chapter after seven days' notice and a hearing given to the person holding the permit. Revocation of the permit shall include a forfeiture of the permit fee.

New Rochelle

Establishment of slaughter-houses are prohibited, under a zoning ordinance. No meat inspection ordinance. However, slaughter of poultry is under the supervision and regulation of the Health Department.

New York City

Sec. 9. INSPECTION OF MEAT.

1. *Requirements.* No carcasses or parts of the carcasses of cattle, sheep, calves, lambs or swine, shall be offered for sale, sold or given away in any public market in the city until they shall respectively, have been inspected and passed, as fit for human food, by a duly authorized inspector of the United States government or a duly authorized inspector of the Health Department of the city, or, in the case of parts of a carcass, unless such part shall have been cut from a carcass or part of a carcass which had previously been inspected and passed as hereinbefore provided.

Sec. 2. *Marking of certificates.* Such inspection of the Department of Health, upon finding such carcass or part of a carcass, as the case may fit for human food, shall proceed to mark such carcass or part of a carcass by branding or stamping thereon a number and words "Department of Health" and "Inspected and Passed" together with the date of inspection and the name of the inspector, all set forth in conspicuous type in the following form:

No.....
Department of Health

Inspected and passed
 (Date)
 (Name of Inspector)
 and such inspector shall also, upon branding or stamping such carcass or part of carcass, deliver to the owner thereof or said owner's representative a certificate, which shall be substantially in the following form:

No.....
Department of Health

(Brief description of carcass or part of carcass).....
 (Place of Inspection).....
 (Name of dealer)
 Inspected and passed
 Date
 (Name of Inspector)

Such brand or stamp marks, as well as such certificates, shall be consecutively numbered, and the number of the brand or stamp mark shall, in every instance, correspond with the number of the certificate.

Sec. 3. *Certificate; number of; filing of.* Every such certificate shall be made in triplicate form, and the inspector shall deliver the original to the owner of the carcass or part of a carcass to which such certificate relates or said owner is representative and file a copy thereof, respectively, in the Department of Health and in the office of the comptroller.

Sec. 4. *Carcass or part of; when deemed fit as human food.* For the purpose of this ordinance, no such carcass or part of a carcass shall be deemed to have been inspected and passed, as fit for human food by an inspector of the Department of Health unless such carcass or part of a carcass shall have been branded or stamped, and a certificate shall have been issued, as hereinbefore provided.

Sec. 6. *Exceptions.* The provisions of this ordinance shall not, however, apply to carcasses or parts of carcasses of cattle, calves, sheep, lambs or swine, killed in any slaughter house in the city, conducted under a permit issued by the Board of Health.

Sec. 7. *Violations.* Any person who shall violate or neglect to comply with any provision of this ordinance shall, upon conviction thereof, be punished by a fine of not more than \$100, or by imprisonment not exceeding 30 days, or by both such fine and imprisonment.

Niagara Falls

Sec. 1. It shall be unlawful for any person, copartnership, or corporation to sell or offer for sale within the City of Niagara Falls any meat which shall be unwholesome or unfit for human consumption, and it shall be the duty of the food inspector of the City of Niagara Falls to inspect and examine all meats kept or offered for sale within the city to determine whether the same are fit and proper for use as food. The said food inspector shall have the right and authority to condemn and destroy, or cause to be destroyed, any such meat which in his opinion is unwholesome and unfit for such use. In making such inspection, the food inspector shall have the power and authority to require any person selling or offering meat for sale, his agent or servant, to produce any organ or portion of the animal from which said meat is taken for examination. If the owner, agent or servant shall refuse so to do, the food inspector shall have the power and authority to condemn said meat and forbid the sale thereof, and shall cause it to be disposed of in the manner hereinafter set forth. If the owner of any meats so condemned shall sell the same, or offer them for sale, after the meat inspector shall have forbidden their sale and shall have notified him in writing not to sell the same he shall be guilty of a violation of this ordinance.

Sec. 2. Meat which shall have been examined as aforesaid, and found unfit for human consumption shall be seized by said inspector and destroyed in such manner as he may direct without the city or said inspector incurring any liability, and the owner thereof shall not be entitled to recover any damage therefor or to be otherwise indemnified on account of or for the loss thereof.

Sec. 3. It shall be the duty of the food inspector to inspect all meat markets, grocery stores, fruit stores or any other stores or places having food of any kind for sale; to inspect all factories manufacturing foods for human consumption and to inspect all fixtures, ice-boxes, containers and all other articles used in said stores and factories; it being the intent of this ordinance that the food inspector shall make such inspection for the purpose of maintaining sanitary and wholesome conditions in relation to the sale of food and it shall be the duty of the inspector when he finds any unsanitary or uncleanly condition to notify the owner of such store or factory in writing that and require him to remove and remedy said conditions to his satisfaction within

a reasonable period to be stated in said written notice. If such owner fails to comply with such written order, he shall be guilty of a violation of this ordinance.

Sec. 4. The food inspection shall prepare suitable rules and regulations for the proper administration of the affairs of his office, and for the proper guidance of the owners of stores and factories in the conduct of their business, the purpose of such rules and regulations being to encourage sanitary and wholesome conditions in places where foods are manufactured, kept and offered for sale and to prevent contamination and exposure to dust and other uncleanly conditions. The inspector shall cause said rules and regulations, together with this ordinance, to be published and distributed among the several owners of stores and factories in the city. A violation of any of said rules and regulation shall constitute a violation of this ordinance.

Sec. 5. Any person violating this ordinance shall be guilty of a misdemeanor and be liable to a fine of not exceeding \$50.00 or to imprisonment not exceeding six months or both said fine and imprisonment.

Sec. 6. This ordinance shall take effect immediately. Upon motion of Councilman Jenss resolution was laid on the table and public hearing ordered held on same on Tuesday, January 2, 1923 at 8:00 o'clock P. M.

North Tonawanda

No ordinance exists for inspection of meat or slaughter-houses.

Norwich

No ordinance exists for inspection of meat or slaughter-houses.

Ogdensburg

Health Officer Frederick E. Clark informs this Commission that a sanitary code, adopted in 1912, makes "ample and adequate provision for inspection of meat and slaughter-houses."

Olean

No ordinance exists for inspection of meat or slaughter-houses.

Oneida

No information available.

Oneonta

Section 1. It shall be unlawful for any person to engage in the business of slaughtering cattle, sheep or swine in any building now erected or hereafter erected, or otherwise, within the City of Oneonta, without first having obtained and having in full force and effect a license from the Common Council; or without complying with the provisions of this ordinance. The word "person" shall be deemed to include a co-partnership, corporation or other legal entity.

Section 2. *Application.* Any person desiring to conduct such business shall file with the City Clerk an application in writing stating his name, address, experience in such business, location of premises where such business is to be conducted, and such other information as may be required, from time to time, by the Common Council.

Section 3. *License fee and bond.* Each such application shall be accompanied by the annual fee of \$25.00 and a surety company bond in the sum of One Thousand Dollars, conditioned upon the observance and obedience of all provisions of this ordinance and of all ordinances, laws, regulations and codes relating to sanitation, pure foods, or relating in any manner to such business or any operation thereof. Such application shall be referred to the Health Officer and to the Food Inspector, each of whom shall report to the Common Council as to sanitary conditions and whether or not the premises described in the application comply with this ordinance and all laws, regulations and codes applicable thereto, with their recommendations. The Common Council may in its discretion issue a license for the conduct of such business at the premises described, which shall continue in force until December 31st next succeeding, unless sooner revoked. Any such license may be revoked at any time for failure to comply with the provisions of this ordinance, or in the event that the said business, or any operation thereof, or any business or operation carried on in connection therewith, annoys, injures or endangers the comfort, repose or health of any considerable number of persons.

Section 4. No such slaughtering shall be conducted except in a building or room thereof, which shall conform to the following provisions:

1. Floors shall be constructed of concrete, and shall be adequately graded to one or more drains which are properly trapped and sewer connected. Floors shall be scrubbed and flushed at the close of business each day.

2. Walls and ceilings shall be of a smooth, hard, impervious material, and shall be painted or whitewashed as frequently as may be required by the Health Officer. The junction of the walls and floor shall be made by means of sanitary base, or shall be seamless.

3. The building or room shall be properly screened and ventilated, and adequately lighted so that ready inspection may be made.

4. An adequate supply of running water and connection for the flushing of all parts of premises shall be provided.

5. Adequate toilet facilities shall be provided.

6. Tightly covered receptacles constructed of impervious material shall be provided for placing therein all offal, garbage and other offensive or useless parts of such animals, which receptacles shall be emptied at the close of each business day. The contents thereof shall be disposed of in such manner as may be directed by the Health Officer.

7. If any meat or meat products or parts thereof are to be kept on the premises more than twenty-four hours, adequate refrigerating facilities shall be provided.

8. The building or room where such animals are slaughtered, or where any parts thereof are kept, shall be separated from the exterior and from all other parts of the building by partitions, double doors or such other structures as may be prescribed by the Health Officer, for the purpose of preventing vermin, cats and dogs from gaining access to such building or room, and for the purpose of eliminating dust and dirt.

Section 5. All receptacles, tools, implements, equipment and utensils used in such business shall be thoroughly cleaned and sterilized, as often as may be required by the Health Officer, but not less often than at the close of each business day.

Section 6. All portions of the premises where such business is conducted shall be kept in a clean, sterile and sanitary condition at all times.

Section 7. All persons engaged in such business shall observe such rules of personal cleanliness as may be prescribed from time to time by the Board of Public Safety of the City of Oneonta, or by the Common Council.

Section 8. The premises where any such business is conducted shall be subject to inspection, during the usual business hours, by the Health Officer

and/or by the Food Inspector. Such officers shall periodically report to the Board of Public Safety the results of such inspection. In the event such business is not to be conducted daily, the licensee shall file a statement with the City Clerk as to the days on which slaughtering will be done, and shall not slaughter on any other day, except upon twelve hours' notice to the Health Officer and to the Food Inspector, of the time when such slaughtering will be done. Such slaughtering shall not be done on Sunday, nor on any week day between the hours of 6 P. M. and 7 A. M.

Section 9. *Penalties.* Any person who shall engage in such slaughtering business without having in full force and effect a license so to do, shall upon conviction be subject to a penalty of not to exceed Two Hundred Fifty Dollars for each offense, and shall stand committed until such penalty be paid, but not exceeding one day for each dollar of such unpaid penalty. Any person who shall violate any other provision of this ordinance shall upon conviction be subject to a penalty of not exceeding Fifty Dollars for each offense, and shall stand committed until such penalty be paid, but not exceeding one day for each dollar of such unpaid penalty.

Oswego

Ordinance provides simply that "No person shall sell or offer for sale within this city, any unwholesome, stale, emaciated, diseased or putrid meat, fish, oysters, poultry or other provisions." Violation punishable by fine of ten to twenty-five dollars.

Peekskill

No ordinance exists for inspection of meat or slaughter-houses.

Plattsburg

No ordinance exists for inspection of meat or slaughter-houses.

Port Jervis

No ordinance exists for inspection of meat or slaughter-houses.

Poughkeepsie

Section 12. All slaughtering of local cattle for the market of the City of Poughkeepsie shall be under the direct supervision of the Food Inspector, and no meat shall be offered for sale unless it has been properly stamped by the *Food Inspector*. Hogs that are dressed on the farms shall be subjected to examination, in which case the liver and lungs shall not be detached from the carcasses.

All slaughter houses shall be kept absolutely clean. They shall be connected with the sewer and water and shall be properly washed and flushed after slaughtering. No slaughtering of cattle shall be permitted between 6 o'clock P. M. and 9 A. M.

No manure pit shall be permitted within 100 feet of any slaughter house.

Section 13. No person or persons, without the consent of the Board of Health, shall build or use any slaughter house, or slaughter any cattle, calves, sheep, poultry or swine within the limits of the City; and the keeping of all cattle, calves, sheep, poultry and swine, and of all meat, fish, birds or other animal food shall be in the manner best adopted to secure and continue their wholesomeness as food; and every butcher or other person owning, leasing or occupying any place, room or building wherein any meat, fish, birds or other

animal food are kept, and every person being the owner, lessee or occupant of any room or stable wherein any animals are kept, or of any market, public or private, shall cause such place, room, building, stable or market, and their yards and appurtenances to be thoroughly cleaned and purified, and all offal, blood, fat, garbage, refuse and unwholesome and offensive matter to be removed therefrom at least once in every twenty-four hours after the use thereof for any of the purposes herein referred to, and shall also, at all times keep all walls and woodwork, save floors and counters in any building, place or premises aforesaid thoroughly painted or whitewashed; and the floors of such building, place or premises shall be constructed as to prevent blood or foul liquids, or washings from settling in the earth beneath.

Rensselaer

No ordinance exists for inspection of meat or slaughter-houses.

Rochester

No ordinance exists for inspection of meat or licensing of slaughter-houses.

Rome

Sec. 16. *Slaughter Houses, Markets, etc.* No person or persons shall hereafter erect or maintain any slaughter house within the limits of this municipality with the exception that such slaughter houses existing on the date of the adoption of this Code may continue as long as they do not constitute a nuisance.

Every butcher or other person owning, leasing or occupying any place, room or building wherein any cattle, sheep, swine, fish or fowls have been or are killed or dressed, and every person being the owner, lessee, or occupant of any room or stable wherein any animals are kept for slaughter, or of any market, public or private, shall cause such place, room, building, stable or market, and yards and their appurtenances, to be kept thoroughly cleansed and purified. All offal, blood, fat, garbage, refuse and unwholesome and offensive matter must be removed therefrom at least once in every twenty-four hours after the use thereof for any of the purposes herein referred to.

All woodwork, save floors and counters, in any building, place or premises aforesaid must be kept thoroughly painted or whitewashed; and the floors of such building, place or premises shall be so constructed as to prevent blood or foul liquids or washings from settling in the earth beneath.

Any violation of any of the provisions of this ordinance shall subject the offending party to a penalty of \$25.00 for each day's continuance or repetition of the offense.

(Adopted as section 16 of article 1 of the Sanitary Code of the City of Rome, N. Y.)

Sec. 17. *Meat Inspection.* Any person slaughtering any animal within the corporation tax limits, or in any slaughter house within the city limits for the purpose of using the meat thereof for food for themselves or others, or offering the same for sale, shall notify the Meat and Milk Inspector of his intention of slaughtering and the time thereof, in time to allow him to be present. Should the inspector be unable to be present at the time of the killing, all the organs of each animal shall be kept with the meat thereof, until inspected. All persons bringing into the city any meat, not previously inspected and properly marked by an inspector, shall have such meat inspected by the inspector of this department before offering the same for sale. After inspection of the meat and such organs of each animal as he may require, the meat inspector shall properly stamp all meat from animals found free from

physical evidence of disease, and no person shall offer for sale or otherwise dispose of meat for human food which is not properly stamped.

Any person violating any of the requirements of this ordinance shall be liable to a fine of \$10.00 for each violation thereof.

Salamanca

Sec. 4. Every person who shall keep fresh meat or fish for sale, shall keep the place at which the same shall be exposed for sale in a cleanly and wholesome condition and free from all noxious and offensive odors, and if displayed this must be done in a manner to exclude handling by customers, and when any such place shall be found on inspection to be in an unsanitary condition, the owner, occupant or person conducting the business shall correct the same forthwith in accordance with the direction of the Department of Health.

Saranac Lake

Sec. 1. Resolved, That the rules and regulations of the United States governing meat inspection as amended, effective May 1, 1908, issued under the authority of an act of Congress approved June 30, 1906, in regard to sanitation, ante-mortem and post-mortem inspection, condemnation and disposal of animals and meats unfit for human food, stamping and tagging of carcass or part of carcass inspected and found fit for food, shall be the standard applied to all acts of butchers, inspectors and other persons, firms or corporations engaged in or who sell fresh meat in the village of Saranac Lake, or within its jurisdiction.

Sec. 2. That on and after the adoption of this ordinance, no person, firm or corporation shall operate any slaughter house or pen for dressing meat for use in the village of Saranac Lake, unless the same shall be licensed by the Board of Health of said village. Application for license must be made in writing to the Board of Health, showing name of applicant, occupation, residence, location or proposed building and his experience in operating such establishment. Plans and specifications for proposed buildings and plant shall accompany such application. If, upon investigation, it is found that said plant will be constructed according to the requirements of this ordinance, the application shall be granted, *otherwise refused*. No animal shall be slaughtered in any such building until the health officer certifies that all requirements have been fulfilled and the plant in working order.

