



Pacific Pests, Pathogens & Weeds - Mini Fact Sheet Edition

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Banana Fusarium wilt (176)



Photo 1. Fusarium wilt, *Fusarium oxysporum* f.sp. *cubense*, on a banana plant showing yellowing of the leaves, first at the margins.



Photo 2. Fusarium wilt, *Fusarium oxysporum* f.sp. *cubense*, on a banana plant showing the skirt of collapsed leaves around the pseudostem.



Photo 3. Cut section of a banana stem affected by Fusarium wilt, *Fusarium oxysporum* f.sp. *cubense*, showing symptoms of the water-conducting parts.

Summary

- Worldwide. Four races, and two strains. Tropical race 4 (TR4), spreading worldwide, causes a major disease. TR4, first detected in Asia in the 1990s, now in Taiwan, Indonesia, Malaysia, the Philippines, China and northern Australia. Outbreaks were recently in Mozambique (2013), Jordan (2014), and Pakistan, Lebanon and Queensland, Australia (2015).
- A soil-borne fungus, affecting bananas, plantains, and *Heliconia*. Fusarium enters the roots, blocks water flow, and leaves yellow, dry and wilt. Internally, red rings occur.
- Biosecurity: TR4 is present in northern Australia; the outbreak in Queensland is under Queensland Government control.
- Spread is root-to-root, run-off water, in soil and suckers for planting.
- Cultural control: certified plants or suckers only from disease-free areas; clean tools, machinery, shoes; leave infected plant to die, or use herbicide to hasten, then burn in place; fence affected area, and divert run-off rainwater. Check for resistant (FHIA) varieties.
- Chemical: none recommended.

Common Name

Panama disease of banana, Fusarium wilt of banana.

Scientific Name

Fusarium oxysporum f.sp. *cubense*

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Information (and Photos 1&2) *Diseases of fruit crops in Australia* (2009). Editors, Tony Cooke, Denis Persley, Susan House. CSIRO Publishing; and CABi (2015) *Fusarium oxysporum* f.sp. *cubense* (Panama disease of banana) Crop Protection Compendium. (www.cabi.org/cpc); and Panama disease tropical race 4 (TR4). Business Queensland. Queensland Government. (<https://www.business.qld.gov.au/industries/farms-fishing-forestry/agriculture/crop-growing/priority-pest-disease/panama-disease>); and from Dita M *et al.* (2018) Fusarium wilt of banana: current knowledge on epidemiology and research needs toward sustainable disease management. *Frontiers in Plant Science*. (<https://doi.org/10.3389/fpls.2018.01468>). Photo 3 Department of Agriculture and fisheries, Queensland, Australia.

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