

**MACROPHOMINA PHASEOLINA: ATYPICAL PYCNIDIA
PRESENCE AND SYMPTOMS IN SOYBEAN IN ARGENTINA**

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Macrophomina phaseolina (Tassi) Goid is a soil-borne pathogen, infecting about 500 plant species. This fungus is an anamorphic Ascomycete and causes charcoal rot in soybean [*Glycine max* (L.) Merr.], one of the top ten important diseases affecting world production of the crop. Yield loss has been estimated to be up to 905 metric tones in 2006 in Argentina. Disease incidence has increased in recent years, especially when plants are under drought and high temperature stress. Microsclerotia formed on and inside the lower stem and roots are the diagnostic and more frequent signs. These structures permit long term survival in soil and serve as the primary source of inoculum. The pycnidial stage is only occasionally found in nature on soybeans. In March 2012, wilting and superficial lesions from above the soil line to the upper half of the main stem were observed in soybean plants from Villa Minetti in Santa Fe Province, Argentina. A reddish-brown discoloration was observed in the taproot vascular tissues, progressing upwards into the stem pith. *M. phaseolina* was isolated from excised pieces of symptomatic stem tissues as well as from pycnidia and microsclerotia. Dark, ostiolate pycnidia (160-179 µm), broadly ellipsoidal to obovoid, hyaline pycnidiospores ((14-)18-21(-25) × (6-)7-10(-11) µm) were observed, along with black variably-sized microsclerotia (50–150 µm), in accordance with what has been previously reported. The identity of isolates obtained from stem tissues, pycnidia and microsclerotia was confirmed by PCR using specific primers targeting an ITS region, which yielded an expected 350-bp amplified product. Atypical symptoms and signs pose the question as to whether there have been numerous careless disease reports from field soybeans which could have under-estimated the occurrence of charcoal rot. Additionally, pycnidia interspersed with microsclerotia on stem tissues could be easily confounded if not properly observed. Pycnidia and their conidia formed on field soybean plants would enable aerial dispersal, potentially changing the epidemiological aspects of this disease.