Sec. 3. That no person, firm or corporation shall sell or offer for sale any fresh meat in the village of Saranac Lake, unless the same has been slaughtered and inspected as provided in this ordinance; nor keep, expose or offer for sale for food, nor keep the same for purposes for food, within the village of Saranac Lake, any emaciated, tainted, putrid, decayed, decaying, unwholesome or diseased meat. In case of keeping, exposing or offering such for sale the health officer or inspector shall have the power and authority to seize, condemn and confiscate the same.

Sec. 4. The Board of Health shall prescribe and furnish forms for reports, tags, stamps, etc., necessary for use by the inspector, rules governing reports and shall receive and check all reports of the inspector. Said board shall receive all complaints and adjust all differences arising between the inspector and those having property inspected, not otherwise being provided for. The inspector shall be appointed by the joint Health Board and shall be a graduate veterinarian and licensed by the State of New York, and be able to furnish evidence of having experience in the discharge of the duties involved.

Sec. 5. That the requirements of this ordinance shall not be applicable to farmers who are not engaged in the fresh meat business. They may, however, bring their meat into the village for sale, but must take it to the office

of the inspector during the hours to be designated by the health officer and the Consolidated Health Board, namely 7 A. M. to 12 M. on Tuesday and Friday of each week, and there have the same inspected in accordance with the requirements of this ordinance and for the purpose of such inspection the carcass shall have accompanying it, held by their natural attachments, all the following organs of the animal, to wit: the head, lungs, heart, liver and spleen; however, where several animals are to be slaughtered at one place, at the option of the inspector, arrangements may be made to have them inspected on the premises of the owner, on the days and at the hours above designated.

Sec. 6. That any person, firm or corporation violating any of the provisions of this ordinance shall, upon conviction, be subject to a penalty of fifty dollars (\$50.00). That this ordinance shall be in force and effect from and after March 7, 1916.

The meat inspector is instructed to condemn and confiscate any and all meat found in markets of the city, or offered for sale in stores, or other place, which do not bear the official stamp of the Health Department, or the stamp of the United States Government inspection service, showing that it has been inspected and passed as provided above.

Sec. 7. That all delivery wagons and other vehicles, together with boxes, barrels and other containers used in transporting meats in the village, shall be kept perfectly clean; and no dirty burlap or other dirty cloths shall be used in contact with meat.

NOTE: That word "animal" in this ordinance shall be understood to include only cattle and hogs. A charge for inspection of \$1.00 each head of cattle and 50 cents for each hog shall be paid by the person, persons, firm or corporation first selling the carcass in the village of Saranac Lake, N. Y.

Saratoga Springs

ORDINANCE CXIV

Be it ordained as follows:

Sec. 1. *Slaughter and Sale of Meat.* The rules and regulations of the United States and the State of New York governing meat inspection in regard to sanitation, ante-mortem and post-mortem inspection, condemnation and disposal of animals and meats unfit for human food, stamping and tagging of carcass or part of carcass inspected and found fit for food, shall be the standard applied to all acts of butchers, inspectors and other persons, firms or corporations engaged in or who sell fresh meat in the city of Saratoga Springs, N. Y., or within its jurisdiction.

Sec. 2. On and after the adoption of this ordinance no person, firm or corporation shall operate any slaughter house for dressing meat for use in the city of Saratoga Springs unless the same shall be annually licensed by the health officer of said city.

Application for license must be made in writing to the health officer showing name of applicant, occupation, residence, location of proposed building and his experience in operating said business.

Plans and specifications for proposed buildings and plant shall accompany the initial application; and plans and specifications for proposed changes or alterations shall be immediately filed with the health officer.

If upon investigation it is found that the said plant will be constructed according to the requirements of this ordinance, the application shall be granted, otherwise refused, except that the health officer may, in his discretion revoke any permit issued by him if the business conducted thereunder shall be conducted in an unsatisfactory manner and contrary to the provisions of this ordinance or contrary to general law.

No animals shall be slaughtered in said building until the health officer certifies that all requirements have been fulfilled and the plant in working order.

Permits shall expire December 31st of each and every year.
(Adopted by the City Council July 17, 1933.)

Sec. 3. No person, firm or corporation shall sell or offer for sale any fresh meat in the city of Saratoga Springs, unless the same has been slaughtered and inspected as provided in this ordinance; nor keep, expose, or offer for sale for food, nor keep the same for purposes for food, within the city of Saratoga Springs, any emaciated, tainted, putrid, decayed, decaying, unwholesome or diseased meat. In case of keeping, exposing or offering such for sale, the health officer or inspector shall have the power and authority to seize, condemn and confiscate the same.

Sec. 4. The health officer shall prescribe and furnish forms for reports tags, stamps, etc., necessary for use by the inspector, rules governing reports and shall receive and check all reports of the inspector. Said officer shall receive all complaints and adjust all differences arising between the inspector and those having property inspected, not otherwise being provided for. The inspector shall be a veterinarian, and licensed in the State of New York, and be able to furnish evidences of having experience in the discharge of the duties involved.

Sec. 5. The requirements of this ordinance shall not be applicable to farmers who are not engaged in the fresh meat business. They may, however, bring their meat in the city for sale, but must take it to the office of the inspector during the hours to be designated by the health officer and there have the same inspected in accordance with the requirements of this ordinance, and for the purpose of such inspection the carcass shall have accompanying it held by their natural attachments, all the following organs, of the animal, to wit: The head, lungs, heart, liver and spleen; however, where several animals are to be slaughtered at one place, at the option of the inspector, arrangements may be made to have them inspected on the premises of the owner.

Sec. 6. The meat inspector shall condemn and confiscate any and all meat found in markets of the city or offered for sale in stores, or other places which do not bear the official stamp of the Health Department, or the stamp of the United States Government or State of New York inspection service, showing that it has been inspected and passed as provided above.

Sec. 7. All delivery wagons and other vehicles, together with boxes, barrels and other containers used in transporting meats in the city shall be kept perfectly clean and no dirty burlap or other dirty cloths shall be used in contact with meat.

Sec. 8. Any person, firm or corporation violating any of the provisions of this ordinance shall be guilty of a misdemeanor and upon conviction, be subject to penalty of fifty dollars (\$50.00) for each offense.

Schenectady

Sec. 2. *Definitions.* As used in this ordinance.

1. The word "meat" shall be deemed and construed to mean and include all animal flesh, carcasses and parts thereof (including poultry and game) designed or intended for human consumption, or sold or disposed of as human food.

2. The term "inspected meat" shall be deemed and construed to mean all "meat" inspected, passed and approved, and stamped or tagged by an inspector of the Department of Health of the State of New York; approved by or under the supervision or jurisdiction of the Commissioner of Health of the city

of Schenectady; or, which lawfully bears the stamp, mark or tag indicative of inspection and approval by the Bureau of Animal Industry of the United States Department of Agriculture.

3. The term "uncooked meat" shall be deemed and construed to mean and include all "meat" which has not been cooked or cured by smoking, salting, drying, or by any other recognized trade process of curing.

4. The term "cured meat" shall be deemed and construed to mean and include all "meat" which has been cured by smoking, salting, drying, or by any other recognized trade process of curing.

5. The word "sausage" shall be deemed and construed to mean and include all meat food products prepared in whole or in part from chopped or ground "meat," further processed by curing and/or smoking, and/or cooking, and molded, or encased in artificial casings or natural animal casings; but it shall not be deemed or construed to mean or include any meat food products prepared from "uncooked meat."

6. The term "hamburger" shall be deemed and construed to mean and include ground lean beef, containing no offal or added water, and no fats other than the natural fat contained in the lean beef from which "hamburger" is made. Heart, liver, tongue, and tripe shall be deemed offal within the meaning of this definition.

7. The term "Retail Meat Shop" shall be deemed and construed to mean and include all premises, building and/or parts thereof used for the preparation for sale, or for the sale or disposition, of "uncooked meat" to consumers but in which animals are not slaughtered.

8. The term "Sausage Shop" shall be deemed and construed to mean and include, all premises, buildings and/or parts thereof used for the preparation for sale, or for the sale or disposition of "cured meat" and/or "sausage" to "consumers" but in which animals are not slaughtered.

9. The term "Wholesale Meat Shop" shall be deemed and construed to mean and include all premises, buildings and/or parts thereof used for the preparation for sale, or for the sale or disposition of "uncooked meat" and/or "cured meat" and/or "sausage" to Retail Meat Shops but in which animals are not slaughtered.

10. The term "Wholesale Meat Dealer" shall be deemed and construed to mean and include any person, other than the owner and holder of a "Wholesale Meat Shop license," who sells or disposes of "uncooked meat" produced from animals owned by and/or slaughtered for such person in a duly licensed slaughter house operated by another.

11. The term "slaughter house" shall be deemed and construed to mean and include all premises, buildings, and/or parts thereof in which animals (excluding poultry and game) are slaughtered with a view to human consumption.

12. The term "meat salesman" shall be deemed and construed to mean and include all natural persons selling or disposing of "uncooked meat" to a "consumer," and all persons handling or employed in the transportation of delivery of such meat.

13. The term "Sausage Salesman" shall be deemed and construed to mean and include all natural persons selling or disposing of "cured meat" and/or "sausage" to "consumer."

14. The word "consumer" shall be deemed and construed to mean and include all persons procuring or obtaining "meat" for consumption by themselves or by their families, or with a view to preparation for cooking and resale to their guests or to the public.

15. The word "person" shall be deemed and construed to mean and include individuals of either sex, and associations, co-partnerships and corporations, whether acting by themselves or by a servant, agent or employer; the singular number shall be deemed and construed to include the plural and the masculine pronoun to include the feminine.

16. The word "inspector" shall be deemed and construed to mean and include the Commissioner of Health and any of his subordinates by him in writing detailed as "Meat Inspectors of the Department of Health."

Sec. 3. *Meat Board.* There is hereby created for the city of Schenectady a meat board consisting of the Commissioner of Health and one of his subordinates designated by him, and three meat dealers with not less than ten years of practical experience, two of whom shall be meat shop owners, and one a meat cutter, to be appointed by the mayor. The members of the meat board shall serve without compensation. Of the three persons first appointed by the mayor after this ordinance goes into effect, one shall be appointed for a term of one year, one for a term of two years, and one for a term of three years, said terms to commence on the first day of July; thereafter, each new appointment shall be made for a term of three years, except that, in case any vacancy shall occur before the expiration of the term, appointments shall be for the unexpired portion of such term.

Sec. 4. *Duties of Meat Board.* It shall be the duty of the meat board, within thirty days after this ordinance becomes effective, to meet and organize by selecting a chairman and a secretary, to adopt rules of order regulating and governing their proceedings, and to designate the time and the place of the meetings of the board. It shall be the duty of the meat board to receive all applications for Meat Salesman's Certificates, to examine all applicants for such certificates, and to determine their fitness and qualifications, and to issue certificates to all persons who shall have passed a satisfactory examination before such board and who shall by it be determined to be competent and entitled thereto. All applications for Meat Salesmen's Certificates shall be acted upon by the board within thirty days from the date of filing, except with the consent of the applicant. It shall be the duty of the chairman to preside at all meetings of the meat board, to sign all certificates issued by the board, and to perform such other duties as may be assigned to him by the Commissioner of Health or by ordinance. It shall be the duty of the secretary to keep a journal of the proceedings of the board, to keep a permanent alphabetical record of all persons examined by the board and a permanent alphabetical and serial number record of all certificates issued by the board, with a notation of revocation of same when revoked and to discharge such other duties as may be assigned to him by the meat board or by ordinance.

Sec. 5. *Meat Grader.* There is hereby created in the Department of Health the position of Meat Grader, whose duty, subject to supervision by the grading service of the Bureau of Agricultural Economics of the U. S. Department of Agriculture, it shall be to enforce the provisions of this ordinance with respect to the classification, grading and marking of veal, beef, lamb, mutton and pork and to prevent the sale in the city of Schenectady of any such "meat" not correctly classified, graded and marked in accordance with the provisions of this ordinance. The cost of federal supervision shall be a charge against the meat inspection fund.

Sec. 6. *Meat Inspectors.* There shall be appointed by the Commissioner of Health not more than two meat inspectors, who shall serve during the pleasure of the commissioner. It shall be the duty of these inspectors to enforce the provisions of this ordinance with respect to the inspection of all places where meat is sold, offered for sale, disposed of, or where animals are slaughtered. Meat inspectors are hereby vested with police powers, and shall, while engaged in the performance of their official duties, wear badges furnished by the city in the form prescribed by the Commissioner of Health. Each inspector, upon appointment and before entering upon the discharge of his duties, shall furnish a bond in the sum of one thousand dollars, conditioned for the faithful performance of his duties and the enforcement of the provisions of this ordinance. The premiums on said bonds shall be paid by the city of Schenectady.

Sec. 7. *Meat Inspection Fund.* There is hereby created in the city treasury a fund to be known as the "Meat Inspection Fund," into which fund shall be paid all the sums derived from fees paid and received pursuant to the provisions of this ordinance. All of said fund, or the equivalent thereof, shall be used solely to defray the cost and expense of the inspection, classification and grading of meat and supervision thereof pursuant to this ordinance.

Sec. 8. *Sale on Sunday Prohibited.* It shall be unlawful to sell, offer for sale, or dispose of any "meat" on the first day of the week, commonly known as Sunday.

Sec. 9. *Meat Peddling Prohibited.* It shall be unlawful to go from house to house, with or carrying or transporting "uncooked meat," and/or "cured meat" and/or "sausage," and/or poultry with the intent to sell the same, or selling the same, or offering or exposing the same for sale, either at wholesale or retail; or to aid or abet any person in so doing.

Sec. 10. *Meat Salesman's Certificate and License.* It shall be unlawful for any natural person to sell or dispose of "uncooked meat" to a "consumer" without first having obtained, and being the authorized holder of a valid and subsisting Meat Salesman's Certificate and of a valid and subsisting Meat Salesman's License pursuant to the provisions of this ordinance, or to so act without having posted and displayed in a conspicuous place and in full view of the customer-consumer at the time of such act, both such certificate and license, and it shall be unlawful to employ any person as a meat salesman unless such person is the lawful owner and holder of such a valid and subsisting certificate and license or to so employ any person who has failed or neglected to obtain the same.

Sec. 11. *Examination for Certificate and License.* Any person desiring to act as a meat salesman, as the term is defined in this ordinance, shall, before making application to the meat board, submit to a health examination by a physician designated by the Commissioner of Health to determine whether he is afflicted with any infectious disease in a communicable form. The cost of said examination shall be paid by the applicant. If such person is found to be free from any such infectious disease in a communicable form a proper medical certificate shall be issued to him by the Department of Health. Such medical certificate shall be presented to the meat board with the application for a Meat Salesman's Certificate. The certificates issued by the meat board shall be serially numbered. A period of thirty days after the ordinance becomes effective shall be allowed within which those persons now engaged in such occupation shall make such application.

Sec. 12. *Meat Salesman's License.* Upon obtaining a certificate from the meat board and presenting the same to the Department of Health said Department shall issue to the owner of such certificate a meat salesman's license. The fee for such license shall be the sum of \$2.00 per annum. Such licenses shall be serially numbered and shall bear a serial number corresponding to the serial number on the certificate issued by the meat board. All such licenses shall expire on the 30th day of June, of each year, but they may be renewed during the month of June of every year upon each holder thereof submitting to a health examination as hereinbefore prescribed for the original issuance of a certificate. Any such license may be revoked by the Commissioner of Health if the licensee is suspected of having become afflicted with any infectious disease in a communicable form unless, upon demand by the Commissioner of Health, such licensee shall submit to a further health examination and is upon such examination, found to be free from such disease.

Sec. 13. *Sausage Salesman's License.* It shall be unlawful for any natural person, other than the holder of a meat salesman's license, to sell or dispose of "cured meat" and/or "sausage" to a consumer without first having obtained and being the authorized holder of a valid and subsisting sausage salesman's license obtained in the same manner as a meat salesman's license;

or to so act without having such license posted and displayed in a conspicuous place and in full view of the customer-consumer at the time of such act. A certificate must be obtained from the meat board as in the case of meat salesmen and all applicants for sausage salesman's licenses shall submit to a health examination as is required for meat salesmen. The fee for such sausage salesman's license shall expire and be renewable at the same time as meat salesman's license, be the sum of \$2.00 per annum and sausage salesman's licenses shall be revokable by the Commissioner of Health for the same reasons prescribed for the revocation of meat salesman's licenses. It shall be unlawful to employ any person as a sausage salesman unless such person is the lawful owner and holder of a valid and subsisting certificate and license or to so employ any person who has failed, refused or neglected to obtain the same.

