Pacific Pests, Pathogens & Weeds - Mini Fact Sheet Edition

https://apps.lucidcentral.org/ppp/

Bean charcoal rot (315)



Photo 1. Brown to grey area of infection covering the entire lower stem and girdling the plant caused by charcoal rot, *Macrophomina phaselina*. Tiny black dots are the sclerotia.



Photo 2. Sclerotia of charcoal rot, *Macrophomina* phaselina on maize stem.



Photo 3. Close-up of the sclerotia of charcoal rot, Macrophomina phaselina

Summary

- Worldwide distribution. On beans, capsicum, cocoa, curcubits, Caribbean pine. Minor fungal disease.
- Watery rot at ground level, spreading up the stem and into roots, causing wilts. On older plants, spots have ash-grey centres with dark margins. Black spots on seedling may girdle stems.
- Forms "sclerotia" balls of the fungus with black protective skin giving stems sooty or charcoal look.
- Spread with movement of soil or plant debris containing sclerotia, and by seed. Sclerotia live up to 3 years.
- Cultural control: site nursery far from production areas; use pasteurised soil or soilless mixes; nursery hygiene; check seedlings for spots; in field, sterilise soil under tarps (30 days); 3-year rotation (maize, sorghum); avoid planting next to diseased beans; ensure rapid plant growth (good tillage, nutrition, weed); collect and destroy trash after harvest.
- Chemical control: treat seed with thiram.

Common Name

Bean charcoal rot, ashy stem blight, damping-off, bean blight

Scientific Name

Macrophomina phaseolina. Previosuly known as Macrophoma phaseoli, Macrophoma phaseolina, Macrophomina phaseoli, Rhizoctonia bataticola, Sclerotium bataticola.

AUTHORS Grahame Jackson & Eric McKenzie

Information from Charcoal rot of bean/tobacco (Macrophomina phaseolina). Plantwise Knowledge Bank. (http://www.plantwise.org/KnowledgeBank/Datasheet.aspx?dsID=32134); and from Diseases of vegetable crops in

Australia (2010). Editors, Denis Persley, Tony Cooke, Sasan House. CSIRO Publishing. Photo 1 David B. Langston, University of Georgia, Bugwood.org. Photo 2 Clemson University, USDA Cooperative Extension Side Series, Bugwood.org. Photo 3 Paul Bachi, University of Kentucky research and Education Center, Bugwood.org

Produced with support from the Australian Centre for International Agricultural Research under project PC/2010/090: Strengthening integrated crop management research in the Pacific Islands in support of sustainable intensification of high-value crop production, implemented by the University of Queensland and the Secretariat of the Pacific Community.

This mini fact sheet is a part of the app Pacific Pests, Pathogens & Weeds

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



Copyright © 2020. All rights reserved.

n