

[Report 1933] / Medical Officer of Health, Malvern U.D.C.

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Malvern (England). Urban District Council.

Publication/Creation

1933

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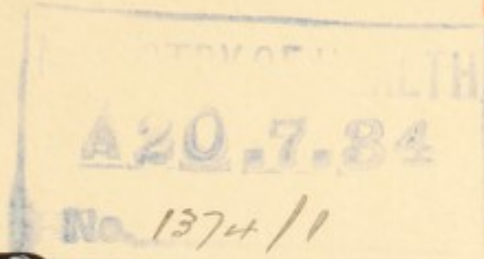
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ANNUAL REPORTS

For the Year 1933

ON THE

Malvern Urban District

BY

C. R. P. MITCHELL, M.D.,

Medical Officer of Health ;

AND

HUGH L. WHITWHAM, M.S.I.A.,

Sanitary Inspector.



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Malvern:

PRINTED BY M. T. STEVENS, LTD., CHURCH STREET.

ANNUAL REPORTS

FOR THE YEAR 1911

Malvern Urban District

C. W. GIBSON, M.D.

PRINTED BY THE DISTRICT COUNCIL

SOUTHFIELD HOUSE,

MALVERN,

May, 1934.

**To the Chairman and Members of the Malvern
Urban District Council.**

Ladies and Gentlemen,

I have the honour to present my Report for the year 1933; this is my twenty-sixth Annual Report as your Medical Officer of Health.

The Ministry of Health directs that this should be an "ordinary Report" and not a "Survey Report."

Copies will be sent, as usual, to the Ministry of Health, the Home Secretary, and the County Council.

Under the provisions of the Local Government Act, 1929, the boundaries of the Urban District were extended by some 2,500 acres, absorbing what were formerly parts of the Rural Districts of Upton-on-Severn and Martley.

A.—Statistics and Social Conditions of the Area.

Area (in Acres)	7,288
Registrar-General's estimate of Resident Population, 1933 (including the new area)	17,690
Number of inhabited houses (end of 1933) according to Rate Books	4,700
Rateable Value	£143,210
Sum represented by a Penny Rate	£544

PUBLIC HEALTH OFFICERS OF THE AUTHORITY.

(a) Medical.—Medical Officer of Health:

C. R. P. Mitchell, M.D. (part time).

Superintendent of the Isolation Hospital:

J. B. Jessiman, M.B. (part time).

(b) Others.—Sanitary Inspector and Inspector under the Housing Acts:

Hugh L. Whitwham, M.S.I.A., Cert. of R. San. Inst. and Sanitary Inspectors' Examination Joint Board as Sanitary Inspector; Cert. of R. San. Inst. as Inspector of Meat and Foods.

Veterinary Surgeon:

B. Secker, M.R.C.V.S.

SOCIAL CONDITIONS.

The Registrar-General estimates the Resident Population with the new boundaries at 17,690, an increase of 1,060 over last year's figure. I still think it is a low estimate.

The district is mainly residential; it is also a large educational centre; there are no industries likely to be detrimental to the Public Health.

The local branch of the Ministry of Labour has kindly supplied me with figures for the past two years, which shew a decrease of approximately 10% in unemployment for 1933.

VITAL STATISTICS.

BIRTH RATE.

During the year 198 births were registered as belonging to the District, as compared with 168 last year; 20 of these were illegitimate.

The Birth Rate was 11.3 per 1,000 of the resident population.

There were 10 still-births (one being an illegitimate infant), and the resulting still-birth rate is 4.8 per 1,000 total (live and still) births.

The Birth Rate for England and Wales was 14.4 per 1,000 of the population.

DEATH RATE.

224 deaths were registered in the District itself, but with corrections for outwards and inward transfers the number allocated to the District was 249, an increase of 25 over last year.

The resulting Death Rate amounts to 14.3 per 1,000 of the resident population.

The Death Rate for England and Wales was 12.3 per 1,000 of the population.

8 deaths occurred at ages between 90 and 97 years.

DEATHS FROM PUERPERAL CAUSES.

There were no deaths from any puerperal causes.

The following table gives the principal causes of death, with the corresponding figures for 1932:—

	1933.	1932.
Whooping Cough	0	1
Influenza	8	6
Cerebro-spinal Fever	1	0
Tuberculosis of the Respiratory System...	15	9
Other Tuberculous Diseases	4	2
Syphilis	0	2
General Paralysis of the Insane	1	0
Cancer, Malignant Disease	36	32
Diabetes	1	4
Cerebral Hæmorrhage, etc.	14	18
Heart Disease	60	57
Aneurysm	2	1
Other Circulatory Diseases	25	15
Bronchitis	9	3
Pneumonia (all forms)	10	9
Other Respiratory Diseases	1	2
Peptic Ulcer	1	0
Appendicitis	0	2
Diseases of Liver (other than Cirrhosis)...	2	2
Other Digestive Diseases	6	1
Acute and Chronic Nephritis	8	7
Accidents and Diseases of Pregnancy and Parturition	0	2
Congenital Debility, Premature Birth, Malformations, etc.	7	6
Senility	12	13
Suicide	2	3
Other Violent Deaths	9	5
Other Defined Diseases	14	20
Causes Ill-defined	1	2

INFANTILE MORTALITY.

13 infants belonging to the District died during the year and the resulting Infantile Mortality is 65.7 per 1,000 births registered.

8 died at 4 weeks or under.

Death was due to congenital causes in 4 instances.

Premature birth was the cause of 2 deaths as compared with 5 last year.

There was 1 death from accident, which was the subject of a Coroner's Inquest.

There were no deaths of illegitimate infants who were born alive.

There were no deaths from Measles (all ages), Whooping Cough (all ages), or Diarrhoea (under 2 years).

It is satisfactory to note the absence of any fatal case of Diarrhoea among the very young, considering the weather conditions in summer and autumn; there was no epidemic of Diarrhoea among the infants who attend the meetings of the Infant Welfare Association.

There was no unusual or excessive mortality during the year.

The figure for Pulmonary Tuberculosis is considerably larger than that of 1932, but this year's figure was exceeded as recently as in 1929.

I have no evidence that unemployment has exercised any significant influence on the health or physique of children or adults.

B.—General Provisions of Health Services for the Area.

Conditions respecting (a) Laboratory facilities; (b) Ambulance facilities; and (c) Nursing in the Home, remain the same as given in my last Report.

With regard to my remarks in my Report for last year about the advantages of a central Nursing Institution, I was a little surprised to learn quite recently that this project was not universally popular among the Nurses. That this should be so had never crossed my mind.

