

Bean charcoal rot (315)

Summary

- Worldwide distribution. On beans, capsicum, cocoa, cucurbits, 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. Previously known as *Macrophoma phaseoli*, *Macrophoma phaseolina*, *Macrophomina phaseoli*, *Rhizoctonia bataticola*, *Sclerotium bataticola*.

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Information from Charcoal rot of bean/tobacco (*Macrophomina phaseolina*). Plantwise Knowledge Bank. (<https://www.plantwise.org/knowledgebank/datasheet/32134>); and *Diseases of vegetable crops in Australia* (2010). Editors, Denis Persley, et al. CSIRO Publishing; and from *Macrophomina phaseolina* (2021). Wikipedia. (https://en.wikipedia.org/wiki/Macrophomina_phaseolina). Photo 1 David B. Langston, University of Georgia, Bugwood.org. Photo 2 Clemson University, USDA Cooperative Extension Slide Series, Bugwood.org. Photo 3 Paul Bachi, University of Kentucky research and Education Center, Bugwood.org.

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



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

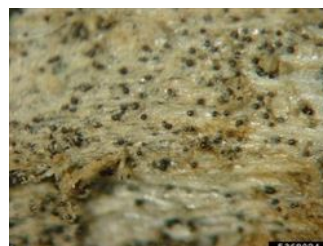


Photo 3. Close-up of the sclerotia of charcoal rot, *Macrophomina phaseolina*

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