Sec. 14. *Kinds of Licenses.* In addition to meat and sausage salesman's licenses, the following kinds of licenses may be issued pursuant to this ordinance:

1. Retail meat shop licenses.
2. Sausage shop licenses.
3. Wholesale meat shop licenses.
4. Slaughter house licenses.
5. Wholesale meat dealer's licenses.

Sec. 15. *License Fees: When Due and Payable: Fee for Part of Year.* Each license issued pursuant to this ordinance shall be effective for a license year expiring on the 30th day of June following the date of its issuance, and the license fee prescribed thereof shall be the license fee due and payable therefor, and shall be paid in advance at the time of the application or renewal thereof as provided for in this ordinance. Each such license shall be non-transferable. When application for any license specified in the preceding section is made after the 1st of July in any year, the license fee therefor shall, for the balance of the license year, be in proportion as the remainder of such year shall bear to the whole year, not counting the month in which application is made, except that it shall in no case be for less than one-half of such year.

Sec. 16. *License Fees.* The annual fees for various kinds of licenses specified in section 14 of this ordinance shall be as follows:

1. For a retail meat shop license, \$25.00 for the owner and one salesman; \$5.00 for each additional salesman employed in such meat shop.
2. For a sausage shop license, \$10.00; except that no sausage shop license shall be required where such sausage shop is operated in conjunction with a licensed retail meat shop.
3. For a wholesale meat shop license, \$50.00.
4. For a slaughter house license, \$100.00.
5. For a wholesale meat dealer's license, \$50.00.

Sec. 17. *Applications for Licenses; General Provisions.* 1. It shall be unlawful to open up, conduct, manage, operate, or maintain a retail shop, a sausage shop, a wholesale meat shop, a slaughter house, or a wholesale meat establishment, without first having obtained and being the owner and holder of, and having posted and displayed in a conspicuous place in said establishment or shop a valid and subsisting license authorizing the person therein named to conduct and operate such a shop or establishment in and upon the premises therein named.

2. Any person desiring to obtain any of the licenses herein provided for, shall make application to the Department of Health of the city of Schenectady on the forms to be provided by said Department, setting forth the name of the applicant, the location by street and number of the premises to be

occupied, the number of persons to be employed, and such other information as may be required by the Commissioner of Health.

3. Upon the filing of such application, the Commissioner of Health shall inspect, or cause to be inspected, the premises therein described, and the fixtures and equipment to be used therein. If said premises, fixtures and equipment comply with the provisions of this ordinance, and with the rules and regulations of the city relating to the public health and sanitation, the Commissioner, upon payment of the required license fee, shall issue the license applied for; otherwise he shall reject such application until said premises, fixtures and equipment do so comply.

Sec. 18. Retail Meat Shop License: Sausage Shop License. Every retail meat shop and sausage shop license issued pursuant to this ordinance shall authorize the licensee to conduct and operate such retail meat shop and/or sausage shop in and upon the premises therein described until the end of the license year therein specified.

Sec. 19. Wholesale Meat Shop License: Number. Every wholesale meat shop license duly issued shall authorize the licensee to conduct and operate a wholesale meat shop in and upon the premises therein described and to sell "inspected meat" until the end of the license year therein specified. Upon the issuance of such license, the Commissioner of Health shall assign to the licensee an official Wholesale Meat Shop Established Number, which number shall be used by, or under the direction of the inspector to mark all "meat" received in such establishment. It shall be unlawful to sell, dispose of, or possess with an intent to sell, in or from any such wholesale meat shop any "meat" unless the same is plainly marked with the official wholesale meat shop establishment number of such shop, or lawfully bears the stamp, mark, or tag indicative of inspection and approval by the Bureau of Agricultural Economics of the U. S. Department of Agriculture, or lawfully bears the official establishment number of a slaughter house duly licensed under this ordinance.

Sec. 20. Slaughter House License: Number. Every slaughter house license duly issued shall authorize the licensee to conduct and operate a slaughter house upon the premises therein described and to sell animals, or parts of animals, slaughtered on the licensed premises until the end of the license year therein specified. Such license shall not authorize the licensee, without procuring a wholesale meat shop license to conduct and operate a wholesale meat shop upon the premises described therein. Upon the issuance of such license, the Commissioner of Health shall assign to the licensee an official establishment number, which number shall be used by or under the direction of the inspector to mark all "meat" slaughtered in such establishment. It shall be unlawful to sell, any "meat" unless the same is plainly marked with such official establishment number, or lawfully bears the stamp, mark, or tag indicative of inspection and approval by the Bureau of Agricultural Economics of the U. S. Department of Agriculture.

Sec. 21. License for Slaughter House Outside City. Any person desiring to obtain a slaughter house license for a slaughter house to be operated outside of the city limits (and within five miles thereof) may make application to the Commissioner of Health in the manner hereinbefore provided, and shall file with such application his written agreement to allow the inspection, condemnation and disposal of animals and carcasses in accordance with the requirements of the ordinances of the city of Schenectady and to faithfully comply with all the provisions of this and all the ordinances of the city of Schenectady relating to slaughter houses. Such applications shall be granted or denied in the same manner and upon the same terms and conditions as applicants for slaughter houses within the city are granted or denied, and any license issued pursuant hereto shall be subject to be revoked in the same manner and for the same causes as licenses for slaughter houses within the city are revoked.

Sec. 22. *Wholesale Meat Dealers License.* Every wholesale meat dealer's license duly issued shall authorize the licensee to sell to any person, other than a consumer, in and from the licensed slaughter house therein, designated, a meat produced from animals owned by and slaughtered for him in such licensed slaughter house until the end of the license year therein specified. Upon application of the licensee, the Commissioner of Health may substitute in such license the name of any other licensed slaughter house in lieu of the one originally designed therein. In the event that any such applicant desires to operate from a licensed slaughter house located outside of the city limits, he shall, together with his application file his written agreement to permit inspection, at all reasonable times, of his fixtures and equipment used in the transportation and sale of meat, and to faithfully comply with all the provisions of all ordinances of the city of Schenectady relating to the transportation and sale of meat. Upon the issuance of a Wholesale Meat Dealer's License the Commissioner of Health shall assign to the licensee an official designating mark, which shall consist of the official establishment number of the slaughter house specified in such license, together with an identifying number or letter, which designating mark shall be used by, or under the direction of the Inspector to mark all meat slaughtered for the holder of such license. In the event that the name of another slaughter house is substituted in such license, as hereinbefore provided, such Designating Mark shall be changed to conform to the official establishment number, of such substituted slaughter house. It shall be unlawful to sell or dispose of, or to possess with intent to sell, any meat produced from animals owned by, and killed for, the owner and holder of a Wholesale Meat Dealer's license unless the same is plainly marked with the official designating mark assigned to such owner and holder, or for the owner of such license to transport any such meat, within the city in any vehicle which is not plainly marked with such designating mark.

Sec. 23. *Vehicles to be Sanitary.* All vehicles used by wholesale meat dealers for the transportation of meat shall be maintained in a clean and sanitary condition, and all such meat transported in other than closed vehicles shall be covered with canvass covers. No livestock shall be transported in any vehicle used for the transportation of such meat. No person afflicted with tuberculosis or other infectious disease in a communicable form shall be employed in the handling, transportation or sale of such meat.

Sec. 24. *Diseased Persons Not to be Employed.* No person who is afflicted with tuberculosis or any other infectious disease in a communicable form shall work in any shop or establishment subject to license under the provisions of this ordinance, or engage in the handling, sale, transportation or delivery of meat products; and no dealer shall employ any person to work in any of the foregoing capacities unless such employee be free from any such infectious disease in a communicable form.

Sec. 25. *Sale to Consumer from Licensed Shop Only.* It shall be unlawful to sell or dispose of "uncooked meat" to any "consumer" except in and from a duly licensed retail or wholesale meat shop; or to sell or dispose of "cured meat" and/or "sausage" to any "consumer" except in and from a duly licensed retail or wholesale meat shop, or sausage shop.

Sec. 26. *General Regulations Governing All Shops.* Every shop or establishment licensed pursuant to this ordinance shall contain dressing rooms for their employees, toilet and lavatory facilities conforming to the requirements of the building code and the plumbing code of the city, hot and cold water, toilet paper, soap and individual towels. Separate dressing rooms and toilet facilities shall be provided for women employees. Every such shop or establishment shall be kept in a sanitary condition, and all knives, cleavers, saws and other instruments and utensils used therein shall be thoroughly cleaned after each day's work. All vehicles used for the transportation of meat and sausage shall be maintained in a clean and sanitary condition and

shall be cleaned daily, and all meat and sausage transported in other than closed vehicles shall be adequately covered. No livestock shall be transported in any vehicle used for transportation of meat or sausage. All employees shall wear clean garments only, and shall refrain from indulging in insanitary practices. No person afflicted with tuberculosis shall be employed in any such shop or establishment.

Sec. 27. *Special Regulations Governing Retail Meat Shops.* Every retail meat shop shall be equipped with a refrigerator or cooling room containing a minimum of forty square feet of floor space with a six foot overhead clearance and a door six feet in height, so constructed as to be capable of maintaining a temperature therein at not to exceed forty degrees above zero Fahrenheit; provided, however, that the foregoing requirements shall not be deemed or construed to be a prerequisite to the issuance of a license for the use of any premises by any person who was, on the first day of April, 1935, in good faith occupying any using such premises, or any part thereof, for the preparation for sale, or for the sale or disposition of "uncooked meat" to "consumers"; provided the said premises are equipped with a refrigerator or cooler capable of maintaining the temperature above prescribed and contain not less than five cubic feet of space. Every such shop shall be equipped with meat racks, counters with glass protection front and top covers, meat blocks, scales and meat choppers.

Sec. 28. *Special Regulations Governing Sausage Shops.* Every sausage shop shall contain a refrigerator or cooler containing a minimum of five cubic feet, so constructed as to be capable of maintaining a temperature therein at not to exceed fifty degrees above zero Fahrenheit.

Sec. 29. *Special Regulations Governing Wholesale Meat Shops.* Every wholesale meat shop shall contain a refrigerator or cooling room containing a minimum of one hundred and twenty square feet of floor space with a six foot overhead clearance and door six foot in height so constructed as to be capable of maintaining a temperature therein at not to exceed forty degrees above zero Fahrenheit. The floors, walls, ceiling, partitions, posts, doors and other structural parts, shall be of such material construction and finish as to be capable of thorough cleaning. The hot water tank shall be capable of providing hot water under pressure for cleaning purposes; provided, however, that any such shop in which sausage is manufactured shall be equipped with steam hose and necessary equipment for steam cleaning in lieu of such hot water tank. The floors shall be watertight, and all doors and windows shall be screened. All racks, stands, tables, containers, trucks and other equipment and appliances which come in contact with edible products, shall be constructed of metal and shall be kept clean and free from rust. All meat shall be hung in a refrigerator or cooling room, not to exceed one-quarter of an animal to a hook, or where a high rail is used, not to exceed one side of any animal to a hook. No live poultry shall be kept in any room in which meat is prepared, stored, or sold or offered for sale; and no live poultry shall be transported in any vehicle used for the transportation of meat. No poultry shall be dressed in any room in which meat is prepared, stored, sold or offered for sale.

Sec. 30. *Special Regulations Governing Slaughter Houses.* Any building to be used for the slaughtering, packing, storing, processing or preparing of meat shall be so located as to be free from outside contaminations which might deteriorate the quality of the products handled therein. Plans for new structures, or for the remodeling of old structures, shall be submitted to the Commissioner of Health for approval. Every slaughter house shall contain at least two refrigerators or cooling rooms, each containing a minimum of three hundred square feet of floor space with a six foot overhead clearance, door six feet in height, so constructed as to be capable of maintaining a temperature therein at not to exceed forty degrees above zero Fahrenheit. All rooms in which meat food products are handled must have

floors constructed of concrete or other impervious material, so laid as to readily drain to a trapped and ventilated sewer. The interior of such rooms shall be so constructed as to be readily cleaned and such interior shall be cleaned daily after each day's work. Steam hose shall be provided in all such rooms where necessary to remove accumulations of grease, blood, dust or other deliterious substances therefrom. All doors and windows shall be adequately screened. All trucks, scrap containers, racks, stands, tables, and other appliances which come in contact with edible products, shall be of metal construction and kept clean and free from rust. Cuspidors shall be furnished in sufficient number, and so placed as to be accessible to employees in the habit of expectorating. They shall be of such shape that they will not be easily upset, and of such material as to be readily cleaned and disinfected, and all such cuspidors shall be kept properly cleaned at all times. All meat shall be hung in a refrigerator or cooling room, not to exceed one-quarter of an animal to a hook, or, where a high rail is used, not to exceed one side of an animal to a hook. No live poultry shall be kept in any room in which meat is prepared, stored, sold, or offered for sale, and no live poultry shall be transported in any vehicle used for the transportation of meat. No poultry shall be dressed in any room in which meat is prepared, stored, sold or offered for sale.

Sec. 31. Slaughtering Hours. Slaughtering in all slaughter houses under city inspection shall be conducted between the hours of 8 A. M. and 5 P. M. only, except by special arrangement with the Commissioner of Health. It shall be unlawful for the owner, or his agents, to fail or neglect to comply with the foregoing provisions.

Sec. 32. Sale of Uninspected, Unmarked, or Ungraded Meat Unlawful. It shall be unlawful for any person to sell, or dispose of, offer for sale, or expose for sale, any "meat" unless the same has been inspected post mortem, and passed and approved by a local inspector or by an inspector of the State Department of Health, or by the Commissioner of Health of the city, and unless each primal part bears an official stamp mark indicating such inspection, passage and approval, together with the official, establishment number of the licensed slaughter house wherein the animal from which such "meat" is produced was slaughtered, or unless such "meat" bears the stamp, mark, or tag indicative of inspection and approval by the Bureau of Animal Industry of the U. S. Department of Agriculture. It shall be unlawful for any person to sell, dispose of, offer for sale, expose for sale, or advertise for sale, any locally dressed beef, veal, pork, lamb, or mutton, unless the same shall have been classified, graded and marked in accordance with the provisions of this ordinance.

Sec. 33. Classification, Grading and Marking. All meats and meat food products sold, disposed of, offered for sale, exposed for sale, or advertised for sale, in the City of Schenectady, shall be classified, graded and marked in accordance with and in the manner prescribed by the rules and regulations of the Bureau of Agricultural Economics of the U. S. Department of Agriculture as the same may be amended from time to time.

Sec. 34. Standards. The standards prescribed by the rules and regulations of the Bureau of Agricultural Economics of the U. S. Department of Agriculture, as the same may be amended from time to time, are hereby adopted as defining the various grades of beef, veal, lamb, mutton, or pork carcasses, for the purposes of this ordinance.

Sec. 35. Beef, Veal, Lamb, Mutton or Pork for Sale to be Labeled. It shall be unlawful to display for sale in any retail meat shop any beef, veal, lamb, mutton or pork, unless the same is so marked and labeled as to clearly and plainly indicate to the consuming public the correct grade of the same.

Sec. 36. *Hamburger: Adulteration and Sale of.* It shall be unlawful to use any decomposed, contaminated, or unwholesome beef in any meat product offered for sale, sold, or advertised as "hamburger."

Sec. 37. *What May be Designated as Hamburger.* It shall be unlawful to designate as "Hamburger" any meat product sold, offered for sale, advertised for sale, or disposed of, unless such meat, or meat product complies with the definition of the term "hamburger" contained in subdivision six of section two of this ordinance.

Sec. 38. *Sale of Unadulterated Pork, Etc., Sausage.* It shall be unlawful to sell, offer for sale, or expose for sale or to advertise for sale, or to manufacture for sale or consumption in the city, any sausage made from uncooked meat represented as "pork sausage," "home-made sausage," "farm sausage," "sausage meat," "bulk sausage" or "sausage" with or without any other descriptive word, which has been, or is, adulterated. Any such sausage so made shall be deemed adulterated when it contains any of the following: (1) cereal; (2) added coloring matter; (3) anticeptive or preservative other than salt, sugar or pure spice; (4) meat or meat products other than pork; (5) decomposed, contaminated or unwholesome pork; (6) more than 30% of back fat.

