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# Report

FOR THE YEAR 1908,

PRESENTED TO THE

## Spilsby Rural District Council,

BY

FRANCIS J. WALKER, M.D., L.S.Sc.,

**M.R.C.S., Eng.; L.R.C.P., London; L.S.A.,**

MEDICAL OFFICER OF HEALTH.

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SPILSBY :

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TO THE  
*Spilsby Rural District Council.*

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GENTLEMEN,

As your Medical Officer of Health I beg to lay before you my Report for the year ending December 31st, 1908.

The number of notifications of Infectious Diseases received is much smaller than that of last year, indeed it is very slightly above half the average of the last 10 years. The Birth-rate has increased and the Death-rate diminished as compared with the previous year, and the Zymotic death-rate still continues low.

I shall, as usual, divide my report under the headings of Epidemic Diseases, Sanitary Work, and Vital Statistics.



## EPIDEMIC DISEASES.

MEASLES.—The commencement of the year found us with an epidemic of Measles at Friskney, but this came to an end in February. During January there were also many cases in the neighbouring parishes of Wainfleet, Eastville and Midville. A little later an outbreak occurred at Welton, and in the month of March at Toynton. No death was recorded under this heading.

SCARLET FEVER.—There have been 40 notifications of Scarlet Fever received, as against 60 for 1907. They refer to cases that were for the most part scattered both with regard to time and place. It is satisfactory to state that in no instance did the disease spread beyond the inmates of the house in which it originally occurred. In January there were 3 cases at Wainfleet St. Mary, 1 at Addlethorpe, and 3 at Burgh; in February, 2 at Wainfleet All Saints; in March, 1 at Thorpe; in April, 1 at Stickney; in June, 1 at Thorpe and 1 at Winthorpe; in July, 1 at Burgh, 4 at Croft, and 1 at Friskney; in August, 3 at Orby, 1 at Wainfleet, and 3 at Thorpe; in September, 5 at Winthorpe; in October, 2 at Wainfleet St. Mary; in November, 3 at Croft, 1 at Hundleby, and 1 at Friskney; in December, 1 at Eastville and 1 at Welton. All the patients recovered.

WHOOPIING COUGH.—As during the latter part of last year, Whooping Cough followed in the wake



of Measles, and was present in Toynton, Irby, Croft, Wainfleet, Addlethorpe, Great Steeping, and Skendleby. This disease caused 7 deaths, and with the exception of 1 they were all of infants under the age of 8 months.

DIPHTHERIA.—Eight notifications have been received, which is the smallest number for the last 15 years. In February there were 4 cases in one house at Friskney. They were all injected with 2,000 units of Antitoxin and 4 other children in the house were given a prophylactic dose of 500 units. The affected ones all recovered and the remainder escaped. After three weeks the house was stoved with sulphur. Nothing more was heard of this disease in Friskney until December 14th, when I received notification that another case had occurred in the same house. The victim in this instance was a boy who was away from home during the previous outbreak. The attack was mild in character and ended shortly in recovery. In March a case was notified from Bolingbroke, but the disease did not spread beyond the one originally attacked. In June an isolated case occurred at Raithby, and in August a similar one at East Keal, which unfortunately proved fatal from paralysis after six weeks' illness.

ENTERIC FEVER.—Of this disease 6 notifications have been received, and of these 5 referred to cases in one house. In September a child aged 9, living



at Markby, who had just returned from Grimsby, where a case of enteric fever was in the house in which she had been staying, fell ill with the complaint. She was not seen professionally for the first ten days, and consequently the disease was not recognised, and no preventive measures were taken during the early part of the illness. By the middle of October 4 inmates of the house had fallen ill with the disease, including the Father and Mother, but I am glad to say they all recovered, although the mother's case, owing to relapses, proved to be a lingering one, and the house was not considered free from infection until the end of the year. In November a solitary case was notified from Irby. It was mild in character and ended in recovery.

PUERPERAL FEVER.—I have received no notification of this disease in the district during the year.

DIARRHŒA.—One death was recorded under this heading, that of a child 5 months old.

INFLUENZA.—This Zymotic as usual adds its quota to the causes of death, and is this year credited with six fatal cases, three of these occurring in the Spilsby Union Workhouse, the average age of the 6 being 75 years.

