

AN ANALYSIS IN IOWA

The following was revealed by a Noer Profile Sampler on four greens at the Sunny Side Golf and Country Club:

1. The bentgrass was of good color, but "thin" spots were observed.

2. The grass roots were confined to the upper two inches of the soil. Below this area the soil was compacted. The bentgrass roots 12 inches from the green on the apron were found to extend to a depth of 5 inches, and the soil was much less compacted.

3. The soil was well filled with fine sand. The sand used in the topdressing contained too much fine sand.

4. The watering practice, in the opinion of the critics, has led to overwatering. The travelers are set to go at 7 P.M. and are taken off the green at 7 A.M. No water stands on the green, but in draining down through the soil, soluble plant foods are leached out of reach of the grass roots.

5. The fungicide program appeared adequate, because disease had not developed on any greens examined.

The soil profiler is a very revealing tool. It shows with respect to what is under the bentgrass (1) root development, (2) physical nature of the soil, (3) compaction or puddling, (4) effects of overwatering where overwatering has occurred, (5) amount of mat at the surface, etc., (6) dry areas.

A discussion as to possible remedies for the soil and root situation brought out the following suggestions:

1. Use coarse, sharp sand in the topdressing.

2. Aerify as soon as possible; apply pea gravel and wash it into the aerifier holes. Aerify again in the spring and use pea gravel. The opinion of the group was that the soil would be improved by the use of a coarse material and tend to correct the compaction and result in the deeper penetration of roots.

3. Overwatering. It was suggested by many that less water would tend to allevi-

TURF MANAGEMENT

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ate the compaction, and encourage deeper rooting.

Too much water tends to bring fine soil particles together and thus greatly reduce porosity. Too much water replaces soil air, and where there is no oxygen, the root system isn't likely to develop.

The most practical method of correcting soil compaction on old greens is by the use of the aerifier. If the plugs are sticky and of poor material, they should be removed from the green. If the soil needs coarse material, add very coarse sand or pea gravel. Or if the aerifier holes are left open, the grass roots will fill the hole, and provide a new source of organic material.

After examining greens in various sections of Iowa we have found that the soil in many greens is compacted, contains too little coarse material and that the bentgrass roots are contained in the upper two inches. In spite of this many greens are very acceptable and go through the summer successfully.

For better results on compacted greens, aerify two or more times per year, be moderate in watering, apply nitrogen at light rates frequently, and use a fungicide program to protect the greens from disease.

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