

### Take-All Patch Fungicide Studies - 1994

Fertilizer/fungicide studies for the management of take-all patch (*Gaeumannomyces graminis*) on creeping bentgrass (*Agrostis palustris*) were conducted on three Michigan golf courses this year. These studies were established on irrigated bentgrass fairways where disease was present in prior years or where disease was currently active. Two studies were initiated in late May, corresponding roughly to the same timing used for summer patch study initiation. The third study was initiated in mid-summer. Treatment preparation and application, and experimental design, were as previously described in this report. The fairways were maintained at approximately 3/8" height of cut and the studies were fertilized at approximately 1/4 - 1/2 lb. actual nitrogen/mo. (except for fertilizer treatments) using Lebanon Country Club Fertilizer (18-4-10). Some phytotoxicity was observed and is discussed below.

#### Take-All Patch Study, St. Clair Golf Club, St. Clair, MI

This study was established on a 6 month-old bentgrass fairway which was exhibiting poorly-defined, weak areas of turfgrass which were infected with the take-all fungus. In general, distinct patches had not yet formed.

All treatments were initiated on Aug. 2, shortly after the site was discovered. A second application was made on September 6, except as noted on the data table. Plot design and application procedures were as previously described. The ratings in table 10 were taken on Sept. 23.

Phytotoxicity was sufficiently severe in the EXP 10452A and Sentinel (0.33 oz) treatments following one application that a second application was omitted. Phytotoxicity was moderately severe in the Sentinel (0.25 oz) plots, but they were re-treated. The high rates of Bayleton and Rubigan also exhibited moderate phytotoxicity following the second application while Banner (4 fl. oz) exhibited a mild greening effect. Phytotoxicity was probably more severe in this study than in the other take-all studies because, in addition to the low fertility and slow turf growth, the turf was new, had no thatch, and treatments were applied in mid-summer heat.

As the data indicates, all treatments except Ch. 26019 (2 oz) and Banner (2 fl. oz) gave statistically significant control of take-all patch compared to the unfertilized control. As in the other take-all patch studies, the role of fertility, alone, in preventing disease symptom expression is quite evident in this data. Fertility, by itself, would probably have been less effective in all three take-all studies if disease development had been more severe.

**Table 6. Take-All Patch Fungicide Study - 1994**

#### **St. Clair Golf Club, St. Clair, MI**

Rating scale: Percent plot area diseased.

Rating date: September 23, 1994

Treatment				Rate/1000ft <sup>2b</sup>	I	II	III	IV	Avg	Tukeys(.05) <sup>a</sup>
Sulfur-Control Fertilizer	Urea	1 lb. N./mo.			0	0	0	0	0	B
Ringer Fertilizer	Ammon.	Sulf	1 lb. N./mo.		0	0	0	0	0	B
RH 0611			10 oz.		0	1	0	0	.25	B
EXP 80318A			1 fl. oz.		3	0	0	3	1.5	B
Bayleton			2 oz.		3	5	0	0	2	B
Fungo 85			3.6 oz.		2	0	1	5	2	B

Treatment			Rate/1000ft <sup>2b</sup>	I	II	III	IV	Avg	Tukeys(.05)*
Ringer Fertilizer	Turf	Restore	1 lb. N./mo.	3	5	0	0	2	B
IBDU Fertilizer			1 lb. N./mo.	5	5	0	0	2.5	B
Sulfur-control Fertilizer		Urea	1/2 lb. N./mo.	0	5	5	0	2.5	B
Ringer Fertilizer	Ammon.	Sulf.	1/2 lb. N./mo.	2	0	5	3	2.5	B
Ringer Fertilizer	Turf	Restore	1/2 lb N./mo.	5	3	0	3	2.8	B
Sentinel			.25 oz.	5	3	5	0	3.3	B
Banner			4 fl. oz.	3	0	0	10	3.3	B
Fungo 85			1.8 oz.	0	3	0	10	3.3	B
EXP 80318A			2 fl. oz.	5	5	3	3	4	B
IBDU Fertilizer			1/2 lb N./mo.	3	5	0	10	4.5	B
Eagle			0.6 oz.	3	5	3	10	5.3	B
ASC-67098-Z			3.6 oz.	3	10	0	10	5.8	B
EXP 10452A <sup>c</sup>			4 oz.	7	5	5	10	6.8	B
Control (Fert)			1/4 lb N./mo.	5	5	7	10	6.8	B
Bayleton			4 oz.	5	5	0	20	7.5	B
Rubigan			2 fl oz.	5	10	5	10	7.5	B
Fluazinam			1 oz.	3	10	0	20	8.3	B
Sentinel <sup>c</sup>			.33 oz.	3	7	15	10	8.8	B
Rubigan			4 fl. oz.	3	20	2	10	8.8	B
Fluazinam			2 oz.	7	3	25	7	10.5	B
Chipco 26019 (WDG)			2 oz.	5	10	25	10	12.5	AB
Banner			2 fl. oz.	5	25	3	20	13.3	AB
Control (unfert.)			--	5	35	30	40	27.5	A

\*Treatments followed by the same letter are not significantly different from each other at the 5% level.

<sup>b</sup>Rates are formulation.

<sup>c</sup>Applied once only due to phytotoxicity.

### Necrotic Ring Spot Fungicide Studies - 1994

Fertilizer/fungicide studies for the management of necrotic ring spot (*Leptosphaeria korrae*) were conducted on irrigated, previously diseased Kentucky bluegrass turf at the Blue Care Network headquarters in Lansing, MI and at the