

### Insect Transmission of Spike Disease

It has been recently announced<sup>1</sup> that transmission experiments with the Jassid, *Moonia albimaculata*, have yielded three positive results; that the symptoms so produced are inseparable from typically spiked plants on morphological, biochemical and cytological grounds.

This important result was the subject of a discussion at one of the meetings of the Working Committee on Spike-Disease Investigation (July 28, 1933) when Dr. V. Subrahmanyam, in view of the fundamental nature of the finding, suggested that the result should be critically examined in all its aspects. As a result of the discussion, it was felt that the evidence, based on symptomatic and other grounds, was by itself not sufficiently conclusive to justify the incrimination of *Moonia* as the vector of spike disease. It was therefore suggested that the matter should be regarded as *sub judice* pending the results of infectivity experiments by grafting, which was considered to be the decisive test in doubtful cases of disease.

It is well known that the sandal plant assumes a variety of morphological characteristics, some of which are often mistaken for the condition of spike. Experiments have shown that this condition can be brought on by deprival of host plants, an impoverished soil, drought and other adverse soil and climatic factors. These symptoms can be distinguished from those of a genuinely spiked plant, are not transmitted to other healthy plants by grafting and can be made to disappear when the adverse conditions are removed.

A typical spiked plant, however, is infective, the symptoms of the disease being communicable to other healthy plants through grafting, a technique which has proved most useful in determining the infectivity of doubtful cases of spike. It is the infectious character of the disease that renders the problem economically important and serious.

It is clear from the above discussion that it is important to distinguish between the curable and non-infectious condition of stunting induced by an adverse environment, as against the deadly and infectious condition of spike disease, which, to an experienced worker, is not difficult to diagnose. The following are results of grafting tests which have been carried out :

Leaves from	Number of plants operated	Number of plants spiked
Spiked plants .	12	9
Insectary plants .	14	0

They confirm the suspicion that the three plants alleged to be diseased only represented a stunted condition which was brought on by an impoverished soil, want of a vigorous host and probably aggravated by insect feeding. The symptoms have not been transmitted through grafting, and further, the plants themselves, after a careful nursing with fresh soil and host, have since turned completely healthy.

M. SREENIVASAYA.

Department of Biochemistry,  
Indian Institute of Science,  
Bangalore.  
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<sup>1</sup> NATURE, 132, 592, Oct. 14, 1933.