The number of notifications received during 1908 was 57, a number nearly half the average of the

last 10 years. Their distribution under their several headings will be seen in the following table :—

Year.	Small Pox.	Scarlet Fever.	Diphtheria.	Membranous Group.	Typhus Fever.	Enteric or Typhoid Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Total.
1899		37	19			13			1		14	84
1900		71	9			5			1		21	107
1901		44	41			10			1		7	103
1902	1	175	12			3	1				9	201
1903		59	13			4					8	84
1904		42	18			6					11	77
1905	3	71	16			9			1		10	110
1906		70	31			7			1		10	119
1907		63	19								6	88
1908		40	8			6					3	57



## SANITARY WORK.

SPILSBY.—The waterworks for Spilsby carried out by the North East Lincolnshire Water Company have been completed, and many houses have already been connected with the mains. The works were opened on June 10th by F. Hopper, Esq., Chairman of the Directors of the Company. The well, which is about 45 feet deep, is situated in a field in Hundleby and contains an ample supply of water. From there the water is pumped up the Hundleby hill into a reservoir, which has a capacity of 75,000 gallons, whence it flows by gravitation to Spilsby. The water has been analysed by Otto Hehner at his laboratory, 11 Billiter St., London, and the composition of the sample in parts per 100,000 was found to be as under:—

Chlorine	... ..	2.10
Sulphuric Acid	... ..	4.92
Nitric Acid...	... ..	.14
Carbonic Acid	... ..	6.68
Silica	... ..	.96
Iron Oxide	... ..	.08
Magnesia	... ..	.61
Soda	... ..	1.67
		<hr/> 28.47
Less Oxygen for Chlorine	... ..	.47
		<hr/> 28.00
Total Mineral Solids in solution...		28.00
		<hr/>
Free Ammonia	... ..	.0017
Albuminoid Ammonia	... ..	.0060



Oxygen absorbed from permanganate				
at 80° F in 15 minutes	...	...	...	.0264
Ditto in 4 hours	...	...	...	.0448
Permanent hardness...	...	...	...	9.2
Temporary	,	...	...	12.5
Total	,	...	...	21.7

“As far as chemical analysis is capable of showing, this sample is quite free from sewage contamination or other organic pollution. It contains but an exceedingly minute amount of organic matter in solution, and the saline components are such as occur in quite pure and unpolluted natural waters. The two chief mineral ingredients are calcium carbonate and sulphate. Their amounts are not high and the hardness is moderate. For drinking and all ordinary domestic purposes the supply leaves nothing to be desired.”

On March 2nd an enquiry was held at Wainfleet All Saints, by E. A. Sandford Fawcett, Esq., M. Inst., C.E., and S. M. Copeman, Esq., M.D., the Inspectors appointed by the Local Government Board, concerning an application from the Spilsby Rural District Council for sanction to borrow £671 for works of water supply for the parish of Wainfleet All Saints. It was proposed to take the water from the Steeping river, and after enquiry and inspection of the river from Wainfleet to Hundleby, the Board issued their report, in which they state that “they cannot regard the river Steeping, from which the Governors of Bethlem Hospital obtain their supply of water, as an altogether safe source of supply under present circumstances, but if the Rural District Council



are satisfied that a supply for Wainfleet All Saints cannot be obtained at a reasonable cost from the water works now being carried out for the supply of Skegness or from any other suitable source, the Board will be willing to sanction a loan in respect of the scheme now before them provided: I., that efficient sand filters are provided for filtering the water before it enters the mains; II., that the Rural District Council at once take steps to deal with the sewage of Spilsby and Hundleby and of any other places or houses which now drain into the river Steeping or its tributaries. In this respect the Council should endeavour to secure the co-operation of the Rural District Council of Horncastle as regards the streams in their district. The Board may state that they are of opinion that an efficient system of sewerage and sewage disposal should be provided for Spilsby and Hundleby whether or not the supply of water for Wainfleet is derived from the river."

In consequence of this report your Council instructed Messrs. Herbert Walker & Son, of Nottingham, who had already reported on the sewerage and sewage disposal of Spilsby and Hundleby, to prepare plans for the efficient drainage of the two parishes. These plans are nearly completed, and they shew that the whole of the sewage of Spilsby and Hundleby is to be carried to some disposal works, situated on the South



East border of the parish of Spilsby, there to be treated by sedimentation tanks, trickling filters, and land filtration. The probable cost for the two parishes will be a little over £5,000. As soon as the plans are in order they will be forwarded to the Local Government Board, and application will be made for sanction to borrow the necessary money.

