

HOST SPECIFICITY OF *Microsphaeropsis amaranthi* AND *Phomopsis amaranthicola*, BIOHERBICIDE CANDIDATES FOR *Amaranthus* SPECIES. Loretta Ortiz-Ribbing and Martin M. Williams II, Research Associate and Ecologist, USDA-ARS, Invasive Weed Management Research Unit, Urbana, IL 61801.

Weeds of the *Amaranthus* genus have variable susceptibility to two indigenous fungal organisms, *Microsphaeropsis amaranthi* and *Phomopsis amaranthicola*. In an effort to explain host specific responses, *M. amaranthi* and *P. amaranthicola* conidial germination and germ tube length were quantified on the leaf surfaces of seven *Amaranthus* species at 21° and 28° C. Weeds included common waterhemp, Palmer amaranth, Powell amaranth, redroot pigweed, spiny amaranth, smooth pigweed, and tumble pigweed. Host-specific responses were greater for *P. amaranthicola* than *M. amaranthi*, as evidenced by weed species effects on conidial germination and germ tube elongation. Conidia of *M. amaranthi* had higher germination and germ tube elongation than *P. amaranthicola*. Assuming disease severity of host plants increases with conidia germination and germ tube elongation, these results are largely consistent with seedling biomass reduction and mortality reported for these weed species in previous work. However conidial germination and germ tube elongation are only two processes of disease expression; the ability of the fungal organism to penetrate and infect leaf tissue warrants further study.