

## **Stop #1: Management Practices For Bentgrass Greens**

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### **Objectives:**

These studies were conducted to determine: 1) the effect of fungicides and fungicide programs on bentgrass putting green health during summer stress; 2) fungicides and programs for managing fairy rings; and 3) effects of PoaCure (methiozolin) herbicide on bentgrass health and rooting.

### **Materials and Methods**

The studies were conducted on a creeping bentgrass 'Pure Distinction' putting green maintained at 0.125 inches, 0.125 lbs N/M/month, and 100% ETo irrigation. As the study progressed, irrigation was reduced to encourage drought stress. Fungicide treatments were initially applied on 18 June 2014. The fairy ring study received treatments from June 18 to July 16 and again from August 26 to September 24. The summer stress treatments will continue to be applied through the remainder of summer and early fall. Visual assessments of turf quality (1-9 scale; 1=worst, 9=best), color, density, localized dry spot and fairy ring cover were taken weekly; TDR (% volumetric water content) and Clegg Impact Tester (firmness) were taken bi-weekly. PoaCure treatments were applied on 14 and 28 August and 11 Sep 2014. Soil samples were taken before treatment application at 0, 14, and 28 days to monitor herbicide effects on rooting.

### **Results:**

#### **Fairy Ring**

- ✓ Differences in fairy ring pressure were not detected during the first run. During the second run, Xzemplar + Revolution was the most effective treatment in controlling fairy rings on September 5, with only 3.75% presence of fairy rings on the plots.
- ✓ Xzemplar + Revolution also showed the highest quality (6.0); Velista + Revolution also increased bentgrass quality in comparison to control (5.75).

#### **Summer Stress**

- ✓ Fungicides increased turf quality in comparison to control only on August 8; regardless, quality of fungicide-treated plots was abundantly below an acceptable quality level of 6 due to presence of LDS and fairy ring.
- ✓ Differences in dry spots among treatments were detected on August 22 only; BASF programs had a positive effect in reducing percent dry spots in comparison to control. It is likely that the LDS was caused by fairy ring and that the fungicides in the BASF programs were more efficacious against these fungi.

#### **PoaCure**


- ✓ Despite two applications of PoaCure at 2x and 4x rates for putting greens, both made at the wrong time of year for bentgrass safety and effective Poa control (i.e., daytime temperatures >90F), coupled with the added stress of solid-tine aeration and sand topdressing implemented shortly after the second herbicide application, there have been no aboveground visual signs of turf phytotoxicity as a result. Analyses of roots are pending. These results corroborate previous unpublished field research by the authors

that identified 'Pure Distinction' as one of the most tolerant creeping bentgrass cultivars to this herbicide.


**Plot plan for the study area**

**North**

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>				<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<u>4</u>	<u>3</u>	<u>1</u>	<u>2</u>				<u>5</u>	<u>6</u>	<u>4</u>	<u>5</u>
<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>6</u>	<u>1</u>	<u>6</u>	<u>3</u>	<u>1</u>
<u>2</u>	<u>1</u>	<u>4</u>	<u>1</u>	<u>3</u>	<u>2</u>		<u>5</u>	<u>4</u>	<u>2</u>	<u>6</u>
<u>3</u>	<u>4</u>		<u>3</u>	<u>1</u>	<u>4</u>		<u>2</u>	<u>3</u>	<u>4</u>	<u>1</u>
<u>1</u>	<u>2</u>	<u>4</u>	<u>3</u>		<u>2</u>					<u>5</u>

 Summer Stress Trial

 Fairy Ring Trial

 PoaCure Trial

### Treatment list for fairy ring trial

Treatment	Product	Rate	Frequency
1	Control		
2	Velista+Revolution	0.5 oz/M+6 oz/M	28 days
3	Lexicon Intrinsic	0.47 fl oz/M	28 days
4	Lexicon Intrinsic+Revolution	0.47 floz/M+6 fl oz/M	28 days
5	Xzemplar	0.26 fl oz/M	28 days
6	Xzemplar+Revolution	0.26 fl oz/M	28 days

### Treatment list for summer stress trial

Treatment	Product	Rate	Frequency
1	Control		
2	BASF program* (Lexicon Intrinsic)	0.34 fl oz/M	14 days
3	BASF program** (Lexicon Intrinsic)	0.47 fl oz/M	14 days
4	Daconil Action+Velista	3.5 fl oz/M+0.3 oz/M	14 days

\*Includes one application of Tourney 50 WG (0.37 oz/M), one application of Lexicon Intrinsic, one application of Chipco Signature+Fore Rainshield (4 oz/M+6 oz/M), two applications of Lexicon Intrinsic+ Daconil Ultrex (3.2 oz/M), one application of Segway+26GT+Fore Rainshield (0.9 fl oz/M+4 fl oz/M+6 oz/M), one application of Chipco+Xzemplar (4 oz/M+0.21 fl oz/M), and one application of Lexicon Intrinsic+ Fore Rainshield (6 fl oz/M).

\*\* Includes one application of Tourney 50 WG (0.37 oz/M), one application of Lexicon Intrinsic, one application of Chipco Signature+Daconil Ultrex (4 oz/M+3.2 oz/M), two applications of Lexicon Intrinsic+Fore Rainshield (6 oz/M), one application of Segway+Tourney 50WG (0.9 fl oz/M+0.37 oz/M), one application of Xzemplar (0.26 fl oz/M), one application of Chipco Signature+26GT+Daconil Ultrex ( 4 oz/M+4 fl oz/M+ 3.2 oz/M), one application of Segway+26GT+Fore Rainshield (0.9 fl oz/M+4 fl oz/M+6 oz/M) and one application of Lexicon Intrinsic+Daconil Ultrex (3.2 oz/M).

### Treatment list for PoaCure trial

Treatment	Product	Rate	Frequency
1	Control		
2	PoaCure	0.6 oz/M	14 days
3	PoaCure	1.2 oz/M	14 days
4	PoaCure	2.4 oz/M	14 days

**Table 1. Bentgrass quality and fairy ring cover assessed on 5 Sep 2014**

<b>Treatment</b>	<b>Quality</b>	<b>Fairy ring (% cover)</b>
Control	4.8 C	18.8 A
Velista+Revolution	5.8 AB	6.2 B
Lexicon Intrinsic	5.0 BC	7.5 B
Lexicon Intrinsic+Revolution	5.5 ABC	5.0 B
Xzemplar	4.8 C	12.5 AB
Xzemplar+Revolution	6.0 A	3.8 B

**Table 2. Bentgrass quality on 8 August 2014 and localized dry spot cover on 22 August 2014 in response to fungicide programs.**

<b>Treatment</b>	<b>Quality</b>	<b>Dry spot (%)</b>
Control	3.5 B	28.8 A
BASF (Lexicon Intrinsic Low Rate)	4.8 A	8.8 B
BASF (Lexicon Intrinsic High Rate)	4.5 A	10.2 B
Daconil Action + Velista	4.8 A	21.5 AB