A Science Service Feature

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? WHY THE WEATHER ?

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DUFF HUMIDITY

All summer forest fire investigators have been busy finding out how much heat is necessary to start forest fires in different kinds of material and in different sorts of weather. They have also been studying in detail with numerous recording instruments what the weather is in different forest exposures and how the moisture content of the floor litter varies with the weather. Some attempts have also been made to develop further the forecasting of fire weather.

So far, the most serviceable instrument for showing fire hazard has been the duff hygrometer. It consists of a piece of rattan in a tube, so fixed that its changes with moisture content will indicate on a dial the percentage of moisture in the forest litter. It is exposed in the top layer of duff, or litter. In the West in Douglas fir regions the heavy gray moss that grows on trees has been used directly on a balance to indicate its own changes of weight as its moisture content varies. Duff humidities of 25 per cent. or over mean that fires cannot start except under extraordinary circumstances. Duff humidities below 15 per cent. allow some inflammability, and those below 7, 8, or 9 per cent. permit conflagrations.

The duff humidities vary closely with the atmospheric humidities, except just after a rain, when for a period up to four days the duff may remain saturated. An interesting feature of duff humidities is the rather short period each day that they remain below the fire danger point. Before 9 or 10 in the morning and after sunset there is little fire hazard, and fires already burning become quiescent.

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