(d) Clinics and Treatment Centres, and (e) Hospitals—Public and Voluntary—conditions remain the same as in my last Report.

C.—Sanitary Circumstances of the Area.

WATER.

The water supply is excellent, both as regards quantity and quality; practically all the houses are supplied from the town mains.

As in previous years samples were sent regularly to the County Analyst for examination, and I append results of two average analyses kindly furnished me by your Surveyor—Mr. W. Osborne Thorp.

[COPY.]

COUNTY CHEMICAL AND BACTERIOLOGICAL LABORATORIES.

Cecil Cooke Duncan, F.I.C., F.C.S.,
County Analyst and Bacteriologist.

SHIREHALL,
WORCESTER.

CERTIFICATE OF ANALYSIS.

Sample of Spring Water, contained in a W. Qt. bottle. Unsealed, marked Hill Supply. Received from Mr. W. O. Thorp, Surveyor, of The Council House, Malvern.

I certify that I have examined the above Sample chemically and bacteriologically, with the following results:—

	<i>Grains per Gallon</i>	<i>Parts per 100,000</i>
Solids in Suspension	None	
Solids in Solution Dried at 100°C	8.4	12.0
Solids in Solution Appearance ...	White	
" " " after Ignition	6.3	9.0
Behaviour of Solids on Ignition	No visible change	
Phosphates	None	
Chlorine calculated as Common Salt	1.3	1.9
Free and Saline Ammonia ...	0.001	0.0016
Albuminoid Ammonia	0.0019	0.0028
Oxygen absorbed in 4 hours ...	None	
Nitrogen in Nitrates	None	
Colour	Clear	
Deposit	None	
Smell	None	
Hardness—	<i>Bacteriological Examination—</i>	
Permanent 2.4° Clark	Gelatine Cult, 12 per 1 c.c.	
Temporary 0.5° "	Agar Nil "	c.c.
Total ... 2.9° "	B. Coli "	285 c.c.
Poisonous Metals. None Detected.	B. Typhosus "	100 c.c.
	B. Welchii "	250 c.c.

The water is of its usual good quality.

(Signed) CECIL DUNCAN,
County Analyst.

[COPY.]
COUNTY CHEMICAL AND BACTERIOLOGICAL
LABORATORIES.

Cecil Cooke Duncan, F.I.C., F.C.S.,
County Analyst and Bacteriologist.

SHIREHALL,
WORCESTER.

CERTIFICATE OF ANALYSIS.

Sample of Bromsberrow Water contained in W. Qt. bottle.
Unsealed, marked Bromsberrow, Malvern Tap Water.
Received from Mr. W. O. Thorp, Surveyor, of The
Council House, Malvern.

I certify that I have examined the above Sample chemically
and bacteriologically, with the following results:—

	<i>Grains per Gallon</i>	<i>Parts per 100,000</i>
Solids in Suspension	None	
Solids in Solution Dried at 100°C	20.3	29.0
Solids in Solution Appearance ...	White	
" " " after Ignition	17.5	25.0
Behaviour of Solids on Ignition	No visible change	
Phosphates	None	
Chlorine calculated as Common Salt	1.9	2.8
Free and Saline Ammonia	0.0004	0.0006
Albuminoid Ammonia	0.0026	0.0038
Oxygen absorbed in 4 hours	None	
Nitrogen in Nitrates	Trace	
Colour	Clear	
Deposit	None	
Smell	None	
Hardness—	<i>Bacteriological Examination—</i>	
Permanent 4.9° Clark	Gelatine Cult	20 per 1 c.c.
Temporary 7.8° "	Agar "	2 per 1 c.c.
Total 12.7° "	B. Coli None	per 285 c.c.
Poisonous Metals. None Detected.	B. Typhosus	" 100 c.c.
	B. Welchii	" 250 c.c.

The water is of good quality and fit for drinking purposes.

(Signed) CECIL DUNCAN,
County Analyst.

As regards the new (rural) areas now included in the Malvern Urban District the water used has been mainly from wells. Mr. Whitwham, your Sanitary Inspector, has spent a great deal of time inspecting these and having samples taken for analysis. The results in most cases have been most unsatisfactory. Total hardness up to 60° has not been uncommon, and in a great majority of instances the water has been condemned as unfit for drinking purposes.

Now (1934) a 4in. main is being laid to supply the Guarlford (new) area.

DRAINAGE AND SEWERAGE.

Again the area within the old boundaries was thoroughly drained and sewered. Water-closet accommodation was practically universal. In the new (rural) areas now included in the District there is practically no sewerage, and earth closets, etc., are the rule, and conditions generally are unsatisfactory.

The Malvern District was a scattered one before the boundaries were enlarged, but it was definitely an urban one. The new areas are as definitely rural, and it will require time and expense before their amenities can be raised to that of the Urban District.

RIVERS AND STREAMS.

There are none in the District.

CLOSET ACCOMMODATION.

As mentioned above water closet accommodaton is practically universal within the old boundaries, whereas in the new areas sewerage is limited and earth closets are common.

PUBLIC CLEANSING.

There has been no change in the service, which is efficient.

SANITARY INSPECTION OF THE AREA.

See Mr. Whitwham's Report, which shews the amount of good work he has done, especially with regard to the new areas.

SMOKE ABATEMENT.

No action was taken in the District under this heading.

SCHOOLS.

All the schools in the District are supplied with water from the town mains, and have water closet accommodation.

The following schools required to be closed on account of Infectious Disease during the year:—

Malvern Wells School, for a fortnight to March 3rd, for Measles and colds.

St. Wulstan's, Little Malvern, for a fortnight to March 24th, for Measles.

Great Malvern Parochial School (Infants' Department), for three weeks to March 24th, for Measles.

Wyche School, for a fortnight to April 14th, for Measles.

Great Malvern Council School (Infants' Department), for a fortnight to June 2nd, for Measles.

St. Joseph's School, for a fortnight to August 4th, for Measles.

Certificates for attendances below 60% were given as follows :—

Great Malvern Council (Infants' Department), for week ending February 3rd, on account of Influenzal colds.

St. Wulstan's School, Little Malvern, for fortnight ending March 10th; on account of Measles.

Malvern Wells School, for week ending March 10th, on account of Measles.

D.—Housing.

Mr. Whitwham, your Officer under the Housing Acts, has furnished me with the following figures :—

I.—INSPECTION OF DWELLING-HOUSES DURING THE YEAR.