The Rural District Council of Horncastle have been written to with regard to any pollution of the river within their district, and they have replied that the river has been inspected, and where pollution was found to exist, notices have been sent to the owners to abate the pollution.

The idea of taking the water for Wainfleet from the new Skegness supply seems for the present to be scarcely feasible and if so there remains only one of two alternatives for Wainfleet, either to obtain its supply from some other source, or to put down efficient sand filters and take their water from the river Steeping.

BURGH.—In April it was observed that the quantity of sewage to be pumped at the Burgh sewage works had increased to a marked extent and suspicion was aroused that the sewer somewhere was leaking and water was finding its way in. The sewers were accordingly examined, and it



was found that the joints of the brick work had perished and that moles had worked into the sewer, allowing the water from the Common Drain to enter in. The sewer, where defective, was taken up and replaced with glazed stoneware tubes, and the leakage was stopped.

In June it was found that the Sewer in High Street had become blocked from the top having been broken into by heavy traffic in the street. On examination it was found to be an old barrel sewer which had been badly constructed. It was recommended to be taken up and modern stoneware pipes substituted, but your Council thought it would be sufficient if the old drain were repaired, and this was done.

SUTTON.—On March 18th, 1908, an enquiry was held at Sutton-in-the-Marsh by E. A. Sandford Fawcett, Esq., M. Inst. C.E., one of the Inspectors appointed by the Local Government Board concerning an application from the Spilsby Rural District Council for sanction to borrow money for purposes of Sewerage and Sewage disposal for the parish of Sutton-in-the-Marsh. Plans had been prepared by Messrs. Walker & Son, Nottingham, in which they proposed to carry the sewage to some disposal works at the Trusthorpe end of the parish. At this enquiry a good deal of opposition was shown to the position of the disposal works.



The cost was also thought to be excessive, and regret was expressed that the plan did not comprise the whole of the parish, some of the outlying houses being left beyond the area of the sewage system. As a result of this enquiry, the following reply was received from the Local Government Board:—"The Board are advised that the site proposed for the sewage disposal works under this scheme is an undesirable one, and that in other respects the scheme seems to require further consideration. Having regard to all the circumstances, the Board suggest with respect to the disposal of the sewerage that the Rural District Council should consult their Engineers as to the advisability of dispensing with purification works, at any rate in the first instance, and pumping the sewage into the sea at a suitable point and during suitable periods of the ebb tides, the point of outfall and the period of discharge to be determined by float experiments carried over a complete cycle of tides and in all states of the tides.

"If a scheme on these lines is adopted, it will be necessary for the Rural District Council to apply to the Board of Trade for their consent to such of the works as will be below high water mark.

"Other matters requiring further consideration are as follows:—I. Some of the proposed sewers might with advantage be reduced in size. II. Any stone ware pipes which will have less than 4 feet



in depth of cover under roads should be surrounded by 6 inches of concrete. III. The sewers should not be used for storing the night flow. IV. Church Lane and if possible Sandilands also should be provided for in the scheme. V. The existing sewers which are to be retained for surface water drains should be cleaned out."

In consequence of this report observations were taken of the tides by means of floats and, these proving satisfactory, fresh plans are now being prepared in accordance with the recommendations of the Local Government Board.

Owing to great vigilance and frequent flushing, the sewers were kept from blocking during the year, and the outfall, by means of the liberal use of disinfectants, was prevented from being a nuisance, but it is hoped that the difficulties of efficiently draining Sutton will soon be overcome, and that in the near future we shall see this increasing sea side resort possessed of a proper system of sewerage in accordance with the latest ideas of Sanitation.

