

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readable, or you suspect there are some problems, please let us know and we will correct that.



ROTHAMSTED
RESEARCH

Report for 1930

[Full Table of Content](#)



Meteorological Observations

Rothamsted Research

Rothamsted Research (1931) *Meteorological Observations* ; Report For 1930, pp 69 - 71 - DOI: <https://doi.org/10.23637/ERADOC-1-63>

we desire to improve our demonstration accommodation at the farm is to extend the opportunities for showing and describing the implements. Among firms to whom we are indebted we wish especially to mention the following :

Ruston, Hornby, Ltd. (Grain drill, binder and trusser).
Ransomes, Sims & Jefferies (ploughs and cultivators).
J. & F. Howard, Ltd. (ploughs, potato lifter).
Ford Motor Co., Ltd. (tractor).
International Harvester Co. (manure distributor and grain drill).
Wallace & Sons, Ltd. (potato implements).
Jack & Sons, Ltd. (turnip implements).
Massey, Harris, Ltd. (dung-spreader, pulverator).
W. A. Wood & Co. (mower and harrows).
J. Wilder, Ltd. (Pitch-pole harrows).
Bamfords, Ltd. (hay machinery).
Blackstone & Co., Ltd. (hay machinery).
Simar Rototillers.
Geo. Henderson (manure distributor).
Harrison, McGregor & Co., Ltd. (root pulper, manure distributor).
E. H. Bentall & Co., Ltd. (cake breaker, etc.).
Cooper Stewart Engineering Co. (sheep-shearing machine).
R. A. Lister & Co., Ltd. (oil engine).
Cooper, McDougall & Robertson, Ltd. (sheep dipper).
Cooper-Pegler & Co., Ltd. (spraying machines).
George Monro, Ltd. (motor-hoe).
Allen & Simmonds (motor-hoe).
Parmiter & Sons, Ltd. (chain-harrows).
Garvie & Sons (grass-seed broadcaster).
Dawe-wave Wheel Co. (tractor wheels).

VII. Staff.

Mr. C. Frith, as voluntary student assistant, is collecting data on the commercial farming side, particularly relating to the livestock. At both farms our herds of pigs and flocks of ewes are completely recorded, and as the farms develop it is hoped to extend this branch of the work and to study various management and other problems.

A constant stream of Danish students now come to our farms for varying periods to study field experimental methods and to gain experience of English farming. In return we are hoping to send members of our farm staff from time to time over to Denmark ; the first will, we hope, go out in the summer of 1931.

METEOROLOGICAL OBSERVATIONS

Meteorological observations have been systematically made at Rothamsted for many years; these records are being used in the Statistical Department in interpreting crop records. The Station has co-operated in the Agricultural Meteorological Scheme since its inauguration by the Ministry of Agricultural in 1926, and possesses all the equipment required of a Crop-Weather Station. The observations taken under this scheme include :

OBSERVATIONS TAKEN ONCE DAILY : 9 a.m. G.M.T.

Temperatures—maximum and minimum (screen), solar maximum, grass minimum.

Rain (inches) and *Sunshine* (hours and minutes by Campbell-Stokes recorder) during the previous 24 hours.

OBSERVATIONS TAKEN THRICE DAILY : 9 a.m., 3 p.m., and 9 p.m. G.M.T.

Temperatures—wet and dry bulb (screen), 4 inches and 8 inches under bare soil.

Wind—direction and force (continuously recording : recording anemobiograph).

Weather—(Beaufort letters).

Visibility.

These, together with notes and observations of crop growth are used in drawing up the weekly statement for the purpose of the Crop Weather Report of the Ministry of Agriculture.

Additional data are collected under the following heads :

RADIATION.—A Callendar Radiation Recorder (on loan from the Imperial College of Science) gives a continuous record of the radiant energy received on two blackened platinum foils situated on the roof of the laboratory. The records are compared with those for South Kensington, and are also used in plant physiological studies in the Station.

