

Taro root rot (044)

Summary

- Worldwide distribution. Several types. On taro and *Xanthosoma*, but also on bean, capsicum, ginger, peanuts and pineapple, and weeds; causes a damping-off disease (see **Fact Sheet No. 47**). An important disease.
- A water mould, an oomycete, not a fungus. Worse in wet soils.
- Roots infected; leaves wilt, become stunted, with only one or two leaves remaining. Corm yields are low; post-harvest rots occur.
- Cultural control: clean 'tops' of roots and soil; avoid areas that flood, or where water remains for several days; plant on raised beds with surrounding ditches; grow e.g., *Mucania* or *Pueraria* before taro to build organic matter content of the soil; add lime (20g/m²) to increase calcium; >3-year crop rotation; collect debris and burn after harvest.
- Chemical control: none recommended.

Common Name

Taro root rot, cocoyam root rot, Pythium root rot of taro (cocoyam)

Scientific Name

Pythium species



Photo 1. The beginning of symptoms on cocoyam, *Xanthosoma*, showing early death of the older leaves caused by *Pythium* sp. (Solomon Islands.)



Photo 2. *Pythium* infection in *Colocasia* taro showing weak-looking plants with two at most three leaves, and new leaves which are stunted and partly rolled. (Samoa)



Photo 3. Typical dieback caused by *Pythium* root rot. Notice the disease has travelled down a row, most likely by root-to-root contact. (Cook Islands.)



Photo 4. *Pythium* infection on cocoyam, *Xanthosoma*. Removal of the plants, and washing the roots, shows that the root system has been destroyed. Many of the larger roots are black, and side (fine) roots are absent.



Photo 5. A plant from Photo 1, pulled up to show the decay of the roots. Notice the difference between the roots at the top of the picture, which are mostly without side (fine) roots, compared to those below.



Photo 6. Cocoyam with *Pythium* infection soon after planting. The plants remain stunted with one at most two leaves.

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Information from Jackson GVH, Gerlach WWP (1985) Pythium rots of taro. South Pacific Commission, Noumea, New Caledonia. (https://ird.spc.int/component/docman/cat_view/137-all/128-plant-health-/276-pest-advisory-leaflets?start=30); and Ooka JJ (undated) Taro diseases. Research extension series. Hawaii Institute of Tropical Agriculture and Human Resources, Honolulu, Hawaii. (<https://core.ac.uk/download/pdf/5095157.pdf>); and from Carmichael A, et al. (2008) TaroPest: an illustrated guide to pests and diseases of taro in the South Pacific. ACIAR Monograph No. 132, 76 pp. (<https://ird.spc.int/about-ird/ird-project-partners/taropest>); and from Biosecurity Australia (2011) Review of import conditions for fresh taro corms. Biosecurity Australia, Canberra. (https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/ba/plant/2011/taro/Review_of_Import_Conditions_for_Fresh_Taro_Corms_clean.pdf). Photo 3 William Wigmore and Maja Poeschko, Ministry of Agriculture, Cook Islands.

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