

SANITARY AND METEOROLOGICAL NOTES.

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VITAL STATISTICS

For four Weeks ending Saturday, May 20, 1899.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	April 29	May 6	May 13	May 20			April 29	May 6	May 13	May 20	
23 Town Districts	26.3	23.1	22.9	24.0	24.1	Limerick -	30.9	—	8.4	18.2	—
Armagh -	21.4	21.4	21.4	14.3	19.6	Lisburn -	42.6	21.3	0.0	8.5	18.1
Ballymena	5.6	22.5	28.2	11.3	16.9	Londonderry	28.3	11.0	17.3	20.4	19.3
Belfast -	22.5	24.1	24.6	25.6	24.2	Lurgan -	31.9	22.8	13.7	22.8	22.8
Carrickfergus	40.9	17.5	17.5	17.5	23.4	Newry -	52.3	8.1	8.1	12.1	20.2
Clonmel -	14.6	19.5	39.0	24.3	24.3	Newtownards	5.7	39.7	17.0	45.4	26.9
Cork -	31.8	22.8	18.0	23.5	24.0	Portadown -	12.4	37.1	6.2	30.9	21.7
Drogheda -	45.6	11.4	41.8	38.0	34.2	Queenstown	5.7	17.2	11.5	34.4	17.2
Dublin - (Reg. Area)	29.4	24.3	26.0	25.5	26.3	Sligo -	60.9	10.2	15.2	20.3	26.6
Dundalk -	16.8	16.8	29.3	4.2	16.8	Tralee -	0.0	33.6	28.0	16.8	19.6
Galway -	11.3	26.4	34.0	11.3	20.8	Waterford -	23.9	21.9	19.9	23.9	22.4
Kilkenny -	9.4	42.5	4.7	28.3	21.2	Wexford -	18.1	9.0	18.1	4.5	12.4

In the week ending Saturday, May 20, 1899, the mortality in thirty-three large English towns, including London (in which the rate was 16.3), was equal to an average annual death-rate of 17.6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 19.0 per 1,000. In Glasgow the rate was 20.5. In Edinburgh it was 18.4.

The average annual death-rate represented by the deaths registered during the same week in the Dublin Registration Area and in the twenty-two principal provincial Urban Districts of Ireland was 24·0 per 1,000 of their aggregate population, which, for the purpose of this return, is estimated at 1,053,188.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in sixteen of the districts to 5·6 in Tralee—the 3 deaths from all causes registered in that district comprising one from diphtheria. Among the 172 deaths from all causes registered in Belfast are 6 from measles, 3 from whooping-cough, one from diphtheria, one from simple continued fever, 6 from enteric fever, and one from diarrhœa. The 34 deaths in Cork comprise one from each of the following :—Measles, whooping-cough, and enteric fever. Among the 13 deaths in Limerick are one from enteric fever and one from diarrhœa. The 12 deaths in Waterford comprise 2 from measles.

In the Dublin Registration Area the births registered during the week amounted to 182—86 boys and 96 girls; and the deaths to 180—88 males and 92 females.

The deaths, which are 7 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26·8 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the Area, the rate was 25·5 per 1,000. During the twenty weeks ending with Saturday, May 20, the death-rate averaged 29·4, and was 1·3 under the mean rate for the corresponding portions of the ten years 1889-1898.

Nineteen deaths from zymotic diseases were registered during the week, being one in excess of the average for the corresponding week of the last ten years, and also one over the number for the previous week. They comprise 2 from measles, one from scarlet fever (scarlatina), 11 from influenza and its complications, 3 from whooping-cough, and one from diphtheria.

As in the week preceding 17 cases of scarlatina were admitted to hospital; 9 scarlatina patients were discharged, and 77 remained under treatment on Saturday, May 20, being 8 over the number in hospital on that day week.

The number of cases of enteric fever admitted to hospital was 8, being 3 under the admissions in the preceding week, and 2 under the number for the week ended May 6. Eleven patients were discharged, and 55 remained under treatment on Saturday, May 20,

being 3 under the number in hospital at the close of the preceding week.

Six cases of diphtheria were admitted to hospital, being 4 over the admissions in the preceding week, but one under the number for the week ended May 6th; 8 patients were discharged, one died, and 20 remained under treatment on Saturday, May 20, being 3 under the number in hospital on that day week.

Thirty-six deaths from diseases of the respiratory system were registered, being equal to the number for the preceding week, and 7 over the average for the 20th week of the last ten years. They comprise 21 from bronchitis and 14 from pneumonia.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of May, 1899.

Mean Height of Barometer, -	-	-	30·001 inches.
Maximal Height of Barometer (28th, 1 p.m.),	-	-	30·538 „
Minimal Height of Barometer (15th, 8 p.m.),	-	-	29·334 „
Mean Dry-bulb Temperature,	-	-	51·0°.
Mean Wet-bulb Temperature,	-	-	47·5°.
Mean Dew-point Temperature,	-	-	44·0°.
Mean Elastic Force (Tension) of Aqueous Vapour,	-	-	·288 inch.
Mean Humidity, -	-	-	78·2 per cent.
Highest Temperature in Shade (on 31st),	-	-	69·6°.
Lowest Temperature in Shade (on 27th),	-	-	38·0°.
Lowest Temperature on Grass (Radiation) (on 6th),	-	-	33·0°.
Mean Amount of Cloud, -	-	-	53·4 per cent.
Rainfall (on 16 days), -	-	-	2·095 inches.
Greatest Daily Rainfall (on 17th),	-	-	0·358 inch.
General Directions of Wind, -	-	-	N.E., E., W.S.W.

