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Report for 1923-1924 With the Supplement to the Guide to the Experimental Plots Containing the Yields per Acre Etc.



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Meteorology

Rothamsted Research

Rothamsted Research (1925) *Meteorology* ; Report For 1923-1924 With The Supplement To The Guide To The Experimental Plots Containing The Yields Per Acre Etc., pp 48 - 48 - DOI: <https://doi.org/10.23637/ERADOC-1-116>

plot and plots 10 and 11, show an even heavier loss due to rainfall in July and August.

Rainfall variations make an important contribution to the yield variation observed. In this respect rain is perhaps more important than any other single meteorological factor. It will not be possible to treat the other meteorological factors with the same precision, since the records of temperature and sunshine do not go back to the beginning of the experiments.

See also paper No. XVII.

II. METEOROLOGY.

(Physical and Statistical Departments.)

- XIII. W. B. HAINES. "*A Comparison of the Radiation Recorders at Rothamsted.*" *Journal of the Royal Meteorological Society*, 1925. Vol. LI., pp. 95-100.

This paper deals with a comparison of the readings taken at Rothamsted with three types of radiation recorder. The first is a recorder of the Callendar pattern, depending upon the difference in temperature between a black and a bright resistance exposed to the sky. These readings are taken as standard. The second instrument (the Wilson Radio-integrator) reads the amount of alcohol which distils from a bulb exposed to the radiation into a similar shielded bulb. The third set of data is the record of hours of bright sunshine from the widely used Campbell-Stokes apparatus. Reference is also made to a fourth set of data, that given by an evaporimeter of the porous candle type, since the readings of this instrument are correlated to the amount of radiation.

The alcohol integrator gives readings much too low during the winter months. The readings can be fitted with fair accuracy by a formula of simple parabolic type. The possibility of introducing a temperature correction is discussed.

The hours of bright sunshine should be corrected by a factor depending upon the time of day and year (*i.e.*, upon the sun's altitude). A formula deduced by Ångström from the Stockholm data, for calculating total radiation from hours of bright sunshine, is examined and found fairly satisfactory for the Rothamsted data. It is concluded that such a formula, based upon the data at one station, could with due caution be adopted for another station.

The evaporimeter results follow the hours of sunshine very closely, but some care is needed in the choice of a site for this instrument.

- XIV. W. D. CHRISTMAS. "*Notes on the Weather at Rothamsted.*" "*Nature*," Oct. 27th, 1921; Jan. 16th, 1922. "*The Times*," Jan. 26th, July 4th, Aug. 2nd, Sept. 3rd, Oct. 1st, Nov. 2nd, Dec. 2nd, 1923; Jan. 2nd, Mar. 1st, June 2nd, Sept. 1st, 1924; Jan. 1st, 1925.