

Better Turf for Better Golf

TIMELY TURF TOPICS



from the USGA Green Section

TURF TROUBLES ON GOLF COURSES

A Brief Resume of Conditions Found on Recent Inspection Trips

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Weather conditions in June and early July accentuated some of the basic troubles that had been built into the courses when they were constructed and brought out inherent weaknesses in golf-course turf. Scientific greenkeeping must be credited with saving most of the turf where, with less skill and know-how, the losses would have been of a very high order.

Virtually everything in modern greenkeeping is controllable except the weather. The golfing membership must share the responsibility for loss of turf on greens because of its insistent demand for soft greens that will hold any kind of a shot. On heavy soils this requires water in excess of that which the grass needs for optimum growth.

When the greens are saturated to hold shots and heavy rainfall occurs, the greens are overwatered. If high temperatures and high humidity accompany the rain, conditions are perfect for brownpatch, copper spot, *Pythium* and *Helminthosporium*. Only the first two can be controlled with chemicals. If the grass is weak to begin with and is shallow-rooted because of root suffocation, little can be done to save it. Light syringing with water several times

during the day to cool the grass has helped to save turf. Many courses are 40 to 50 years old. During the years the soil, continually saturated, has become terribly compacted by foot and machine traffic. The mechanical condition of the soil must be improved to render other practices effective.

The least damage to putting green turf occurred on courses where:

1. The subsurface drainage was adequate to remove excess water in the soil and to give the roots a chance to breathe. In some cases tile provided the drainage; in others a gravel blanket did the job. Heaviest losses occurred where clay subsoil prevented subdrainage.

2. Where the topsoil on the green had a high percentage of sand to permit surface-applied water to move readily downward into the drainage system. Moving water carries life-giving air and roots require air. Worst losses occurred when the topsoil was dense, heavy and compact.

3. Where surface drainage was good. Removal of excess surface water quickly by proper contouring results in a drier surface and healthier grass. Pocketed greens are the superintendent's nightmare. Scald is common in pockets.

This material was prepared originally in response to requests from the Midwest Association of Golf Course Superintendents and the Chicago District Golf Association in an attempt to reach an understanding of conditions. Since the principles are so applicable to other sections where troubles have occurred, we reproduce the release in the USGA JOURNAL for the benefit of all.

4. Where air drainage was good. Moving air reduces surface moisture and helps to check disease. Greens placed down in a hole or pocketed by trees and shrubs also are nightmares for the superintendent.

5. Where controllable diseases were kept in check with suitable chemicals. Preventive programs pay big dividends.

6. Where the turf was mowed and brushed intelligently to prevent the formation of matted turf which acts as an incubator for diseases.

7. Where insect damage was minimized by the use of modern insecticides. An insect-control program is the first line of defense in a weed-control program.

8. Where the dew is removed in early morning by a quick syringing with water or by poling. Turf may scald when the dew is allowed to dry on the blades.

9. Where the absorption of water and deep growth of roots were facilitated by aerifying, terforating or spiking, and by careful water management.

10. Where the turf consisted of hardy adapted grasses.

Again, I am forced to say that the loss of turf would have been far greater had it not been for the untiring, intelligent management on the part of the greenkeeping superintendents. The surprising thing is that so much turf was saved in the face of terrific odds.

The only satisfactory solution of the problem on many greens is complete rebuilding. This will consist of removal of at least 12 inches of the existing soil, installation of adequate subdrainage, replacement of at least 12 inches of topsoil containing 60 to 70 per cent sand, recontouring to eliminate pockets and replanting or resodding the green to an adapted, sturdy, disease-resistant grass.

Some greens can be kept satisfactorily by an aggressive program of aerifying or drilling, by topdressing with soil of high sand content and by careful water management, plus all the other details. Each green must be studied individually and decisions must be made

on the basis of need. Probably no two greens can be rebuilt exactly alike but must be handled individually. There is no exact formula or blueprint that can be followed.

Tees and Fairways

Bentgrass has produced the most satisfactory turf on these areas to date. New grasses are in prospect but are either still experimental or in short supply. *Poa annua* is wholly unreliable and should be replaced by a program of using arsenicals, by preparing a seedbed and by reseeding at the right time with adapted grasses. This can be done with no interruption of play and with minimum inconvenience to the players.

Club Management

Any program of rebuilding or renovation can be successful only if the superintendent is given the full co-operation of club officials and is provided with the essential tools and equipment needed to do the job. Attempts to cut corners or save a few dollars or to rush the job likely will result in something less than successful or desirable. The production of putting green turf is considered to be the highest art in agriculture. A well-trained, skilled superintendent always will be the key to perfection in golf-course turf.

GRASSES FOR TEES

A good tee grass must be fast-growing to heal injuries (divots) rapidly, it must be able to thrive under close mowing ($\frac{1}{2}$ inch or closer) and it should have a high degree of drought tolerance (deep rooting) for unwatered conditions.

Two grasses which possess most or all of these qualities are: (1) Bermudagrass, (2) selected creeping bentgrass strains.

Sowing common bluegrass on golf-course tees is of limited value because this grass cannot tolerate close mowing. Colonial bentgrass is popular and very useful for tees. Chewings fescue heals so slowly that it has little value. Creeping red fescues have greater value because they will heal better. Alta fescue is showing considerable promise as a tee grass in combination with other adapted grasses. *Zoyiagrasses* have considerable promise and on a few courses are providing excellent tee turf.