Executive Summary Turfgrass Soil Management Research 1994 Report to the Golf Association of Michigan

Phosphate and Potash for Sand Putting Greens

Most new putting greens are established on sandy mixes which have a low cation exchange capacity and hold nutrients very weakly. Nutrients of particular concern are phosphorus and potassium. Applications of four pounds of P205 applied per 1000 sq. ft. in 1993 and again in 1994 was found necessary to maintain adequate turf color of a Penncross creeping bentgrass putting green which as growing on a mix of 85% and 15% peat. Lower rates resulted in poor turf color and deficient levels of phosphorus based on soil tests. Eventually, phosphorus levels should build up in these sands so lower rates should be needed in subsequent years. Potassium soil test studies on established turfs indicate that sands do not hold potassium well. In general, equal amounts of nitrogen and potash are recommended for putting greens growing on sands. For sandy loams and other finer-textured soils the use of soil testing should adequately predict needs for potash. Soil tests for potassium in November this year were lower than expected, likely due to leaching of potassium caused by the higher than normal rainfall in the Lansing area during the summer of 1994. Regular applications of phosphate and potash should be made throughout the growing season for turfs growing on sands.

Hydroject Studies

Research on how best to use the Hydroject aerifier in golf turf management is continuing. One observation from our research in 1994 is that regular treatment with the Hydroject resulted in fewer worm casts on the surface of a putting green. It is not known if this is a result of fewer earthworms in the soil or if they are casting beneath the soil surface in the channels left by the Hydroject treatment. Superintendents who are pleased with the Hydroject report 4 to 10 treatments per year with an average of 6 times annually, concentrated during the summer months when there is heavy play. Spot treatment of special areas, such as localized dry spots or where traffic is concentrated at entry or exit paths on greens or tees, has been very successful. The appropriate frequency of treatment with the Hydroject will vary with soil and turf conditions.

Greens Rolling

A study to evaluate the impact of rolling greens on ball roll indicated that rolling 3 times per week increased ball roll an average of over 14 inches compared to the unrolled check plots on a putting green mowed at 5/32 inch. By contrast, double mowing increased ball roll about 10 inches compared to the check. Double mowing can be used on a short term basis to increase ball roll, but should not be considered a regular practice because of detrimental effects on the grass.

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