

Diseases of Sweet Potato and Tapioca

By
Dr. Lily Eng

In Sarawak, due to the small scale planting of sweet potato (*Ipomoea batatas*) and tapioca (*Manihot esculenta* Crantz), disease incidents are few and are not severe.

Sweet potato diseases

There are two main diseases on sweet potato in Sarawak, scab and leaf spot.

Scab is caused by the fungus, *Elsinoe batatas*. This fungus causes scabby dark brown lesions (small wounds) or small spots on the midrib and veins of the leaf (see Figure 1). The severely infected leaves become distorted and are reduced in size. The dark brown lesions can also occur on the stems and leaf petioles, causing them to become distorted. The growing points of the plant may die in severe cases.

The leaf spot disease in sweet potato is caused by the fungus, *Cercospora timorensis*. This is normally not a severe disease. The brown angular spots can be numerous on the leaf in severe infections (see Figure 2), causing the leaf to turn yellow.

To prevent or control both these two diseases in sweet potato, practice crop rotation. This means that after harvesting a crop of sweet potato, plant some other short term crops before planting sweet potato on the same plot of land. Prune off severely diseased leaves or stems and practice good farm hygiene by removing dead plant material from the field. The disease incidence can be decreased by ensuring that there is good soil drainage. If the disease is wide spread, spray with copper oxychloride.

Tapioca diseases

One of the important diseases in tapioca is anthracnose, which is caused by the fungus, *Colletotrichum gloeosporioides* f.sp. *manihotis*. This fungus can infect young leaves causing leaf spots as well as leaf border blight (see Figure 3). It can also attack stems causing dieback of young stems and cankers on older stems. This disease can be controlled by spraying with carbendazim or chlorothalonil, if necessary.

One of the problems that occur in tapioca that is often mistakenly thought to be a disease is velvet blight. The fungus, *Septobasidium* sp., produces a grey felt mat on the tapioca stem (see Figure 4). In actual fact, this fungus has a symbiotic relationship with scale insects. The scale insects feed on the stem and the fungus grows on top of the scale insects extracting nutrients from the scale insects, while at the same time providing a protective shelter for the scale insects. In cases of severe infestation by the scale insects, and consequently infection by the fungal mat, the stems will dry up and break. Velvet blight can be solved through scraping off the fungal mat (making sure that it does not drop to the soil) and then controlling the scale insects with white oil (albolineum).



Figure 1: Scab on Sweet Potato



Figure 2: Leaf Spot on Sweet Potato



Figure 3: Anthracnose on Tapioca Leaf



Figure 4: Velvet Blight on Tapioca Stem