(1) It should be adaptable for recording water level, rainfall, temperature, humidity etc,

(2) It should have a battery operated clock,

(3) It should be timed by the sun at noon,

(4) The recording arm should move in a straight line.

Mr. Summer then described the recorder in detail and explained its operation with diagrams.

Regarding testing of the instrument he said it had first operated for eight weeks without attention. It had now operated for eight months and the battery was still effective.

The timing device had also worked satisfactorily.

2. Dew and its Measurement

by B.G. Collins

Mr. Collins also of the Division of Meteorological Physics, C.S.I.R.O. Aspendale, the second speaker, first set out the reasons for which the measurement of dew was important. He stated that moisture deposited on plants was of general interest in the study of the water economy of plants. Moisture was deposited by condensation from the air, distillation from the ground below and at the tips of grass blades.

Dew amounts to appreciable quantities in certain places. In Transvaal dew on the grass is equal to or more than the rainfall. Dew is important and significant in plant growth in arid zones.

Estimates of dew could be made by calculation and by direct measurement. Direct measurement of dew may be done by the following methods.

(1) By weighing the soil before and after deposition of dew,

(2) Absorbing the dew on to filter-paper and weighing,

(3) By the dew balance - i.e. by weighing the dew formed on a disc,

(4) By Duvdevani dew gauge,

(5) By Sensitised paper,

(6) By variation of electrical resistance,

(7) By variation of electrical capacity.

Mr. Collins gave an account of the work being done at Aspendale on the estimation of dew and prediction of the time of onset of dew.

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26 November 1959

The Problems of the Agriculturist in Requirements of Meteorological Information

by H.C. Forster

Professor Forster of the School of Agriculture, University of Melbourne had originally intended to speak on "the Importance of the Meteorologist in Agricultural Research", but said he had decided to change the subject of his talk.

He stated that a wider field of meteorology besides micro-climatology was required by agriculturists. He said he would first discuss the common problems of agriculturists and then the tables and data they required from the meteorologists.

Professor Forster outlined the processes involved in plant development and the vital importance of rainfall in providing moisture round the roots of plants for these processes. The information required regarding rainfall was amount, distribution and variability. Incidence was important because heavy rain caused erosion while rain less than 0.05 inch was insufficient to wet the soil. Distribution was important because rain at the beginning and end of the growing seasons were crucial for crops. Droughts were an important feature of variability because of its effect on plants in various ways.

Humidity is more important for animals and humans but it affected plants only indirectly through evaporation. It is also important in consideration of certain plant diseases and in certain phases of the life cycle of some insects.