Experimental Fungicides for the Control of Annual Bluegrass

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Several fungicides which have been marketed recently have plant growth regulating properties. These fungicides seem to affect annual bluegrass (*Poa annua* L.) while the fungicides have no detrimental effect on the creeping bentgrass (*Agrostis palustris* Huds.). The authors initiated a study in the early summer of 1995 to evaluate what effect multiple applications of two experimental fungicides with a similar mode of action have in reducing the degree of infestation by *Poa annua* in creeping bentgrass plots.

The study is laid out in a completely random design with the amount of initial *Poa annua* infestation as a covariate. There are seven treatments, each fungicide at three rates and a control (Table 1). The treatments are applied on a 21 day schedule, total *Poa annua* ratings are measured approximately 14 days after application. Cutting height seems to play a large role in the degree of injury experienced by *Poa annua* and therefore, after the second application of the treatments the authors decided to lower the cutting height to 11/64" (.171"). The method of determining the amount of *Poa annua* present in a plot was done by counting the number of *Poa annua* plants appearing in a subsample of each plot. Four measurements were taken. Two measurements were taken 14 days following treatment with the fungicides, and one measurement was taken prior to treatment in order to assess the initial infestation of a plot, and one measurement was taken in early November after dormancy of the turfgrass occurred. This measurement ensured that no new growth could contaminate the measurement of the amount of *Poa annua*.

Data gathered in the past year indicates that one of the experimental fungicides had no effect. This fungicide was not continued in the study. The other fungicide has considerable phytotoxicity to *Poa annua*. The statistical analysis of the first year's data indicates that the 0.50 oz/1000 sq. ft. and the 0.75 oz/1000 sq. ft. rates resulted in a statistically significant reduction in the amount of *Poa annua* infestation in a plot as compared to the control plots. This finding is based on one year of data collection, therefore, no firm conclusions regarding the effectiveness of this product for reduction of *Poa annua* are being presented. The preliminary results indicate that this product has potential to selectively damage *Poa annua*, and the information gathered in the first year will assist in planning a more detailed experiment which will allow the quantification of any rate response, and the analysis of the phytotoxic effects of this fungicide on *Poa annua* and creeping bentgrass turfs.

Table 1. Treatment Set

Treatment
0.25 oz/ 1000 sq. ft.
0.50 oz/1000 sq. ft.
0.75 oz/ 1000 sq. ft.
Untreated Control