

SOIL PH CONTROL AND PERENNIAL RYEGRASS CULTIVAR EVALUATIONS

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Soil pH Control

Sulfur and limestone treatments were applied in August, 1981 to the soil surface at the rates given in Table 6. The plots were tilled to the 3 inch depth. Kentucky bluegrass, red fescue and perennial ryegrass were then seeded. There was no short term effect on germination and establishment. During June and July of 1982 and to some degree in 1983, some wilting injury appeared on the Kentucky bluegrass and red fescue plots receiving the highest sulfur applications, but no symptoms were apparent on the perennial ryegrass. Soil pH values for 1982 and 1983 are in Table 6. Note the pH values increased slightly on the more acid plots in the past year, likely due to the water used for irrigation. In Table 7 are some other soil tests from 1982. Acidifying the soil resulted in a significant reduction in available calcium and magnesium levels.

Perennial Ryegrass Cultivar Evaluations

The perennial ryegrass cultivar evaluation was established on August 12, 1981 at the Hancock Research Center. Data taken this year were for snowmold damage on May 13th, general appearance on July 5th and damage from dollarspot and Brownpatch on August 5th (Table 7a).

The three best appearing cultivars on July 5th were Compas, Hunter, and Norlea. Interestingly, these three cultivars sustained fairly high levels of snowmold and dollarspot damage. Since perennial ryegrass has very poor recuperative potential, it is surprising that these three cultivars looked best in mid-July.

The list of recommended cultivars for Michigan include Norlea, Loretta, Yorktown II, Diplomat, Manhattan, Derby, Omega, NK200 and Citation. Of these, Diplomat and Yorktown II looked the best this year when considering all three categories rated. Norlea, Loretta, Derby, Omega, NK200, and Citation also looked fairly good in most categories. A cultivar to keep in mind would be Jackpot which did very well in terms of resistance to snowmold and general appearance. Only one general appearance rating was taken since differences between cultivars were small throughout most of the summer.

Table 6. Soil pH control study on sandy loam at the Hancock Turfgrass Research Center. Treatments applied August, 1981. Averages for 3 replications.

Treatment		Depth of sampling, inches				
Chemical	Rate, tons/A	0-2	2-4			
		1982	1983	1982	1983	
Limestone	6.0	7.5a*	7.6a	7.0ab	7.3a	
Limestone	3.0	7.6a	7.3ab	6.6bc	6.7b	
Limestone	1.5	7.0ab	7.0b	6.1cd	6.5b	
Check	ent rigo ego	6.0cd	6.4c	5.5d	5.8c	
Sulfur	0.5	4.1ef	4.8d	4.6c	4.6d	
Sulfur	1.0	3.4g	4.3e	3.8fg	4.1d	

Table 7. Soil pH control study on sandy loam at the Hancock Turfgrass Research Center. Treatments applied August, 1981. Sample taken August, 1982. Averages for 3 replications.

Treat	tment	Depth of	Avail	able nutrien	t test	nounds/A
Chemical	Rate, tons/A	sample	P	K	Ca	Mg
Limestone	6.0	0-2	65	183ab	2867a	638a
		2-4	76	98c	1433b	590a
Check	-	0-2	86	188ab	1433b	268b
		2-4	104	123bc	1233b	220b
Sulfur	1.0	0-2	125	206a	433c	90c
		2-4	132	169ac	700e	77c

^{*}Means followed by the same letter are not significantly different. Means separation by Duncan's Multiple Range Test (5%).

Table 7a. 1980 perennial ryegrass cultivar evaluation

Cultivar Compas		Snowmold Damage (1 = no damage 100 = 100% damage)	General Appearance (9 = best appearance)	Dollarspot and Brownspot Damage (1 = no infection)
Compas 47 ABCD* 7.7 A 4 ABC Hunter 43 BCDEF 7.7 A 5 ABC Norlea 50 ABCD 7.7 A 3 BC Bellatrix 70 AB 7.0 AB 4 ABC Ensporta 48 ABCD 7.0 AB 7 A Jackpot 5 FG 7.0 AB 4 ABC Loretta 32 BCDEFG 7.0 AB 4 ABC Loretta 32 BCDEFG 7.0 AB 4 ABC Ranger 20 DEFG 7.0 AB 4 ABC Acclaim 32 BCDEFG 6.7 ABC 4 ABC Blazer 20 DEFG 6.7 ABC 4 ABC Blazer 20 DEFG 6.7 ABC 4 ABC Player 67 ABC 6.7 ABC 3 BC Crown 9 EFG 6.7 ABC 3 BC Crown 9 EFG 6.3 ABCD 2 C Pennfine 12 DEFG 6.3 ABCD 2 C Delray 17 DEFG 6.3 ABCD 2 C Venlona 40 BCDEFG 6.0 ABCDE <th>Date Evaluated</th> <th>5-13-83</th> <th>7-5-83</th> <th>8-5-83</th>	Date Evaluated	5-13-83	7-5-83	8-5-83
Hunter	Cultivar			
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^{*}Treatments having the same letter are not significantly different. Means separation by Duncan's Multiple Range Test (5%).