The following is the Surveyor and Inspector's Report for 1908:—

Number of nuisances detected—

Without complaint	...	...	...	124
Number of complaints received			...	9

## Number of Nuisances abated—

Without formal notice ... ..	120
Number of formal notices served ...	6
Total number of nuisances abated ...	126
Common lodging-houses inspected ... ..	1
Dairies, cowsheds, and milkshops inspected ...	249
Number of ditto registered ... ..	69
Slaughter-houses inspected ... ..	23
Bakehouses inspected ... ..	27
Number of summonses issued ... ..	1
Number of convictions ... ..	1
Houses reported unfit for human habitation ...	7
Houses placed in habitable repair ... ..	3
Defective drainage to houses remedied ... ..	70
Houses cleansed and disinfected ... ..	33
Schools disinfected ... ..	1
New earth closets erected... ..	1
Privy vaults filled in and earth closets inserted...	6
New water closets erected ... ..	1
Water closets repaired and ventilated ... ..	1
New dust bins erected ... ..	34
Old dust bins repaired and covered in ... ..	7
Privies repaired ... ..	19
Cases of overcrowding detected ... ..	1
Cases of overcrowding abated ... ..	1
New water supply to houses ... ..	14
Wells cleansed and supply improved ... ..	6
Water Certificates given by Council (with respect to New Buildings erected in parishes to which the Building Byelaws do not apply) ...	12
Offensive accumulations removed ... ..	18
Buildings erected under Bye-laws:—	
Spilsby ... ..	3
Sutton-on-Sea ... ..	13
Chapel ... ..	3
Winthorpe ... ..	4
Wainfleet ... ..	1



For purposes of revision and correction of the Register of persons carrying on, in the district, the trade of cowkeeper, dairyman, or purveyor of milk, your Officials have during the year made an inspection of the premises of all persons known to be milk sellers. They found that there were 249 persons carrying on that trade, but 180 were exempt from registration under Article 6 of the Order of 1885, and the remaining 69 have been registered. A special report on the subject was presented to your Authority on July 23, and is added hereto as an appendix. Notices have been sent to all persons liable to registration to remedy the defects found at the inspection, and a re-inspection is now being made to ascertain if these requisitions have been complied with.

The importance of the health and cleanliness of milch cows has been very strongly commented upon in the 3rd interim report of a Royal Commission appointed in 1901 to enquire into the relations of human and bovine tuberculosis. In previous reports the Royal Commission expressed their opinion very strongly that bovine tuberculosis is communicable to human beings, and that a very considerable amount of disease and loss of life, especially among infants and children, must be attributed to the consumption of cow's milk containing tubercle bacilli. Tuberculosis involving the udders of cows is comparatively common, and it has for a long time been generally



accepted that milk from a cow suffering from tuberculosis of the udders contains tubercle bacilli, and is therefore dangerous to human beings consuming it. But the present report points to another danger, and clearly proves that the milk of a cow suffering from cough and emaciation due to tuberculosis is probably infective, even though the udders may be perfectly healthy. This report proves to us that it is very necessary to see that milk should be used only from those cows which are healthy and shew no signs whatever of tuberculosis.

In October, application was made to the Local Government Board to extend the existing Bye-laws with regard to Slaughter Houses to the whole of the district, as it was felt to be incongruous that two butchers living near to one another but in different parishes (one in a parish in which the bye-laws do apply and the other in which they did not) should be treated differently, one being subject to certain rules and regulations while his neighbour was exempt. The Local Government Board replied that it was contrary to their usual practice to confer these powers upon a Rural District Council in respect of an entire district unless in fact they are required in all or a majority of the parishes. They also ask in what



contributory places, other than those to which these bye-laws do apply, slaughter houses have been or are likely to be established. Slaughter houses were found in the following parishes: Bolingbroke, Bratoft, Friskney, Halton Holgate, East Kirkby, New Leake, Stickford, Stickney, Toynton All Saints, Wainfleet Saint Mary, and Welton; and in December, the Local Government Board granted the Spilsby Rural District Council permission to put in force Sections 169, 2nd and 3rd paragraphs, and 170 of the Public Health Act, 1875, and Sections 29, 30 and 31 of the Public Health Acts Amendment Act, 1890, in the contributory places already mentioned. Notices have been sent to occupiers that the Slaughter House Regulations have been put into force in their respective parishes, and steps are being taken to see that each Slaughter House complies in every respect with the Council's Bye-laws.

During the year I have analysed 38 samples of drinking water, and the results were that in 18 cases the water was classed as good, in 11 suspicious, and in 9 bad.

Legal proceedings were taken under the Housing of the Working Classes Act, 1890, in respect of three dilapidated and insanitary dwellings situated in Friskney. Closing orders were granted by the Magistrates, the landlord was fined £2 and costs, and the dwellings have been vacated.



Under the Factory and Workshops Act, 1891, all workshops and bakehouses have been inspected. In 5 workshops defects in cleanliness and sanitation of the premises were found, and these have been remedied. There were breaches of special sanitary requirements for bakehouses (Sections 97—100) in 10 cases, and other offences not so specified in 2. These have all been remedied.

