

## Papaya Phytophthora fruit & root rot (152)

### Summary

- Worldwide distribution. On coconut, cocoa, avocado, citrus and breadfruit, papaya and more. An important disease, worse in waterlogged soils at high temperatures.
- Large areas of rot on lower fruit with white fungal growth, progressing upwards. Rots occur on stems via leaf and fruit scars. Roots rots cause wilts.
- Spread in rain splash, wind, machinery, ground water.
- Cultural control: improve drainage - plant on ridges or raised beds; mulch to stop rain splash; collect and burn infected fruit and stems; 4-year crop rotation.
- Chemical control: chlorothalonil, copper, mancozeb (protectants); or alternate with metalaxyl or phosphorous acid (systemics).

### Common Name

Papaya fruit and root rot, Phytophthora fruit rot

### Scientific Name

*Phytophthora palmivora*. Note, *Phytophthora nicotianae* has also been recorded as the cause of this disease in e.g., Australia and Fiji. This fact sheet assumes the symptoms and management for both are similar.



Photo 1. Papaya fruits infected by *Phytophthora palmivora*. Note the white cottony growth of the water mould, and that the disease is spreading from the older, lower, fruits upwards.



Photo 4. Lower stem or "foot" rot on papaya caused by *Phytophthora palmivora*.



Photo 2. Close-up of a papaya fruit showing the cottony growth of fruit rot, *Phytophthora nicotianae*, identical in appearance to that caused by *Phytophthora palmivora* (Photo 1).



Photo 5. Stem rot on papaya caused by *Phytophthora palmivora*.



Photo 3. Tree shown in Photo 3 with basal stem rot caused by *Phytophthora palmivora*.



Photo 6. Root rot and/or basal stem rot caused by *Phytophthora palmivora*, resulting in a wilt and rapid death of the trees.

AUTHOR Grahame Jackson

Information (and Photos 1,3,6) Gerlach WWP (1988) *Plant diseases of Western Samoa*. Samoan German Crop Protection Project, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, Germany; and from *Diseases of fruit crops in Australia* (2009). Editors, Tony Cooke, et al. CSIRO Publishing; and Nelson S (2008) Phytophthora blight of papaya. Plant Disease. Cooperative Extension Service. CTAHR, University of Hawaii at Manoa. (<https://www.ctahr.hawaii.edu/oc/freepubs/pdf/PD-53.pdf>); and from DAF (2021) Papaya: Phytophthora diseases. Queensland Government. (<https://www.daf.qld.gov.au/business-priorities/agriculture/plants/fruit-vegetable/diseases-disorders/phytophthora-diseases-in-papaya>). Photo 2 Kohler F, et al. (1997) *Diseases of cultivated crops in Pacific Island countries*. South Pacific Commission. Pirie Printers Pty Limited, Canberra, Australia. Photos 4&5 Liberato JR, et al. (2006) Phytophthora Fruit Rot and Root Rot of Papaya (*Phytophthora palmivora*) PaDIL - (<http://www.padil.gov.au>).

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