

## Extension Fact Sheet 13: Sweet Potato Scab



**Common name:** Sweet potato scab

**Scientific name:** *Elsinoe batatas*, but sometimes known as *Sphaceloma batatas* (the asexual stage)

**Hosts:** It is only known from sweet potato.

### Damage

Young leaves are infected along the veins, and also the leaf stalks and stems. As vines grow, the leaves twist, curl and tear. On older leaves, pin-point spots occur between the veins. In severe cases (not seen in Solomon Islands), shoot-tips are killed.

Varieties differ in the amount of damage caused. The disease has been severe in Fiji and Tonga. In Tonga, there were epidemics of the disease in the 1980s when farmers stopped growing most varieties. Damage to the young shoots can slow early growth and result in reduced yields. In Papua New Guinea highlands, comparisons between healthy and diseased plants, showed a 60% difference in yield of storage roots.

### Biology and Life Cycle

The fungus is taken to new gardens on planting material. As the cuttings grow, the fungus produces very small spores in the scabby areas. These spores are spread by rain-splash from plant to plant. They germinate, like seeds, in water on the surface of the leaf and stem, penetrate and cause the spots and scabby lesions. Soon after infection, more spores are produced.

It is possible that the fungus survives in crop debris, but this is not important unless crops are planted one after the other. Most spread is from planting infected vines.

## **Signs and Symptoms**

Look for the brown scabby marks on the leaf veins, stalks and stems. Look for torn, cup-shaped leaves and twisted stems.

## **Management**

### **Cultural control:**

There is probably little that farmers can do to control this disease using cultural methods. If the disease is severe in the crop, it might be better not to replant on the same land, but it is doubtful that it will make any difference. This is because the disease is spread from crop to crop in already infected planting material, and also from spores in wind-driven rain.

If growers really want to grow susceptible varieties, because of their taste and high market demand, for instance, then they should do the following. It is very important that they start the crop with disease-free planting material.

- Make a nursery – raised beds, shaded by coconut leaves – and plant washed sweet potato roots, leaving a small gap of 1-2 cm between each;
- Collect 30 cm vines when shoots have grown, checking each one to ensure that scab is not present;
- Plant vines in new gardens, where sweet potato has not been grown for 1-2 years.

Vigorous early growth will reduce the impact of the disease when the plants become infected later.

### **Resistant varieties:**

This is the most important method of control. Varieties differ in their susceptibility to the disease. Some are very resistant. These should be selected and grown in preference. It is for this reason that scab is not usually a problem in Solomon Islands. Farmers avoid those varieties that show severe symptoms.

### **Chemical control:**

Fungicides have been used to control the disease in Tonga and Papua New Guinea, but mostly by scientists. They could be used by commercial farmers, for instance, who want to grow a susceptible variety for the market. The recommendation is to:

- Dip the cuttings for 15 min in mancozeb before planting;
- Spray with mancozeb at the first appearance of symptoms;
- Repeat at 14- day intervals, until 1-2 months before harvest, depending on the weather.