

Controlled Environment Assessment of a *Colletotrichum* Strain as a Mycoherbicide for Pitted Morningglory Control

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Pitted morningglory, *Ipomoea lacunosa*, is in a complex of weedy *Ipomoea* species that invade crops in southeast United States. It is the most common morningglory in the Mississippi Delta and is a dominant weed in soybeans, cotton, and peanuts. It causes yield reduction, increased lodging, seed quality degradation and difficulty with harvest. It is recognizable to growers at emergence by its cotyledons. They are deeply lobed, with pointed tips and are relatively narrow in proportion to length. Positive early identification of this weed heightens the potential for mycoherbicide control with specific fungi that may not have potential in later post-emergent applications. A *Colletotrichum* strain was isolated from lesions on seedlings of pitted morningglory growing in a natural area distant from agricultural infestations. It was isolated, grew and sporulated well on potato-dextrose agar. Conidia germinated between 25-30°C. Disease developed in 2-3 d on seedlings in the cotyledonary stage when inoculated with 10⁶ conidia/ml and held for 24 h in dew at 30°C then incubated at 28°C. Complete kill of seedlings required 5-7 d. Two sequential 12 h dews resulted in 86% kill versus 100% mortality with a single 24 h dark dew period. Crop and weed species tested were immune except sharppod morningglory, *I. trichocarpa*, which was as susceptible as pitted morningglory. No evidence has been found in controlled environments to preclude field tests and development of this *Colletotrichum* strain as a mycoherbicide.
