prising numbers; for example, Cruciferæ 90 (18 per sq. cm.) and elder (Sambucus) 21 (4 per sq. cm.). In all, some sixty types of pollen have been recognized on the slides.

The detailed results of the year's work will be published elsewhere.

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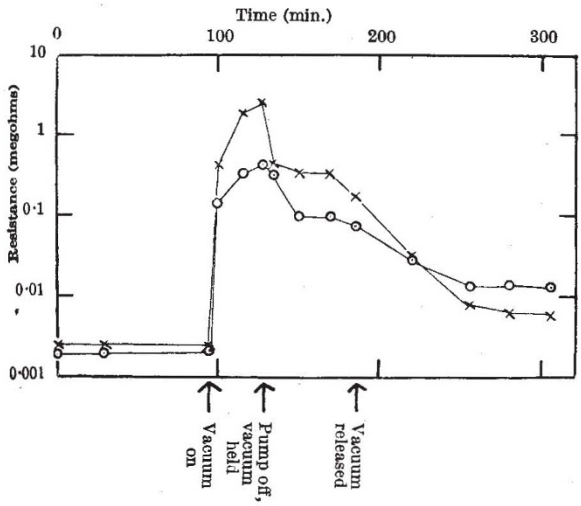
[1] Blackley, C. H., "Experimental Researches on the Cause and Nature of Catarrhus Aestivus" (London, 1873).
[2] Summarized by Vaughan, W. T., "Practice of Allergy" (London, 1939).
[3] Bertsch, F., *Beihefte zum Botanischen Centralblatt*, **54**, Abt. B, 185–243 (1935).
[4] Lüdi, W., and Vareschi, V., "Bericht über das Geobotanische Forschungsinstitut Rübel in Zürich", 1935 (Zürich, 1936).
[5] Lüdi, W., "Bericht über das Geobotanische Forschungsinstitut Rübel in Zürich", 1936 (Zürich, 1937).
[6] Wodehouse, R. P., "Pollen Grains" (London, 1935).

Electrical Resistance of Wood

THE electrical resistance of wood increases very rapidly with decrease in moisture content (grams of water present per 100 grams dry weight), so that, if two probes about 2 cm. apart are driven into the centre of a drying board, the resistance between the probes can be used as an indication of moisture content.

When beech wood is heated to just over 100° C. in a confined space at atmospheric pressure and the space suddenly evacuated, we have found that, for moisture contents between 30 and 40 per cent, the resistance between the probes increases by a factor of as much as 200 : 1. This is shown in the figure, where the resistance is plotted logarithmically. The increase might be interpreted as a rapid and large reduction in moisture content, but direct measurement shows, as one would expect, only a small reduction due to loss by evaporation.

That the apparent decrease in moisture content is not real is proved by readmitting air, or by maintaining the vacuum without further pumping. In either case, the resistance is found to fall gradually to something approaching its former value.



These observations suggest that the current path in moist wood is principally along the interior surfaces of the cells. If the current path were through the body of the cell walls, the sudden drying of the interior surfaces on evacuation could only cause an insignificant increase in the average resistance, whereas the observed resistance increases between one and two hundred times.

The effect appears to be confined to initial moisture contents below 30–40 per cent, that is, to the condition where the small local drying is not at the expense of the 'free' water present in the cell cavities, but has the chance of reducing the moisture in the surfaces themselves.

Measurement of the change in resistance of the wood as it is being heated up prior to evacuation shows that the temperature coefficient of resistance is negative, which indicates that the conduction is ionic as in a solution. The temperature coefficient is, however, too small to account, in terms of local cooling, for the large resistance change on evacuation.

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Human Activities and Soil Characteristics

ADDITIONAL evidence to that given by K. L. Robinson in NATURE of July 4 of changes in soil profiles of the New Forest since its occupation by early man has latterly come to light from under tumuli in the New Forest. These have been investigated archæologically by Mrs. Stuart Piggott, to whom I am indebted for the opportunity of seeing some of the exposures and discussing her findings, the early publication of which is anticipated.

The tumuli date, I am informed, from the Bronze Age, probably 1500–1200 B.C., and I know of no evidence of any earlier human occupation of this district. The sections were of pedological interest for their indications of changes of soil profile during the succeeding 3 to 3½ millennia of human occupation. Certainly throughout written history, and almost as certainly throughout pre-history, the hand of man has lain but lightly upon this hunting preserve cum free-range pastoral district, and it can have been subjected to nothing like the several drastic alterations of ecology implicit in the farming history of more normal agricultural districts.

One sectioned tumulus had a massive core of neatly piled sods of thick black heath peat, 3–4 ft. in thickness, above the old soil line and the central interment. These sods apparently represented the A_0 horizon from a mature and fully developed podsol profile, and adherent to each was its thick and well-developed bleached horizon (A_1); the core comprised quite two thirds of the volume of a cast or central mound about 40 ft. in diameter, and was topped over with 2–2½ ft. of sandy gravel. This latter appeared identical with the plateau-gravel subsoil underlying this heath. I should estimate the mound to have contained 90–100 cubic yards of compacted soil, probably more when loose and newly piled. This considerable weight of material was transported, one assumes, by hand in baskets, and therefore collected from a local source, in the narrowest sense of the word.