

## Golf Course Fairway Fungigation Efficacy Study - 1981

Walnut Hills Golf Course, East Lansing, MI

### Establishment

The 1981 fairway fungigation study was conducted on two irrigated, annual bluegrass fairways (#14 and #17), mowed at a 5/8" cutting height on the Walnut Hills Golf Course in East Lansing, MI.

Undiluted Daconil 2787 flowable (FL) 500 fungicide was injected at a rate of approximately 11 gal/1 hour, while Cleary 3336 FL and Bromosan FL were injected at the rate 4.1 gal/hr and 8.2 gal/hr, respectively. All materials were injected directly into the irrigation line, using a Hydroflo chem-injector (Hydroflo Corp., 112 Maple Ave., Dublin, PA 18917). Daconil 2787 FL was applied at 7 qts/acre, Cleary 3336 FL at 2 oz/1000 ft<sup>2</sup> and Bromosan FL at 4 oz/1000 ft<sup>2</sup> to the fairways, based on an irrigation system with a 900 gal/minute pump with Toro 696 two-speed individual heads set on a 5 minute cycle which delivers 60 gallons of water/minute and 3/10" precipitation/hour.

Daconil 2787 FL fungigation applications were made on June 12, June 30, and August 26. The Cleary 3336 FL and Bromosan FL application was made on July 14, one-half of each fairway being treated with each fungicide. This application was timed to provide preventative control of anthracnose (Colletotrichum graminicola) as well as Sclerotinia dollarspot (Sclerotinia homeocarpa). Two adjacent fairways received similar treatments (using conventional spray equipment) of Daconil 2787 FL on June 11, July 1 and August 25, 1981, and of Cleary 3336 FL and Bromosan FL on July 16, 1981. These treatments were applied at the same rates as the treatments applied through the irrigation system, except the applications were made with a John Bean sprayer with an output of 38 gal/acre.

### Results and Discussion

Sclerotinia dollarspot and anthracnose were the only diseases observed on the Walnut Hills course this summer. Daconil 2787 FL, Cleary 3336 FL, and Bromosan FL applied through the irrigation system gave disease control comparable to that achieved with the same fungicides when applied with the conventional ground sprayer application method.

This was a heavy infection year for sclerotinia dollarspot and a moderate infection year for anthracnose. Under these conditions, both methods of application gave satisfactory disease control.

### Conclusions:

- 1) Fungigation is an effective means of applying Daconil 2787 FL, Cleary 3336 FL, and Bromosan FL, for the management of Sclerotinia dollarspot and anthracnose.
- 2) Fungigation is a faster method of applying fungicides.
- 3) Fungigation is a cheaper means based on cost of application equipment (sprayer versus a pump).
- 4) Fungigation applications can be made at night when there is no play on the golf course.

### Potential Problems:

- 1) Irrigation systems must have uniform coverage, otherwise voids will

exist where the disease will occur. (However, if the irrigation system is not applying the fungicide uniformly, then it is not applying water uniformly. This could be a good method of checking the system and changing to more suitable heads or adding additional heads to the system).

- 2) Future systems should be designed with fungigation capability in mind. Systems should start at point A by the pump and end at point B on the far end of the course with a valve for draining the system. Accurate rate of application will be difficult with systems not designed in a straight line or continuous arrangement. Fungicide residue may also remain in the line causing a possible exposure problem when the irrigation system is turned on again for irrigating or for other purposes, i.e. cleaning equipment.