### VITAL STATISTICS.

In 1908 the Births were 469 and the Deaths 261. The Birth-rate was 24·17 per 1,000 population, which is 3·05 more than that of 1907 and slightly above the average of the last 10 years. The Death-rate was 13·45, and is the lowest recorded for the last 10 years.

The Death-rate of children under 1 year to 1,000 births was 89·3 and is slightly below the average of the last 10 years. The Death-rate for England and Wales for the same age was 121.

The number of deaths above 65 is nearly half the total number.

The Birth-rate in England and Wales for 1908 was 26·5 per 1,000 population, and the Death-rate was 14·7.



The class of Zymotic Diseases contributed 15 to the total list, and these deaths were put down to Whooping Cough 7, Diphtheria 1, Influenza 6, and Diarrhoea 1, and they have already been alluded to. The Death-rate per 1,000 of the 7 principal Zymotic Diseases amounted to .46. The Death-rate in England and Wales for the same Zymotic Diseases was 1.29.

The Births were distributed according to Quarters as follows :

	LEGITIMATE.		ILLEGITIMATE.	
	MALES.	FEMALES.	MALES.	FEMALES.
Quarter ending March 31st	41	52	10	3
Quarter ending June 30th	59	52	5	3
Quarter ending Sept. 30th	66	48	6	3
Quarter ending Dec. 31st	58	55	4	4
	<hr/> 224	<hr/> 207	<hr/> 25	<hr/> 13
Total Legitimate ...	431		Total Males ...	249
„ Illegitimate ...	38		„ Females ...	220
Grand Total	<hr/> 469		Grand Total	<hr/> 469

TABLE of DEATHS from the Seven Principal Zymotic Diseases during the last 10 years.

	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.
Small Pox ...	—	—	—	—	—	—	—	—	—	—
Measles ...	1	1	—	—	—	—	7	—	2	—
Scarlet Fever ...	—	4	—	2	1	1	1	1	—	—
Diphtheria ...	1	1	10	2	2	1	3	5	3	1
Whooping Cough ...	—	4	1	2	5	—	1	3	3	7
Fever, Typhus ...	—	—	—	—	—	—	—	—	—	—
" Typhoid or Enteric ...	1	—	1	—	1	1	4	—	1	—
" Other or doubtful ...	—	—	—	—	—	—	—	—	—	—
Diarrhœa and Dysentery ...	2	3	3	—	1	1	2	1	1	1
Total Deaths from the 7 principal Zymotic Diseases ...	5	13	15	6	10	4	18	10	10	9
Deaths from other causes ...	349	316	299	292	262	308	293	263	283	252
Total Deaths ...	354	329	314	298	272	312	311	273	293	261
Death-rate per 1000 Zymotic Diseases ...	·23	·61	·73	·29	·49	·20	·91	·50	·51	·46
Death-rate per 1000 from all causes ...	16·97	15·91	15·22	14·66	13·50	15·51	15·67	13·86	14·99	13·45
Death-rate for England and Wales ...	18·3	18·3	16·9	16·3	15·4	16·2	15·2	15·4	15·0	14·7



At the present time sanitary science seems to be moving at a rapid pace, and provided its conclusions be founded upon solid bases, sanitary legislation seems ever ready to follow on its track. Last year the question of the health of our rising generation came to the fore, and an Act of Parliament was passed enforcing the periodic examination of children attending our elementary schools with the view of detecting and if possible correcting the beginnings of disease. This measure together with all the numerous orders relating to dairies, cowsheds, and milkshops, which have been promulgated for the purpose of securing the purity of milk, an article of diet most necessary for the growing child, must have an influence for good upon our juvenile population.

This year we are threatened with a renewed crusade against tuberculosis, and a Royal Commission has been sitting for some time for the purpose of investigating the nature, habits, and behaviour generally of the dreaded microbe known as the tubercle bacillus. The Commission has already issued three interim reports, and certain difficult and unsettled problems have been finally solved, and sufficient seems to have been accomplished to warrant the President of the Local Government Board to issue an order, probably preliminary, making the notification of tuberculosis to the Medical Officer of Health

compulsory upon all Poor Law Medical Officers of cases under their care in their official capacity. If only the labour which has been expended on tuberculosis should happily result in the extermination of that terrible curse of humanity familiar to all and known by the name of consumption, truly such labour cannot be looked upon as in vain.

I have the honour to be, Gentlemen,

Your obedient Servant,

FRANCIS J. WALKER.