Sec. 39. *Sausage to be Labeled.* It shall be unlawful to sell or dispose in the manufacture of which any "Meat" other than beef, pork, veal or mutton is used, unless the manufactured product is so labeled as to plainly indicate the kind or kinds of meat used therein.

Sec. 40. *Sale of Unlabeled Horse Meat Prohibited.* It shall be unlawful to sell or dispose of horse meat, or any product in which the same is used unless the same is plainly labeled as such in letters at least four inches in height and unless there is prominently displayed in the premises wherein the same is sold or disposed of, a sign with letters twelve inches in height bearing the legend, "WE SELL HORSE MEAT," and it shall be unlawful to keep or store horse meat, or any product in which the same is used in, or to keep or store horse meat, or any product in which the same is used in, or to dispose of the same from, any Retail or Wholesale Meat Shop or Slaughter House in which any other meat is kept or stored or from which any other meat is sold or disposed of.

Sec. 41. *False Advertising Prohibited.* It shall be unlawful for any person to make, publish, disseminate, circulate, or place before the public, any advertisement relating to the sale of meat, which advertisement contains any assertion, representation or statement which is untrue, deceptive or misleading, or which falsely represents the kind, classification, grade or quality of any meat so advertised for sale.

Sec. 42. *Advertising Must Specify Class and Grade.* It shall be unlawful for any person to make, publish, disseminate, circulate or place before the public any advertisement, relating to the sale of beef, veal, mutton, lamb or pork unless such advertisement shall contain a correct and truthful statement of the classification and grade of the beef, veal, mutton, pork or lamb so advertised; or any advertisement designating as "pig pork" or "young pork" any cut from any shoulder or loin of pork weighing in excess of 14 pounds or any leg of pork weighing in excess of 16 pounds or any advertisement designating as "one-half ham" or "a half ham" any portion of a ham from which any center cut has been removed; or any advertisement designating any mutton as "spring lamb!"

Sec. 43. *Unlawful to Forge License or Certificate.* It shall be unlawful to forge, simulate or alter any license or certificate issued or issuable hereunder, or to utter, dispose of, or put off as true, any such license or certificate knowing the same to have been forged, simulated or altered; or to have any such forged, simulated or altered license or certificate in possession with intent to use, utter or dispose of the same.

Sec. 44. *Unlawful to Imitate or Counterfeit Marks and Numbers.* It shall be unlawful for any person to use, apply, affix, counterfeit, or imitate the official establishment number assigned to another under Section 19 or Sec. 20 hereof; or the official designating mark assigned to another under Sec. 22 hereof; or to have in possession with intent to use or apply the same, any roller stamp, device or other facility bearing any such number or mark of another.

Sec. 45. *Unlawful Use of Inspection Mark.* It shall be unlawful to apply, affix, or attach to any "meat" any mark, tag stamp or insignia indicating that the same is "inspected meat" within the meaning of this ordinance, unless the same is "inspected meat" as defined in Sec. 2 of this ordinance.

Sec. 46. *Condemnation of Diseased Animals.* All animals found upon ante-mortem inspection to be affected with any of the following diseases or condition:

- (a) Hog Cholera.
- (b) Swine Plague.
- (c) Anthrax or Charbou.
- (d) Rabies.
- (e) Malignant epizottic catarrh.
- (f) Pyemia and septicemia.
- (g) Mange or scab.
- (h) Actinomycosis or lumpy jaw.
- (i) Pneumonia, pleurisy, enteritis, peritonitis and metritis.
- (j) Texas fever.
- (k) Tuberculosis.
- (l) Hemorrhagic Septicemia.
- (m) Blackleg.
- (n) Foot and Mouth Disease.
- (o) Animals in an advanced stage of pregnancy (showing signs of preparation for parturition) or which have recently given birth to young.
- (p) Any disease or condition which, causing an elevation of temperature or affecting the system of the animal will make the flesh unfit for human food.
- (q) Animals too young and immature to produce wholesome meat; lambs or pigs under four weeks of age; Jersey or Guernsey calves weighing less than 60 pounds dressed; calves of other breeds weighing less than 80 pounds dressed.
- (r) Animals too emaciated and anemic to produce a wholesome meat.
- (s) Animals which are badly bruised, injured or show tumors, abscesses or suppurating sores.

Shall be condemned and marked by the Inspector and such condemned animals shall be removed by the owner forthwith from the pens containing animals which have been inspected and found to be free from said diseases and conditions, and shall be disposed of under the direction of said Inspector in the manner provided by the state law, and in respect to such cases as are not covered by state law, shall be properly denatured or be destroyed by fire. When animals so condemned are taken to a Slaughter House in the city for slaughter, before such disposition and destruction they shall be accompanied by a permit signed by said Inspector. This permit shall, upon the arrival of said animals at the Slaughter House, be delivered to the Inspector on post-mortem duly thereat, and said animals shall be identified to said Inspector, on the killing floor by an employee of said Slaughter House,

immediately after killing and before any other disposition is made thereof. It shall be unlawful for any person to fail or neglect to comply with the provisions hereof.

Sec. 47. *Post-Mortem Inspection.* An inspector shall carefully inspect the carcasses of all animals slaughtered in any Slaughter House duly licensed hereunder, excepting those slaughtered at a Slaughter House operated under inspection by the Bureau of Animal Industry of the U. S. Department of Agriculture. It shall be the duty of the persons slaughtering the same to retain the head and the entire viscera of the animal in such manner as to preserve identity until after the post-mortem inspection shall have been completed. All carcasses of animals found upon post-mortem examination to be affected with any of the diseases or conditions specified in the preceding section shall be condemned and disposed of forthwith under the direction of the Inspector, and in the manner specified in the preceding section. It shall be unlawful for any person to fail or neglect to comply with the provisions hereof.

Sec. 48. *Condemned Carcasses.* All Slaughter Houses licensed hereunder shall be provided by, and at the expense of, the owner, with a suitable room in which condemned carcasses, or parts thereof, shall be held until such time as the Inspector may be present to supervise the destruction thereof. Such room shall be arranged for locking with a padlock to be furnished at the expense of the owner of said establishment, the duplicate key to said padlock to remain in the possession of the Inspector on duty thereat. It shall be unlawful for such owner to fail or neglect to make such provision or arrangement.

Sec. 49. *Disposition of Condemned Carcasses.* If any Slaughter House in the city be not provided with a suitable room for containing said condemned carcasses, or parts thereof as provided in Section 48 hereof, or if for any reason said condemned carcasses, or parts thereof cannot be destroyed in accordance with the directions of, or on the day designated by, the said inspector, such condemned carcasses, or parts thereof, shall be saturated with kerosene provided at the expense of said establishment and shall be padlocked to the structure pending their final destruction or disposition. Padlocks therefore shall be furnished by the city and keys thereof shall remain in the possession of the inspector on duty thereat. It shall be unlawful for the owner thereof, or his agents, to fail or neglect to comply with the foregoing conditions.

Sec. 50. *Condemned Carcasses to be Tagged.* All condemned carcasses, or parts thereof, shall have attached thereto, by means of wire and seal, a tag in the form prescribed by the Commissioner of Health. Said tags, wire and seal shall be furnished by the city.

Sec. 51. *Stamping with Official Establishment Number.* All carcasses, or parts thereof, which shall have been passed by said inspector, shall be stamped with the official establishment number in purple ink once upon each primal part, or that section or cut into which a carcass is commonly divided at the Slaughter House, with a stamp which shall make a clear and distinct impression. Said stamp shall be in the form approved by the Commissioner of Health.

Sec. 52. *Diseased Animals and Carcasses to be Condemned.* It shall be unlawful for any Inspector to pass any meats, animals or carcasses which are affected with any of the diseases or conditions hereinbefore set forth in Sections 47 and 48.

Sec. 53. *Removal of Marks Unlawful.* It shall be unlawful for any person to remove or mutilate the marks placed upon carcasses, or parts thereof indicating that the same have been condemned.

Sec. 54. *Appeal.* Any person feeling aggrieved by the acts, orders, or decisions of any inspector or grader with respect to the enforcement of this ordinance shall have the right to appeal to the meat board, and the decision of the meat board shall be conclusive upon the appellant; except that the appellant shall have the right to have such decision reviewed by the proper courts for arbitrary, discriminatory, capricious or fraudulent action.

Sec. 55. *Penalties.* Any person who shall violate or fail to comply with any of the provisions of this ordinance shall be guilty of a misdemeanor and upon conviction thereof shall be punished as follows: For the first offense in any license year, by a fine in a sum not exceeding One Hundred Dollars; for subsequent offenses during the same license year, by a fine in a sum not exceeding Three Hundred Dollars and/or revocation of license.

Sec. 56. *Invalidity; Effect of.* If any part, provision or section of this ordinance, or the application thereof to any person or circumstances shall be held invalid by any court of competent jurisdiction, the remainder thereof, or the application of such part, provision or section to any other person or circumstances shall not be effected thereby.

Sec. 57. *Ordinances Repealed.* Ordinance No. 7826 entitled "An Ordinance relating to the public health, etc., presented December 18, 1934, adopted by the Common Council January 2, 1935; Ordinance No. 7859, amending Ordinance No. 7826, presented February 5, 1935, adopted April 16, 1935; and all other ordinances or parts of ordinances of the City of Schenectady inconsistent with any of the provisions of this ordinance, are hereby repealed.

Sec. 58. *Time of Taking Effect.* This ordinance shall take effect, after its approval by the Board of Estimate and Apportionment, upon its publication once in each of the official newspapers of the City, and the cost of such publication is hereby made a charge against the meat inspection fund.

Sherrill

No data available.

Syracuse

SANITARY CODE

Section 138. VETERINARIANS. The Commissioner of Health shall appoint a chief veterinarian and assistant veterinarians, graduates licensed to practice in New York State.

The term "inspector" as used in the provisions of this code relating to the meat industry shall mean the veterinarians of the Department of Health.

Sec. 139. INSPECTION ON HOOF. The veterinarians of the Department of Health shall examine on the hoof all calves, cattle, goats, sheep, and swine intended to be slaughtered within the city for human consumption.

No person shall slaughter within the city any calves, cattle, goats, sheep, or swine intended for human consumption except under the direction of an inspector, after his inspection of such animals on the hoof. No such animal shall be slaughtered except in an abattoir licensed by the city clerk on the written recommendation of the commissioner.

Sec. 140. POWERS OF INSPECTORS. It shall be the duty of the meat inspector, for the purpose of enforcing the provisions of this code, to enter at any time any place where any animal or the carcass or part thereof is kept stored, held, exposed or offered for sale for human consumption.

It shall be unlawful for any person wilfully to resist, obstruct or interfere with an inspector in the performance of his duties.

Sec. 141. INSPECTOR'S OFFICIAL STAMP. Each inspector shall wear a numbered badge which shall correspond with the number of the stamp he uses to mark carcasses.

It shall be unlawful for any other person to have, keep or use any mark provided for the use of the inspector in the performance of his duties.

Sec. 142. INSPECTION. Every portion of any animal slaughtered and intended for food, and food products shall be inspected by a veterinarian of the Department of Health and marked by him in accordance with the regulations for meat inspection of the Bureau of Animal Industry of the United States Department of Agriculture.

Sec. 143. INSPECTION STATION. The Commissioner of Health shall provide within the city a place properly equipped for the inspection of meat and meat food products. Inspection shall be made for the public without discrimination, and uniform charges shall be made therefor except as otherwise provided in this code.

Carcasses and parts thereof found to be sound, healthful, wholesome and fit for human food shall be passed and marked with the official stamp, "Inspected and Passed."

Carcasses and parts thereof found to be unsound, unhealthful, unwholesome and unfit for human food shall be by the official stamp marked, "Inspected and condemned."

Sec. 144. INSPECTION OF CARCASSES. Carcasses of calves shall have the lungs, liver, heart and kidneys held together by natural attachments.

Carcasses of cattle shall be accompanied by the lungs, liver, heart and kidneys, and certified by the owner to have been removed from such carcasses.

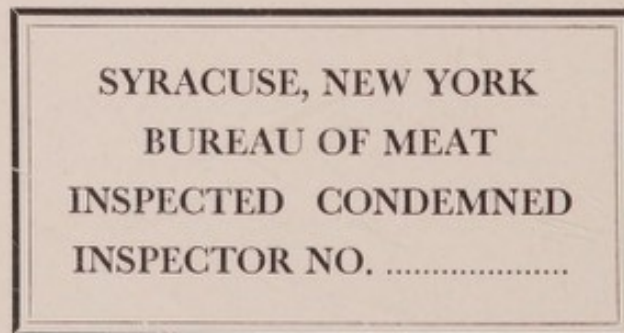
Carcasses of swine shall have the head, lungs, liver, kidneys and feet held together by natural attachments.

Carcasses of goats, lambs and sheep shall have the lungs, liver, heart and kidneys held together by natural attachments, but the feet and hide shall have been removed.

Sec. 145. PROTECTION OF MEAT. All carcasses or parts thereof of all animals brought to the inspection station shall be so wrapped in clean coverings as to effectually exclude all dirt, dust, and insects of every character.

Sec. 146. OFFICIAL STAMPS. Description. The official stamp of the bureau of meat of the Department of Health shall be octagonal in form and marked, "Syracuse, New York, Bureau of Meat, Inspected, Passed, Inspector No....."

The official stamp for condemned meat shall be oblong in form and marked, "Syracuse, New York, Bureau of Meat, Inspected, Condemned, Inspector No....."



Sec. 147. EXCEPTIONS. No exceptions shall be made to the requirements of this code for the inspection and handling of meat and meat food products without the approval of the chief veterinarian and the consent of the Commissioner of Health.

Sec. 148. HOURS. No animals shall be killed, dressed, packed or handled or the products thereof prepared or treated in any abattoir in the city between the hours of 6 P. M. and 7 A. M. or on holidays except by permission of the commissioner.

Sec. 149. INSPECTION STATION. HOURS. An inspector shall be on duty at the inspection station every day, except holidays, during the hours specified by the chief veterinarian and the commissioner.

Sec. 150. DISPOSAL OF REJECTED MEAT. The inspector shall personally superintend the destruction of all carcasses or parts thereof condemned by him.

MEAT MARKET PERMIT

Sec. 151. The owner of every meat market or store engaged in the handling or sale of fresh meat, meat products and meat food products shall make an application for a permit from the Commissioner of Health before engaging in such business and annually thereafter. Permit may be granted by the city clerk after inspection by a veterinarian of the department and the written recommendation of the commissioner.

Section 152. SALE OF MEAT AND MEAT PRODUCTS. No meat or meat products which have not been inspected and marked as inspected and passed in accordance with the provisions of the sanitary code shall be sold or offered for sale or in any manner disposed of for human consumption within the city.

Section 153. PENALTIES. UNSTAMPED MEAT. Any wholesale or retail butcher or meat dealer having in his possession uninspected and unstamped meat after a reasonable time, that is four (4) hours, for its inspection and stamping has elapsed, shall be subject to the penalties of this code; provided, however, that possession of such unstamped meat shall not be deemed a violation of this code if immediately upon the receipt thereof the person receiving it shall notify the department of health.

Section 154. TRIMMED MEAT. Carcasses shall be trimmed and also weighed under the personal supervision of an inspector.

The name of the purchaser of such trimmed meat shall be made known to the inspector.

Section 155. SCRAP MEAT. It shall be unlawful for retail butchers or meat dealers to return or dispose of scrap meat otherwise than for reduction.

Section 156. WHOLESALE BUTCHER. Wholesale butcher shall mean a butcher who brings to slaughter annually not less than fifty head of either calves, cattle, goats, sheep or swine. This shall be interpreted to mean fifty head of one species of animal and not the aggregate of various species.

Section 157. MEAT FOOD PRODUCTS. Definition. Meat food products shall mean any article of food or any article which enters into the composition of food for human consumption, which is derived or prepared in whole or in part from any portion of the carcass of any calf, cattle, goat, sheep, or swine, if such portion is all or a considerable and definite portion of such article of food.

Section 158. MEAT FOOD PRODUCTS. The inspectors of the department shall examine all meat food products prepared in any establishment within the city or brought into the city for human consumption.

All such food products shall be marked on the containers with the official stamp of the department of health of the City of Syracuse, N. Y.

The inspector shall personally superintend the destruction of all food products condemned by him.

