STOP #5

EFFECT OF IRRIGATION, FERTILITY AND WETTING AGENTS ON HELMINTHOSPORIUM MELTING-OUT AND DOLLARSPOT

M.E. Otto and J.M. Vargas, Jr.

Irrigation has been shown to be an important factor in the development of many diseases. Current recommendations for many turfgrass areas suggest irrigating deeply and infrequently. Unfortunately, repeated drying and wetting of thatch may also increase disease occurrence.

This irrigation study was set up to determine the effect of 3 irrigation regimes on disease occurrence. The irrigation treatments consisted of 20 minutes of daily irrigation, 80% pan replacement, and no irrigation. Nitrogen fertility treatments and wetting agents were included in this study. Wetting agents are chemicals which allow even dry hydrophobic thatch to absorb water, and therefore, increase water penetration into the thatch and soil. Drechslera poae (formerly Helminthosporium vagans), causes Helminthosporium melting-out on Kentucky bluegrass. This disease typically appears as leaf spots in the cool weather of the spring. All plots were rated 6/6/84 for numbers of leaf lesions within a 3" diameter ring. Three subsamples were counted per plot and the data is shown in Table 3. Daily irrigated areas exhibited the fewest number of lesions, while the non-irrigated areas showed the most disease. No differences due to fertility or wetting agents were noted.

Dollarspot syndrome, caused by species of Lanzie and Moellerodiscus (formerly Sclerotinia homeocarpa F.T. Bennett) has been associated with dry soils and low fertility. At least two strains of this disease are thought to occur. One is favored by cool temperatures, the other by warm days, cool nights and high humidity in the turf canopy.

Data taken 8-7-84 on Adelphi Kentucky bluegrass (Table 4) indicated that more disease occurred on the highly irrigated plots. High nitrogen treatments did show less disease than low fertility plots.

Table 3. D. Poae leaf lesion counts 1984
Adelphi Kentucky bluegrass, Hancock Center

Date Begun: 5-16-84
Date Evaluated: 6-6-84

Relative Rank	Treatment Name	Lowest Rating Indicates Fewest Numbers of Lesions/Plot
1.	IRR Check	23 A
2.	IRR Aquagro 2 oz.	25 AB
3.	IRR RX	25 AB
4.	IRR S AID, Gr. Magic	27 AB
5.	IRR Aquagro 16, 2 oz.	28 ABC
6.	IRR Aquagro 16, 4 oz.	28 ABC
7.	IRR Combo	31 ABCD
8.	IRR Aquagro 16, 8 oz	34 ABCDE
9.	80% Aquagro 16, 2 oz	35 ABCDE
10.	IRR Lawnkeeper	36 ABCDE
11.	80% Aquagro 16, 8 oz.	37 ABCDE
12.	IRR Aquagro 16 oz.	39 ABCDE
13.	80% Aquagro 16.4 oz.	42 ABCDE
14.	80% Aquagro 16 oz.	47 ABCDEF
15.	80% Aquagro 2 oz.	48 ABCDEF
16.	80% Check	52 ABCDEFG
17.	80% Lawnkeeper	52 ABCDEFG
18.	No IRR Aqgro 16.8	56 ABCDEFG
19.	80% S. Aid, Gr. Magic	59 ABCDEFG
20.	80% RX	63 BCDEFG
21.	No IRR Check	63 BCDEFG
22.	80% Combo	66 CDEFG
23.	No IRR Aqgro 16.2	66 CDEFG
24.	No IRR Aqgro 16.4	66 CDEFG
25.	No IRR Lawnkeeper	69 DEFG
26.	No IRR Aqgro 16	72 EFG
27.	No IRR Aqgro 2	81 FG
28.	No IRR Combo	83 FG
29.	No IRR RX	89 G
30.	No IRR S.A., Gr Magic	89 G

Treatments having the same letter are not significantly different. Mean separation by Duncan's Mrt (5%). Standard error = 11, F = 3.54.

Table 4. Adelphi Dollarspot Counts
Adelphi Kentucky bluegrass, Hancock Center

Date Begun: 5-16-84
Date Evaluated: 8-7-84

Relative Rank	Treatment Name	Lowest Rating Indicates Fewest No. of Diseased Patches/Plot
1.	80% Lawnkeeper	0 A
2.	No IRR Aqgro 16 oz.	0 A
3.	No IRR Combo	0 A
4.	No IRR Lawnkeeper	0 A
5.	No IRR Rx	0 A
6.	No IRR S.A., Gr. Magic	0 A
7.	80% RX	.4 A
8.	No IRR Aqgro 16.2 oz.	.4 A
9.	No IRR Aqgro 16.4 oz.	.4 A
10.	80% Aquagro 16.2 oz.	.7 A
11.	80% S. Aid, Gr. Magic	.7 A
12.	IRR Combo	.7 A
13.	IRR S. Aid, Gr. Magic	.7 A
14.	No IRR Aqgro 16.8 oz.	.7 A
15.	80% Aquagro 16 oz.	1.1 AB
16.	80% Combo	1.4 AB
17.	80% Aquagro 16.4 oz.	1.7 AB
18.	80% Aquagro 2 oz.	2.3 AB
19.	80% Aquagro 16.8 oz.	2.7 AB
20.	IRR RX	3.3 AB
21.	IRR Lawnkeeper	3.4 AB
22.	No IRR Aqgro 2 oz.	3.4 AB
23.	No IRR Check	3.4 AB
24.	IRR Aquagro 16.8 oz.	6.3 BC
25.	80% Check	9.0 CD
26.	IRR Aquagro 2 oz.	9.3 CD
27.	IRR Aquagro 16 oz.	12.3 DE
28.	IRR Check	13.3 DE
29.	IRR Aquagro 16.4 oz.	14.3 E
30.	IRR Aquagro 16.2 oz.	15.0 E

Treatments having the same letter are not significantly different. Mean separation by Duncan's Mrt (5%). Standard error = 1.6, F = 8.82.