

Coconut bud rot (140)

Summary

- Worldwide distribution. On coconut and other palms (e.g., betel nut), cocoa (**see Fact Sheet no. 006**) and papaya (see Fact Sheet no. 152), as well as weeds. A water mould, an oomycete, not a fungus is the cause. A minor disease in the Pacific islands, although occasional outbreaks in nurseries.
- In the field, first sign is a bending of the spear leaf, with light brown rots on the leaf stalks. Central leaves rot (there is a foul smell) and fall out together with the bud, and the palm dies. Outer leaves remain green for a few months. Outbreaks occur in nurseries too.
- Cultural control: good drainage to keep humidity low to reduce the time for spore germination; remove diseased palms; space at least 10 m apart to help air circulation; varietal differences exist. Malayan Dwarf is susceptible.
- Chemical control: not recommended but, if needed: (i) copper; or (ii) phosphorous acid or metalaxyl injections

Common Name

Coconut bud rot

Scientific Name

Phytophthora palmivora. Note, there may be more than one species of *Phytophthora* in the Pacific islands causing bud rot. For instance, *Phytophthora hevae* is also said to occur, causing a bud and nut rot of coconuts in New Caledonia (Photos 2&3).



Photo 1. Bud rot of coconut showing the collapse of the spear and younger leaves due to infection by *Phytophthora palmivora*, while the older leaves appear relatively healthy at this time.



Photo 2. Nuts are also infected by coconut bud rot causing premature nutfall. In this case, *Phytophthora hevae* was isolated from the rot.



Photo 4. Basal stem rot of coconut seedling, caused by *Phytophthora palmivora*.



Photo 3. Slices from nuts (Photo 2) showing internal infections by *Phytophthora hevae*.



Photo 5. Coconut seedling (Photo 4) cut open to show the internal infection by *Phytophthora palmivora*.

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Information (and Photo 1) Gerlach WWP (1988) *Plant diseases of Western Samoa*. Samoan German Crop Protection Project, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, Germany; and CABI (undated) Coconut budrot *Phytophthora palmivora*. Plantwise Knowledge Bank. (<https://www.plantwise.org/knowledgebank/datasheet/409860>); and Frison EA, et al. (eds.). 1993. *FAO/IBPGR Technical Guidelines for the Safe Movement of Coconut Germplasm*. Food and Agriculture Organization of the United Nations, Rome/International Board for Plant Genetic Resources, Rome. (https://www.biodiversityinternational.org/fileadmin/user_upload/Coconut_361.pdf); and from Torres GA, et al. (2016) Bud rot caused by *Phytophthora palmivora*: A destructive emerging disease of oil palms. (<https://apsjournals.apsnet.org/doi/pdf/10.1094/PHYTO-09-15-0243-RVW>). Photos 2-5 Kohler F, et al. (1997) *Diseases of cultivated crops in Pacific Island countries*. South Pacific Commission. Pirie Printers Pty Limited, Canberra, Australia. Photos 2-5 Kohler F, et al. (1997) *Diseases of cultivated crops in Pacific Island countries*. South Pacific Commission. Pirie Printers Pty Limited, Canberra, Australia;

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