Section 159. ABATTOIR. The term abattoir used herein includes a building or part thereof, or premises used or kept for the purpose of killing, dressing,

or packing any calves, cattle, goats, sheep, swine or other animals or meat thereof intended for human consumption.

Section 160. ABATTOIR. No person shall build or use any slaughter-house within the limits of the city or any other slaughter-house supplying meat to the people of the city without a license from the commissioner of health.

Section 161. ABATTOIR. Every abattoir shall be constructed so that the floor and walls to a height of eight (8) feet shall be of cement or other impervious material, properly sloped to a grated communication with a sewer. The yards, apartments and pens connected therewith shall be paved with some impervious material and shall be adequately lighted.

The construction of every abattoir shall be in accordance with the provisions of the building code of the city, and the requirements of the sanitary code as interpreted by the chief veterinarian and the commissioner of health.

Section 162. ABATTOIR. Every abattoir and inspection station shall be properly lighted, ventilated, and screened against flies.

Section 163. ABATTOIR. Each abattoir and inspection station shall provide a suitable locker for the storage of stamps and other paraphernalia of office of the inspector.

Section 164. ABATTOIR. Every abattoir operating under this code shall slaughter for the public without discrimination.

No fee or charges other than those herein specified shall be made against the owner of any animal brought for slaughter to any abattoir operating under this code.

Section 165. ABATTOIR. Every abattoir shall be supplied with an adequate supply of hot and cold water and such an arrangement of hoses or pipes as will enable effective washing of walls, floors and premises.

Section 166. ABATTOIR. Cold storage. All abattoirs licensed by the city shall maintain adequate public cold storage rooms for meat and meat food products.

Section 167. ABATTOIR. In every abattoir and inspection station all trucks, trays and other receptacles, all chutes, platforms, racks, tables, and all knives, saws, cleavers and other tools, and all utensils, machinery, and vehicles used in moving, handling, cutting, chopping, mixing, canning or other process shall be thoroughly cleaned daily.

Section 168. ABATTOIR. REFUSE. All refuse or other offensive material from an abattoir or inspection station shall be placed at once in covered water-tight barrels or other receptacles and removed at the end of each day's work.

Section 169. ABATTOIR. LAVATORY. Every abattoir and inspection station shall be fitted with proper lavatory accommodations, soap, running hot and cold water, individual towels and other essentials for the proper cleansing of the hands of persons therein who handle meat or its products.

Section 170. ABATTOIR. TOILETS. Every toilet in an abattoir or inspection station shall be constructed in accordance with the provisions of the sanitary code with the additional special requirement that it shall not open directly into a room where the work of such abattoir or inspection station is carried on.

Section 171. ABATTOIR. SPITTING. No person shall expectorate or otherwise discharge from the human body any matter whatsoever upon any floor or wall of an abattoir or inspection station or upon any article of furniture or equipment therein, or upon any animal or carcass or product thereof, but only in proper receptacles provided for such purpose.

Section 172. **ABBATOIR. EMPLOYEES.** All employees in every abattoir or inspection station licensed by the city shall have a certificate of health as required by the sanitary code of the city for all persons who handle food.

Section 173. **ABATTOIR. EMPLOYEES.** The manager of every abattoir and inspection station licensed by the city shall require the employees of such establishment to be cleanly. Their aprons, smocks, or other outer clothing shall be of a material that is readily cleansed and only clean garments shall be worn. Special attention shall be given to the cleanliness of boots or shoes. Especially shall the hands be clean. Disinfection of the hands shall be required after handling diseased carcasses or parts thereof.

Section 174. **ABATTOIR. ANIMALS AT LARGE.** No dog or other animal shall run at large in any abattoir or inspection station or premises thereof.

No children shall be permitted in an abattoir or inspection station.

Section 175. **RECORDS AND REPORTS.** The veterinarians shall make daily reports to the commissioner, showing the number of animals inspected, the number passed, the number condemned, the name and address of the owner of each animal inspected, together with such other information as may be required by the commissioner.

Section 176. **RECORDS.** The commissioner of health shall cause to be made and filed in his office, in a book kept for that purpose, a record of all inspections, stamps, storage and other services, with the name of the persons for whom such inspections, stamps, storage or other service was done.

Section 177. **PENALTIES.** Any person who violates, disobeys, omits, neglects, or refuses to comply with the provisions of the code in regard to the production, care and sale of meat and meat products shall upon conviction be punished by a fine of not more than fifty (\$50.00) dollars or by imprisonment for not more than thirty (30) days or by both for the first offense, and for the second offense by a fine of not more than one hundred (\$100.00) dollars or by imprisonment for not exceeding sixty (60) days or by both fine and imprisonment.

Section 178. **RIGHT OF APPEAL.** The manager of any official establishment or any agent or owner of a carcass or parts thereof rejected by the inspector may appeal from such decision to the commissioner of health in a written communication containing the name and address of the appellant, the grounds of the appeal, the decision, the name and number of the inspector, and the date and place where the decision was made.

Pending any such appeal the carcass or parts thereof that are the subject of appeal shall be kept separate and apart from others under the supervision of the inspector.

Expense of storage is to be borne by the owner in case of adverse opinion of the commissioner.

Section 179. **REVOCATION OF LICENSE.** Each license for a meat industry granted by the commissioner may be revoked by him for violation of any of the provisions of this code with reference to the meat industry, after three days' notice and a hearing given to the licensee.

Revocation of the license shall include a forfeiture of the license fee.

FEES

| | |
|---|----------|
| Section 180. ABATTOIR license (per year) | \$100 00 |
| <i>Inspection</i> | |
| Carcasses, beef..... | 25 |
| Carcasses, other animals..... | 10 |
| <i>Meat Market license (per year)</i> | 25 00 |
| <i>Refrigeration, each hook per day or part thereof</i> | 15 |

| <i>Slaughtering and Chilling</i> | |
|---|--------|
| Beef | \$1 00 |
| Calf | 50 |
| Goat | 50 |
| Sheep | 50 |
| Swine | 50 |
| <i>Storage</i> , each hook per day or part thereof..... | 15 |
| <i>Use of trimming bench equipment</i> , per hour..... | 25 |
| <i>Weighing</i> | 05 |
| <i>Wholesale butcher's license</i> (per year)..... | 100 00 |

Tonawanda

14. No person or persons, without the consent of the Board of Health, shall build or use any slaughter house within the limits of this city, and the keeping and slaughtering of all cattle, sheep and swine and the preparation and keeping of all meat, fish, birds, or other animal food, shall be in the manner best adapted to secure and continue their wholesomeness as food; and every butcher or other person owning, leasing or occupying any place, room or building wherein any cattle, sheep or swine may have been or are killed or dressed; and every person being the owner, leasee or occupant of any room or stable wherein any animals are kept, or of any market, public or private shall cause such place, building, room, stable, or market, and their yards and appurtenances, to be thoroughly cleansed and purified, and all offal, blood fat, garbage, refuse and unwholesome and offensive matter to be removed therefrom at least once in every twenty-four hours after the use thereof for any of the purposes herein referred to and shall also at all times keep all woodwork, save floors and counters, in any building, place or premises aforesaid thoroughly painted and whitewashed, and the floors of such building, place or premises shall be so constructed as to prevent blood or foul liquid from settling in the earth beneath. Any violation of any of the provisions of this ordinance shall be punishable by a fine of \$5.00 for each and every day's continuance of the offense.

Troy

No data available.

Utica

Sec. 2. No person shall slaughter within the City of Utica any cattle, sheep, swine, or goats for human consumption until the same have been inspected on the hoof by the city veterinarian or his assistant.

Sec. 3. The health officer shall cause to be made by the city veterinarian or his assistant a post-mortem examination of all cattle, sheep, swine, or goats slaughtered within the City of Utica, N. Y., for human consumption, and the carcass of all animals found to be sound, healthful, and fit for human food shall be marked or tagged and tag shall show on its face the date of the inspection of said carcasses. The city veterinarian or his assistant shall also mark or tag as inspected and condemn all carcasses and parts of carcasses of animals found to be unsound, unhealthful, or otherwise unfit for human food, and shall cause to be destroyed for food purposes and personally superintend the destruction of all carcasses of animals found to be unsound, unhealthful, or otherwise unfit for human food.

Section 1. THE HEALTH OFFICER shall cause to be made by the city veterinarian and such assistants or inspectors as may be appointed for the purpose who shall perform their duties under the direction and control of said health officer, an examination on the hoof of all cattle, sheep, swine or goats intended

to be slaughtered within the City of Utica. Said veterinarian or assistant shall mark or tag as inspected and condemned all such animals found to be unsound, unhealthful or otherwise unfit for human food and shall cause to be destroyed for food purposes and personally superintend the destruction of all such animals found to be unsound, unhealthful, or otherwise unfit for human food, and said veterinarian or assistant shall mark or tag in such a manner as will permit of no deception or substitution as inspected and suspected all such animals which show what appear to be symptoms or evidences of a disease or condition rendering the same unfit for human food. If the veterinarian or his assistant is in doubt as to the existence of such disease or condition, he shall cause such animals to be removed to the slaughter house, to be designated for such purpose by the health officer and such animal shall be slaughtered separately from all other cattle, sheep, swine, or goats, and when so slaughtered the carcass thereof shall be subject to a careful post-mortem examination as herein provided; and the decision of the city veterinarian as to the disposition of said carcass shall be final.

Section 4. After the first inspection the city veterinarian or his assistant shall, when deemed necessary, reinspect said carcasses or parts of carcasses, or the food products thereof, to determine whether since the first inspection the same has become unsound, unwholesome, or in any way unfit for human food; and if any carcass or part or parts thereof, or any food products made therefrom, shall upon examination and inspection subsequent to the said first examination and inspection be found to have become unsound, unwholesome, or otherwise unfit for food, the said veterinarian or his assistant shall cause the same to be destroyed for food purposes and personally superintend the destruction of the same notwithstanding said first inspection or examination.

Section 5. The health officer shall cause to be made by said city veterinarian or his assistant an inspection and examination of all meat food products prepared in any slaughtering, canning, salting, packing, grinding, rendering, or similar establishment within the City of Utica; and for the purpose of such examination or inspection said veterinarian or assistant shall have access to every part of said establishment and shall inspect and pass all such products as upon inspection are found to be pure, sound, wholesome, and made of healthful ingredients and fit for human food, and shall cause to be marked or tagged as inspected and condemned all such products as upon inspection are found to be impure, unsound, unhealthful, or otherwise unfit for human food, and shall cause to be destroyed for food purposes and shall personally superintend the destruction of all such products which upon examination and inspection are found to be impure, unsound, unhealthful or otherwise unfit for human food.

Section 6. The health officer shall cause to be made by said city veterinarian or his assistant an examination of all carcasses or parts of carcasses of cattle, sheep, swine, or goats, or the meat products thereof, slaughtered or prepared without the City of Utica and brought within the said City of Utica for human consumption; and all carcasses or parts of carcasses of said cattle, sheep, swine, or goats, or the meat or products thereof, found to have been inspected and marked as inspected, in accordance with the provisions of the act of Congress relating to the Federal inspection of meat or meat products intended for interstate commerce and found to be sound, healthful, and fit for human food may be inspected as in the case of carcasses slaughtered in the City of Utica and may be condemned and destroyed in the same manner as herein provided for carcasses slaughtered in the City of Utica.

Section 7. The health officer shall provide a suitable place or places within the boundary limits of the City of Utica for the inspection each day, except Sundays, between hours to be determined and proclaimed by said health officer, of carcasses or parts of carcasses together with lungs, kidneys, heart, throat glands, and liver thereof, or such other parts of said carcass or carcasses as may be hereinafter designated by the health officer as necessary to properly

determine the condition of said carcasses or parts of carcasses, or any of the food products thereof before offering the same for sale within the City of Utica, and the city veterinarian or his assistant shall make an examination of all carcasses or parts of carcasses, or any of the food products thereof before offering the same for sale within the City of Utica, and the city veterinarian or his assistant shall make an examination of all carcasses or parts of carcasses, or the meat products thereof, brought to the said places for inspection. All carcasses or parts of carcasses, or the meat products thereof, except where inspected and stamped under federal inspection, as mentioned in section 6 of this ordinance, found to be sound, healthful and fit for human food shall be marked as inspected and passed by said veterinarian or his assistant with indelible ink, said mark showing the date of said inspection. The carcasses or parts of carcasses, and the meat products thereof, not so marked, except where inspected and stamped under federal inspection, shall not be offered for sale for human food within the corporate limits of the City of Utica.

Section 8. The city veterinarian and assistants shall be under the direction of the health officer of the City of Utica and shall make monthly reports to said health officer or oftener when required showing number of animals inspected, the number condemned, the number marked suspicious, the consignee or owner of each condemned animal, and the cause of the condemnation of such animals, together with such information as may be required by the health officer in the interest of public health.

Section 9. The term "slaughter house" as used herein shall mean a building or part of a building or premises within the City of Utica, N. Y., used or kept for the purpose of killing, dressing, or packing any cattle, sheep, or swine, calves or other animals, or the meat thereof, intended for human consumption.

Section 10. The health officer of the City of Utica may grant a license to a person, firm, association, or corporation to keep or maintain a building or buildings, or premises herein described as a slaughter house in Utica, or to any person, firm, association, or corporation dealing in meats slaughtered outside of the City of Utica, upon payment of a license fee of \$25, said fee to be paid to the health officer, who shall pay the same to the city treasurer. No license for a slaughter house shall be granted by the health officer until the plans thereof have been filed with the health officer and approved by him; and the health officer shall not approve such plans until the same shall comply with the requirements of this ordinance. The health officer is hereby empowered to revoke any license issued under the provisions of this ordinance upon satisfactory proof of a violation of any of the provisions of said ordinance, after a hearing given to the licensee, of which hearing the licensee shall file a written notice at least three days prior to said hearing. Each and every slaughter house for which a license shall be granted, as herein provided, shall be open in every part and department at all times for inspection by the city veterinarian or his assistants or the health officer or his assistants or representatives.

Section 11. No animals shall be killed, dressed, packed, or handled or the products thereof prepared or treated if any slaughter house within the City of Utica, between the hours of 6 o'clock in the afternoon and 7 o'clock in the forenoon or on Sundays, except by permission of the city veterinarian, which permission, except in the case of the slaughter of an injured animal, shall be in writing.

Section 12. In each room of the slaughter house wherein any meat, refuse, offal, fertilizer, or any other material derived directly or indirectly from the slaughter of animals is treated or handled, and in each room of said slaughter house where animals are killed and dressed the floor must be made of cement, water-tight, properly drained, and connected with a sewer approved by the health officer. All walls, doors and casements in said rooms shall be con-

structed of or covered with some non-absorbent material to a height of at least 6 feet above the floor, subject to the approval of the health officer. In each slaughter house there shall be constructed and maintained a properly constructed and modern cooler, the interior of which shall be painted with white enamel paint. Said cooler shall at all times when in use be provided with a sufficient supply of ice to maintain in said cooler a temperature not to exceed 38° F. Each slaughter house shall be provided with a manure box constructed of cement or other non-absorbent material approved by the health officer. Said manure box shall be fitted with a tight-fitting cover with sewer connections approved by the health officer. (Said manure box shall be fitted with a tight-fitting cover with sewer connections.) All receptacles used in the handling of meat and meat products or for blood, entrails, offal or waste matter of any kind, shall be made of non-absorbent materials and said receptacles shall be kept tightly covered when waste matter, offal, or entrails are contained therein.

The manure box and all receptacles shall be emptied and cleaned at the close of each day that a deposit is made therein. All deposits of matter and filth shall be removed from all yards, pens or compartments, at the close of each day that the same are used. The floors of all rooms shall be swept at the close of each day that a deposit is made and the floors and walls to a height of 6 feet above the floor of all rooms used for killing and dressing shall be flushed and all matter removed therefrom at the close of each day that said rooms are used.

Each slaughter house shall be provided with sufficient wire screens for window and doors to keep free from flies at all times, and shall be provided with a sufficient number of receptacles for expectoration, which receptacles shall be cleaned and disinfected at least once in every 24 hours.

Each slaughter house shall be provided with suitable, convenient and separate water-closets for both sexes, and also suitable and convenient sinks provided with running water for washing, in the proportion of one water-closet and one sink for every 15 persons or fraction thereof employed. Each water-closet compartment shall be thoroughly ventilated and no water-closet shall open into a room where animals are killed or the products thereof prepared or kept.

No animals shall run at large upon the premises or in any building used as a slaughter house.

