

**FIELD OBSERVATION OF PATHOGENS ASSOCIATED WITH THE
BLACK TURFGRASS ATAENIUS**

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The main objective of our research is to monitor the effects of turf disease management with fungicides on insect pathogens. *Metarhizium anisopliae* is a fungus that occurs naturally in the soil which infects and kills the black turfgrass *Ataenius* (BTA) larvae. We hypothesize that fungicides used to control turf disease also suppress fungi that infect BTA.

Preliminary data collected in the 1992 field season showed that the population of BTA in fairway plots were significantly higher than the population in the rough. Fungicides are applied to the fairway but not the rough. It is possible that fungal pathogens are being suppressed, therefore, reducing natural control. This results in a higher number of larvae surviving in the fairway. The fungicides are not applied to the rough and the fungal pathogens are able to infect and kill BTA larvae naturally.

Diseased larvae were collected for identification. A higher percentage of larvae from the rough were infected with *Metarhizium anisopliae* compared to the percentage of infected larvae in the fairway. These results further support our hypothesis of fungal suppression by fungicides.

By learning more about the life cycle and timing of *Metarhizium anisopliae* turfgrass managers may be able to avoid applying fungicides at prime times when the fungus is most ineffective to the larvae. As a result, turf disease could still be controlled while reducing BTA populations naturally.

These experiments need to be repeated over several field seasons before the results reported can be sufficiently supported. If data collected in the next several years remain consistent with the preliminary data, *Metarhizium anisopliae* may become an important natural control to be included in an integrated turf management program for control of BTA and other soil-dwelling larvae.