

EFFECTS OF MANGANESE APPLICATIONS ON TURFGRASS QUALITY

The studies to evaluate the affect of foliar manganese applications on turf quality of a Pennncross creeping bentgrass green at the Hancock Turfgrass Research center were continued in 1991. The first study utilized applications as shown in Table 14 on May 24, June 26, July 10 and July 30. Manganese sulfate did not provide a consistent improvement in turf quality although there was some increase in quality ratings from the first date of application. Thereafter, and in a second study (Table 15) established on September 3, there was no apparent benefit from manganese applications on this Pennncross green on this loamy sand green. Ferrous sulfate did give generally improved quality ratings. However, some phytotoxicity can occur from foliar applications ferrous sulfate as was observed from the June 26 applications. Use care when making any soluble fertilizer application during high environmental stress conditions (high temperatures, wilting of turf, etc.).

EFFECTS OF USING ISOLITE IN TOPDRESSING PROGRAMS

A study was established July 2 on a Pennncross putting green turf at the Hancock Turfgrass Research Center to evaluate the effect of mixing Isolite with sand in a sand topdressing program. Treatments were: sand alone; 90% sand, 10% Isolite; and 80% sand, 20% Isolite. Parameters evaluated included turfgrass quality ratings, volumetric moisture content (Table 16); soil temperature (Table 17); and root weights and surface hardness measurements (Table 18). Topdressing treatments were applied at the rate of 3 cubic ft. per 1000 sq. ft. at 3 week intervals. There were no differences observed in any of the parameters measured during this relatively short-term study. To properly evaluate a soil amendment like this, longer term studies are necessary.

WETTING AGENT EFFECTS ON TURF AND SOIL MOISTURE

The effects of wetting agents on turf and on soil moisture were evaluated in a series of studies on putting green turfs in 1991. The study was concentrated on the use of the Paragon wetting agent, which was compared to label rates of AquaGro and LescoWet, as well as an untreated check. One study involved treatments on July 30 and September 2 (Table 19). There were no meaningful differences in the moisture content of the soil.

Table 13

Vicksburg Chemical Coated Potassium Nitrate Study Initiated May 8, 1991 Clipping Weights in kilograms per square meter. Multicote treatment applied May 8 and July 5 at 2 pounds of nitrogen per 1000 sq. feet. for a total of 4 pounds of nitrogen per 1000 sq. ft. KNO ₃ miniprills and Urea treatments applied May 8, May 29, June 19, July 5, August 5 and August 27 to total of 4 pounds of nitrogen per 1000 sq. ft.					
Treatment	6/10	7/23	8/27	9/20	11/13**
Multicote	.33A*	.45A	.30A	.06A	38.71 B
Mini-Prills	.27AB	.33 B	.24A	.05A	40.79 B
Urea	.29AB	.35 B	.26A	.06A	41.42 B
Check	.21 B	.09 C	.10 B	.02 B	46.88A
* Means followed by the same letter are not significantly different at the 5% level using the LSD range test.					
** Clegg readings in g-max values.					

Table 14

Manganese Sulfate Study, 1991 Creeping bentgrass green, HTRC Quality ratings 1 = poor 9 = excellent Treatments applied 5/24, 6/26, 7/10, and 7/30							
Treatment	Rate OZ/M	5/25	5/29	6/26	7/11	7/15	7/31
MNSO ₄	2	7.8A*	6.5A	1.0**	5.2 B	6.2	6.8 BC
MNSO ₄	4	6.5 B	5.5 B	1.0	5.8 B	6.5	6.2 C
FeSO ₄	2	6.8 B	5.6 B	4.0	6.8A	8.0	7.9A
Check	---	6.2 B	6.0AB	1.0	6.0A	6.2	7.0 B
* Means followed by the same letter are not significantly different at the 5% level using the LSD range test.							
** Burn rating 1 = no burn, 9 = dead							

Table 15 Manganese Sulfate Study, 1991
Creeping bentgrass green, HTRC
Quality ratings 1 = poor 9 = excellent
Treatment applied 9/3

Treatment	Rate OZ/M	9/4	9/5	9/6	9/11
MNSO ₄	6	6.5 B*	6.2 B	6.6 B	6.5 B
MNSO ₄	8	7.1AB	6.8 B	7.0 B	6.6 B
FeSO ₄	2	7.8A	8.0A	8.0A	7.9A
Check	---	6.5 B	6.6 B	7.2 B	6.8 B
* Means followed by the same letter are not significantly different at the 5% level using the LSD range test.					