ROTHAMSTED RESEARCH

Report for 1929

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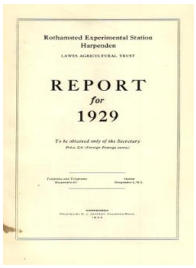

Meteorological Observations

Rothamsted Research

Rothamsted Research (1930) *Meteorological Observations ;* Report For 1929, pp 63 - 64 **- DOI: https://doi.org/10.23637/ERADOC-1-111**

BIOLOGICAL.

XLIII. W. B. Brierley. *"Science of the Year*—1928. *The Biological Sciences."* The Annual Register for 1928. Vol. CLXX, pp. 37-41.

XLIV. W. E. Brenchley. *"The Dormancy of Weed Seeds in the Soil as affected by Cultivation and Fallowing."* British Association, Report of South African Meeting, 1929, pp. 417-418.

METEOROLOGICAL OBSERVATIONS.

Meteorological observations have been systematically made at Rothamsted for many years. The deviation of sunshine, mean air temperature and rainfall from their average monthly values for the season ending September, 1929, is shown in the diagram on the following page, an excess being recorded above the horizontal line and a deficiency below.

The records now taken at Rothamsted are as follows :—

Continuous self-registering records of :—

Barometric pressure. (Negretti and Zambra barograph.)

Radiation. (Callendar recorder.)

Sunshine. (Campbell Stokes recorder.)

Wind direction and velocity. (Negretti and Zambra anemobiagraph.)

Rainfall. (Negretti and Zambra hyetograph.)

Drainage through 20-inch, 40-inch and 60-inch gauges. (Negretti and Zambra special design.)

Air temperature. (Negretti and Zambra thermograph.)

Soil temperatures at 4-inch, 8-inch and 12-inch depths, both under grass and in bare soil. (Negretti and Zambra recording thermometers and Cambridge Instrument Company electrical resistance recording thermometers.)

Records taken at stated hours each day.

In addition to the above, the usual barometer, air and soil temperatures and rainfall readings are taken at 9 a.m. ; these are supplemented by further readings at 3 p.m. and 9 p.m. of certain selected factors—wet and dry bulb for relative humidity and dew-point, soil temperature at 4-inch and 8-inch depths. A daily reading is also made of a simple atmometer, to obtain a measure of the amount of evaporation from a wet surface during the preceding 24 hours. Full notes are also made of the general weather conditions.

The detailed information obtained from these records and observations is employed by the Statistical Department in interpreting the crop records, and is also used, together with phenological notes and observations of crop growth, in drawing up the monthly statement for the purpose of the Crop-Weather Report

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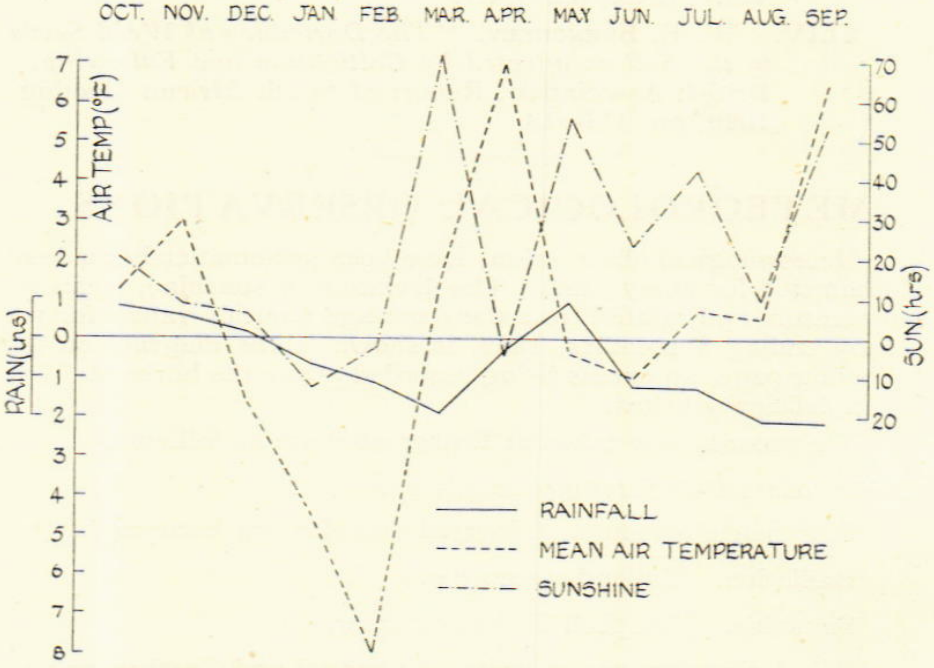
of the Ministry of Agriculture. The continuous self-registering records are used by the Physical Department in their studies of border-line problems in Meteorology and Soil Physics.



