Infection was observed to begin at the root tip and proceed along the translucent roots for several inches, when the plants began to wilt. Soon afterwards, the fungus, growing on the surface of the medium, attacked the seedling at the 'collar', and very soon invaded the whole of the stem and leaves, causing the plant to die rapidly. A contributory factor appears to be water shortage.

Preliminary histological examination suggests that the fungus advances along the vascular system of the young root and does not penetrate the cortex except to form sclerotia.

Confirmatory evidence of parasitism under specialised conditions was obtained in later experiments.

There appears to be no authentic record of *R. lamellifera*, as distinct from members of the *bataticola* group, killing living plants, and as a number of workers have recently turned their attention to this group of fungi, it might be well if my experimental results were made known pending the publication of a full paper.

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[1] *Trans. Brit. Myc. Soc.*, **12**, 141; 1927.
[2] *Ann. Roy. Bot. Gard. Peradeniya*, **11**, 3; 1930.
[3] *Proc. Rhodesia Sci. Assoc.*, **33**, 65; 1933.

Bursting of Cell by Polarised Sunlight

AT a meeting of the Biochemical Society in November 1925, I read a paper on the "Hydrolysis of Starch in the Guard-Cells of the Leaf by Polarized Light". This work has since been amplified and confirmed, and some of the results were shown at a meeting of the Linnean Society in April 1933.

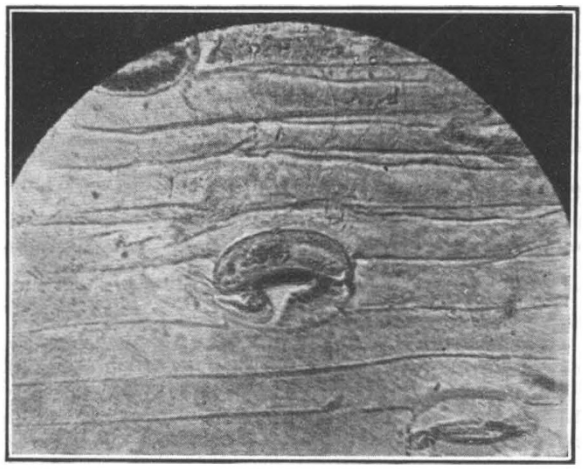

FIG. 1. Burst guard-cell after exposure to polarised sunlight.

In all these cases, diffused skylight, polarised by passage through a Nicol's prism, was used. As the Nicol cuts off a large proportion of the light, the illumination was comparatively weak. Recently, however, direct *sunlight* has been employed.

A young and healthy hyacinth plant was placed in a sunny window for two or three hours to allow the plastids of the stomata to form their full starch content. A Nicol's prism was then placed in front of a small portion of the leaf, which thus received *polarised sunlight*, the part covered by the cork rim of the Nicol being in comparative darkness and the rest of the leaf in strong sunlight. The results were most striking. Whereas in the earlier experiments with feeble illumination, the starch gradually hydrolysed to a reducing substance and the stomata opened and remained open, with this bright polarised sunlight the guard-cells burst and the contents were ejected to a distance, often as great as the long diameter of the stoma (Fig. 1). Staining with iodine showed that the starch had completely disappeared. The rapidly increased turgor, due to the hydrolysis, had ruptured the cell-wall. The guard-cells in the portion in darkness and in ordinary sunlight showed good starch content.

It was interesting to note that the maximum effect occurred along lines parallel to the length of the leaf. As the leaves of monocotyledons are slightly ridged, the stomata along some lines would receive fuller light than along others, owing to the difference in tilt of the surface.

Next spring it is hoped to make systematic experiments to determine the minimum time and intensity necessary to produce this violent explosion of the cell.

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Sheep Sweat a Factor in Blowfly Attack of Sheep

BLOWFLY attack of sheep is associated with bacterial activity in the wool. The part of the body most commonly attacked is the breech, which is the portion of the fleece most subjected to wetting; other parts of the body may be attacked if they are kept wet.

'Body strike' or fly attack on the wither, back or loin, is usually associated with excessive rains and humid conditions generally. Under these conditions, bacteria develop in the wool and produce what is known as 'weather stain'. If flies are prevalent, a certain proportion of the sheep exhibiting stain are struck. In field observations which we have made on weather stain and body strike, we have been able to study the conditions contributed by the sheep which predispose it to fly attack. The links in the chain of evidence are as follows :—

1. We have shown that there is a relation between yolk colour and susceptibility to weather stain and body strike; susceptibility increases with increase in intensity of yolk colour from white to yellow.

2. We have produced evidence for considering yellow yolk to be identical with 'golden colouration' of Rimington and Stewart[1].

3. On the evidence of Rimington and Stewart confirmed by Sutton[2], yolk colour is an index of sweat content.

We must conclude, therefore, that there is a relation between sweat content and susceptibility to weather stain and body strike.

Seddon, Belschner and Mulhearn[3] have shown that excessive wrinkliness of the breech is a factor which predisposes sheep to crutch strike. Bull[4] has shown further that in the skin folds of the crutch the "sweat glands are large, dilated and show hyperplasia of the lining epithelium". The wool yolk in folds is more