Each slaughter house shall be kept at all times clean and wholesome and the odors therefrom must be destroyed by some effective means according to the best and most approved process, and everything preceding, following or in connection with the slaughtering of animals, and the preparation of the products thereof must be free from all offensive conditions detrimental to the public health.

Section 13. It shall not be lawful for any person, firm, association, or corporation to keep or maintain a slaughter house within the City of Utica, N. Y., without first having obtained a license from the health officer so to do.

Section 14. No person shall expectorate or discharge from the human body, or any organ thereof, any matter whatsoever, upon any floor or wall of any slaughter house, or upon any equipment, or any animal or the product thereof, within a slaughter house, except in receptacles provided for that purpose.

Section 15. All persons engaged in the business of selling meat or meat products, fish or sea foods, must obtain a license from the health officer for which a fee of \$1.00 shall be paid to the city. Such license, however, shall not be granted by said health officer until said place for storing and selling meat and meat products, fish or sea food shall be inspected and approved by the city veterinarian or his assistant, both as to equipment and sanitary conditions.

Section 16. The body of any animal or any part thereof, which is to be used as human food shall not be carted or carried through any of the streets or avenues of the city of Utica unless the same be covered by a clean covering so as to be protected from all dust and dirt.

Section 17. Any person violating any of the provisions of this ordinance shall be guilty of a misdemeanor and shall be liable to a fine which shall not exceed \$150 in amount, or to imprisonment not exceeding 150 days, or to both such fine and imprisonment.

Watertown

Section 1. SHORT TITLE. This ordinance may be known and cited by the following short title, "Meat Code of the City of Watertown, New York."

Section 2. DEFINITIONS. As used in this ordinance.

1. The word "meat" shall be deemed and construed to mean and include all animal flesh, carcasses and parts thereof designed or intended for human consumption, or sold or disposed of as human food.

2. The term "inspected meat" shall be deemed and construed to mean all "meat" inspected, passed and approved, and stamped or tagged by an inspector of the Department of Health of the State of New York; approved by or under the supervision or jurisdiction of the Meat Inspector of the City of Watertown; or which lawfully bears the stamp, mark or tag indicative of inspection and approval by the Bureau of Animal Industry of the United States Department of Agriculture.

3. The term "uncooked meat" shall be deemed and construed to mean and include all "meat" which has not been cooked or cured by smoking, salting, drying, or by any other recognized trade process of curing.

4. The term "cured meat" shall be deemed and construed to mean and include all "meat" which has been cured by smoking, salting, drying, or by any other recognized trade process of curing.

5. The word "sausage" shall be deemed and construed to mean and include all meat food products prepared in whole or in part from chopped or ground "meat" further processed by curing and/or smoking, and/or cooking, and molded, or encased in artificial casings or natured animal casings; but it shall not be deemed or construed to mean or include any meat food products prepared from "uncooked meat."

6. The term "hamburger" shall be deemed and construed to mean and include ground lean beef, containing no offal or added water, and no fats other than the natural fat contained in the lean beef from which "hamburger" is made. All hamburger must be manufactured in city except such as may bear the stamp of federal inspection.

7. The term "Retail Meat Shop" shall be deemed and construed to mean and include all premises, buildings and/or parts thereof used for the preparation for sale or for the sale or disposition of "uncooked meat" to consumers but in which animals are not slaughtered.

8. The term "meat salesman" shall be deemed and construed to mean and include all natural persons selling or disposing of "uncooked meat" to a "consumer," and all persons handling or employed in the transportation or delivery of such meat.

9. The word "consumer" shall be deemed and construed to mean and include all persons procuring or obtaining "meat" for consumption by themselves or by their families, or with a view to preparation or cooking and resale to their guests or to the public.

10. The word "person" shall be deemed and construed to mean and include individuals of either sex, and associations, co-partnerships and corporations, whether acting by themselves or by a servant, agent or employee; the singular number shall be deemed and construed to include the plural and the masculine pronoun to include the feminine.

11. The word "inspector" shall be deemed and construed to mean and include the Health Officer or Meat Inspector and any of his subordinates by him in writing detailed as "Meat Inspectors of the Department of Health."

Section 3. MEAT INSPECTOR. The meat inspector is hereby vested with full power and authority to inspect any place where meat is sold, offered for sale, or disposed of.

Section 4. MEAT PEDDLING PROHIBITED. It shall be unlawful to go from house to house, with or carrying or transporting "uncooked meat," and/or "cured meat" and/or "sausage," with intent to sell the same, or selling the same, or offering or exposing the same for sale, either at wholesale or retail; or to aid or abet any person in so doing.

Section 5. APPLICATIONS FOR LICENSES; GENERAL PROVISIONS. It shall be unlawful to open up, conduct, manage, operate, or maintain a retail meat shop without first having obtained, and being the owner and holder of, and having posted and displayed in a conspicuous place in said shop or establishment a valid and subsisting license authorizing the person therein named to conduct and operate such a shop or establishment in and upon the premises therein named.

Any person desiring to obtain a license to operate a retail meat shop, shall make application to the City Clerk on the forms to be provided by said City Clerk's office, setting forth the name of the applicant, the location of the street and number of the premises to be occupied, the number of persons to be employed, and such other information as may be required by the Health Officer.

Upon filing of such applications the City Clerk shall present the same to the Health Officer for his approval and no license shall be issued unless approved by said Health Officer.

Each license issued pursuant to this ordinance shall expire on the 30th day of May following the date of its issuance, and the license fee prescribed therefor shall be the license fee due and payable in advance at the time of the application or renewal thereof.

Each such license shall be non-transferable and may be revoked by the Health Officer for cause after a hearing upon such charges as may be made by said Health Officer.

The annual fee for a retail meat shop license under this ordinance shall be Ten Dollars, (\$10.00).

Section 6. VEHICLE TO BE SANITARY. All vehicles used by meat dealers for the transportation of meat shall be maintained in a clean and sanitary condition, and all such meat transported in other than closed vehicles shall be covered with canvass covers. No livestock shall be transported in any vehicle used for the transportation of such meat. No person afflicted with tuberculosis or other infectious disease in a communicable form shall be employed in the handling, transportation or sale of such meat.

Section 7. DISEASED PERSONS NOT TO BE EMPLOYED. No person who is afflicted with tuberculosis or any other infectious disease in a communicable form shall work in any shop or establishment subject to license under the provisions of this ordinance, or engage in the handling, sale, transportation or delivery of meat products, and no dealer shall employ any person to work in any of the foregoing capacities unless such employee be free from any such infectious disease in a communicable form, and to accomplish this and the Health Officer may require that such persons employed as heretofore set forth shall submit to a health examination to determine whether or not such person or persons shall be free from disease.

Section 8. SALE TO CONSUMER FROM LICENSED SHOP ONLY. It shall be unlawful to sell or dispose of "uncooked meat" to any "consumer" except in and from a duly licensed retail shop; or to sell or dispose of "cured meat" and/or "sausage" to any "consumer" except in and from a duly licensed retail meat shop.

Section 9. GENERAL REGULATIONS GOVERNING ALL SHOPS. Every shop or establishment shall be kept in a sanitary condition, and all knives, cleavers,

saws and other instruments and utensils used therein shall be thoroughly cleaned after each day's work. All vehicles used for the transportation of meat shall be maintained in a clean and sanitary condition and shall be cleaned daily, and all meat transported in other than closed vehicles shall be adequately covered. No livestock shall be transported in any vehicle used for transportation of meat. All employees shall wear clean garments only, and shall refrain from indulging in unsanitary practices. No person afflicted with tuberculosis or other contagious disease shall be employed in any such shop or establishment.

Section 10. SALE OF UNINSPECTED, UNMARKED, OR UNGRADED MEAT UNLAWFUL. It shall be unlawful for any person to sell, or dispose of, offer for sale, or expose for sale, any "meat" unless the same has been inspected post mortem, and passed and approved by a local inspector or by an inspector of the State Department of Health, or by the Health Officer of the city, and unless each primal part bears an official stamp mark indicating such inspection, passage and approval, together with the official establishment number of the licensed slaughter house wherein the animal from which such "meat" is produced was slaughtered, or unless such "meat" bears the stamp, mark, or tag indicative of inspection and approval by the Bureau of Animal Industry of the United States Department of Agriculture. It shall be unlawful for any person to sell, dispose of, offer for sale, expose for sale, or advertise for sale, any locally dressed beef, veal, pork, lamb, or mutton, unless the same shall have been classified and marked in accordance with the provisions of this ordinance. It shall be unlawful for any person to sell beef for hamburgers or any other purpose unless such beef bears on each primal part a stamp of inspection by the City Meat Inspector, State Inspector or Bureau of Animal Husbandry.

Section 11. UNLAWFUL TO IMITATE OR COUNTERFEIT MARKS AND NUMBERS. It shall be unlawful for any person to use, apply, affix, counterfeit, or imitate the designating marks placed upon the primal parts of each carcass as set forth in Section 13 hereof; or to have in possession with intent to use or apply the same, any roller stamp, device or other facility bearing any such number or mark of another.

Section 12. UNLAWFUL USE OF INSPECTION MARK. It shall be unlawful to apply, affix, or attach to any "meat" any mark, tag, stamp or insignia indicating that the same is "inspected meat" within the meaning of this ordinance, unless the same is "inspected meat" as defined in Section 2 of this ordinance.

Section 13. CONDEMNATION OF DISEASED ANIMALS. The carcasses of all cattle slaughtered for sale within the City of Watertown or purchased for resale shall be inspected by the Meat Inspector prior to their being offered for sale within said City of Watertown, and he shall place thereon upon each primal part a stamp showing his inspection. All cattle found upon post-mortem inspection to be affected with any of the following diseases or conditions shall be condemned by said Inspector. Said conditions or diseases are as follows:

- (a) Hog cholera.
- (b) Swine plague.
- (c) Anthrax or charbou.
- (d) Rabies.
- (e) Malignant epizottic catarrh.
- (f) Pyemia and septicemia.
- (g) Mange or scab.
- (h) Actinomycosis or lumpy jaw.
- (i) Pneumonia, pleurisy, enteritis, peritonitis and metritis.
- (j) Texas fever.
- (k) Tuberculosis.

- (l) Hemorrhagic septicemia.
- (m) Blackleg.
- (n) Foot and mouth disease.
- (o) Animals in advance stage of pregnancy (showing signs of preparation for parturition) or which have recently given birth to young.
- (p) Any disease or condition which, causing an elevation of temperature or affecting the system of the animal will make the flesh unfit for human food.
- (q) Animals too young and immature to produce wholesome meat; lambs or pigs under four weeks of age; Jersey or Guernsey calves weighing less than 60 pounds dressed; calves of other breeds weighing less than 80 pounds dressed.
- (r) Animals too emaciated and anemic to produce a wholesome meat.
- (s) Animals which are badly bruised, injured or show tumors, abscesses or suppurating sores.

Section 14. DISPOSITION OF CONDEMNED CARCASSES. If, after inspection, said inspector shall condemn the carcass of any animal slaughtered to be offered for sale within the City of Watertown, then such carcass shall be saturated with kerosene pending its final destruction, and it shall be unlawful for any inspector to pass any meats or carcasses which are affected with any of the diseases or conditions hereinbefore set forth in Section 13.

Section 15. REMOVAL OF MARKS UNLAWFUL. It shall be unlawful for any person to remove or mutilate the marks placed upon carcasses, or parts thereof, indicating that the same has been condemned.

Section 16. APPEAL. Any person feeling aggrieved by the acts, orders or decisions of any inspector with respect to the enforcement of this ordinance, shall have the right to appeal to the Health Officer, and the decision of the Health Officer shall be conclusive upon the appellant; except that the appellant shall have the right to have such decision reviewed by the proper courts for arbitrary discriminatory, capricious or fraudulent action.

Section 17. PENALTIES. Any person who shall violate or fail to comply with any of the provisions of this ordinance shall be guilty of a misdemeanor and upon conviction thereof shall be punished as follows: for the first offense in any license year, by a fine in a sum not exceeding \$50.00; for subsequent offenses during the same license year by a fine not exceeding \$100.00 and/or revocation of license.

Section 18. INVALIDITY, EFFECT OF. If any part, provision or section of this ordinance, or the application thereof, to any person or circumstances shall be held invalid by any court of competent jurisdiction, the remainder thereof, or the application of such part, provision or section to any other person or circumstances, shall not be affected thereby.

Section 19. ORDINANCES REPEALED. Any and all parts of ordinances heretofore enacted by this Council governing the inspection of meats are hereby repealed.

Section 20. TIME OF TAKING EFFECT. This ordinance shall take effect immediately.

Adopted June 26th, 1939.

Watervliet

No data available.

White Plains

No data available.

Yonkers

No carcasses or parts of the carcasses of cows, bulls, steers, calves, lambs, sheep, goats, or swine shall be brought into the City of Yonkers until they have been inspected and passed as fit for human food by a duly authorized inspector of the United States Government, the New York State Department of Agriculture and Markets or any county or municipality and shall have been marked, stamped, branded, tagged or labeled as having been so inspected and passed.

Provided, however, that the provisions of this section shall not apply to the carcasses of cows, bulls, steers, calves, sheep, lambs, goats, or swine to which are attached, by their natural connections, the head, including the tongue, lungs, liver, heart, spleen, uterus, the peritoneum and all the body lymph glands.

Whenever such carcass or carcasses are to be brought into the City of Yonkers for inspection, a twenty-four (24) hour notice of intention to slaughter must be given to the Department of Health of the City of Yonkers, New York; such notice to give the location of the slaughter house and the number and kind of animals to be slaughtered, and it is further provided that any slaughtering which shall be done in accordance with the provisions of this amendment to the Sanitary Code of the City of Yonkers, New York, shall be done in a slaughter house approved by either the United States Government, the New York State Department of Farms and Markets or any county or municipality.

APPENDIX A

CHAPTER 852, LAWS OF 1940

STATE OF NEW YORK

AN ACT creating a temporary state commission to study the problem of trichinosis and other diseases contracted by eating infected meat, and making an appropriation for the expenses of such commission

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. A temporary state commission is hereby created for the purpose of studying the problem of the disease known as trichinosis and other diseases contracted by eating infected meat, and possible methods of curbing them. The commission hereby created shall study these problems with particular attention given to the following possible solutions:

1. Skin tests to establish the presence of trichinae in swine.
2. Refrigeration of slaughtered swine.
3. Proper cooking of garbage used for feeding swine.
4. Elimination of garbage feeding of swine.
5. Microscopic inspection of swine.
6. State inspection of meat.

§ 2. The commission shall consist of three persons to be appointed by the governor; three members of the senate, to be appointed by the temporary president of the senate; three members of the assembly, to be appointed by the speaker of the assembly. Vacancies in the membership of the commission shall be filled by the officer making the original appointment.

§ 3. The commission shall select a chairman from its membership and may employ and at pleasure remove a research director, a secretary and such other officers as it may require and fix their compensation within the amount provided by the appropriation. The commission shall have power to administer oaths, take testimony, and subpoena and compel attendance of witnesses and the production of all books, papers, records or documents pertinent to the subject within the scope of its investigation. The commission shall have, possess and exercise all the powers of a legislative committee as provided by the legislative law.

§ 4. The members of the commission shall have no compensation for their services but shall be reimbursed for their expenses actually and necessarily incurred in the performance of their duties.

§ 5. The commission shall work in cooperation with the state health department and the agriculture and markets department and may request and shall receive from such departments and any other department, division, board, bureau, commission or agency of the state or of any civil division, such assistance and data as will enable it properly to consummate its investigation.

§ 6. The commission shall make a report of its proceedings and recommendations to the legislature on or before February first,¹ nineteen hundred forty-one, and shall submit with its report such drafts of legislation as may be necessary to effectually carry out its recommendations.

§ 7. The sum of five thousand dollars (\$5,000), or so much thereof as may be necessary, is hereby appropriated from any moneys in the treasury not otherwise appropriated to defray the expenses of the commission created by this act, and such money shall be available on the audit of the chairman of such commission and the audit and warrant of the comptroller in the manner provided by law.

§ 8. This act shall take effect immediately.

¹Extended by Chapter 2, Laws of 1940, to March 15, 1941.

APPENDIX B

From "Health News"

December 16, 1940

First Public Hearing of the New York State Trichinosis Commission

Experts in public health and food control spoke before the New York State Trichinosis Commission at its first public hearing in the State Office Building, New York City, on November 28. The purpose of the hearing, according to Senator Thomas C. Desmond, chairman of the Commission, was to encourage discussion and to get the people thinking about the trichinosis problem. A report of the Commission's proceeding and recommendations must be made to the legislature by February 1, 1941.

