FACT SHEET:
MANAGEMENT OF CORM SOFT ROT FUNGAL DISEASE ON DALO

Koronivia Research Station
Plant Protection Unit

Common Name: Corm soft rot

Causal Organism: Pythium species
Distribution: Pythium species occur throughout the pacific. It has been present on the roots and corms of wilted plants in dry and wetland Dalo farming areas in Fiji.

How to Identify diseased plants
It spreads throughout the entire plant, resulting in stunted growth. The leaf stalks become shortened, and the leaf blades curl or crinkle, showing a yellowish and spotted appearance instead of a vibrant green. Corms display a varied-color rot, ranging from whitish yellow to shades of grey, blue, and dark purple.

Typically, the rot initiates at the base of the corm and advances upward, affecting the entire corm. Occasionally, the disease may originate at the side of the corm, approximately 5-7cm above the base. The skin of an infected corm becomes softened, usually maintaining its integrity until the complete disintegration of the corm's interior, followed by the eventual breakdown of the skin.

Upon cutting open the corm, a distinct line of separation is observable between healthy and diseased tissues.

Symptoms
Typically, the rot becomes apparent on the corms as it progresses from the base. In cases of early infection, surface lesions may be noticeable; if identified, it is advisable to cut open the corm to examine the underlying conditions. While only a limited number of fungal species induce field rots, additional ones can contribute to postharvest rots.

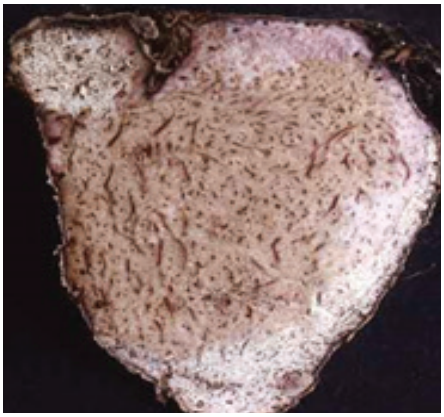

Figure 1: Pythium infection on Dalo corm

Figure 2: Dalo plants that is infected with fungus.

Figure 3: Early infection stage

Management Practices
Cultural control and sanitation methods play a vital role in managing taro rot. It is important to plant only healthy, rot-free materials. Removing diseased plant material from the field during harvest effectively lowers inoculum levels. Recommended practices include ploughing and drying wetland taro fields and implementing crop rotation with non-host crops.

Taro rot can be minimized through patch drying, ploughing, good drainage system and the application of lime or coral sand before replanting with taro. Calcium has also been linked to a decreased incidence of Pythium rot in soil.

Fiji lacks a resistant variety for corm rot. The focus should be on preventing initial infections, as they are the primary source of the issue. Take care to avoid damaging corms during activities such as

weeding, hoeing, and wetland cultivation.

Chemical control

Measures involve corm dipping with a 1% sodium hypochlorite bleach solution to mitigate postharvest rots caused by Pythium. Additionally, the use Agent 500 at 10ml/10L fungicides has shown efficacy in reducing rots during the early stages of storage.

1 percent sodium hypochlorite solution to deep corm before storage

Traditional practices

Involve storage in shallow soil pits in the barn.

For more information please contact:
The Principal Research Officer, Plant Protection Unit, Koronivia Research Station, Nausori. Phone: 3477044