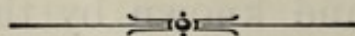
January, 1909.



SPILSBY,  
July 9, 1908.

TO THE

*Spilsby Rural District Council.*



GENTLEMEN,

Having revised and corrected the Register of those people carrying on the trade of Cowkeeper, Dairyman or Purveyor of Milk within the area of the Spilsby Rural District Council according to Article 6 (2) of the Dairies, Cowsheds, and Milkshops Orders of 1885 and 1886, I now beg to lay before you my report on that subject.

The Sanitary Inspector and myself have inspected the premises of 243 persons who sell milk in this district. Out of that number we find that 174 are exempt from registration under Article 6 (6) of the Dairies, Cowsheds, and Milkshops Order, 1885, *i.e.*, they only sell milk in small quantities to their workmen or neighbours for their accommodation, or make their cream into butter or cheese. The remaining 69 come under the definition of cowkeeper, dairyman, or purveyor of milk, and many of them are already registered.

A good deal of milk is sold to people living in the district, but some is sent away every day by rail to distant parts. The following is a list of those who send milk away, giving the average quantity per day and the destination so far as is known :—

W. Spurr, of Anderby, sends from 17 to 50 gallons a day away by rail, some to Mr. Hy. Hanson, Great Queen St., London, E.C., some to Mr. Smith, King St., Grimsby, and the remainder to Mr. Geldard, College St., Cleethorpes.

W. Guttridge, of Burgh, sends about 50 gallons a day to Mr. F. Park, Edward St., Grimsby.

W. S. Hipkin, of Winthorpe, sends 44 gallons a day to Mr. Warth, 162, Waterway St., Nottingham.

J. Reams, of Croft, sends 20 gallons a day to Skegness in the Summer months; W. Drury sends 20 gallons of his own and 18 from Mr. Cave also to Skegness in the Summer.

Geo. Frith, of Croft, sends 27 gallons a day to Mr. Slingsby, 52, Stanley St., New Clee.

J. H. Caudwell, of Croft, sends 46 gallons each day to Mr. Warth, of Nottingham.

J. A. Warth, of Croft, sends 50 gallons to the same place, having got some from his neighbour, Mr. Stothard.

John Wells sends about  $3\frac{1}{2}$  gallons to Skegness in the Summer, so does Jos. Watson, of Thorpe, who averages 20 gallons a day.

C. Westmoreland, of Sutton-on-Sea, sends 12 gallons to Mr. Stead, of Grimsby.

Arthur Sizer, of Hogsthorpe, sends 17 gallons to Mr. Warth, of Nottingham, and Holmes sends 40 gallons to the same place.

W. B. Wingate sends 10 gallons to Mr. Bycroft, of Cleethorpes.

Thos. Allewell, of Eastville, besides supplying the village with 5 gallons a day, sends 17 gallons to Mr. Warth, of Nottingham.



Thos. Colton, of Dalby, supplies the Spilsby Union Workhouse, and sends 12 gallons to Mr. Geldard, College St., Cleethorpes.

J. Robinson, of Bilsby, has a regular round in Alford, selling about 12 gallons a day.

It will thus be seen that 468 gallons of milk are sent out of the district each day, the greatest quantity, viz., 214 gallons, being sold to Warth, 162, Waterway St., Nottingham. This milk does not all go to Nottingham, but is sent to different places, each seller sending a certain quantity to wherever he is ordered by Warth, the destination varying from week to week.

All the cows are turned out into the fields from four to six months of the year, and with two exceptions are brought into cowsheds during the winter months. The cowsheds are buildings constructed for the most part of weather-boarded sides and corrugated iron roofs, some are made of brick and tiled, and a few are boarded or wattle buildings with a thatched roof. They vary very much in size, accommodating as they do from 1 to 12 cows.

*Lighting.* As a rule the cowsheds are badly lighted. In some the only means of light is from small glass tiles in the roof, in others from small openings in the walls, and some have no light excepting that which comes through the open door.

*Ventilation.* The ventilation is generally defective. Some cowsheds have windows which open, but the majority get what little ventilation they have through the non-pointed tiles in the roof. Some have the door divided in two, the top half being kept continually open.



*Cleanliness.* It is an exception to find a clean cowshed. Those that were limewashed were not done often enough, and in many cases no attempts at cleansing the walls of the cowshed could be seen. This condition applies more to the cowsheds belonging to the small cottager with one or two cows than to the larger milk seller.

