

Table 4. cont.

Treatment	Rate/1000 ft <sup>2</sup>	Interval	I	II	III	IV	Ave. (LSD <sup>a</sup> )
RH-0753	0.5 oz ai	28 days	0	0.5	10	5	3.9 E-I
Thalonil 90 DF	3.5 oz	14 days	2	0	15	0	4.3 E-I
RH-0753	0.25 oz ai	28 days	5	15	0	0	5 D-I
Terraguard	2 oz	14 days	10	15	0	0	6.3 C-I
Prostar	3 oz	21 days	10	10	2	5	6.8 C-I
Prostar Plus	2.5 oz	28 days	5	5	5	20	8.8 C-I
3336 WP	4 oz	14 days	5	5	5	20	8.8 C-I
RH-0753	0.5 oz ai	June 10 only	2	25	5	10	10.5 C-H
RH-0753	0.5 oz ai	June 10 + June 24	10	15	10	10	11.3 C-G
Ch 26GT + 3336 F	2 fl oz+ 2 fl oz	14 days	25	20	0	0	11.3 C-G
Control	-----	-----	5	5	5	30	11.3 C-G
RH-0753	0.25 oz ai	June 10 + June 24	5	40	30	25	25 B

<sup>a</sup> Means followed by the same letter are not significantly different from each other based on the least significant difference test (LSD) at the 5% level.

<sup>b</sup> Treatments applied in 3x water rate (3 gal/1000 ft<sup>2</sup>.)

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The 1997 Pythium blight fungicide study was conducted on a perennial ryegrass/annual bluegrass mixed stand at the Hancock Turfgrass Research Center on the campus of MSU in E. Lansing, MI. The turf was maintained at about a 1 1/2 inch height of cut and was fertilized with 1/2 # N/1000 ft<sup>2</sup> per week. To encourage disease development, plots were inoculated with *Pythium aphanidermatum*, the causal agent of Pythium blight. The inoculum was grown on a sand/cornmeal medium and applied with a drop spreader over the entire study area on a weekly basis from 6/10/97 through 8/4/97. In addition, for better disease development, plots were covered at night with plastic greenhouse trays and/or a large plastic tarp to maintain humidity. Treatments were applied preventively to 4 replications of 2' x 4.5' plots arranged in a randomized complete block design. Treatments were applied beginning on 6/24/97, unless otherwise indicated, with re-applications made according to company protocols as listed in the data table until 8/19/97. Spray applications were made using a CO<sub>2</sub> back pack sprayer at a 48 GPA spray volume. Sprayer pressure was 42 PSI and a flat-fan (8002E) nozzle was utilized.

Data were collected on July 18 and July 29, 1997 by visually estimating the percent of the plot area which was infected with Pythium blight (see Table 5.) As it was a relatively cool summer, disease development was weak and the control plots averaged only 15% disease. However, there was significant disease control by the chemical standards. No phytotoxicity was observed.

Table 5. Pythium Blight Fungicide Study - 1997.  
Hancock Turfgrass Research Center, E. Lansing, MI.

Rating scale: Percent area infected.

Rating date: July 29, 1997.

Treatment	Rate	Interval	I	II	III	IV	Avg. (LSD <sup>a</sup> )
Banol +Heritage	1 fl oz + 0.2 oz	21 days	0	0	0.5	0	0.1 A
Subdue	2 fl oz	14 days	5	0	5	1	2.8 AB
Banol	2 fl oz	21 days	7	5	1	5	4.5 A-C
Aliette	6 oz	14 days	5	5	5	5	5 A-C
Control	---	----	10	25	15	10	15 D

<sup>a</sup> Means followed by the same letter are not significantly different from each other based on the least significant difference test (LSD) at the 5% level.

#### Biological Control of Dollar Spot on Annual Bluegrass - 1997

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The 1997 biocontrol dollar spot study was conducted on annual bluegrass plots at the Hancock Turfgrass Research Center on the MSU campus in E. Lansing, MI. The turf was maintained at about ½ inch height of cut. Fertility was applied as needed to maintain acceptable turf quality. Treatments were applied to four replications of 2 x 3 ft plots which were arranged in a randomized complete block design. All treatments were applied using a back pack sprayer with CO<sub>2</sub>, except the Tx-1 bacterial treatments which used N<sub>2</sub> in order to avoid killing the bacteria. Treatments were sprayed using a flat-fan (8002E) nozzle and sprayer pressure of 42 PSI. Spray volumes of 1, 2 or 3 gallons per 1000 ft<sup>2</sup> were used as indicated in the tables that follow. Treatments were initiated at several different times as some products were late additions to the study (see footnotes on each table.) All treatments were applied through September 22, 1997. Data were collected by visually estimating the percent area infected with dollar spot in each plot. Plots were rated on August 8, prior to most treatment applications since some dollar spot had moved in to the study area, and on September 26 (see table 6) Proprietary treatments and data have been omitted from all data tables.

The standard Daconil Ultrex treatment (3.8 oz, 14 day interval) and those treatments containing the Tx-1 bacteria either alone, boiled, or in combination with a single Daconil Ultrex application all provided excellent dollar spot control throughout the season.

Table 6. Biocontrol Dollar Spot Study - 1997.  
Hancock Turfgrass Research Center, E. Lansing, MI.

Rating scale: Percent area infected with dollar spot.

Rating date: September 26, 1997.

Treatment	Rate/1000ft <sup>2</sup>	Interval	I	II	III	IV	Avg.(LSD <sup>a</sup> )
Daconil Ultrex <sup>§</sup>	3.8 oz	14 days	0	0	0	0	0.0 F
Tx-1 <sup>§</sup> (boiled)	10 <sup>7</sup> CFU/cm <sup>2</sup>	Daily	7	3	1	2	3.3 F
Tx-1 <sup>§</sup>	10 <sup>7</sup> CFU/cm <sup>2</sup>	Daily	7	5	1	3	4.0 F
Tx-1 <sup>§</sup> +	10 <sup>7</sup> CFU/cm <sup>2</sup> +Daily		5	5	7	1	4.5 F
Daconil Ultrex <sup>§</sup>	3.8 oz	1 appl.					