Establishment

Adelphi Study. Subplots, 4' x 8', were measured within 3 replications of randomized irrigation blocks. The entire experiment was a split-plot 3 x 3 x 10 factorial, with 3 replications, 3 irrigation treatments and 10 chemical subplots within each irrigation block.

Chemical applications were begun 5/10/84. Liquid applications were applied using a CO_2 small plot sprayer at a volume of 48 gal/acre, equipped with 3' boom. A 1 foot strip of each plot received no treatment throughout the season. Granular applications, (Lawn R_x Restore and Lawnkeeper), were applied at the recommended rates with a calibrated 4' Gandy drop spreader.

Irrigation treatments consisted of 20 minutes of irrigation daily at noon, (approx 0.1 inch), 80% of pan replacement as needed, and no supplemental irrigation. Irrigation was begun 5/16/84.

Leaf Spot Counts

All plots were rated 6/6/84 for numbers of leaf lesions within a 3" diameter ring. Three subsamples were counted per plot. By the time of these ratings one application of all the chemical treatments had been applied.

Discussion

Analysis of variance of the data shows significance at the 5% level for the chemical treatments, but no significance for the irrigation treatments (Table 4). Two of three of the reps showed significance at the 5% level for irrigation however, ($F = 26.25$, required $F = 19.0$), Table 5 shows the average number of leaf spots/plot for each irrigation treatment. Not taking into account the variation between replications, the trend is for much less disease in the daily irrigated areas then in less-frequently-watered areas.

Differences among chemical treatments are outlined in Table 6. The Green Magic fertilizer treatments resulted in significantly less disease than the check plot, where the Lawnkeeper and R_x did not. This effect is probably due to the relatively faster action of Green Magic. R_x and Lawnkeeper have been shown to have a slower effect by a longer residual.

At the time of this rating, all Aqua-Gro plots except treatment 9 had received 16 oz (2-8 oz apps). Therefore we should expect no difference between those Aqua-Gro treatments.

Establishment

Annual Bluegrass Study. Subplots 4' x 6' were measured in three replications of randomized irrigation blocks. As in the Adelphi Study, this experiment was set up as a split-plot 3 x 3 x 10 factorial. The same 10 chemical treatments as in the Adelphi study were applied, starting 5/17/84, to subplots within the main irrigation blocks. Irrigation treatments consisted of 75% of pan replacement, daily at 8 am, 110% of pan 3 times weekly and

irrigation at wilt. Irrigation was begun 6/1/84 and terminated 9/30/84.

Dollar Spot Count

All plots were rated 8/6/84 for amount of dollarspot damage. In each plot the number of diseased spots were counted and a factorial analysis was performed on the data.

Discussion

Analysis of variance of the data show no significant differences between chemical treatments at the 5% level. The irrigation treatment differences proved highly significant however. Interestingly, the daily irrigated areas displayed the highest amount of disease followed by 110% pan, and finally non-irrigated. The fact that this data differs from what is in the literature for this disease (greatest disease in dryest areas) is further evidence for the possible existence of more than one strain of the pathogen.

Table 1. Helminthosporium melting-out Fertility Timing Study-1983. Hancock Turfgrass Research Center, MSU. Rating Scale - 1 (no disease) - 9 (90% infection or greater). Rating date - 6/14/83.

Treatment	Rate*/1000 ft^2	I	II	III	Ave	DMR**
Urea (Fall & Spring)	2.3 lb N	1	1	2	1.3	A
Urea (Spring only)	1.3 lb N	1	2	4	2.3	A
Urea (Fall only)	1 lb	7	5	4	5.3	B
Check	--	8	8	8	8	C

*Urea rates represent total pounds actual nitrogen per 1000 sq. ft. over duration of study.

**Treatments followed by the same letter are not significantly different from each other at the 5% level.

Table 6. Mean number leaf spots averaged over irrigation treatments.

#	Treatment	Rate/1000 ft^2	Mean # Leaf Spots/Plot	Sample
5	Aqua Gro	16 oz plus 8 oz/mo	42.16	A
2	Green Magic	1 app Spr. 64 oz	42.84	A
	Soil Aid	1 app Spr. 12.8 oz		
	Catazyme	1 app Spr. 4 oz		
	Strengthen & Restore	2 app Su. 64 oz		
	Green Magic	1 app Fall 64 oz		
1	Green Magic	64 oz (4-6 wk)	45.28	A
	Soil Aid	1 app Sp. 12.8 oz		
6	Aqua Gro	16 oz plus 4 oz/mo	46.14	AB
4	Lawn Rx Restore	30 lb	51.52	ABC
3	Lawnkeeper	10 lb	52.66	ABC
9	Aqua Gro	2 oz plus 2 oz/mo	58.37	BC
10	Check		58.83	C
8	Aqua Gro	16 oz 1 app	59.91	C

Treatments followed by the same letter are not significantly different at the 5% level.

Table 7. Effect of Irrigation Program on Dollarspot Activity.

Mean # Dollar Spots/Plot Treatment	Averaged over all chemicals Mean # Spot/Plot
1. Daily 80% Pan	106.67
2. 3x weekly 110% Pan	66.57
3. At wilt	37.47

Table 8. F Values for significance.

	Calculated F	Required F (.05)	
Irrigation	36.17	6.94	LSD .05 = 22.68
Chemical	0.46	2.04	

Table 9. Irrigation Totals by Treatment and Month.

Treatment	June	July	Aug	Sept
Daily 80% Pan	5.8	4.0	3.6	1.9
3x weekly 110% Pan	8.7	6.6	2.9	1.1
at wilt	0.8 (2 x .4)	.53	-	-