*Drainage.* The drainage was in many cases defective, principally on account of the uneven condition of the floor with little or no fall. In a few sheds the drain was inside the building, but generally the fluid found its way through a hole in the wall to a sump outside, which was periodically emptied, or the fluid ran into the crew and was absorbed by the straw-manure.

*Manure.* This seems to be a frequent source of nuisance, as little attempt is made to remove it any distance from the cowshed, and large heaps are allowed to remain for a long time.

In some cases pigs were kept in the cowshed. This is very objectionable and should be discontinued.

*Dairies.* When I come to the subject of dairies, I am glad to be able to report much more favourably. We were struck with the cleanliness of the majority of them and also of the utensils the milk was kept in. In a few instances the milk was taken into the pantry where food was kept, but in many the milk was not brought into the house at all, but placed directly into cans and sent round to customers. The larger milk sellers all had "coolers," on to which the milk, after being strained, flowed and ran direct into cans which were sent to the railway station.

The Orders of the Local Government Board of 1885 and 1886 require that the lighting, ventilation, cleansing, drainage, and water supply be such as are necessary for the health of the cattle and protection and cleanliness of the milk.



*Lighting.* Every cowshed should have sufficient light to enable every part of it to be inspected without difficulty.

*Ventilation.* This requires great improvement and can with a little ingenuity be so arranged as not to produce draught. There should be both an inlet and an outlet, so as to procure the exit of foul air and the entrance of fresh. This is best provided for by the upper part of a window being hinged and allowed to fall inwards, with a triangular board fitted on each side. The whole of the incoming air will then be directed upwards and will not strike upon the cattle. The outlet should be placed in the roof by means of louvred shafts projecting above the ridge of the roof.

*Cleansing.* This is very important, and means should be provided for the effectual steaming and cleansing of all milk cans and vessels. The cowshed should also be washed down at least once a day with a plentiful supply of water, and the walls kept clean by limewashing. The cleanliness of the cows' udders and teats as well as the hands of the milkman should be carefully attended to.

*Drainage.* The essentials for good drainage of cowsheds are an even, hard, and impervious floor with a good fall for the ready flow of all liquids and their effectual removal outside the building. No shed should have a drain inside it, and this also applies to dairies.

*Water Supply.* This should be pure in quality and sufficient in quantity. Milk is a fluid that appears to offer a good medium for the growth of certain germs, and if water impregnated with them be used to clean the milk vessels, that bacillus will grow in the milk and may carry the disease to those consuming it. Milk itself is also very liable to fermentation, and absolute cleanliness is essential to keep it good and prevent it "turning sour."

The supply of pure milk to the community is of utmost importance, it being the principal food for most of the infants of the nation. If greater care were taken in preserving it, many cases of illness, especially in children, would be prevented. It is by education more perhaps than by legislation that this improvement is to be looked for. There is more difficulty in procuring milk in these country villages than many people would imagine, and if legislation is made too stringent, I am afraid the supply would tend to be smaller than it now is. I find so many people only allow their neighbours to have milk as a favour, and if drastic alterations are ordered to be made, they would give up selling milk altogether and use all they have for the rearing of calves and pigs to the detriment of the babies of the village. By persuasion and education we must hope to gradually improve the dwellings of the cows and the cleanliness of the milk vessels, and thus lead to the provision of a pure supply of milk in this neighbourhood.

I have the honour to be, Gentlemen,

Your obedient Servant,

FRANCIS J. WALKER.

SPILSBY,

July 9, 1908.



TABLE I.—For Whole District.

YEAR.	Population estimated to Middle of each year.	BIRTHS.		DEATHS UNDER ONE YEAR OF AGE.		DEATHS AT ALL AGES. TOTAL.		DEATHS IN PUBLIC INSTITUTIONS.	Deaths of Non-residents registered in District.	Deaths of Residents registered beyond District.	DEATHS AT ALL AGES. NETT.	
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.	Number.	Rate.*				Number.	Rate.*
1898.	21,031	491	23.34	59	120.1	377	17.92	26	1	0	376	17.87
1899.	20,854	508	24.36	62	122.0	354	16.97	26	2	0	352	16.87
1900.	20,677	452	21.86	60	111.0	365	17.62	17	2	0	363	15.81
1901.	20,500	492	24.00	45	89.4	314	15.22	21	3	0	311	15.17
1902.	20,323	481	23.66	43	89.4	298	14.66	20	1	1	298	14.66
1903.	20,146	465	23.08	38	81.7	272	13.50	13	1	1	272	13.50
1904.	20,000	469	23.45	28	59.7	312	15.51	23	2	0	310	15.50
1905.	19,850	482	24.28	48	99.6	311	15.67	20	1	0	310	15.67
1906.	19,700	475	24.11	44	92.6	273	13.86	22	0	0	271	13.76
1907.	19,550	414	21.12	26	62.8	293	14.99	14	3	0	290	14.83
Averages for years 1898-1907.	20,263	472	23.32	40	92.8	316	15.59	20	1	0	315	15.36
1908.	19,400	469	24.17	42	89.3	261	13.45	16	2	0	259	12.83

