PLANT PATHOLOGY NOTE: NO. 9

TARO BLIGHT

By D. Clarkson, Plant Pathologist, D.P.I., Konedobu

INTRODUCTION

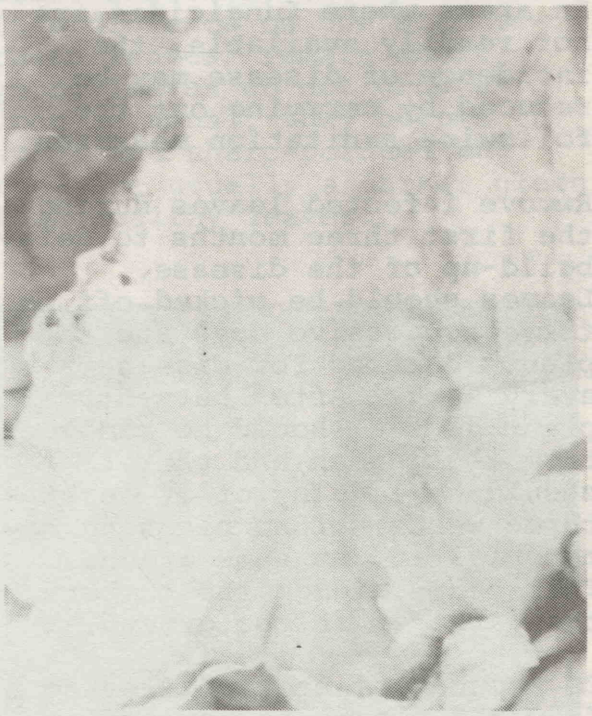
Taro blight is caused by the fungus *Phytophthora colocasiae*. The disease has been reported from many tropical and sub-tropical countries including India, Hawaii, Solomon Islands, Fiji and Papua New Guinea. In Papua New Guinea the disease is widespread and, in many areas, causes serious losses.

SYMPTOMS

The most obvious symptom of infection by *P. colocasiae* is the development of purple-brown water-soaked lesions on the leaves. (See the photograph below.)

Early stage of taro blight

The lesions are generally circular and at first measure from 1 to 3 cm in diameter. Later the lesions join together so that large areas of leaf tissue become necrotic (die). (See the photograph below.)



Later stage of taro blight. Large areas of tissue at the edges of the leaf have died.

The most severe infections occur when the weather is wet and overcast and temperatures range from a minimum of 20°C in the night to a maximum of 28°C during the day. When the temperature falls below 20°C or relative humidity is less than 65% during the day, sporulation (production of spores) by the fungus is limited and infection reduced.

CONTROL

The disease has been successfully controlled in other countries by the use of copper based fungicides when the plants are four to nine months old. Rates of copper oxychloride that have been recommended are 4.5 kg/1000 litres/hectare using a motorised knapsack mistblower and 4.5 kg/1000 litres/hectare using a hand-operated knapsack pump. An agent to improve the stickiness of the fungicides is often mixed in (e.g. 500 p.p.m. agral 60, or the detergent tween 80).

In areas where fungicides are not readily available, the incidence of disease may be reduced by carrying out the following sanitation measures.

Remove infected leaves during the first three months to delay build-up of the disease. Leaves should be picked off on three successive days and the plants checked for disease every week. After harvest, all plant debris should be removed from the garden and there should be a delay of at least three weeks before planting new material in the same ground. This helps reduce the numbers of the pathogen in the ground.

To reduce transfer of disease from old plants to the new material, new planting should not be carried out in plots next to established taro. Sucker leaves should be removed before planting, as these commonly harbour the pathogen.

In subsistence agriculture the most practical method of controlling taro blight is likely to be through the use of resistance.

In many countries, including Papua New Guinea, workers are attempting to identify resistant varieties. When suitable material has been selected this will be multiplied and made available to growers throughout the country.

At present, it is strongly recommended that infected leaves be destroyed immediately by burning, to reduce the spread of the disease.

FURTHER INFORMATION

For further information about taro blight, contact the Chief Plant Pathologist, 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, D.P.I., P.O. Box 2417, Konedobu.