(1)	(a)	Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	274
	(b)	Number of inspections made for the purpose	458
(2)	(a)	Number of dwelling-houses (included under sub-head (1) above), which were inspected and recorded under the Housing Consolidated Regulations, 1925	71
	(b)	Number of inspections made for the purpose	431
(3)		Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	19
(4)		Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	254

II.—REMEDY OF DEFECTS DURING THE YEAR WITHOUT SERVICE OF FORMAL NOTICES.

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	190
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III.—ACTION UNDER STATUTORY POWERS DURING THE YEAR.

(a)	Proceedings under sections 17, 18 and 23 of the Housing Act, 1930.	
(1)	Number of dwelling-houses in respect of which notices were served requiring repairs	0

(2)	Number of dwelling-houses which were rendered fit after service of formal notices :—	
(a)	By Owners	0
(b)	By Local Authorities in default of owners	0
(b)	Proceedings under Public Health Acts.	
(1)	Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	1
(2)	Number of dwelling-houses in which defects were remedied after service of formal notices :—	
(a)	By owners	1
(b)	By Local Authority in default of owners	0
(c)	Proceedings under sections 19 and 21 of the Housing Act, 1930.	
(1)	Number of dwelling-houses in respect of which Demolition Orders were made ...	5
(2)	Number of dwelling-houses demolished in pursuance of Demolition Orders	6
(d)	Proceedings under section 20 of the Housing Act, 1930.	
(1)	Number of separate tenements or underground rooms in respect of which Closing Orders were made	1
(2)	Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit	0

E.—Inspection and Supervision of Food.

(a) MILK SUPPLY.

The farms and dairies have been inspected by myself and your Inspector during the year.

In the new parts of the District there are 11 dairy farms. In the case of one of these the cowshed has been entirely reconditioned and brought thoroughly up-to-date during the year; this has required a good deal of time for supervision on the part of your Inspector.

In the main the sheds compare well with those in the "old" District, but the water supplies require improvement.

I was interested to find one of the farmers had a covered but open milking shed. The hygienic effect was rather marred by there being gully traps along the channel, but this, I understand, is being remedied.

In one case only was there a "fold" in front of the cowshed into which the manure was flung, in most it was barrowed away daily.

The last "fold" in the "old" District had come into line in the course of the last year or so, but I feared what the farms in the new area would be like with regard to their "folds"; I was agreeably surprised.

During my 25 years as Medical Officer of Health there have been great improvements, though at times I have felt that my arguments were being quite ineffectual. However, in the end there has been vast improvement.

"Grade A" milk is now produced at one farm in the District, and it is hoped that this milk will be produced at two other farms in the District, the occupiers of which have applied for the necessary Licence.

Certified and Pasteurised Milk is being retailed in the District under Licence, by producers whose premises are situated outside the Malvern boundary.

Samples of these milks are regularly submitted to the County Analyst for examination.

(b) MEAT AND OTHER FOODS.

The 14 private Slaughterhouses have been visited from time to time.

In the new area there are 5 Slaughterhouses; in one of these the pen is not satisfactory.

As mentioned in many previous Reports, thorough and systematic meat inspection is impossible under present conditions.

The Regulations with regard to Butchers keeping meat from being exposed to dust, etc., have been generally complied with. In only one instance was it necessary to issue a caution.

Practically all the butchers have got Frigidaire or other mechanical forms of cold storage.

The Bakehouses have received attention. The one underground bakehouse in the District is not so busy as in years past, as the firm now have all their bread baked elsewhere.

(c) ADULTERATION.

The Police are the authority under these Acts.

(d) CHEMICAL AND BACTERIOLOGICAL EXAMINATION OF FOOD.

This work is carried out at the County Laboratory, Worcester.

(e) NUTRITION—DISSEMINATION OF KNOWLEDGE.

Beyond the lectures given by the Superintendent of the Infant Welfare Association, there has been no work on the dissemination of knowledge of nutrition.

F.—Prevalance of, and control over, Infectious and other Diseases.

The outbreak of Scarlet Fever in the Link district in the last quarter of 1932 persisted in the first quarter of this year, some 17 cases being notified.

It is noteworthy that throughout the year there were no cases of Diphtheria in the town itself, the 9 cases notified being connected with private institutions in the District.

There was 1 case of Cerebro-spinal Fever, a very acute and fatal one in a girl at a time when, from the Weekly Returns, there had been no cases for weeks in the surrounding Counties.

As mentioned before, I do not consider that the hospital accommodation available is utilized to the best advantage; it is too expensive; but a small Urban District such as this cannot prepare accommodation for occasional epidemics of the more fatal Measles or Whooping Cough as in large cities.

Anti-Scarletinal Serum is given at the Hospital as routine treatment with good results.

Influenza was prevalent during the first quarter of the year, and though the newspapers assured their readers that it was of a very mild type, so far as the Malvern District was concerned I think it was severe, especially with regard to the elderly, so differing from the 1918-19 epidemic, which shewed most fatalities in the comparatively young, i.e., 30 to 40.

The School Authorities are prompt in giving notification of cases of Infectious Disease.

No artificial immunization against Diphtheria has been undertaken and no other diseases have received special attention.

NOTIFIABLE DISEASES (OTHER THAN TUBERCULOSIS) DURING THE YEAR, 1933.

SMALLPOX.

No case of this disease was notified.

SCARLET FEVER.

43 cases of this disease were notified, 33 cases being removed to your Hospital. As mentioned above, 17 were in connection with an outbreak which started in the last quarter of 1932 in the Link district, which never obtained epidemic dimensions.

6 cases occurred in the Open Air School and 9 in other institutions in the District.

The monthly incidence was as follows:—

January, 12; February, 4; March, 2; April, 2; May, 6;
June, 1; July, 1; September, 2; October, 3;
November, 2; December, 8;

There was no death from Scarlet Fever.

DIPHTHERIA.

9 cases were notified, all from private institutions in the District.

There were actually no cases notified from dwellings in the Urban District.

6 of these cases were removed to your Hospital.

There were no cases for the first three-quarters of the year. The monthly incidence being:—

September, 1; October, 3; November, 5.

There was no death from Diphtheria.

ENTERIC FEVER (INCLUDING PARATYPHOID).

1 case of Paratyphoid B was notified in August. This patient fell ill within 2 or 3 days of his arrival in Malvern. The case was a mild one.

PUERPERAL FEVER.

1 case of Puerperal Fever was notified and was treated at Worcester Royal Infirmary, making a good recovery. There was no connection with any Scarlet Fever.

This case occurred in the practise of a doctor.

PUERPERAL PYREXIA.

