Management of Summer Decline with Aliette combinations

Principal Investigators: Wendy Gelernter, Ph.D. and Larry J. Stowell, Ph.D., CPPP, CPAg

Cooperator: Bruce Duenow, La Jolla Country Club

Sponsor: Chris Olsen, Rhone Poulenc

Summary: In a replicated field trial at La Jolla Country Club, La Jolla, CA , bi-weekly applications of Aliette Signature combined with either Chipco 26 GT, Chipco Triton or Daconil Ultrex resulted in 100% control of dollar spot (*Sclerotinia homeocarpa*), with no significant differences observed among the different combinations. As was found in a similar study conducted in 1997, the presence of fairly high dollar spot pressure throughout the trial allowed the evaluation of the role of the treatments tested in reducing the disease component of summer stress complex. However, it was not possible to evaluate efficacy on the other, less tangible factors that can contribute to this phenomenon.

Materials and Methods:

Location: Research plots were located on a bentgrass chipping green at La Jolla Country Club, La Jolla, CA.

Experimental design and application: Plots measured 5 feet by 10 feet and treatments were replicated three times, in a randomized design as illustrated below.

2	4	1	3
3	1	4	2
1	2	3	4

Treatments were applied with a CO_2 backpack sprayer equipped with 8008 VS flat fan nozzles and delivering 1.73 gallons of water per 1000 square feet, with 28 psi at the boom. Calibration of each nozzle was confirmed prior to application to be within 5% of the desired nozzle flow rate. Boom height was 17 inches above the ground. The spray swath was 5 feet. Speed was 3 mph. Spray bottles were agitated by shaking 20 times prior to charging with compressed CO_2. Spray lines were purged with CO_2 and then water prior to changing treatments.

Treatments: Treatments are listed below. Applications were initiated on 8/10/98 when the first signs of dollar spot were observed. A total of four bi-weekly treatments were made (8/10, 8/24, 9/8, and 9/21/98).

Evaluations: Evaluations were initiated once any signs of turfgrass stress manifested themselves (9/8/98) and were continued bi-weekly through 10/5/98. Dollar spot severity was determined by counting the number of small, diseased or dying patches of turf in each plot. Identification of disease organisms was carried out via microscopic observation. Data was subjected to analysis of variance, and treatment means separated using Fisher's LSD, where $P<0.05$.

Treatments tested. Products were applied bi-weekly on 8/10, 8/24, 9/8, and 9/21/98.

Trt	Product	Rate/1000 sq ft
1	Untreated Control	
2	Aliette Signature 80 WG+ Chipco 26GT	4 oz + 4 oz
3	Aliette Signature 80 WG + Chipco Triton 1.67 SC	4 oz+ 1 oz
4	Aliette Signature 80 WG+ Daconil Ultrex	4 oz + 4 oz

Results and Discussion:

Handling and Phytotoxicity: No phytotoxicity was observed. With one exception, all products mixed and handled easily. However, when Chipco Triton 1.67 SC (1.0 oz/1000 sq ft) was added into a solution of Aliette Signature 80 WG (4 oz/1000 sq ft), small white flakes formed which

were not easily dissolved or dispersed via agitation. This type of incompatibility would not be acceptable under commercial conditions.

Identity of disease organisms: Dollar spot (*Sclerotinia homeocarpa*) was identified on bentgrass samples taken from the non-treated control on 9/8/98. Microscopic features used to identify the disease organism were the sterile septate hyphae with thick primary hyphae (10 um in diameter) and thin secondary hyphae (2.5 um in diameter). Disease pressure was high, with up over 50 patches of diseased turf identified in non-treated plots on several rating dates.

Efficacy: All combinations tested resulted in total and statistically significant control of dollar spot, when compared to the non-treated control. However, there were no significant differences among the three combinations tested in disease damage ratings (Table 1).

The data indicates that the prevalent disease present throughout the trial, dollar spot, was controlled well by bi-weekly applications of all of the Aliette Signature combinations tested. However, this is not surprising, since iprodione and chlorothalonil are commonly used to combat this disease. Therefore, the addition of Aliette to either iprodione or chlorothalonil probably did not contribute to the high quality turf that was observed.

Because of the presence of fairly high disease pressure throughout the trial, it was possible to evaluate the role of the treatments tested in reducing the disease component of summer stress complex, but it was not possible to evaluate efficacy on the other, less tangible factors that can contribute to this phenomenon.

Table 1. Mean number dollar spot patches per 5 X 10 foot plot. Values followed by the same letter are not significantly different (Fisher's LSD, P<0.05). All fungicide treatments resulted in total control of dollar spot.

			Mean # Dollar Spot Patches/Plot		
Trt	**Product**	**Rate/1000 sq ft**	**9/8/98**	**9/21/98**	**10/5/98**
1	Untreated Control		6.3 b	52.3 b	92.7 b
2	Aliette Signature 80 WG+ Chipco 26GT	4 oz + 4 oz	0.0 a	0.0 a	0.0 a
3	Aliette Signature 80 WG + Chipco Triton 1.67 SC	4 oz+ 1 oz	0.0 a	0.0 a	0.0 a
4	Aliette Signature 80 WG+ Daconil Ultrex	4 oz + 4 oz	0.0 a	0.0 a	0.0 a