THE NATURE OF TRICHINOSIS

Human trichinosis, as explained by Dr. W. H. Best, deputy commissioner, New York City Health Department, is acquired principally by eating undercooker infected pork from hogs which have been fed uncooked garbage containing pork scraps. The parasites, called *trichinellae spiralis* enter the intestinal tract in the encysted state. The cysts are digested, the parasites develop into the adult form and mate. The female deposits the embryos in the lymph spaces in the lining of the intestine, from which they eventually enter the blood stream and are carried to muscles in all parts of the body. Here they eventually become encysted, if the host survives, completing the life cycle.

According to Prof. O. R. McCoy, University of Rochester, who talked on *Searching for a Trichinosis Cure*, there is no specific treatment for the disease. He spoke of studies which he had made but indicated that at the present time medication is limited to symptomatic treatment.

TRICHINOSIS INCIDENCE IN MAN

A most comprehensive study of the incidence of trichinosis has been made under the supervision of Dr. Willard H. Wright, chief of the Division of Zoology of the National Institute of Health, United States Public Health Service. He reported that up to the present a total of 4,975 examinations have been made of diaphragms from human bodies throughout the country and that of these examinations 15.7 per cent were positive for trichinae.

A limited study by Dr. Harry Most, Department of Clinical Pathology, New York University College of Medicine, of 100 bodies from hospitals in New York City, showed that twenty-two were infested with trichinae.

Dr. Reginald Atwater, executive secretary, American Public Health Association, pointed out that while autopsies tended to show an incidence of trichinosis infestation of about 16 per cent, it was probable that only about 2.5 per cent of these or 0.4 per cent of the general population, would ever show any clinical symptoms of the disease. Control on a statewide basis would be costly, according to Doctor Atwater, considering the number of cases reported each year. He estimated that the cost of control work would be at least \$100,000 and possibly more and that in his own opinion such expense would not be warranted since the money could be expended for more essential public health activities.

MICROSCOPIC EXAMINATION

The microscopic examination of pork and its limitations was the subject of an informative and authoritative discussion by Dr. Benjamin Schwartz, chief of the Zoological Division, Bureau of Animal Industry, United States Department of Agriculture. "Microscopic inspection," said Doctor Schwartz, "would result in the finding of only a relatively small portion of hogs actually infected with trichinae." The people would be given a false sense of security if such meat were approved by the federal government on the basis of microscopic inspection. Another objection to such inspection, according to Doctor Schwartz, is the high cost which he estimated would be about twenty-five cents per hog, making the total annual expenditure approximately \$10,000,000 on the basis of an annual slaughter of forty million hogs. This amount is about twice the cost of all present federal meat inspection. He stated that under present federal regulations, pork products which are intended to be consumed raw and to enter into interstate commerce are heated to a temperature of 137 degrees Fahrenheit; or cooled to a temperature of 5 degrees Fahrenheit for twenty days, or at lower temperatures for relative shorter periods of time; or subjected to certain curing processes specified by the Bureau of Animal Industry. "The present inspection by the federal government," said Doctor Schwartz, "assures the public that federally approved products intended for consumption without cooking are safe."

MUNICIPAL GARBAGE DISPOSAL

A survey* conducted in 1939 by the Division of Communicable Diseases, New York State Department of Health, concerning garbage disposal practices by New York State cities and incorporated villages was reported by Dr. James E. Perkins, director. The survey showed that 29 per cent of the municipalities in this State dispose of their garbage by feeding it raw to swine. He said also that only 32 per cent of the state institutions dispose of their

*Our Pigs and Their Garbage, Health News, Feb. 12, 1940, p. 25.

garbage properly from the standpoint of prevention of trichinosis, and urged cooking of all garbage fed to hogs.

Doctor Perkins stressed that a proper perspective of the trichinosis problem should be maintained. He stated that the average annual number of cases of trichinosis reported in upstate New York during the previous five years was 100, placing it fifteenth in the list of reportable diseases and to be compared with 30,000 cases of measles, 16,000 cases each of pneumonia and scarlet fever, and 13,000 cases of whooping cough, similarly computed. Even assuming less than one-quarter of the total number of trichinosis cases are recognized and reported, trichinosis would still be a minor communicable disease, relatively speaking. "Nevertheless," he stated, "the illness is usually a prolonged and painful one and any control measures which are practical from an economic and administrative standpoint should be put into effect."

PREVALENCE OF TRICHINAE IN PORK PRODUCTS

Dr. A. H. Robertson, director of the Food Laboratory of the State Department of Agriculture and Markets, made a progress report on a study of trichinae in pork products sold within New York State. He said that 361 samples had been examined of which seventy-eight were from federally inspected sources and that in only twelve of the samples were trichinae found. Of this number only three contained live trichinae, none of which were from federally inspected sources.

STATE MEAT INSPECTION

The slaughter houses of New York State are in an extreme insanitary condition, according to Clifford R. Plumb, director of the Division of Foods, State Department of Agriculture and Markets. He recommended state meat inspection and the licensing of slaughter houses and meat processing plants.

SKIN TEST OF HOGS FOR TRICHINAE INFECTION

The results of a study of a skin test in hogs to determine infestation were given by Irving Kleman, an instructor in the Food Trades Vocational School, and formerly of the New York City Department of Health, and by Dr. Donald H. Baker, New York State Veterinary College, Cornell University. The tests were made to ascertain whether it would be practical to require that all hogs be skin tested prior to slaughter to determine whether or not they are infested. Of 127 hogs skin tested with subsequent examination of their diaphragms by the digestion method, one was found to react positively to the skin test and one to give a suspicious reaction. Trichinae were found in the diaphragm of the hog with the positive test and none in that from the hog with the suspicious reaction. How-

ever, a heavy infestation was found in another hog which had reacted negatively to the skin test. Obviously further study of the reaction is indicated. Doctor Schwartz stated that he had worked on a skin test for hogs for many years and as yet had not been able to develop one that is sufficiently reliable.

NEED FOR EDUCATIONAL CAMPAIGN

A number of speakers referred to the importance of educating the public to the need for thorough cooking of pork. It was suggested that tags or labels warning that pork should be cooked thoroughly be attached to pork when purchased in markets. This suggestion was not accepted enthusiastically by certain groups who felt that such labels would affect the pork trade adversely.

CONTROL MEASURE

The consensus on control measures seemed to be that:

- 1 The public should be warned to cook all pork thoroughly.
- 2 If garbage is fed hogs, it should be cooked thoroughly before feeding.
- 3 Pork products which are to be consumed raw should be properly processed. This applies to pork intended for intrastate trade as well as that entering into interstate commerce.

Others who spoke before the Commission were: Joseph Cohn, Counsel, Meat Trade Institute, Incorporated; R. C. Pollock, general secretary, National Live Stock and Meat Board, and Chairman of the Advisory Council on Live Stock and Meat Research; Prof. Thurlow C. Nelson, Department of Zoology, Rutgers University; Dr. E. T. Faulder, chief of the Bureau of Animal Industry, State Department of Agriculture and Markets; Dr. John F. Miller, district milk sanitarian, State Department of Health; Madeline Ross, representing the Consumers' Union; George Kern, chairman, Committee on Standards and Public Relations of the Meat Trade Institute, Incorporated; Prof. W. M. Curtis, New York State College of Agriculture, Cornell University; and John A. Horn, director, League Against Food and Drug Frauds, Incorporated.

Members of the Commission who attended the hearings, in addition to Chairman Desmond, were Senators Edward J. Coughlin and Chauncey B. Hammond, Assemblymen Harold L. Creal, Ernest J. Lonis and Roy H. Rudd; Prof. O. R. McCoy; Dr. George H. Ramsey, Westchester County Health Commissioner; and Mrs. Francis Donaldson, president, New York State League of Women Voters.

APPENDIX C

Proposed Legislation

AN ACT to amend the general municipal law, in relation to disposal and treatment of garbage.¹

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Chapter twenty-nine of the laws of nineteen hundred nine, entitled "An Act in relation to municipal corporations constituting chapter twenty-four of the consolidated laws," is hereby amended by inserting therein a new section, to be section one hundred thirty-five-d, to read as follows:

§ 135-d. *Disposal and treatment of garbage. The authorities of any municipal corporation or any public or private institution therein shall not be permitted to use garbage for the purpose of feeding pigs, hogs or swine until such garbage shall be boiled for at least one-half hour. Any contract made or any permit issued by a municipal corporation or any public or private institution therein for the sale, collection or disposal of garbage shall require that the garbage be boiled for not less than one-half hour before it shall be used for the purpose of feeding pigs, hogs or swine.*

§ 2. This act shall take effect immediately.

AN ACT to amend the agriculture and markets law, in relation to processing of pork.²

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Article seventeen of chapter forty-eight of the laws of nineteen hundred twenty-two, re-entitled by chapter two-hundred seven of the laws of nineteen hundred twenty-seven "An act in relation to agriculture and markets, constituting chapter sixty-nine of the consolidated laws," is hereby amended by inserting therein a new section, to be section two hundred ten-a, to read as follows:

§ 210-a. *Pork processing. For the purpose of preventing trichinosis, the commissioner is hereby authorized to require any person who manufactures, sells, offers for sale, or delivers any article of food containing any muscle tissue of pork customarily to be eaten without cooking to process such food in the manner prescribed by the department.*

§ 2. This act shall take effect immediately.

¹ This bill was passed by the 1941 Senate but was not reported out of committee by the Assembly Rules Committee.

² This bill, passed by the 1941 Senate and Assembly and signed by Governor Lehman, is now Chapter 381 of the Laws of 1941.

AN ACT to amend the agriculture and market law, in relation to the licensing of slaughter-houses.¹

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Chapter forty-eight of the laws of nineteen hundred twenty-two, re-entitled by chapter two hundred and seven of the laws of nineteen hundred twenty-seven, "An act in relation to agriculture and markets, constituting chapter sixty-nine of the consolidated laws," is hereby amended by inserting therein a new article, to be article five-a, to read as follows:

ARTICLE 5-A

Licensing of Slaughterhouses

Section 96-a. Declaration of policy and purpose.

96-b. License required.

96-c. Application of article.

96-d. Unlawful acts.

96-e. Denial, revocation and suspension of licenses.

§ 96-2. *Declaration of Policy and Purpose.* Whereas unsanitary conditions in the slaughtering of animals and fowl for food have been found to exist in this state, and whereas such conditions endanger the health and welfare of the people of the state, it is hereby declared to be a matter of legislative determination that the supervision of the slaughtering of animals and fowl is in the public interest, and that this article is enacted in the exercise of the police power of the state and its purposes are the protection of the public health.

§ 96-b. *License Required.* No person, firm, partnership or corporation shall operate any place or establishment where animals are slaughtered or butchered for food unless such person, firm, partnership or corporation be licensed by the commissioner. An application for license shall be made upon a form prescribed by the commissioner on or before the first day of May in each year, for the license year commencing upon the following first day of June. With the application there shall be paid a license fee of five dollars.

§ 96-c. *Application of Article.* This article shall not apply to the city of New York, nor shall it apply to any bona-fide farmer who butchers his own domestic animals or fowl on his farm.

§ 96-d. *Unlawful acts.* It shall be unlawful for any person, firm, partnership or corporation to operate any slaughterhouse, abattoir or other place or establishment where animals or fowl are slaughtered or where meat or meat food products are prepared or processed for food unless such place or establishment is maintained

¹ This bill, passed by the 1941 Senate and Assembly and signed by Governor Lehman, is now Chapter 647, Laws of 1941.

and operated in a clean and sanitary manner, and conducted in accordance with the provisions of this article and with the regulations of the commissioner.

It shall be unlawful to expose any meat, fowl or meat food product in any slaughterhouse, abattoir or other place or establishment to insects, live animals or injurious contamination; or to slaughter, possess or sell unwholesome meat. Meat shall be unwholesome within the meaning of this article if it be from a diseased animal or one which shall have died other than by slaughter, or if such meat shall be contaminated with filth or shall have been slaughtered, processed, or handled under insanitary conditions.

It shall be unlawful to feed hogs uncooked offal from a slaughterhouse.

§ 96-e. Denial, Revocation and Suspension of Licenses. The exposure of meat, fowl or meat food products to insects, live animals or injurious contamination, or the slaughter, possession or sale of unwholesome meat shall be cause for the denial of an application for license, or the revocation or suspension of a license already granted. Any such denial, revocation or suspension may be reviewed by a proceeding instituted under article seventy-eight of the civil practice act.

§ 2. The sum of five thousand dollars (\$5,000), or so much thereof as may be necessary, is hereby appropriated out of any money in the state treasury not otherwise appropriated to the department of agriculture and markets to be paid on the audit and warrant of the comptroller upon the certificates of the commissioner of agriculture and markets in the manner provided by law.

§ 3. This act shall take effect May first, nineteen hundred forty-one.

AN ACT to amend the agriculture and markets law, in relation to the inspection and sale of meats, making an appropriation therefor and repealing certain provisions thereof relating thereto.¹

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Chapter forty-eight of the laws of nineteen hundred twenty-two, re-entitled by chapter two hundred seven of the laws of nineteen hundred twenty-seven "An act in relation to agriculture and markets, constituting chapter sixty-nine of the consolidated laws," is hereby amended by adding thereto a new article, to follow article twenty-one, to be article twenty-one-a, to read as follows:

¹ This bill, introduced for educational purposes only, was not reported out of committee.

ARTICLE 21-A

Inspection of Meats

| | |
|----------------------|---|
| <i>Section 258-n</i> | <i>Division of meat inspection.</i> |
| <i>258-n-1</i> | <i>Definitions.</i> |
| <i>258-o</i> | <i>General powers.</i> |
| <i>258-o-1</i> | <i>Rules and orders.</i> |
| <i>258-p</i> | <i>Municipal inspection departments.</i> |
| <i>258-p-1</i> | <i>Stamps.</i> |
| <i>258-q</i> | <i>Application for inspection service, fees and deposit.</i> |
| <i>258-q-1</i> | <i>Inspection required.</i> |
| <i>258-r</i> | <i>Labeling.</i> |
| <i>258-r-1</i> | <i>Exemption from inspection.</i> |
| <i>258-s</i> | <i>Hours for slaughtering.</i> |
| <i>258-s-1</i> | <i>Ante-mortem inspection.</i> |
| <i>258-t</i> | <i>Post-mortem inspection.</i> |
| <i>258-t-1</i> | <i>Unstamped meat.</i> |
| <i>258-u</i> | <i>Unlawful possession of inspection stamps.</i> |
| <i>258-u-1</i> | <i>Sanitary requirements.</i> |
| <i>258-v</i> | <i>Dyes and artificial coloring.</i> |
| <i>258-v-1</i> | <i>Retailer's exemptions.</i> |
| <i>258-w</i> | <i>Baby veal defined, and notice of its sale required.</i> |
| <i>258-w-1</i> | <i>Shipping veal; receiving veal for shipment by common carriers.</i> |
| <i>258-x</i> | <i>Baby veal to be tagged in abattoirs.</i> |
| <i>258-x-1</i> | <i>Severability.</i> |
| <i>258-y</i> | <i>Inspectors.</i> |
| <i>258-y-1</i> | <i>Present employees.</i> |
| <i>258-z</i> | <i>Limitation.</i> |

§258-n. *Division of meat inspection.* There shall be in the bureau of animal industry of the department a division to be known as the division of meat inspection. The head of the division shall be the director of animal industry. The functions, powers and duties of the department, as provided by this article, shall be exercised and performed therein by and through the division of meat inspection of the bureau of animal industry. The commissioner may delegate any of his powers to, or direct any of his duties to be performed by the director of the bureau of animal industry.

§ 258-n-1. *Definitions.* As used in this article, unless otherwise expressly stated, or unless the context or subject matter otherwise requires:

“*Division*” means the division of meat inspection created by this article.

“*Director*” means the director of animal industry.

“*Person*” means any person, firm, corporation or association.

“*Establishments*” includes all premises where animals are slaughtered or otherwise prepared for food purposes, meat canneries, sausage factories, curing and smoke houses, and similar places.

“*Animals*” means cattle, swine, sheep, goats and other large domesticated mammals, but does not include small species such as dogs, cats and rabbits.

“*Slaughter*” means kill and prepare for human consumption.

