Evaluation of Chemical Methods for Control of Take-all Patch (Spring and Fall Applications 1999)

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INTRODUCTION

To evaluate chemicals for the control take-all patch caused by *Gaeumannomyces graminis* on colonial bentgrass maintained at fairway conditions.

EXPERIMENTAL METHODS

Individual plots, 3 ft x 10 ft, were arranged in a randomized complete block design with four replications. The experimental area was not inoculated and all disease development was of natural occurrence. Treatments were applied with a CO_2-powered boom sprayer, using XR Teejet 8005 VS nozzles, at 30 psi, in water equivalent to 2 gal per 1000 sq ft Application were immediately irrigated in with a 1/4" of water. Applications were made on May 13, June 7, September 27, and October 25 1999. The experimental area received 3 lbs. of nitrogen during the growing season from the following applications: 1/2# N (46-0-0) on May 25, 1.5# N (Spring Valley 25-3-4) on June 19 and 1# N (46-0-0) on July 28. Percent damage was evaluated on May 25, June 19, July 16 and 29, 2000. Data obtained was subjected to analysis of variance and LSD was used to determine significant differences between treatment means.

DISCUSSION

Irrigation was kept to a minimum to help encourage symptom development. Based on the data obtained most treatments provided some control until the droughty part of the summer. The results from last summer displayed that there was no benefit gained from the spring applications. Two chemicals stand out in the early ratings, Heritage and BAS 505. These products have shown significant amount of control using fall applications or a combination of both. Since no applications were made for take-all patch this year it is evident that there is more benefit gained from fall applications then spring applications. Another important factor is the irrigation. Early in the season there was sufficient amount of natural moisture for the plants. But, as the summer progressed that amount of damage increased in all of the plots. The results from this study help emphasize the requirement of sufficient irrigation throughout the summer. Observations from golf courses that have take-all patch and irrigate nightly have shown a substantial reduction in symptom expression.

Table 1. Percent Take-all Patch Damage

#	Treatment	Form.	Rate	Rate Unit	Interval	% Damage 5-25-00		% Damage 6-19-00		% Damage 7-16-00		% Damage 7-29-00	
1	Chipco Triton	1.67 SC	0.5	Fl. Oz./M Ft2	2 Spring, 2 Fall	37.5	A	38.8	BC	27.5	BCD	45.0	BC
2	Chipco Triton	1.67 SC	1.0	Fl. Oz./M Ft2	2 Spring, 2 Fall	38.8	A	26.3	CD	18.8	CDE	40.0	C
3	TADS 12529	70 WDG	0.15	Oz/M Ft2	2 Spring, 2 Fall	38.8	A	45.0	AB	38.8	AB	52.5	ABC
4	TADS 12529	70 WDG	0.3	Oz/M Ft2	2 Spring, 2 Fall	26.3	AB	26.3	CD	27.5	BCD	40.0	C
5	Heritage	50 WDG	0.4	Oz/M Ft2	2 Spring, 2 Fall	11.3	B	1.3	E	10.0	DE	45.0	BC
6	Heritage	50 WDG	0.4	Oz/M Ft2	2 Spring	30.0	AB	8.8	E	11.3	CDE	46.3	BC
7	Heritage	50 WDG	0.4	Oz/M Ft2	2 Spring, 1 Fall	22.8	AB	15.0	DE	18.8	CDE	53.8	AB
8	BAS 500	2.09 EC	0.29	Lb Ai/Acre	2 Spring, 2 Fall	31.3	AB	23.8	D	28.8	BC	50.0	ABC
9	BAS 500	2.09 EC	0.5	Lb Ai/Acre	2 Spring, 2 Fall	43.8	A	27.5	CD	48.8	A	53.8	AB
10	BAS 505	50 WDG	0.34	Lb Ai/Acre	2 Spring, 2 Fall	12.5		6.3	E	7.5	E	40.0	C
11	Check					46.3	A	53.8	A	48.8	A	61.3	A
LSD						24.81		14.99		18.2		12.62	

Means followed by the same letter do not significantly differ (LSD, P=0.05)