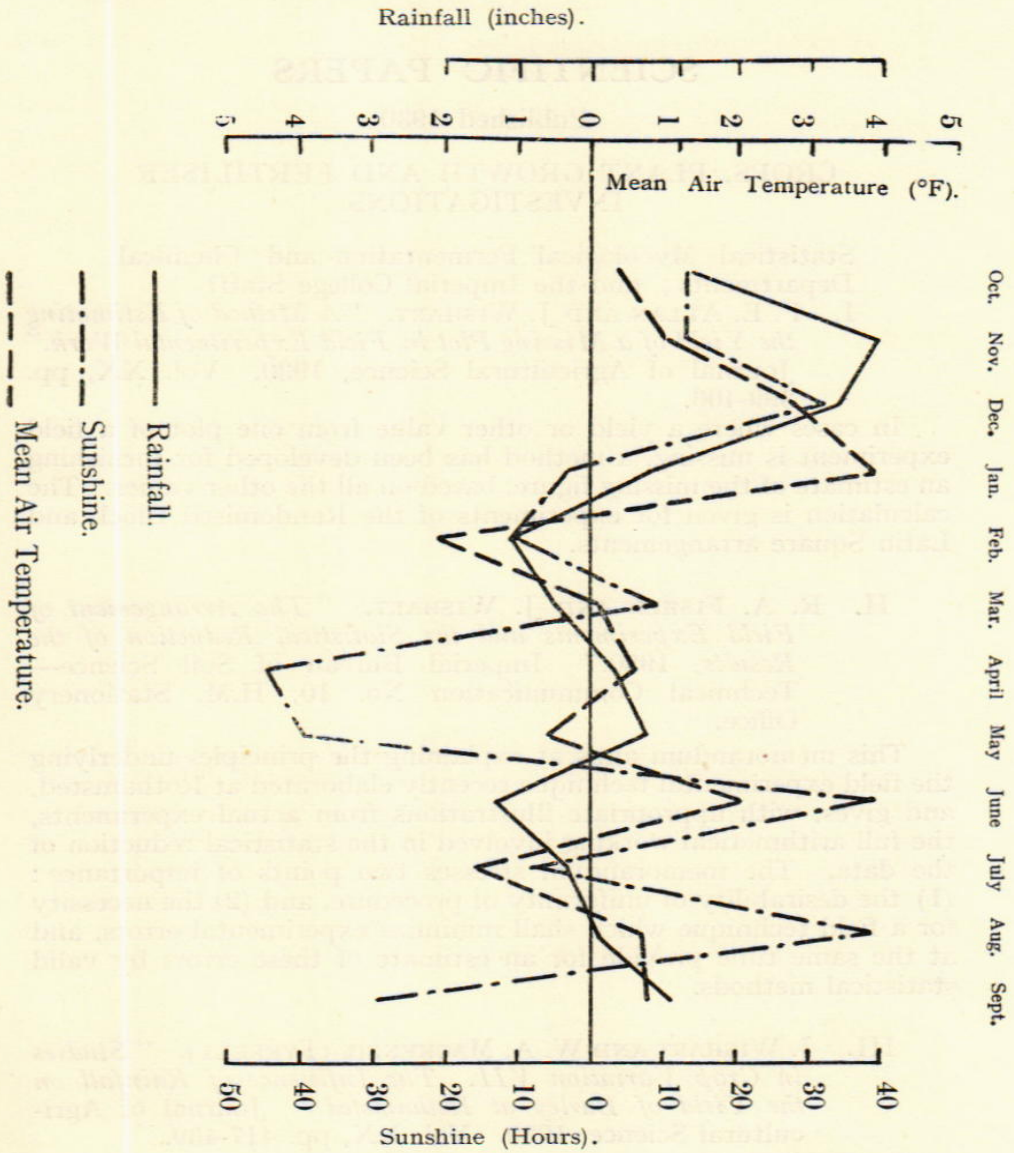
RAINFALL AND DRAINAGE.—The rain falling on one thousandth of an acre is collected in the big gauge erected by Lawes in 1871. Samples of the water are analysed in order to ascertain its nutrient value.

Three drain gauges, each of one thousandth of an acre, originally installed by Lawes in 1870, and fitted with continuous recorders in 1926, give the drainage through 20 inches, 40 inches and 60 inches of uncropped and undisturbed soil. A small continuously recording rain gauge is used in connection with these.

On June 18th, 1930, 0.62 inches of rain fell in twelve minutes, and a further 0.08 inches within the next half hour. Drainage at 20 inches ceased on June 21st, and at 60 inches on June 24th ; in both cases only 0.06 inches had percolated. More than 0.6 inches had been needed, therefore, to make good the loss from evaporation which had occurred during a fortnight of fine weather which preceded June 18th.

EVAPORATION.—The amount of water that evaporates in 24 hours from a porous porcelain candle dipping into a bottle of water is measured daily by the loss in weight. This measurement has been found to give a good general indication of the "drying power" of the atmosphere during rainless periods which, being controlled by wind, radiation, and humidity, is difficult to complete from standard data.

SOIL TEMPERATURE.—Soil temperature records are taken under grass as well as bare soil. These are a continuation of experiments which have been carried out for some years past and which have for their object the determination of the best times for making single temperature measurement for use in calculating averages.



Deviation from average monthly values of sunshine, mean air temperature, and rainfall—Season, 1929-30.