Remarks.

Both at the beginning and at the close fair anticyclonic weather prevailed, calm, cold nights alternating with bright, sunny, and sometimes warm days. During the central fortnight conditions were cyclonic, and the weather was very disturbed, rainy and cold. Rain fell daily from the 11th to the 24th inclusive, the total fall being a little over the average.

In Dublin the arithmetical mean temperature (51·8°) was slightly

below the average (52.0°) ; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 51.0° . In the thirty-four years ending with 1898, May was coldest in 1869 (M. T. = 48.2°), and warmest in 1893 (M. T. = 56.7°). In 1898 the M. T. was 51.2° .

The mean height of the barometer was 30.001 inches, or 0.012 inch above the corrected average value for May—namely, 29.989 inches. The mercury rose to 30.538 inches at 1 p.m. on the 28th, and fell to 29.334 inches at 8 p.m. on the 15th. The observed range of atmospheric pressure was, therefore, 1.204 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 51.0° , or 3.7° above the value for April, 1899, 47.3° . Using the formula, *Mean Temp.* = *Min.* + (*max.*—*min.* $\times .47$), the value was 51.4° , or 0.2° below the average mean temperature for May, calculated in the same way, in the twenty-five years, 1865–89, inclusive (51.6°). The arithmetical mean of the maximal and minimal readings was 51.8° , compared with a twenty-five years' average of 52.0° . On the 31st the thermometer in the screen rose to 69.6° —wind, E. On the 27th the temperature fell to 38.0° —wind, W. The minimum on the grass was 33.0° on the 6th.

The rainfall amounted to 2.095 inches, distributed over 16 days. The average rainfall for May in the twenty-five years, 1865–89, inclusive, was 2.030 inches, and the average number of rainy days was 15.4. The rainfall and the rainy days were thus somewhat above the average. In 1886 the rainfall in May was very large—5.472 inches on 21 days; in 1869, also, 5.414 inches fell on 19 days. On the other hand, in 1895, only .177 inch was measured on but 3 days. In 1896 the fall was only .190 inch on 7 days. In 1898 as much as 3.332 inches fell on 20 days.

A lunar corona was seen on the 20th; solar halos appeared on the 1st, 17th and 29th. High winds were noted on 6 days, but did not attain the force of a gale on any occasion. The atmosphere was slightly foggy on the 10th, 12th, and 29th. Hail fell on the 16th. Thunder was heard on the 15th.

During the month the thermometer did not fall below 32° in the screen or on the grass. The mean minimal temperature on the grass was 40.6° , compared with 42.9° in 1898, 40.9° in 1897, 43.1° in 1896, 41.8° in 1895, 37.6° in 1894, 45.6° in 1893, 41.3° in 1892, 37.7° in 1891, 42.2° in 1890, 42.4° in 1889, and 37.5° in 1888. The maximum exceeded 60° on 10 days, but never fell short of 50° .

The rainfall in Dublin during the five months ending May 31st amounted to 9.652 inches on 87 days, compared with 10.568

inches on 84 days in 1898, 10·693 inches on 93 days in 1897, 5·971 inches on 70 days in 1896, 10·410 inches on 68 days in 1895, 12·709 inches on 90 days in 1894, 7·908 inches on 66 days in 1893, 10·099 inches on 80 days in 1892, only 5·995 inches on 63 days in 1891, and a twenty-five years' average of 10·496 inches on 81·6 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 3·095 inches distributed over 16 days—·555 inch falling on the 17th and ·500 inch on the 13th. The total fall since January 1st, 1899, equals 15·475 inches on 86 days, compared with 12·445 inches on 78 days in 1898, 14·120 inches on 90 days in 1897, 5·716 inches on 52 days in 1896, 12·845 inches on 58 days in 1895, 15·696 inches on 85 days in 1894, and 9·565 inches on 65 days in 1893.

The rainfall at Cloneevin, Killiney, was 2·13 inches on 14 days, ·36 inch being measured on the 17th. The average rainfall in May at this station during the 14 years 1885-1898, inclusive, was 2·063 inches on 13·4 days. Since January 1st, 1899, 11·15 inches of rain have fallen at Cloneevin on 79 days. This compares with a 14 years' average of 9·685 inches on 71·8 days.

At the National Hospital for Consumption Newcastle, Co. Wicklow, the rainfall in May was 2·240 inches on 16 days, compared with 3·251 inches on 19 days in 1898, and 0·802 inch on 11 days in 1897. The maximal fall in 24 hours was ·550 inch on the 17th. Since January 1, 14·891 inches of rain have fallen at this station on 83 days, compared with 12·459 inches on 74 days in the corresponding 5 months of 1898. The maximum shade temperature was 67·7° on the 30th, the minimum was 36·5° on the 6th, 15th and 27th.

PERISCOPE.

THE MICROBE AND THE APPLE TART.

MR. G. CLARKE NUTTALL, B.Sc., in the June number of *Knowledge*, selects for his theme the change of colour from white to reddish, and then a dirty brown, which cut apples undergo as they lie piled up in slices in the dish waiting for their covering of paste—a change of colour forming a Gordian knot which many have attempted in vain to untie, and which even yet is not altogether free. “The latest and most thorough explanation is one lately put forward by a chemist named Lindet. . . . Within the cells of the tissues which make up the fleshy part of the apple—the part that is eaten—there is produced in their jelly-like contents a certain product to which the name malase or laccase has been variously given; and this product belongs to a curious class of substances known as enzymes. . . .