1 case notified was removed to Worcester Royal Infirmary for treatment.

PNEUMONIA.

51 cases of Pneumonia were notified and 10 deaths from Pneumonia were registered. No doubt the Influenza in the Spring had some effect on the number, as in 1932 26 cases only were notified.

In addition also the fact that Pneumonia is a notifiable disease is now becoming more widely realised by the Medical Practitioners in the District.

The monthly incidence was:—

January, 25; February, 5; March, 7; April, 2; May, 5;
June, 2; July, 1; August, 1; October, 1;
November, 1; December, 1.

It will be noticed that practically half the cases were notified in January when the weather was severe.

ERYSIPELAS.

8 cases of Erysipelas were notified. One severe case being removed to your Isolation Hospital—the patient making a good recovery. One further case was admitted from a religious institution where there were no means of isolation.

There were no deaths from this disease.

The monthly incidence was:—

January, 1; February, 3; August, 1; September, 1;
October, 1; November, 1.

CEREBRO-SPINAL FEVER.

1 case was notified and proved fatal—a virulent case.

OPHTHALMIA NEONATORUM.

1 case was notified, treated at the Worcester Ophthalmic Hospital, and was discharged cured.

(a) CANCER.

There does not appear to be any increase in the number of deaths from Cancer.

(b) PREVENTION OF BLINDNESS.

No action was taken under Section 66 of the Public Health Act, 1925.

(c) TUBERCULOSIS.

14 cases of Pulmonary Tuberculosis and 9 of Non-Pulmonary Tuberculosis were notified during the year.

The new cases and deaths are set out in age groups below:—

Age Periods.	New Cases.				Deaths.			
	Pulmonary.		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	M.	F.	M.	F.	M.	F.	M.	F.
0	—	—	1	—	—	—	1	—
1	—	—	—	—	—	—	—	—
5	1	—	1	—	—	—	1	—
15	1	—	3	1	2	2	—	1
25	3	3	1	1	3	1	—	—
35	2	—	—	—	—	—	—	—
45	1	1	—	—	2	—	—	—
55	—	2	—	—	1	3	—	—
65 & upwards	—	—	—	1	—	—	—	1
	8	6	6	3	8	6	2	2

10 cases received Sanatorium treatment during the year.

No action has been taken under the Public Health (Prevention of Tuberculosis) Regulations, 1925, or under Section 62 of the Public Health Act, 1925.

The Meteorological Report by your Surveyor, Mr. W. O. Thorp, and the statistics taken under his supervision, will be found on the last pages of this Report.

I remain, Ladies and Gentlemen,

Your obedient servant,

C. R. P. MITCHELL.

SANITARY INSPECTOR'S OFFICE,
PUBLIC HEALTH DEPARTMENT,
THE COUNCIL HOUSE,
MALVERN,
May, 1934.

**To the Chairman and Members of the Malvern
Urban District Council.**

Ladies and Gentlemen,

I have the honour to present to you my second Annual Report as your Sanitary Inspector and Housing Officer, dealing with work carried out during the year, 1933.

The year proved to be very eventful in matters concerning the Health Department, and work was considerably increased.

The extension of the district boundaries in April, when alterations of areas within the County took place under the provisions of the Local Government Act, 1929, increased your Urban Area some 2,500 acres, by taking over parts of the Rural Districts of Martley and Upton-on-Severn.

Housing work figured prominently in the year's activities. The Ministry of Health required a survey of housing conditions to be made and a programme showing unfit dwellings to be dealt with during the next 5 years. In connection with this came the preparation of the Peckham Cottages Clearance Order.

In accordance with the requirements of the Ministry of Health and the Home Office, tables giving full particulars of the inspections made, together with notes thereon, will be found in the Report.

The total number of inspections and visits made was 2,011, full details are shown in the appended list.

Summary of Visits and Inspections.

Houses Inspected, Public Health Act ...	197
Works in Progress	254
Reinspections	204
Houses Inspected, Housing Act	6
House to House Inspections	71
Works in Progress	213
Reinspections	218
Inspections of Common Lodging Houses	9
„ Tents, Vans and Sheds ...	11
„ Factories	18
„ Workshops	45
„ Bakehouses	57
„ Restaurant Kitchens ...	7
„ Slaughterhouses	39
„ Butchers' Shops	55
„ Stables and Piggeries ...	25
„ Dairies, Cowsheds and Milkshops	94
„ Ice Cream Premises ...	4
„ Food Shops	4
„ Fish Friers' Premises ...	5
„ Public House Conveniences	3
„ Public Conveniences ...	6
„ Refuse Tips	2
Special Visits, Advisory Interviews, etc.	349
Visits re Infectious Disease	30
Rat Infestation	83
Miscellaneous	2
<hr/>	
Total	2,011

Complaints.

The Register shows that 146 complaints were received during the year under review, these having reference to the following matters:—

Blocked and Defective Drainage ...	21
Defective Closet Accommodation ...	9
Insanitary conditions of Dwelling-houses	55
Defective Roofs, Floors, Windows, etc.	14
Unsatisfactory Water Supplies ...	4
Nuisances from Flooding after Storms	4
Smells from Public Sewers	7
Smells from Drains	5
Accumulations of Offensive Matter ...	4
Premises infested with Rats	9
Nuisances from the keeping of Animals	6
Absence of or defective Ash Receptacles	14
Defective Yard Paving	2
Non-collection of House Refuse ...	5
Verminous Premises	3
Miscellaneous	19

Where a nuisance or defect was found to exist, steps were taken to remove the cause of the complaint by drawing the attention thereto of persons responsible, by letter or interview, a procedure which has generally been effective.

In one instance only was it necessary to serve a Statutory Notice.

Summary of Sanitary Improvements carried out.

Drainage and Sanitary Fittings.

Number of Houses and Premises Re-drained	...	14
Repairs or Amendments to existing Drains	...	25
Drains or Gullies Unstopped or Cleansed	...	14
Length in Yards of Stoneware Drains Laid	...	456
Length in Yards of Heavy Cast-iron Drains Laid	...	122
Manholes Provided	...	29
Manholes Repaired	...	4
Intercepting Traps Fixed	...	8
Fresh Air Inlets Provided or Repaired	...	8
New Gully Traps Fixed	...	46
New Soil Pipes and Ventilating Shafts Fixed	...	18
Soil Pipes and Ventilating Shafts Repaired	...	7
Water Tests Applied	...	84
Smoke Tests Applied	...	135
New W.C. Pedestals Fixed	...	29
W.C.'s Unstopped, Cleansed, or Repaired	...	20
Existing Flushing Cisterns Repaired	...	14
New Flushing Cisterns Fitted to W.C.'s	...	23
Joints between W.C.'s and Flush Pipes Repaired	...	3
New W.C. Apartments Provided	...	22
Urinals Cleansed or Repaired	...	1
Lavatory Basins Provided	...	23
Baths Provided	...	19
New Impervious Sinks Provided	...	15
New Waste Pipes Fixed	...	27
Waste Pipes Trapped, Repaired, or Unstopped...	...	19

Miscellaneous.