“*Federal inspection*” means the meat inspection maintained by the bureau of animal industry of the United States department of agriculture.

“*State inspector*” means the meat inspection maintained by the department of agriculture and markets.

“*Municipal inspection*” means the meat inspection department of a city or county in the state.

§ 258-o. *General powers.* The department through the commissioner is hereby vested with the power to supervise establishments where animals are slaughtered or those used for the manufacture of meat food products; provided, however, that nothing contained in this article shall be construed to abrogate or affect the status, force or operation of any provision of the public health law, the public service law, the state sanitary code or any local health ordinance or regulation.

§ 258-o-1. *Rules and orders.* The commissioner may adopt and enforce all rules and all orders necessary to carry out the provisions of this article. Every rule or order shall be posted for public inspection in the main office of the division and a copy filed in the office of the department of state, except an order directed only to a person or persons named therein which shall be served by personal delivery of a copy, or by mailing a copy in a sealed envelope with postage prepaid to each person to whom such order is directed, or, in the case of a corporation, to any officer or agent of the corporation upon whom a summons may be served in accordance with the provisions of the civil practice act. The posting in the office of the division of any rule and of any order not herein required to be served, and such filing in the office of the department of state, shall constitute due and sufficient notice to all persons affected by such rule or order. A rule when duly posted and filed as provided in this section shall have the force and effect of law.

§ 258-p. *Municipal inspection departments.* Recognition is hereby extended to the various municipal inspection departments now existing or which may hereafter be inaugurated in the state, provided that such municipal inspection departments are approved by the commissioner.

§ 258-p-1. *Stamps.* Upon the approval by the commissioner of an established operating under municipal inspection, there may be added to the stamp in use in said establishment the words "New York approved." Such stamp shall be accorded the same recognition as "New York inspected and passed."

§ 258-q. *Application for inspection service, fees and deposit.* An applicant for a license to engage in slaughtering animals or manufacturing meat food products for human consumption shall apply to the commissioner or to the local municipal inspection department, if such municipal inspection department has been approved by the commissioner, for the inauguration of an inspection service in the establishment where said animals are to be slaughtered or meat food products manufactured. Such application shall be in writing, addressed to the commission or approved local authority, on blanks furnished by the department. In such application the applicant for inspection shall agree to comply with the provisions of this chapter and to maintain such establishment in a clean and sanitary manner. Upon receipt of the application the commissioner or approved local municipal inspection department shall make an inspection of such establishment and if found clean and sanitary, and properly equipped to conduct its business in accordance with the rules and regulations of the department, the commissioner or approved municipal inspection department shall inaugurate an inspection service therein, and shall give to such establishment an official number, to be used to mark meat and meat food products of this establishment as provided in this section. Such establishment shall thereafter be known as "official establishment No.," and shall pay for such inspection service a fee in the amount designated by the commissioner or the municipal inspection department having jurisdiction. Such fee paid by any establishment under state inspection shall be credited to the fund, and shall be sufficient to cover the total salaries, traveling expenses, pensions and premiums on account of workmen's compensation and insurance of all inspectors in such establishment. All such fees shall be paid monthly in advance. Each establishment under state inspection shall deposit with the commissioner one-half of the amount of one months inspection fee to be held in trust by the director to be applied on any fee due the state in the event the establishment discontinues inspection or inspection is suspended for non-payment of fee. In lieu of such deposit an establishment may file a bond for like amount, satisfactory to the commissioner.

258-q-1. *Inspection required.* No establishment may be operated in the state for the purpose of slaughtering animals, or for the manufacture of meat food products unless such establishment is operated under federal inspection, state inspection, or approved municipal inspection. No dressed carcasses of animals intended for food purposes, parts thereof, prepared meat or meat food products shall be sold within the state unless the same shall bear the "In-

spected and passed" stamp of an establishment operating under federal inspection, state inspection, or approved municipal inspection.

§ 258-r. *Labeling.* When any meat or meat food product that has been inspected as provided by this article and stamped "Inspected and Passed," shall be placed or packed in any can, pot, tin, canvas, or other receptacle or covering in any establishment, the person preparing said meat or meat food product shall cause a label to be attached to said can, pot, tin, canvas, or other receptacle or covering, which label shall state that the contents thereof have been "Inspected and Passed" under the provisions of this article; and no inspection of meat or meat food product deposited or enclosed in a can, pot, tin, canvas, or other receptacle or covering shall be deemed to be complete until such meat or meat food product has been sealed or enclosed in said can, pot, tin, canvas, or other receptacle or covering under supervision of an inspector; and no such meat or meat food product shall be sold by any person in the state under any false or deceptive name; but established trade names that are usual to such products, and which are not false or deceptive, and which shall be approved by the commissioner are permitted. The commissioner shall confiscate and cause to be destroyed all such labels that are found to be false or deceptive.

§ 258-r-1. *Exemptions from inspection.* Nothing contained in this article shall prohibit:

(a) A live stock producer from slaughtering animals on his own premises that are a part of his own herd for his own consumption or from disposing of the carcasses and products of those animals thus slaughtered, provided they can be identified as such, and are sound, healthful, wholesome, and fit for human food, and are disposed of in his locality; when cattle, sheep, swine or goats are sold by said producer in the vicinity where produced and slaughtered there shall be attached to said meat and meat products a statement giving substantially the following:

I hereby certify that the uninspected meat (or meat products as the case may be) to which this certificate is attached is from animals slaughtered by the undersigned, a farmer, on his farm and that at this date it is sound, healthful, wholesome, and fit for human food.

(b) A live stock producer or dairyman from slaughtering upon his own premises calves under the age of eight months which are the actual increase of his own herd, if the calves are accompanied by a certificate of ownership and are marketed by whole carcass with hide on.

§ 258-s. *Hours for slaughtering.* No animal shall be slaughtered for food purposes in the state except between the hours of seven o'clock a. m. and eight o'clock p. m. of any one week day and slaughtering is forbidden on Sundays and legal holidays, unless a special permit in writing is issued by the commissioner.

§ 258-s-1. *Ante-mortem inspection.* When it is deemed necessary, in order to safeguard the public health, the commission shall cause to be made an ante mortem inspection of any animals before they are slaughtered for food purposes. Satisfactory facilities shall be provided for conducting such inspection and for separating from the passed animals those deemed unfit for immediate slaughter. If any owner or person in charge is about to slaughter for food purposes any animal which the department believes may be affected with disease, the commissioner shall notify the owner or person in charge of said animals to refrain from slaughtering them for food purposes until the ante mortem examination is completed. Any owner or person slaughtering animals for food purposes after such notification by the commissioner shall be guilty of a misdemeanor. No owner or person shall be required to refrain from slaughtering animals for a period longer than seventy-two hours.

§ 258-t. *Post mortem inspection.* The commissioner may provide post mortem inspection of all animals slaughtered for food purposes in any establishments in the state. The head, tongue, tail, thymus glands, viscera, and other parts and blood used in the preparation of meat food, meat food products, or medicinal products shall be retained in such a manner as to preserve their identity until after the post mortem examination has been completed. Carcasses and parts thereof found to be sound, healthful and wholesome after inspection and otherwise fit for human food shall be passed and may be marked in the following manner: "New York inspected and passed". This mark may also include any number given the establishment. Each carcass or part thereof which is found on post mortem inspection to be unsound, unhealthful, unwholesome, or otherwise unfit for human food, shall be marked conspicuously by the inspector at the time of inspection with the words, "New York inspected and condemned," or with the condemned brand of an approved municipal inspection department and such carcasses or parts thereof, under the supervision of the inspector, shall be rendered unfit for human consumption in a manner approved by the commissioner.

§ 258-t-1. *Unstamped meat.* Inasmuch as it cannot be determined for certain, by any present known method of inspection, whether meat is unwholesome unless the organs and other tissues of an animal are inspected when slaughtered, and as meat and products thereof from uninspected animals may be unfit for human food, the commission shall seize and destroy for human food purposes any meat or meat food product that does not bear the "Inspected and Passed" stamp, brand, mark or label, as provided by this article; provided nothing herein shall affect transportation of dead and condemned carcasses of animals to rendering plants; nor the transportation of dressed carcasses of calves slaughtered in accordance with the provisions of subdivision b of section two

hundred fifty-eight-r-l of this article; nor meat or meat products to which a statement is attached in accordance with the provisions of subdivision a of section two hundred fifty-eight r-l of this article.

§ 258-u. *Unlawful possession of inspection stamps. It is unlawful for any person, except employees of the United States department of agriculture, the state department of agriculture and markets or a municipal inspection department to possess, keep, or use any mark, stamp, or brand provided or used for marking, stamping, or branding the carcass of any animal, parts thereof, meats or meat food products or to possess, keep, or use any mark, stamp, or brand having thereon a device or words the same or similar in character or import to the marks, stamps or brands provided or used by the United States department of agriculture, the state department of agriculture and markets or a municipal inspection department, for marking, stamping, or branding the carcasses of animals or parts thereof intended for food purposes, meats, or meat food products.*

§ 258-u-1. *Sanitary requirements. Every establishment in New York, where animals are slaughtered or where meat or meat food products are prepared or processed for human consumption, shall be maintained and operated in a clean and sanitary manner and inspection conducted in accordance with the provisions of this article and the regulations of the commissioner, and in the event that an establishment is not so maintained and operated the commissioner may suspend inspection in any establishment having state inspection or municipal inspection.*

§ 258-v. *Dyes and artificial coloring. It is unlawful to sell any meat or products thereof, sausage casings, or other casings that contain dye or artificial coloring.*

For the purpose of this article any meat, products thereof, sausage casings, or other casings that contain any dye or artificial colorings shall be deemed adulterated, and the commissioner shall render the same unfit for human consumption with the suitable denaturing agent.

§ 258-v-1. *Retailers' exemptions. Nothing contained in this article shall restrict or prevent a retail meat market as a part of its retail meat business and as a consequence of same or as an incident to same, from making or preparing or selling prepared meat, or meat food products that are made or prepared on its own premises from meat which bear the inspected and passed stamp of federal and state inspection; provided, that said prepared meat or meat food products are sold on the premises of said retail meat market and are not made or prepared by cooking or drying. No application is required of such retail meat markets, or the owners or operators thereof for the inspection service provided for in this article and no such inspection is required to enable them to make, prepare or sell such prepared meat or meat food products.*

Nothing contained in this article shall prohibit a retail meat market from selling or offering for sale meat, prepared meat, meat products, or meat food products which bear the inspected and passed stamp of federal and state inspection.

§ 258-w. *Baby veal defined, and notice of its sale required.* "Baby veal," as used in this article, means the carcass, or any part of the carcass except the hide, of a calf less than three weeks old when killed. No baby veal shall be sold or offered or possessed for sale, either at wholesale or retail, for food purposes, unless it shall be tagged as baby veal in such manner as the commissioner shall prescribe, and unless the following shall be obeyed. Any person selling baby veal at retail, or offering it or possessing it for such purpose, shall post conspicuously in his place of business one or more signs bearing the words, "Baby veal sold here", in letters at least two inches in length and so printed and displayed as to be easily read by customers or others in such place of business. Any keeper or proprietor of any hotel, boarding-house, restaurant, saloon, lunch counter or place of public entertainment who uses or serves therein for his guests any baby veal shall print plainly and conspicuously on the bill-of-fare, if there is one, the words "Baby veal served here", and shall post conspicuously in different parts of each room where such meals are served, in places where they can be easily seen and read, signs bearing the words "Baby veal served", in letters at least two inches in length and so printed and displayed as to be easily read by guests or boarders. Veal which is for any reason unwholesome or unfit for food shall not be served or sold as food or offered or possessed for such purpose, and any person or persons duly authorized by the commissioner may examine any veal offered or exposed for sale or kept with any stock of goods apparently exposed for sale, and if it is for any reason unwholesome or unfit for food he may seize the same and cause it to be destroyed and disposed of without notice and in such manner as to make it impossible to be thereafter used for food.

§ 258-w-1. *Shipping veal; receiving veal for shipment by common carriers.* It shall be unlawful for any corporation, partnership, person or persons to ship to or from any part of this state any carcass or carcasses of a calf or calves or any part of such carcass except the hide, unless they shall attach to every carcass or part thereof so shipped, in a conspicuous place, a tag, that shall state thereon during such transportation, stating the name or names of the person or persons who raised the calf, the name of the shipper, the place of shipping and the destination and the age of the calf. No person or persons shall mutilate or in any way disfigure such tag in such way as to conceal information given thereon or render the same illegible. No railroad company, express company, steamboat company or other common carrier shall carry or receive for transportation any carcass or carcasses of calves, or

any part of the same except the hide, unless the said carcass or carcasses or parts thereof shall be tagged as herein provided.

§ 258-x. *Baby veal to be tagged in abattoirs.* Any person owning or in charge of any abattoir or slaughter house or other place where calves less than three weeks of age are slaughtered shall tag the carcass of each animal in such manner as the commissioner shall prescribe before it shall leave such place. The tag shall show that such carcass is baby veal and shall give such other information as the commissioner shall prescribe. This requirement shall apply also to any quarter or other substantial part of such carcass, but shall not apply to a carcass or part intended for some purpose other than food. No person shall remove such a tag or permit it to be removed until such time as the carcass or part is offered for sale at retail or is cut up for consumption.

§ 258-c-1. *Severability.* If any provision of this act or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the act which can be given effect without the invalid provision or application, and to this end the provisions of this act are declared to be severable.

§ 258-y. *Inspectors.* For the purpose of this article, the commissioner may employ persons who have passed a civil service meat or market inspector's examination and are skilled in the inspection of meats and meat food products for wholesomeness and healthfulness, and necessary additional employees, and he may utilize in the enforcement of this article any employee, agent or equipment of the department.

§ 258-y-1. *Present employees.* All persons who, at the time this article goes into effect, hold office under any of the acts repealed by this article, which offices are continued by this article, continue to hold the same according to the former tenure thereof.

§ 258-z. *Limitation.* The provisions of this article shall not apply to the city of New York.

§ 2. The sum of fifty thousand dollars (\$50,000), or so much thereof as may be necessary, is hereby appropriated to the department of agriculture and markets from any moneys in the state treasury not otherwise appropriated to pay the expenses of the department in carrying out the provisions of this article, as added by this act, payable on the audit and warrant of the comptroller in the manner provided by law. The moneys hereby appropriated shall be in addition to any other moneys appropriated to the department of agriculture and markets.

§ 3. Sections ninety-one, ninety-two and ninety-three of such chapter, sections ninety-one and ninety-three having been added

by chapter two hundred ninety-two of the laws of nineteen hundred thirty-three, are hereby repealed.

§ 4. This act shall take effect immediately.

AN ACT to amend chapter eight hundred and fifty-two of the laws of nineteen hundred forty, entitled "An act creating a temporary state commission to study the problem of trichinosis and other diseases contracted by eating infected meat, and making an appropriation for the expenses of such commission," in relation to extending its life and the time to make a report, and making an appropriation therefor.¹

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The temporary state commission created pursuant to chapter eight hundred and fifty-two of the laws of nineteen hundred forty, to study the problem of trichinosis and other diseases contracted by eating infected meat is hereby continued and its life extended to February fifteenth, nineteen hundred forty-two for the purpose of continuing such study particularly in respect to the study of the problem of New York state meat inspection. The commission shall report to the legislature not later than February fifteenth, nineteen hundred forty-two, the results of its study and may include as a part thereof such legislation as it shall deem necessary to effectuate its finding, and for such purpose section six of chapter eight hundred and fifty-two of the laws of nineteen hundred forty, entitled "An act creating a temporary state commission to study the problem of trichinosis and other diseases contracted by eating infected meat, and making an appropriation for the expenses of such commission," as amended by chapter two of the laws of nineteen hundred forty-one, is hereby amended to read as follows:

§ 6. The commission shall make a report of its proceedings and recommendations to the legislature on or before [March fifteenth] February fifteenth, nineteen hundred [forty-one] forty-two, and shall submit with its report such drafts of legislation as may be necessary to effectually carry out its recommendations.

§ 2. The sum of seven thousand five hundred dollars (\$7,500), or so much thereof as may be necessary, is hereby appropriated from any moneys in the treasury not otherwise appropriated to defray the expenses of the commission extended by this act, and such money shall be available on the audit of the chairman of such commission and the audit and warrant of the comptroller in the manner provided by law.

§ 3. This act shall take effect immediately.

¹ Passed by the Senate and Assembly, and signed by the Governor, this bill is now Chapter 797, Laws of 1941.





