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Summaries of Papers Published 1929 - II. Technical Papers

Rothamsted Research

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TECHNICAL PAPERS

CROPS, SOIL AND FERTILISERS.

- XXVIII. E. J. RUSSELL. "*Recent Agricultural Developments in Australia.*" *Geography*, 1929. Vol. XV, pp. 267-273.
- XXIX. E. J. RUSSELL. "*Soils and Fertilisers.*" *Agricultural Research in 1928*, pp. 131-162. (Royal Agricultural Society of England, 1929.)
- XXX. E. J. RUSSELL. "*Science and Crop Production.*" *Transactions of the Oxford University Junior Scientific Club*, 1929. Fifth Series, pp. 54-59.
- XXXI. E. J. RUSSELL. "*Fertilisers.*" "*Yorkshire Post*" Royal Show Agricultural Supplement, July, 1929.
- XXXII. E. J. RUSSELL. "*The Future of Agriculture.*" *Discovery*, 1929. Vol. X, pp. 355-358.
- XXXIII. E. J. RUSSELL. "*The Conquest of the Waste Places: a Triumph of Modern Science.*" *The Realist*, 1929. Vol. I, pp. 39-54.
- XXXIV. E. J. RUSSELL. "*Soil Fertility and its Control.*" British Association, Report of South African Meeting, 1929, pp. 413-415.
- XXXV. B. A. KEEN. "*Physical Factors and their Control.*" British Association, Report of South African Meeting, 1929, p. 415.
- XXXVI. J. O. IRWIN. "*Crop Forecasting and the Use of Meteorological Data in its Improvement.*" Conference of Empire Meteorologists, 1929, H.M. Stationery Office.
- XXXVII. H. L. RICHARDSON. "*Agricultural Meteorological Work on Soils and Manures.*" Conference of Empire Meteorologists, 1929, H.M. Stationery Office.
- XXXVIII. J. WISHART AND H. J. G. HINES. "*Fertiliser Trials on the Ordinary Farm.*" *Journal of the Ministry of Agriculture*, 1929. Vol. XXXVI, pp. 524-532.
- XXXIX. A. G. NORMAN. "*The Biochemistry of Pectin.*" *Science Progress*, 1929. Vol. XXIV, pp. 263-279.
- XL. R. K. SCHOFIELD AND B. A. KEEN. "*Rigidity in Weak Clay Suspensions.*" *Nature*, 1929. Vol. CXXIII, pp. 492-493.
- XLI. E. M. CROWTHER. "*Soils and Fertilisers: a Report on Recent Developments.*" *Annual Report of the Society of Chemical Industry*, 1928. Vol. XIII, pp. 469-506.
- XLII. H. LLOYD HIND AND F. E. DAY. "*The Fermentation Industries: a Report on Recent Developments (especially Yeasts and Barley).*" *Annual Report of the Society of Chemical Industry*, 1928. Vol. XIII, pp. 531-564.

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. BRECHLEY. "*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 anemobiograph.)

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