Roofs Repaired	...	15
Eaves Guttering Renewed, Cleansed or Repaired...	...	9
Rainwater Pipes Provided, Repaired or Unstopped	...	20
Damp Walls Remedied	...	9
Walls Repointed or Repaired	...	9
Ventilation under Floors Provided	...	1
Yards Paved	...	2
Paving of Yards Repaired	...	1
Floors of Rooms Relaid	...	4
Floors of Rooms Repaired	...	15
Rooms Cleansed, Distempered or Repapered	...	331

New Windows Provided	...	...	...	...	16
Windows Repaired and/or made to open	...	...	...	...	24
New Sash Cords Provided	...	...	...	...	28
Window Sills Repaired or Provided	...	...	...	...	3
Doors Provided or Repaired	...	...	...	...	26
Staircases Repaired	...	...	...	...	7
Workrooms (including Bakehouses) Cleansed and Repaired	...	...	...	...	11
Water Service Pipes Repaired	...	...	...	...	11
Houses Provided with Water Supply from Town's Main	...	...	...	...	3
Movable Sanitary Dustbins Provided	...	...	...	...	25
Nuisances from Overcrowding Abated	...	...	...	...	13
Nuisances from the keeping of Animals Abated	...	...	...	...	3
Accumulations of Refuse Removed	...	...	...	...	12
Accumulations of Manure Removed	...	...	...	...	6
New Ranges and Stoves Provided	...	...	...	...	2
Stoves and Ranges Repaired	...	...	...	...	6
Food Stores Provided	...	...	...	...	13
Washing Coppers Repaired	...	...	...	...	7
Verminous Rooms dealt with	...	...	...	...	16
Miscellaneous	...	...	...	...	20

Housing.

The Housing Consolidated Regulations, 1925 and 1932, require the Local Authority to make provision for a thorough inspection to be carried out from time to time of the dwelling-houses in their district. The Chief object of the inspections is to ascertain the state of the houses in relation to the following matters:—

- (1) The arrangement for preventing the contamination of the water supply.
- (2) Closet accommodation.
- (3) Drainage.
- (4) The condition of the house in regard to light, the free circulation of air, dampness and cleanliness.
- (5) The paving, drainage and sanitary condition of any yard or outhouses belonging to or occupied with the house.
- (6) The arrangements for the storage of refuse.
- (7) The existence of any room which by virtue of sub-section (1) of Section 18 of the Housing Act, 1925, be a house unfit for human habitation. (This section refers to basement dwellings).
- (8) Any defects which tend to render the house unfit for human habitation.

Proper records have to be made containing information as to the state of the house, the action taken to secure the remedy of any defects and the result of such action.

The making of systematic house-to-house surveys is a work of considerable importance. It results in many houses being prevented from becoming unfit for human habitation, and enables Local Authorities to enforce a reasonable standard of fitness.

The Housing Act, 1930, which came into operation on the 16th August, 1930, replaces a number of sections in Part I. of the Housing Act of 1925, dealing with the repair, closing and demolition of unfit houses.

The method provided by the Act distinguishes sharply between houses which can, and those which cannot, be rendered fit at a reasonable expense. On any report that a house is unfit, the house has to be classified by the Local Authority as being repairable at a reasonable cost, or as being not so repairable.

Section 17 provides that in the former case a person having control of the house (as defined by Section 17 (2) **shall be required to repair the house** (and the Local Authority in his default may do the work and recover the cost from him).

In the latter case this Act provides that the house is to be demolished unless the Local Authority accept an undertaking from the owner, either that the house shall cease to be used for human habitation, or that he will within a specified time carry out such works which will, in the Local Authority's opinion, render it fit.

Section 62 of the Act provides that, in determining whether a house is fit for human habitation, regard is to be had to the extent—if any—to which, by means of disrepair or sanitary defects, it falls short of the standard required by the local byelaws, or of the general standard of housing accommodation for the working classes in the district.

Sanitary defects are defined in the same section.

It is apparent that owners of property sometimes overlook the fact that small defects, if dealt with promptly, may be repaired at a slight cost, whereas if neglected they may cause serious unfitness and become expensive to remedy.

It is a very difficult question when dealing with the small owner who depends upon a few houses to provide him with his only source of income, and in such cases it often takes considerable time to get even urgent repairs executed.

71 houses were inspected and recorded under the Regulations during the year 1933. These being situated in North Malvern and Sherrard's Green.

As a result of these inspections, the following summary of unsatisfactory conditions has been compiled:—

Uncleanly Conditions	...	...	...	...	10
Dampness	...	...	...	...	8
State of Repair	...	...	...	...	16
Drainage	...	...	...	...	21
Closet Accommodation	...	...	...	...	67
Paving or Sanitary Condition of any Yard or Outbuilding	...	...	...	...	3
Any Defect in other matters which may tend to render the Dwelling-house Dangerous or Injurious to the Inhabitants	...	...	...	...	6
Overcrowding	...	...	...	...	1
Means for the Disposal of House Refuse	...	...	...	...	51

It will be noticed that the predominating figure of this table applies to closet accommodation, and it is regrettable to record that this is largely due to the method by which town water is supplied, i.e., the water meter system; the rate charged is per 1,000 gallons consumed.

Supplies to water-closets are frequently found disconnected, this being done wilfully with a view to economy; hand flushing is done in a very perfunctory manner, waste water or well water being used. From the public health standpoint this is most objectionable and creates a bad object lesson to the younger generation.

Houses Unfit for Human Habitation.

Representations were made in respect of 8 houses found to be unfit for human habitation and not capable of being rendered fit at a reasonable expense.

In one instance an undertaking by the owners to carry out works in order that a Demolition Order should not be made was accepted, and subsequently the house was reconditioned.

The following dwelling-houses were demolished:—

Cradley Cottage, Old Hollow, West Malvern.

Rybus Cottage, Cowleigh Road, North Malvern.

1, 2, 3 and 4, Sutton's Row, Lower Wyche, Malvern.

