

FERTILIZER TREATMENT EFFECTS ON YELLOW ANNUAL BLUEGRASS

In late August areas of the annual bluegrass fairway plots at the Hancock Turf Research Center developed a condition often observed in Michigan: random plants in the turf growing faster than adjacent plots which developed distinctly yellow leaves. In an attempt to document nutritional responses of the grass in this condition, the treatments outlined in Table 8 were applied August 30, 1985. Plot size was 4 feet by 6 feet. All treatments were applied foliarly except for the 0-46-0 (superphosphate). Five days later turf quality ratings taken indicated that the ferrous sulfate (FeSO_4) treatment gave the only significant response compared to the untreated check. By September 23 this difference had dissipated as would be expected. The response to foliarly applied iron will usually disappear within a week depending on growth rate and growing conditions. There was some discoloration caused by certain of the treatments, most noticeably from manganese sulfate. The cause of the etiolated growth of the annual bluegrass is not clear at this time, but it appears that the yellowing can be masked with foliar application of iron.

WETTING AGENT EFFECT ON TURFGRASSES

Wetting agent treatments outlined in Table 9 were applied to a Penncross creeping bentgrass green growing on a modified loamy sand soil. Two irrigation programs were utilized: low (approximately 1/3 inch of water per week) applied: and moderate (2/3 inch per week). The objective was to determine the effect of wetting agent treatments on development of localized dry spots. Subsequent to treatment rainfall patterns prevent any development of localized dry spots so no treatment effects appeared. As observed in past years, turf discoloration caused by wetting agent phytotoxicity resulted from some treatments as these treatments were not watered in. Lescowet and Aqua-Gro exhibited the greatest phytotoxicity. Peneturf also caused some injury. Based on past observations on plots, watering the area after application would have resulted in no injury. Further, the rates of wetting agents applied in this study were very high for application at this time of year. Judicious application of wetting agents available at present should be safe for turf if watered in appropriately.

A study of wetting agent responses was also established on tees at the Crystal Mountain Golf Resort. No differences in response were observed and no localized dry spots developed.

COMPARISON OF SEVERAL AERIFIERS ON GENERAL TURFS

In the fall of 1985 several different aerifiers were used on perennial ryegrass turfs growing on two different sites, a soil with limited topsoil but in a "normal" state of compaction while the second site was a heavily compacted, predominantly subsoil loam. The aerifiers evaluated were: 1) a Dedoes walk behind with a "standard" tine spacing or with part of the tines removed creating a diamond spacing (7 inches by 8 inches); 2) a Ryan's Ride-Aire; 3) an Aer-Way aerifier which has triangular-shaped tines and 4) the Verti-Drain aerifier. The Verti-Drain aerifier has both solid (deep) and hollow tines and has two different speeds resulting in holes 4 inches apart linearly or 2.5 inches apart.

Table 8. Effect of fertilizer treatments on yellow annual bluegrass. Hancock Turfgrass Research Center. Treatments applied August 30, 1985. Averages for 3 replications.

Treatment, lbs/1000 sq. ft.				Micronutrients oz/1000	Quality Ratings (9=darkest green)		Injury rating (9=none)
N	P	K	Carrier		Sept 4	Sept 23	Sept 4
1/2	0	0	urea	0	4.8 b*	7.0 b	8.8 a
1	0	0	urea	0	5.5 b	7.0 b	8.2 ab
1/2	0	1	33-0-0 13-0-44	0	4.3 b	8.0 b	8.8 a
1	0	1	33-0-0 13-0-44	0	4.5 bc	7.7 ab	6.3 c
1	0	1	33-0-0 13-0-44	3-FeSO ₄	8.3 a	8.5 a	7.3 b
1	0	1	33-0-0 13-0-44	3-MnSO ₄	4.2 bc	7.5 ab	5.8 c
0	1	0	0-46-0	0	4.0 c	7.8 ab	9.0 a
0	0	0	----	0	4.2 bc	8.0 ab	9.0 a

* Means in columns followed by different letters are significantly different at the 5% level using Duncans Multiple Range Test.