



## Pacific Pests, Pathogens & Weeds - Mini Fact Sheet Edition

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### Papaya *Phytophthora* fruit & root rot (152)



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



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



Photo 5. Stem rot on papaya 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.

### 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. Root 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.

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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, Denis Persley, Susan House. CSIRO Publishing. Photo 2 Kohler F, Pellegrin F, Jackson G, McKenzie E (1997) *Diseases of cultivated crops in Pacific Island countries*. South Pacific Commission. Pirie Printers Pty Limited, Canberra, Australia. Photos 4&5 Liberato JR, Suzuki MS, Dent A (2006) Phytophthora Fruit Rot and Root Rot of Papaya (*Phytophthora palmivora*) PaDIL - (<http://www.padil.gov.au>).

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The mobile application is available from the Google Play Store and Apple iTunes.