The latter mentioned property was demolished by the Local Authority in default of the owners.

A Closing Order was made under Section 20 in respect of Laburnum Flat, Upper Wyche, Malvern.

3 dwelling-houses scheduled as being unfit were reconditioned by the owners upon representations being made by the department.

Consequent upon an Official Representation made jointly by your Medical Officer of Health and Sanitary Inspector, a group of nine dwelling-houses situated in Poolbrook was declared to be a Clearance Area within the meaning of Section 1 of the Housing Act, 1930. Subsequently an Order (Malvern—Peckham Cottages—Clearance Order, 1933) was made, and this was at a later date confirmed by the Minister of Health. There was no appeal by the owners.

With reference to the circular letter, No. 1331, of the Ministry of Health on Slum Clearance—a programme was prepared setting out approximately 12 houses to be dealt with annually during the period 1933 to 1938.

Overcrowding in Dwelling-Houses.

At the end of the year 10 houses were officially known to be overcrowded. The number of cases of overcrowding abated during the year was 13. 12 of the families concerned were transferred into new Council Houses. Overcrowding is a chief consideration of the Housing Committee in the selection of tenants from the list of applicants for Council Houses.

Two small housing sites were acquired in Malvern Wells and Lower Howsell districts, and under the Housing (Financial Provisions) Act, 1924, 14 three-bedroom type houses are being erected to be ready for occupation early in 1934, thus providing further accommodation at a rent within the means of the lower paid wage earner.

Council Houses.

The Council's Housing Estates received full attention. Complaints were promptly investigated, and where necessary remedial works were carried out under the supervision of your Surveyor.

Common Lodging House.

9 inspections were made at the Common Lodging House which is situated in Belmont Road. It was not found necessary to report any breach of the Byelaws, and it has been perfectly free from Infectious Disease.

Drainage and Sanitation.

During the year 14 houses were entirely redrained, and the drainage systems of 25 houses were partially reconstructed.

For the purpose of keeping proper records in connection with houses and premises redrained, plans drawn to scale are now prepared together with a report showing full particulars of the work carried out.

Sanitary Certificates.

4 Sanitary Certificates were issued in respect of the following premises, subsequent to the work being carried out to the specification and to the satisfaction of your Sanitary Inspector:—

Bridport, Christchurch Road, Malvern.
Allan Bank, Graham Road, Malvern.
1 and 2, Kempstow, Worcester Road, Malvern Link.
Seaforth, St. James's Road, Malvern.

Infectious Disease.

The total number of patients sent to your Isolation Hospital during the year was 42, and the following is a summary of the cases admitted:—

From this District:

Scarlet Fever	...	...	...	...	33
Diphtheria	...	...	...	...	5
Observation Diphtheria	1
Erysipelas	2
				—	41

From Martley Rural District Council:

Scarlet Fever	1
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Total 42

11 cases from within the District and 1 from outside were admitted as paying patients in accordance with the scale of charges made.

17 patients admitted to your Hospital were from private schools and institutions, whilst 6 cases of Infectious Disease were treated at Sanatoria attached to these schools.

The usual steps have been taken for preventing the spread of Infectious Disease, and investigations were made under the direction of your Medical Officer, and disinfection of the homes and clothing of infected persons have been carried out.

Disinfection.

The number of rooms disinfected is 192, 91 loads of bedding, clothing, etc., were removed to your Hospital for disinfection, and 7 lots of bedding, etc., have been destroyed.

22 library books, having been exposed to an infectious disease, were destroyed.

Factory and Workshops Act, 1901.

The provisions of the Factory and Workshops Act, 1901, which your Council has to administer, chiefly relate to the following matters:—

- (1) (a) Cleanliness.
 (b) Air Space.
 (c) Ventilation.
 (d) Drainage.
 (e) Provision of Sanitary Convenience for both sexes.
- (2) The provision of means of escape in case of fire in Factories and Workshops in which more than 40 people are employed.
- (3) Sanitary Regulations for Bakehouses.
- (4) Homework.

The following table shows the list of Factories, Workshops and Workplaces on the Register:—

Furnishers and Upholsterers	...	...	3
Ironmongers and Tinsmiths	...	...	5
Bakehouses	...	...	20
Dressmakers and Milliners	...	...	6
Tailors	...	...	4
Builders, etc.	...	...	17
Shoemakers	...	...	13
Garages	...	...	19
Laundries	...	...	3
Restaurant Kitchens	...	...	3
Various	...	...	26
Total			119

This list is being corrected and a new Register is in course of preparation.

The number of inspections made of Factories, Workshops and Workplaces are as follows, the table being in accordance with the requirements of the Home Office:—

Premises (1)	Number of		
	Inspections (2)	Written Notices (3)	Occupiers Prosecuted (4)
Factories (including Factory Laundries)	42	3	—
Workshops (including Workshop Laundries)	85	1	—
Workplaces (other than Outworkers' Premises)	—	—	—
Total	127	4	—

Defects found in Factories, Workshops and Workplaces are as follows:—

Particulars (1)	Number of Defects			No. of Offences in respect to which Prosecutions were instituted (5)
	Found (2)	Remedied (3)	Referred to H.M. Inspector (4)	
Nuisances under the Public Health Acts:				
Want of Cleanliness ...	8	8	1	—
Want of Ventilation ...	1	—	—	—
Overcrowding ...	—	—	—	—
Want of drainage of floors ...	—	—	—	—
Other nuisances ...	3	3	—	—
Sanitary Accommodation:				
Insufficient ...	1	—	—	—
Unsuitable or defective	14	8	—	—
Not separate for sexes	—	—	—	—
Offences under the Factory and Workshops Acts:				
Illegal occupation of underground bake-house (s.101) ...	—	—	—	—
Other offences ...	—	—	—	—
(Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921.)				
Total	27	19	—	—

Inspection and Supervision of Food.

(a) MILK SUPPLY.

There are now 28 Cowkeepers on the Register, of whom 21 are also Retailers of Milk. In addition, there are 15 Retail Purveyors of Milk who are not Cowkeepers.

22 Dairymen are on the Register of Retail Purveyors of Milk whose premises are situated outside the Malvern Area.

This Register is being revised and brought up-to-date.

Inspections were made from time to time by your Medical Officer of Health and Inspector, requests for cleansing and lime-washing of cowsheds were made in four instances.

Letters of caution were sent to 2 Dairymen who had been observed bottling milk in the street.

The cowshed and dairy at Northend Farm, Madresfield, was entirely reconditioned, this work being done with a view to the production of a Graded Milk.

