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COLLAR ROT OF AIBIKA

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INTRODUCTION

Aibika (*Abelmoschus manihot*) is an important traditional leafy green vegetable grown in Papua New Guinea. It is particularly important in the lowlands, where it is grown in over 75% of food gardens. The young leafy shoots are used as food. Aibika has a higher nutrient content than most other green leafy vegetables.

This important crop suffers from a serious disease commonly known as collar rot. The disease is caused by the fungus *Phytophthora nicotianae* var *nicotianae* Collar rot of aibika occurs mostly in the lowlands provinces.

SYMPTOMS

The major symptoms of collar rot are yellowing of the mature leaves, wilting of the growing tips and younger leaves followed by defoliation (leaves dropping off). The stem at the collar region (where the stem and roots join) becomes black and begins to rot. This rotting of the stem progresses downwards to the root system. In advanced stages of the disease, the whole root system becomes rotted as shown in the photograph. Affected plants eventually die.

The blackened and rotted root system of an aibika plant affected by collar rot

CONTROL

1. Do not grow aibika in soil where collar rot was present in the previous season. The fungus lives in the soil and becomes active when the soil is wet due to rain or irrigation.

2. Be careful not to damage the collar region of the stem during, for example, weeding. If the plant is damaged, it is more likely to be infected by the fungus *Phytophthora nicotianae* var *nicotianae*.

3. Field trials conducted at the Laloki

Research Station during 1982 and 1983 have shown that collar rot of aibika can be effectively controlled by the fungicides Ridomil and copper paste.

Application of Ridomil 5G (granular formulation) at 5 g per plant controlled the disease. Ridomil should be applied to the soil soon after early symptoms of the disease are observed. Remove the soil around the stem to a depth of 3 cm, sprinkle on 5 g of Ridomil granules, then put back the soil to cover the fungicide. 5 g of Ridomil granules is about 1 teaspoonful. This granular formulation of Ridomil is very easy to handle.

The cost of treatment with Ridomil was 4 toea per plant, at the selling price of K8/kg for Ridomil 5G in 1983.

4. Treatment of aibika cuttings with a paste of copper fungicides before planting has been found to be effective. Bordeaux paste (copper sulphate and hydrated lime) and Cuprox (copper oxychloride) paste protect the collar region of the stem and prevent infection by the fungus. Dip lower half of cuttings of aibika in one of the fungicidal pastes. Allow to dry overnight or in shade, and then plant out in the field.

To make Bordeaux paste mix together:

1 kg copper sulphate
2 kg hydrated time
15 litres water

Dissolve the copper sulphate and hydrated lime in an equal quantity of water, then mix in the rest of the water, stirring well.

To make Cuprox paste mix together:

1 kg cuprox
5 litres water

Add the water to cuprox, stirring well.

One litre of Bordeaux paste or cuprox paste can be used to treat 100 cuttings of aibika. The cost of fungicides for 1000 cuttings worked out at K3.20 for Bordeaux paste and K14.70 for cuprox paste (1985). Cuprox paste is easier to prepare than Bordeaux paste.

FURTHER INFORMATION

Further information about collar rot of aibika may be obtained from: The Chief Plant Pathologist, Department of Primary Industry, P O Box 417, KONEDOBU.

Copies of this Plant Pathology Note and of others in the series can be obtained from: Publications Section, D.P.I., P.O. Box 417, Konedobu.