

# 2007 Evaluation of 3 and 4 Week Timing Intervals of Fungicide Applications for the Control of Anthracnose on Annual Bluegrass Fairways

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## **Introduction**

The purpose of this trial was to evaluate different timing intervals of fungicide applications necessary to control anthracnose (*Colletotrichum cereale*) on annual bluegrass fairways. Three products were evaluated combined with and without Daconil Ultrex: Cleary's 3336, Cleary's 3336 Plus, and Banner Maxx.

## **Materials and Methods**

The trial was initiated on June 18<sup>th</sup> at Oswego Lake Country Club built in 1926 and located in Lake Oswego, Oregon. Oswego Lake Country Club is a high end Country Club located in the greater Portland area. Subsequent fungicide applications were applied either on a 3 week or 4 week interval. See the application schedule below.

The site was located on the 12<sup>th</sup> fairway which has a "Cascade silt loam" soil and has been top dressed with sand over the years. The CEC of the soil is 8.9 and the pH is 5.8. This data was taken from a soil sample on June 20<sup>th</sup> 2006 and analyzed by MDS Harris Labs. The south east quadrant of the fairway has severe slopes ranging from 3 – 8 percent. The course has a history of anthracnose problems.

The fairway was generally 100 feet across allowing for two 50 foot long plots (10 feet wide) abutting each other in the middle. Since plots were sprayed from side to side, a 20 foot strip down the center of the fairway was excluded for rating purposes, because part of this area was over



sprayed from the abutting plot.

The products were applied with a walk-over sprayer with a 5 foot boom using a ShurFlo pump powered by 12 volt battery using Greenleaf AirMix nozzles at 30 psi producing a total spray volume of 1 gallon per 1,000 square feet. A walking speed of 3 miles per hour was calibrated using a metronome.

The maintenance standards of this golf course are extremely high. Fairways are mowed 3 to 4 times per week at 0.50 inches using a triplex fairway mower. Wetting Agents (Tricure), growth regulators (Primo,) and fertilizers were applied regularly throughout the trial. Irrigation was applied with a computer controlled irrigation system with supplemental watering done by hand.

Plot quality ratings were made on July 30<sup>th</sup>, August 13<sup>th</sup>, August 20<sup>th</sup>, and September 17<sup>th</sup>. Since no disease developed, disease ratings were not taken. Data from each rating date were subjected to analysis of variance using a randomized complete block design with 3 replications. Differences between means were determined by LSD at the 5% level.

### Treatments

Trt #	Product	Rate (oz/1,000)	Interval
1	Banner	1	21
2	Banner	1	28
3	Banner + Daconil Ultrex	1 + 3.2	21
4	Banner + Daconil Ultrex	1 + 3.2	28
5	3336	4	21
6	3336	6	21
7	3336	6	28
8	3336 + Daconil Ultrex	6 + 3.2	21
9	3336 + Daconil Ultrex	6 + 3.2	28
10	3336 Plus	4	21
11	3336 Plus	6	21
12	3336 Plus	6	28
13	3336 Plus + Daconil Ultrex	6 + 3.2	21
14	3336 Plus + Daconil Ultrex	6 + 3.2	28
15	3336 Plus	8	28
16	Untreated	na	na

### Treatment Schedule

Trt #	Product	Interval	All	21 DAT	28 DAT	21 DAT	28 DAT	21 DAT
			18-Jun	9-Jul	16-Jul	30-Jul	13-Aug	20-Aug
1	Banner	21	X	X		X		X
2	Banner	28	X		X		X	
3	Banner + Daconil Ultrex	21	X	X		X		X

			All	21 DAT	28 DAT	21 DAT	28 DAT	21 DAT
Trt #	Product	Interval	18-Jun	9-Jul	16-Jul	30-Jul	13-Aug	20-Aug
4	Banner + Daconil Ultrex	28	X		X		X	
5	3336	21	X	X		X		X
6	3336	21	X	X		X		X
7	3336	28	X		X		X	
8	3336 + Daconil Ultrex	21	X	X		X		X
9	3336 + Daconil Ultrex	28	X		X		X	
10	3336 Plus	21	X	X		X		X
11	3336 Plus	21	X	X		X		X
12	3336 Plus	28	X		X		X	
13	3336 Plus + Daconil Ultrex	21	X	X		X		X
14	3336 Plus + Daconil Ultrex	28	X		X		X	
15	3336 Plus	28	X		X		X	
16	Untreated	na						

## Results

The summer was unusually mild, and as a result, anthracnose disease symptoms did not develop.

The plot quality was extremely high for much of the trial. During the month of August, the fairway did experience some drought stress and the ratings declined somewhat. However, there were no statistical differences in plot quality. In September, the temperatures cooled off, the drought stress went away, and the plot quality improved. See Table 1.

Table 1: Plot Quality: 1 – 9; 9 = best

			Oz/1,000				
Trt #	Product	Interval	Rates	7-30	8-13	8-20	9-17
1	Banner	21	1	8.0	7.7	7.0	8.0
2	Banner	28	1	8.0	7.0	6.7	8.0
3	Banner + Daconil Ultrex	21	1 + 3.2	8.0	6.7	6.3	8.0
4	Banner + Daconil Ultrex	28	1 + 3.2	8.0	7.0	6.7	7.7
5	3336	21	4	8.0	6.7	6.3	8.0
6	3336	21	6	8.0	7.0	7.3	8.0
7	3336	28	6	8.0	6.7	7.0	8.0
8	3336 + Daconil Ultrex	21	6 + 3.2	8.0	7.3	7.3	8.0
9	3336 + Daconil Ultrex	28	6 + 3.2	8.0	7.0	7.3	8.0
10	3336 Plus	21	4	8.0	7.0	6.7	8.0
11	3336 Plus	21	6	7.7	6.7	6.7	8.0
12	3336 Plus	28	6	8.0	7.7	7.3	8.0
13	3336 Plus + Daconil Ultrex	21	6 + 3.2	8.0	7.3	7.3	8.0
14	3336 Plus + Daconil Ultrex	28	6 + 3.2	8.0	6.7	6.3	8.0
15	3336 Plus	28	8	8.0	6.3	7.0	8.0
16	Untreated	na	na	8.0	6.7	7.0	8.0
	<b>LSD @ .05</b>			<b>0.2</b>	<b>1.8</b>	<b>1.4</b>	<b>0.2</b>