11 of the cowsheds and dairy premises are situated in the areas transferred to your Urban District from the Rural Districts of Martley and Upton-on-Severn.

THE MILK (SPECIAL DESIGNATIONS) ORDER, 1923.

Two Retailers were granted Supplementary Licences under the above Order, one being Grade A and the other for Pasteurised Milk.

Samples of these Milks are taken each quarter and submitted to the County Analyst for examination.

2 Dairymen made applications for Licences to produce and bottle Grade A Milk; these applications were conveyed to the County Council who are the Licencing Authority for this purpose.

(b) MEAT AND OTHER FOODS.

Slaughterhouses.

There are now 14 private slaughterhouses in the district, 5 of these were transferred as a result of the extension of the Urban boundaries. They are situated in widely different parts of the District, and it is difficult to carry out efficient inspection to see that the Byelaws are complied with.

Systematic meat inspection is absolutely out of the question; it is most disappointing that this important work cannot be undertaken.

Butchers' Shops.

The Butchers' Shops in the district, to which some 55 visits were made, were found to be kept in a clean and satisfactory condition. Modern refrigerating equipment is practically universal throughout the district.

Slaughter of Animals' Act, 1933.

The subject matter of this Act was considered by the Public Health Committee, and upon their recommendation the Council passed the required resolution to include sheep within the Act, this being consistent with the Council's Byelaws relating to Slaughterhouses.

Circular letters were sent to butchers and slaughter-men within the district, and steps were taken to ensure the Licensing of persons required by Section 3 of the Act.

Unsound Food.

The following articles of diseased or unsound food have been condemned and destroyed as being unfit for human consumption:

Beef affected with Tuberculosis - - 1 cwt. 1 qr.

Miscellaneous Tinned Food:

Meats, Fish, Fruits, Vegetables - 163 tins.

Offensive Trades.

The business of Fish Fryer, of which there are 4 establishments within the District, is the only trade scheduled as an Offensive Trade carried on in Malvern.

There appears to be very little demand for this class of food in Malvern, this is emphasised by the fact that the Fish Fryers' premises are only opened on certain days in the week.

Inspections were made at these premises, which were at all times found to be kept in a satisfactory manner and in accordance with your Byelaws.

Extension of Urban Boundaries.

To ascertain the sanitary circumstances of the districts taken over as a result of the extension of the Urban boundaries in April, a survey involving house-to-house visitation was commenced, and by the end of the year reports were made to the Public Health Committee on the conditions prevailing in the following parts of the added area:—

Upper Guarlford and Hall Green, Sherrard's Green and Northend, near Madresfield.

Samples of water from 35 wells were submitted to the County Analyst for examination, and with one exception the waters were found to be unsatisfactory, or unfit for drinking purposes.

33 houses in the Guarlford district are undrained, and there are 20 houses where existing drainage systems require amendments by the abolition of cesspools, etc.

Prevailing conditions in regard to drainage of these dwellings is very unsatisfactory. Overflows and outlets from cesspools are conveyed into ditches, thus creating a nuisance, and emphasising the fact that the sewerage of this area is urgently required.

Your Surveyor has prepared schemes for this work and made reports thereon, together with the estimates regarding the extension of the town's water mains. The Public Health Committee have this matter under consideration.

Rats and Mice (Destruction) Act, 1919.

Inspections were made of some 83 privately occupied lands and premises subsequent to complaints from occupiers of the prevalence of rats, when advice and assistance was given on the destruction and eradication of the rodent. Considerable attention was paid to the important factor of the rat proofing of premises.

During the week fixed as National Rat Week by the Ministry of Agriculture and Fisheries, a campaign was carried out on the same lines as in previous years.

Samples of poisonous preparations such as the Ministry recommended were given to some 70 applicants.

The services of rat catchers were engaged for the purpose of visiting premises at the request of owners or occupiers, and this was greatly appreciated by the public. During the campaign visits were also made to public refuse tips and public works.

The number of visits made by the rat catchers was 90.

To meet the wishes of the Minister of Agriculture and Fisheries, a report was forwarded on the methods adopted within your area during National Rat Week.

Legal Proceedings.

It was not necessary to institute any legal proceedings during the year.

Conclusion.

I am again indebted to Dr. Mitchell for his kind co-operation and invaluable help on matters relating to the District, so freely given, which I gratefully acknowledge.

My thanks are also due to Mr. R. A. Upstone, for his loyal support and the efficient manner in which he has carried out his duties in the Department.

I also have the pleasure of recording his success in obtaining the Certificate of the Royal Sanitary Institute and Sanitary Inspectors Joint Board during the year.

I am, Mr. Chairman, Ladies and Gentlemen,

Your obedient servant,

HUGH L. WHITWHAM.

MALVERN METEOROLOGICAL STATION.

The year 1933 will long be remembered for its exceptional deficiency in rainfall and a marked excess of sunshine, whilst temperatures particularly during the Summer were well above the normal. January was mild at first but cold during the latter half. February was unusually wet with heavy snowfall between the 23rd and 26th, but sunshine was 40 per cent. above the average, and was the highest so far recorded for the month. March was notable for having the highest mean temperature recorded for the month, whilst sunshine was 68 hours over the normal average. The notable feature of April was the long period of drought between the 1st and 22nd inst., and with temperature well above the normal, but sunshine, however, was only slightly above the average, whilst rainfall was over an inch below. May was warm and dull with rainfall rather below the average and sunshine 30 hours short, but temperature was $1\frac{1}{2}$ degrees above the normal for the month. June was sunny during the first half, with rainfall rather above the average, partly due to a violent thunderstorm on the 26th, when over an inch of rain fell in half an hour. Temperature was 4 degrees above the average, and for six successive days, from the 3rd to the 8th, maximums of over 80 degrees were recorded, 86 on the 7th being the highest ever recorded here in June. The month of July was notably warm with considerable sunshine which was 60 hours above the average, whilst temperature was 5 degrees above normal. There was a wet spell from the 8th to the 13th, otherwise the month was dry.

The warmth of July, recorded above, continued through a phenomenally fine August, the mean temperature being $65\frac{1}{2}$ degrees, nearly 5 degrees above the average, 86 degrees being recorded on the 6th and 28th, whilst 7 days had temperatures exceeding 80 degrees, and 14 days with maximums between 70 and 80 degrees. Sunshine was 85 hours above the average, and with a total of 252 hours was a record for the month. Rainfall was only 0.67 inches or $2\frac{1}{2}$ inches below the normal, the lowest so far recorded for the month.

