

TopPro Propiconazole 14.3 4 fl oz	75F+28 (6/10, 7/8)	0.8 D	9.5 F-L
Magellan 4.1 fl oz + thiophanate methyl 4 fl oz ^c	75F+21(6/10, 7/1, 7/23)	0.3 D	8.0 G-L
Heritage 50WG 0.2 oz + Banner Maxx 2 fl oz	75F+28 (6/10, 7/8)	0.0 D	6.5 H-L ^b
TADS 12529 17 g + Surfactant 32 fl oz/100 gal	75F+28 (6/10, 7/8)	0.0 D	4.3 I-L
Banner Maxx 4 fl oz	75F+28 (6/10, 7/8)	0.0 D	4.3 I-L
Cleary's 3336F 6 fl oz	75F +14(6/10, 6/24, 7/8, 7/23, 8/5)	0.0 D	3.0 J-L
Banner Maxx 2 fl oz (2 apps, then Heritage)	75F+14 (6/10, 6/24)	0.0 D	2.3 LK ^b
Heritage 50WG 0.4 oz	14 (7/8, 7/23)		
Cleary's 3336F 6 fl oz + Nutri-grow 3 fl oz	75F+14 (6/10, 6/24, 7/8, 7/23, 8/5)	0.0 BD	0.8 LK ^b
Lynx 45WP 1.11 oz + Compass 50WG 0.2 oz	75F+21 (6/10, 7/8, 7/23)	0.0 D	0.0 L ^b

^a Means followed by the same letter are not significantly different (LSD, p=0.05).

^b One or more replicate plots within treatment displayed superior turfgrass quality/color on 8/20/02.

^c Treatment applied in 3 gal/1000ft² spray volume.

Take-All Patch (*Gaeumannomyces graminis*) 2001-2003

This multi-year take-all patch disease study is being conducted on an irrigated and diseased creeping bentgrass fairway at the Golf Club of Michigan, Brighton, MI. The study is setup in four replications of a randomized complete block design utilizing 6' X 9' plots, each of which has displayed active take-all in recent years. Applications were made with a CO₂ small plot sprayer with flat fan 8002E nozzles, operating at 36 PSI and approximately 100 GPA. Fertilizer treatments were pre-weighed and hand applied.

Because take-all patch is most severe under low fertility conditions, we applied only 1#N/1000 ft² of background fertilizer this season, except in the fertilizer treatments. This level of fertility was deemed adequate to promote fungicide efficacy while not discouraging disease symptom development. Fertilizer (18-3-12) was applied as follows: ¼#N/1000 ft² on 5/14/02 and 8/13/02; and 1/8#N/1000 ft² on 6/14/02, 7/12/02, 7/26/02, and 9/11/02. Chlorothalonil and metalaxyl fungicides were applied at low rates on 7/12/02 and 8/2/02 to control dollar spot and Pythium blight in the study.

As in 2001, take-all patch in this study developed in the spring once again. As the data indicates, however, disease pressure was modest and occurred somewhat unevenly in the study. This variability led to poor statistical separation between the treatment means of all the fertilized treatments. On the other hand, the benefit of fertility in take-all patch management is evident by comparing the unfertilized control with many of the fertilized treatments, most of which exhibited significantly less disease than the unfertilized control.

**Table 14: Take-All Patch
Golf Club of Michigan, Brighton, MI
Rating Date: 6/6/02, Rating Scale: Percent plot area infected**

Treatment and Rate/1000 ft ²	Interval (Days)	I	II	III	IV	Mean	LSD
Nitroform (38-0-0) (1/2 lb N) ^a	May, June, Jul, Aug	0	10	20	0	7.5	A-D
Nutralene (40-0-0) (1/2 lb N) ^a	May, June, Jul, Aug	0	0	5	0	1.3	B-D
Nitroform (2 lb N) ^a	May	0	1	0	0	0.3	D
Nutralene (2 lb N) ^a	May	0	0	10	0	2.5	B-D
Nitroform (1 lb N) ^a	May, June	0	0	25	0	6.3	A-D
Nutralene (1 lb N) ^a	May, June	0	0	10	0	2.5	B-D
Urea (46-0-0) (1/2 lb N) ^a	May, June, Jul, Aug	0	1	0	0	0.3	D
Lebanon (18-3-8) (1/2 lb N) ^a	May, June, Jul, Aug	0	0	15	0	3.8	A-D
Lebanon (18-3-8) (1lb N) ^a	May, June, Jul, Aug	0	0	0	0	0	D
Control (unfertilized)	--	10	0	25	10	11.3	A
Urea (46-0-0) (1/2 lb N)	14	0	0	0	0	0	D
Insignia (0.9 oz) ^b	2 fall 01', 2 spring 02'	0	0	10	0	2.5	B-D
Honor (0.2 oz) ^b	2 fall 01', 2 spring 02'	0	0	2	0	0.5	D
Tads 12529 (8.5 g/100 sq. ft.) ^c	2 spr. 02', 2 fall 02', 2 spr. 03'	2	0	2	0	1	CD
Tads 12529 (8.5g / 1000 sq ft) & Surfactant (32oz/ 100gal) ^c	2 spr. 02', 2 fall 02', 2 spr. 03'	0	10	0	3	3.3	B-D
Tads 12529 (17 g/ 1000 sq. ft.) ^d	2 spring 02'	2	0	20	0	5.5	A-D
Tads 12529 (17g/ 1000 sq. ft.) & surfactant (32oz/ 100 gal) ^d	2 spring 02'	3	0	25	5	8.3	A-C
Bayleton (50wg) (2 oz) ^d	2 spring 02'	0	5	20	5	7.5	A-D
Signature (80wdg) (4oz/ 1000 sq. ft) & Tads 12529 (17g /1000 sq.ft) ^d	2 spring 02'	0	0	0	0	0	D
Insignia (insignia) (0.9 oz) ^e	2 fall 02' + 2 spr. 03' @ 28 day intervals	5	5	25	0	8.8	AB
Honor (Honor) (0.2 oz) ^e	2 fall 02' + 2 spr. 03' @ 28 day intervals	0	0	0	0	0	D
Heritage (standard) (0.4 oz) ^e	2 fall 02' + 2 spr. 03' @ 28 day intervals	0	0	0	5	1.3	B-D
Heritage (0.4 oz) ^f	2 spring 02'	0	0	15	1	4	A-D
Control ^g		0	15	15	0	7.5	A-D
Banner Maxx (2fl oz) ^f	2 spring 02'	0	0	0	0	0	D

^a Treatments applied initially on 5/17/01 and reapplied monthly during 2001 and 2002 as indicated in the table

^b Treatments applied on 9/26/01, 10/24/01, 4/26/02, and 6/6/02

^c Treatments applied on 5/3/02, 6/6/02, 8/2/02, and 8/28/02

^d Treatments applied on 5/3/02 and 6/6/02

^e Treatments applied on 8/2/02 and 8/28/02

^f Treatments applied on 4/26/02 and 6/6/02

^g Applied 1/4# N / 1000 ft² (Lebanon 18-3-12) on 5/14/02.