Deviation from average monthly values of sunshine, mean air temperature, and rainfall—Season 1928-29.

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METEOROLOGICAL RECORDS, 1929.

	Rain.		Drainage through soil.				Temperature (Mean).				
	Total Fall 1/1000th Acre Gauge.	No. of Rainy Days (0.01 inch or more) 1/1000th Acre Gauge.	20 ins. deep.	40 ins. deep.	60 ins. deep.	Bright Sunshine.	Max.	Min.	1 ft. in ground.	Solar Max.	Grass Min.
1929.	Inches.	No.	Inches.	Inches.	Inches.	Hours.	°F.	°F.	°F.	°F.	°F.
Jan. ..	1.759	16	1.154	1.378	1.220	39.5	36.2	30.0	34.4	53.3	27.1
Feb. ..	0.789	8	0.708	1.006	0.931	67.2	35.5	25.9	33.8	70.3	21.0
Mar. ..	0.065	2	0.000	0.017	0.013	184.7	53.2	32.5	37.2	99.1	26.4
April...	1.613	12	0.140	0.240	0.217	155.1	50.6	35.6	43.3	102.4	30.9
May ..	3.065	13	0.852	1.101	1.017	261.0	60.4	42.7	50.8	119.9	37.7
June ..	1.023	11	0.002	0.030	0.031	226.5	63.7	48.3	57.4	124.8	43.9
July ..	1.417	10	0.001	0.006	0.006	243.7	70.8	51.9	61.5	129.4	47.1
Aug. ..	0.633	12	0.000	0.000	0.000	196.7	69.2	51.5	60.4	126.1	46.7
Sept. ..	0.246	2	0.000	0.000	0.000	206.0	72.0	52.0	61.0	119.9	46.4
Oct. ..	4.516	15	1.895	1.891	1.343	120.1	55.7	42.3	50.4	98.9	38.1
Nov. ..	6.561	20	5.931	6.093	5.790	78.0	48.8	37.5	42.9	79.8	33.1
Dec. ..	6.018	22	5.559	5.780	5.490	75.3	46.3	36.4	40.8	71.7	32.3
Total or Mean	27.705	143	16.242	17.542	16.058	1853.8	55.2	40.6	47.8	99.6	35.9

RAIN AND DRAINAGE.
MONTHLY MEAN FOR 59 HARVEST YEARS, 1870-1—1928-9.

	Rain-fall.	Drainage.			Drainage % of Rainfall.			Evaporation.		
		20-in. Gauge.	40-in. Gauge.	60-in. Gauge.	20-in. Gauge.	40-in. Gauge.	60-in. Gauge.	20-in. Gauge.	40-in. Gauge.	60-in. Gauge.
	Ins.	Ins.	Ins.	Ins.	%	%	%	Ins.	Ins.	Ins.
Sept. ..	2.398	0.818	0.792	0.729	34.1	33.0	30.4	1.580	1.606	1.669
Oct. ..	3.148	1.817	1.784	1.658	57.7	56.7	52.7	1.331	1.364	1.490
Nov. ..	2.781	2.104	2.158	2.031	75.7	77.6	73.0	0.677	0.623	0.750
Dec. ..	2.818	2.397	2.496	2.382	85.1	88.6	84.5	0.421	0.322	0.436
Jan. ..	2.408	1.970	2.168	2.068	81.8	90.0	85.9	0.438	0.240	0.340
Feb. ..	2.051	1.532	1.645	1.571	74.7	80.2	76.6	0.519	0.406	0.480
March ..	2.007	1.070	1.200	1.135	53.3	59.8	56.6	0.937	0.807	0.872
April ..	2.023	0.655	0.735	0.699	32.4	36.3	34.6	1.368	1.288	1.324
May ..	2.046	0.475	0.544	0.510	23.2	26.6	24.9	1.571	1.502	1.536
June ..	2.246	0.547	0.576	0.555	24.4	25.6	24.7	1.699	1.670	1.691
July ..	2.725	0.725	0.753	0.700	26.6	27.6	25.7	2.000	1.972	2.025
Aug. ..	2.648	0.703	0.716	0.672	26.5	27.0	25.4	1.945	1.932	1.976
Year ..	29.299	14.813	15.567	14.710	50.6	53.1	50.2	14.486	13.732	14.589

Area of each gauge 1/1000th acre.

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