September was dry and sunny, particularly in the first half with 26 hours sunshine above the expected amount and rainfall $\frac{1}{2}$ of an inch below. Temperature was $4\frac{1}{2}$ degrees above normal and the warmest for the month so far as our records go. Mean temperature for October was also above normal, 1 degree above normal, but sunshine was 22 hours below expectation, and rainfall was over an inch above the average, due to $1\frac{1}{2}$ inches falling during the night of the 10th. Sunshine was 15 hours short of normal and rainfall 1 inch below. December was unusually dry, less than $\frac{1}{2}$ an inch of rain being recorded, more than 2 inches less than normal. The month, however, was cloudy and deficient by 4 hours in sunshine, whilst it was noteworthy for its low temperature, being no less than 6 degrees below the average, and the coldest and driest December recorded. Generally barometric pressure was above normal for the year and reached the unusually high readings of 1,042 millibars on January 23rd, and 1,039 on

December 23rd. The warmest day of the year was 86 degrees on three days, and July 3rd was the warmest night, 65 degrees. January 23rd was the coldest day and night, the maximum being 29 and the minimum 22 degrees. Fog was recorded on 8 days and exceptional visibility on 24 days.

Atmospheric Humidity at 9 a.m. varied from 87 in December to 67 per cent. in August, and an average of 77 per cent. for the year. The average per cent. of Humidity at 5 p.m. was 68. Barometric pressure was generally above the average, reaching the exceptionally high reading of 1,042 millibars on January 23rd, the lowest being 984 millibars on December 28th.

The variation of rainfall recorded during the year at different stations maintained by my department is shewn as follows:—

Public Library (Meteorological Station)	587.9mm. = 23.2 ins.
West Malvern	604.5mm. = 23.8 ins.
British Camp Reservoir	579.1mm. = 22.8 ins.
Barnard's Green Sewage Disposal Works	584.3mm. = 23.0 ins.
Bromsberrow Pumping Station	619.7mm. = 24.4 ins.

Thunder.—April 1st, May 2nd, June 2nd, Sept. 1st, Oct. 1st. The storm on June 26th was severe, the others were slight considering the heat and dryness of the Summer.

COLDEST DAYS:: January 22nd, 22 degrees; December 7th, 23 degrees.

HOTTEST DAYS: June 6th, August 6th, August 28th, 86 degrees; June 4th, 5th and 6th, August 5th, 85 degrees.

WETTEST MONTH: October—107 millimetres = 4.23 inches.

DRYEST MONTH: December 11th—11 millimetres = 0.43 inches.

WIND SUMMARY.

N.	17 days	E.	7 days
N.N.E.	16 „	E.S.E.	8 „
N.E.	21 „	S.E.	28 „
E.N.E.	6 „	S.S.E.	20 „
<hr/>		<hr/>	
60 days		63 days	
<hr/>		<hr/>	
S.	28 days	W.	21 days
S.S.W.	13 „	W.N.W.	20 „
S.W.	39 „	N.W.	60 „
W.S.W.	22 „	N.N.W.	12 „
<hr/>		<hr/>	
102 days		113 days	
<hr/>		<hr/>	
Total		338 days of wind.	
Calm		27 „	
		<hr/>	
		365 days.	

(Signed) WM. OSBORNE THORP.

Meteorological Station,
Malvern.

Summary of 9 a.m. Records.

1933 MONTH.	Av. Corrected Barometric Pressure Millibars.	TEMPERATURE.					Rainfall in M/M	Wettest Day M/M	No. of Days' Rain.		Humidity of Atmos. per cent.	Bright Sunshine Hours.	Earth Temperature			
		Daily Max.	Average. Min.	Monthly Mean Temp.	Average Daily Variation	0.2 M/M. or over			1.0 M/M. or over.	1ft. deep Deg. F.			4ft. deep Deg. F.			
														Degrees	Degrees	Fahr.
														Degrees	Fahr.	Degrees
January	1021.5	40.8 44.0	32.3 36.4	36.6 40.2	8.5	51.3 71	14.5 on 15th 28.8	18	9	83	91.0 56.0	37.4	42.5			
February	1016.1	44.9 44.0	35.1 35.5	40.0 39.8	9.8	84.3 55	on 24th 17.5	14	11	83	102.5 66.9	36.6	40.0			
March	1014.2	54.0 47.2	39.0 37.2	46.5 42.2	15.0	62.6 58	on 16th 8.9	13	11	77	181.0 112.6	41.8	41.4			
April	1020.7	56.5 52.9	42.1 40.4	49.3 46.6	14.4	29.2 55	on 28th 18.1	7	7	73	155.9 153.6	47.9	45.7			
May	1016.2	62.8 60.6	47.5 46.3	55.2 53.5	15.3	55.9 68	on 27th 25.6	15	11	72	162.6 192.5	55.1	50.8			
June	1012.9	69.6 62.1	52.8 50.5	61.2 56.3	16.8	62.4 48	on 26th 14.5	12	8	69	205.4 209.2	61.2	56.7			
July	1017.4	73.7 67.5	57.1 54.2	65.4 60.8	16.6	40.9 80	on 8th 7.6	11	8	70	241.3 180.6	65.1	60.4			
August	1018.0	74.3 66.6	56.7 53.5	65.5 60.1	17.6	17.1 81	on 22nd 16.5	8	4	67	252.1 167.7	65.2	62.5			
September	1018.4	68.0 62.0	52.8 50.0	60.4 56.0	15.2	48.9 54	on 23rd 39.9	11	8	76	176.9 142.8	61.0	61.2			
October	1013.5	56.2 55.2	45.5 44.4	50.9 49.9	10.7	107.3 80	on 10th 4.7	20	15	85	82.0 107.5	53.3	56.0			
November	1014.7	46.2 47.0	39.2 39.0	42.7 43.0	7.0	17.0 72	on 14th 2.7	9	5	82	56.5 71.9	44.5	49.3			
December	1002.0	37.4 44.3	31.2 37.1	34.3 40.7	6.2	11.0 76	on 27th	9	3	87	46.3 50.6	36.4	43.2			
TOTAL Monthly Average	—	—	—	—	—	587.9	—	147	100	—	1753.5*	—	—			
	1015.5	57.1	44.3	50.7	12.8	—	—	—	—	77.0†	1511.8	50.5	50.8			

* 39 per cent. of total possible sunshine.
+ Humidity at 17 hr. averaged 66.3 per cent.

Figures in italics are 20 years' average.
FIGURES IN ITALICS ARE 20 YEARS' AVERAGE.



