STOP 14

J. B. Beard

A Comparison of Wetting Agent and Cultivation Practices for Correcting Hydrophobic Localized Dry Spots in Turfgrass Soils.

A fairly extensive and surprisingly uniform development of hydrophobic localized dry spots occurred at Boyne Highlands in the northwestern Lower Peninsula. This condition offered a rare opportunity to develop a comprehensive study comparing the use of wetting agents and cultivation practices for correcting localized dry spots. The basic treatments superimposed across the area in 9 replications included (a) coring plus a wetting agent application, (b) coring alone, (c) a wetting agent application alone, and (d) no treatment. The treatments were initiated on July 29, 1971, and infiltration ratings were subsequently taken on August 6, 1971. Infiltration measurements involved the number of minutes for a 1-inch head of water to enter the soil, and were determined by the use of infiltration rings driven into the ground to a 3 inch depth.

An investigation of the site conditions revealed that the hydrophobic characteristic of the soil was not just a surface phenomenon but extended to a soil depth of at least 4.5 inches. Under these conditions where only a single wetting agent application was made at the recommended rate, the coring proved superior to the wetting agent application (Table 17). However, the greatest improvement in the water infiltration rate was achieved by a combination of coring and use of a wetting agent. In terms of turfgrass recovery, it occurred most rapidly on those areas which were cored. Areas receiving only a wetting agent have generally been slow to recover. These investigations are continuing at Boyne Highlands. The primary objectives are to investigate the comparative performance of five different wetting agents and also the effects of the wetting agents where repeat applications are made at approximately 14 day intervals. These results will be reported at the Winter Conference.

TABLE 17. EFFECT OF CORING AND A WETTING AGENT APPLICATION ON THE WATER INFILTRATION RATE (IN MINUTES) INTO A HYDROPHOBIC LOCALIZED DRY SPOT IN A PENNCROSS CREEPING BENTGRASS TURF.

Cultivation Treatment	Wetting Agent Treatment	
	Wetting Agent	No Wetting Agent
Coring	6.6	10.9
No Coring	12.5	18.8