

PLANT PATHOLOGY NOTE: NO. 8

SWEET POTATO LITTLE LEAF

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INTRODUCTION

Sweet potato little leaf is a disease which can cause large yield losses in sweet potato (*Ipomoea batatas*), but fortunately its distribution appears to be fairly limited. The disease has been reported from Keravat and Lae but it is only in the Central Province that serious losses have been observed. In 1980 extension officers from Konedobu reported estimated losses of more than 50% in some crops. So far the disease has not been recorded in the Highlands.

Little leaf is caused by a microorganism belonging to a group known as mycoplasma-like organisms (MLO's). Their structure is in many ways like that of bacteria, but the diseases caused by MLO's often resemble those caused by viruses.

SYMPTOMS

In plants which are infected with little leaf, the leaves are much smaller than usual. The internodes (the length of stem between one leaf and the next) are much shorter and the overall length of the vine or infected shoot is reduced. The plant also grows in a more upright position, rather than trailing across the ground. The size of the tubers is reduced and in severely infected plants there may be no tuber formation at all.

Other symptoms that have been reported are vein clearing on the leaves and a reduction in the latex (milky liquid) content of the vines and roots.

SPREAD OF THE DISEASE

Observations from a number of people suggest that sweet potato grown under favourable conditions rarely shows little leaf symptoms. The disease is most obvious under conditions of stress, such as lack of soil moisture.

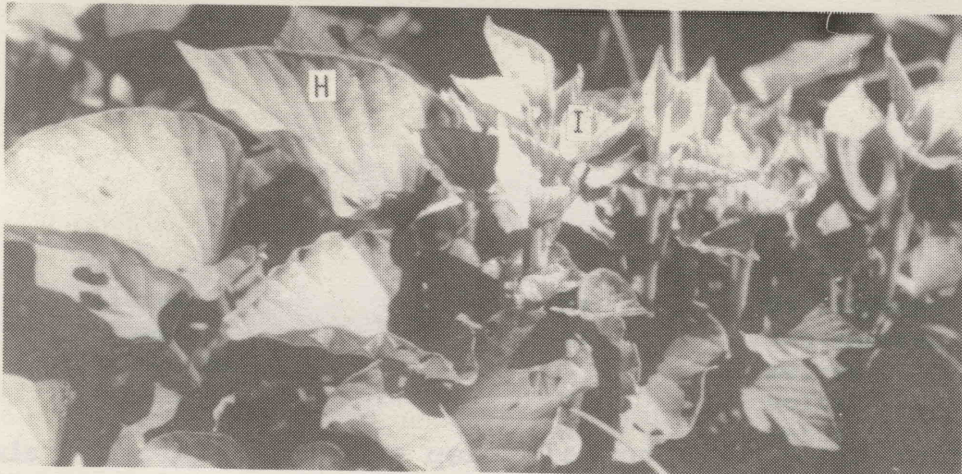
Since sweet potato is propagated vegetatively, the disease is easily spread with the planting material, especially as the symptoms are not always obvious. Work in Solomon Islands on sweet potato little leaf has found that a leaf hopper of the genus *Orosius* is able to transmit the disease. As yet there is no information on this in Papua New Guinea.

CONTROL

Cultural

Whenever possible, obtain planting material from areas known to be disease free.

Pull out and burn all diseased plants, including the roots, as soon as the symptoms are noticed.



Symptoms of sweet potato little leaf on two varieties of sweet potato. H = healthy leaves. I = infected leaves.

Resistant varieties

A number of sweet potato varieties are at present being assessed for their resistance to little leaf. It is hoped that some recommendations will be available by the end of 1981.

Chemicals

There are no chemical treatments that can be used against little leaf under field conditions.

FURTHER INFORMATION

For further information on sweet potato little leaf, please contact the Chief Plant Pathologist, Plant Pathology Section, D.P.I., P.O. Box 2417, Konedobu.

Copies of this Plant Pathology Note and of others in the series are available from the Publications Officer, Publications Section, P.O. Box 2417, Konedobu.