\* Rates calculated per 1,000 of estimated population.



TABLE II.

NAMES OF LOCALITIES.	SPILSBY.				ALFORD.				WAINFLEET.				BURGH.				STICKNEY.			
	Population esti- mated to middle of each Year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each Year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each Year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each Year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each Year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.
1898 ..	6127	126	129	19	4065	91	58	4	4648	113	88	23	3539	83	68	4	2652	78	34	9
1899 ..	6083	130	107	23	4015	90	59	6	4613	124	82	13	3541	91	67	10	2602	73	39	10
1900 ..	6039	123	112	12	3963	73	64	10	4582	114	64	11	3542	76	44	7	2551	68	45	13
1901 ..	5994	148	94	15	3919	80	45	3	4539	108	69	9	3543	88	63	8	2505	68	40	9
1902 ..	5949	113	112	17	3875	95	46	6	4496	114	55	10	3543	93	58	6	2460	66	27	4
1903 ..	5909	137	93	11	3831	74	39	4	4453	115	67	11	3543	74	44	5	2415	65	29	7
1904 ..	5870	110	104	9	3800	96	63	6	4420	108	68	6	3530	83	52	5	2380	65	25	3
1905 ..	5831	127	101	20	3769	90	51	7	4387	102	65	8	3517	99	63	10	2346	64	31	3
1906 ..	5800	123	96	10	3735	89	54	8	4352	112	47	8	3502	82	50	12	2311	69	27	6
1907 ..	5770	103	89	9	3700	80	61	5	4317	107	66	5	3487	78	50	3	2276	46	27	4
Averages of Years 1898 to 1907.	5937	124	103	14	3867	85	54	6	4490	111	67	10	3528	84	55	7	2449	66	32	6
1908 ..	5740	118	79	10	3665	85	39	5	4282	111	60	12	3472	80	54	9	2241	75	29	5



TABLE III.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.						TOTAL CASES NOTIFIED IN EACH LOCALITY.				
	At all Ages.	At Ages.—Years.					SPILSBY.	ALFORD.	WAINFLEET.	BURGH.	STICKNEY.
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.					
Small-pox ...	...	...	...	...	...	...	...	...	...	...	...
Cholera ...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous croup) ...	8	...	...	3	3	2	3	...	5	...	...
Erysipelas ...	3	...	...	...	...	3	1	1	...	1	...
Scarlet fever ...	40	...	4	26	5	5	1	...	20	17	2
Typhus fever ...	...	...	...	...	...	...	...	...	...	...	...
Enteric fever ...	6	...	...	3	1	2	...	5	...	1	...
Relapsing fever ...	...	...	...	...	...	...	...	...	...	...	...
Continued fever ...	...	...	...	...	...	...	...	...	...	...	...
Puerperal fever ...	...	...	...	...	...	...	...	...	...	...	...
Plague ...	...	...	...	...	...	...	...	...	...	...	...
Totals ...	57		4	32	9	12	5	6	25	19	2







## APPENDIX.

## RAINFALL FOR 1908.

Month.	No. of days on which '01 or more fell.	Amount in inches.	Average for last 33 years.
January .....	17	1·36	1·97
February .....	19	1·82	1·98
March .....	23	1·92	1·82
April .....	17	3·02	1·66
May .....	12	2·40	2·03
June.....	10	1·63	1·79
July .....	13	3·70	2·58
August.....	17	3·76	2·85
September .....	13	1·57	2·56
October .....	15	1·03	3·45
November .....	12	1·10	2·73
December .....	21	1·80	2·50
Total .....	<u>189</u>	<u>25·11</u>	



