Stop 11 Continued

Red Fescue Polycross Nursery - A polycross planting for seed increase to be used in regional testing.

Bermudagrass Variety Evaluations - Of the original 31 bermudagrass entries, only the two Michigan selections, MSU-22-Cd and MSU-23-Cd, have survived the past two winters.

STOP 12

Dr. E. C. Doll

Fertilization of Turfgrasses - The best way to find out what fertilizer your turf needs is to have samples of your soil tested. If you fertilize without testing, then you must assume that your soil tests low.

When seeding a turfgrass, 10 to 15 pounds of 12-6-6, 12-12-12 or 10-6-4 per 1000 sq. ft. is generally adequate. (Apply twice as much for Merion bluegrass). Somewhat lighter applications of complete fertilizer should be applied each spring to established turfs. Ample nitrogen is necessary to maintain a green turf throughout the season. Applications of nitrogen in addition to that applied with the spring fertilizer is generally necessary; the exact amount needed varies with the different kinds and varieties of grasses.

STOP 13

Prof. Leyton Nelson

Management Factors in Thatch Formation of Merion - A long term investigation of optimum management practices to minimize thatch and disease problems. Factors under evaluation are cutting height, clipping return vs. removal, mechanical thatch removal vs. none, and six nitrogen rates in all combinations of 144 treatments.

Reported below is the amount of thatch removed from irrigated Merion bluegrass turf one year after establishment when maintained under four different management systems.

Cutting Height	Pounds per acre of thatch removed (Expressed on a dry weight basis)	
	Clippings Removed	Clippings Returned
1"	209	975
2"	485	1,135

Stop 13 Continued

The Thatch Problem - Thatch is defined as a tightly intermingled layer of living and dead stems, leaves, and roots of grasses which develop between the layer of green vegetation and the soil surface. The higher rates of nitrogen fertilization, development of more vigorous grass varieties, increase in watering, and Michigan's cooler climate for mid-summer growth have contributed to the current prominance of the thatch problem.

Thatch accumulating to a depth of more than 1/2 inch creates the following undesirable conditions which result in deterioration of the turf.

1. Greatly enhances the micro-environment for disease activity including leafspot, stripe smut, powdery mildew and Fusarium rosium.
2. Elevates the grass crowns above the soil to the extent that drought resistance is reduced.
3. A tight thatch or mat can greatly inhibit aeration and water movement into the soil. Water movement is particularly impaired when the thatch is dry.

Thatch has only recently become a problem in lawns and is not widely known or recognized as yet. Rather, the lawn owner notes a disease or drought problem rather than the major role of thatch.

To determine the degree of thatching present cut a pie shaped wedge two inches deep, remove the plug, and make an examination of the vertical cross section. Superficial examinations from the surface are not effective in determining the amount of thatch which is present.

STOP 14

Dr. Jim Beard

Turfgrass Winter Injury Studies - Twenty-one turfgrasses are being evaluated for susceptibility to direct low temperature injury. Plugs were collected April 20, 1964, and subjected to the following temperatures: 30°, 25°, 20°, 15°, 10°, 5°, 0°, -5°, and -10°F. The vegetative bentgrasses were more resistant to injury than the seeded bents, Seaside and Astoria. Of the bluegrasses, roughstalk and Merion were most resistant to injury followed in order by Common and Newport.

Studies concerning the effects of ice covers on bentgrass varieties are being conducted. Ice coverage for 120 days produced no significant kill to Toronto, Washington and Cohansey. Severe kill of Astoria and Seaside was observed after 90 days coverage.