



Better Turf for Better Golf

# TURF MANAGEMENT

from the USGA Green Section

## GOLF COURSE REBUILDING AND REMODELING— AGRONOMIC FACTORS TO CONSIDER

The USGA Green Section conducted its third annual Educational Program at the Biltmore Hotel, in New York, January 30, 1959. The Chairman was Mr. William C. Chapin, Chairman of the USGA Green Section Committee. The Vice-Chairman was Mr. Edwin Hoyt, Northeastern District Chairman of the USGA Green Section Committee.

The moderators were, Mr. William H. Benneyfield, Western Director of the USGA Green Section and Mr. Charles K. Hallowell, Mid-Atlantic Director of the USGA Green Section. Also participating were Mr. James M. Latham, Jr., Southeastern Agronomist, and Mr. James L. Holmes, Mid-Western Agronomist of the USGA Green Section.

The morning session was devoted to the topic, Basic Agronomic Considerations in Rebuilding. The following summarizes the talks delivered by the principal speakers:

### *Renovation vs Rebuilding*

BY A. M. RADKO

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A familiar saying is that only death and taxes are certain. The underlying thought of course is one of permanency. If we could add golf course turf to this quote, we would have few problems and there would be no reason for programs of this nature. Perfection in the turfgrass field, however, is an elusive permanent target. Hence the interest and necessity for rebuilding and renovating golf course areas.

Nearly every club at some time or other is faced with the problem of renovation or rebuilding some part of the golf course. Let us first, therefore, define these terms.

In turfgrass language, renovation means renewing or improving the turf surface; implied is the fact that we must correct existing deficiencies, change over the turfgrass surface, and then set up the required program of maintenance and management to insure that the new turf-

grasses will do what is expected of them.

By rebuilding, we mean changing the design of some part of the golf course through construction. To cite a few examples, a tee may need enlarging, a green may need reshaping, or drainage improvement, or a better soil mixture beneath. Rebuilding may require the services of a competent golf course architect, while sometimes the superintendent and his staff, with the backing of the Green Committee, can do the necessary work. In any event, any rebuilding project is a major project, and usually one of capital expenditure.

By broad definition, the normal program of golf course maintenance and management falls into the renovation category, for the superintendent is continually striving to improve his turfgrass picture by intelligent fertilizing, aerating, top dressing, watering, and all the many other routine practices. We here today

are concerned with the jobs over and above routine management.

Golf course and turfgrass improvement jobs cover a range between the relatively simple reseeding jobs to the exacting task of design and construction of a complete new putting green. Rebuilding and renovating tasks are the result of:

1. The desire to improve turfgrasses and playing conditions.
2. A desire to reduce maintenance costs.
3. Increased use of the golf course.
4. Fundamental weaknesses in construction or terrain.
5. Pride in membership.

**The desire to improve turfgrasses and playing conditions.** Superintendents take pride in their ability to grow good turf and they continually strive to give their membership the very best within their means. This is a tough assignment, and a certain amount of renovation work is usually required each year. Improving an approach area here, an apron there, reseeding or resodding weak tees, or introducing improved strains of grasses all add to golfing pleasure as well as to an improved turfgrass picture.

Members, too, desire improvement. Golfers today are adventurous souls; they play many courses; they see new things there and ask, "Why can't we have them at our course?" Whether the golfers can have these improvements on their own course is a matter for study.

**A desire to reduce maintenance costs.** Recent surveys show that labor costs are approximately two-thirds of the annual maintenance and management course budget. Obstacles in the path of normal maintenance add to the number of man hours required and thus affect the maintenance budget. Some examples of such hazards are elevated tees with sharp, steep sides; trees in the path of efficient gang unit mowing of rough areas; excessive mounds or "chocolate drops" in traps and rough areas; and an excessive number of bunkers, some of which seldom come into play but which require as much maintenance as strategically placed traps.

**Increased use of the golf course.** The National Golf Foundation reports a record 75 million rounds of golf played on courses in the United States in 1958. This record is expected to fall in 1959. Reported, also, is an increase in women's

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play, an increase in the number of juniors who have taken up the game, and an increase in week-day play. Increased traffic means wear, wear sometimes leads to injury, and injury necessitates renovation or rebuilding. Because of increased play, clubs often are forced also to look for means of speeding up play and, to do so, some changes in design may be required.

**Fundamental weaknesses in construction.** Under this heading we include all the design features and construction techniques that may be improved upon. Research as well as practical management experience has provided new and better ideas and methods. These include use of improved soil mixtures under greens, introduction of improved strains of grasses, enlargement of small tees with ease of maintenance in mind, provision of more cupping area on greens, elimination of layered soils under greens, adjustment of traps and apron areas about greens for ease of maintenance, and correction of other factors that either affect playability of the course or defy sound and economic maintenance and management practices.

We can also include here the troubles that develop as the course matures. These include problems created by tree roots that invade putting greens and compete with grasses for water and nutrients; depressions in areas where tree stumps are left to decompose; erosion problems; poor air circulation where trees have grown to heights that shut off air around greens.

Problems described in the first paragraph above usually require rebuilding, those in the second are primarily renovation projects.

**Pride in membership.** Most club members desire to make their course one of the best; they wish to modernize it; they wish at all times to have a good golf course in top playing condition; they wish to have it a tough, yet fair test of golf. What constitutes a tough yet fair test of golf depends largely on the handicap of the golfer who is asked this question. The direction in rebuilding, therefore, generally favors the "average" golfer, for after all the purpose of the golf course is to afford pleasure to the greatest number of golfers. Yet all through this desire for improvement is the underlying wish on the part of the members that the course not be touched. No golfer wants to play 17 holes—they don't like to play temporary greens—they don't like to see fairways torn up—they hope for a "magic-wand" type reformation.

Fortunately, clubs have the organizational framework for easing this situation—they get their direction from the Green Committee and the superintendent. The obvious solution is to set up a program of projects with priority of assignment so that the course is not torn up year after year during the height of the golfing season. Here, the superintendent's counsel strongly enters the picture as he

can schedule projects for best results with least interference with play.

Because of the usual quick turnover of Green Committee personnel, it is most important to set up a long-range program of improvement projects, approved by the membership, so that the superintendent can set his course of action. Only then is it possible to keep members informed and only then is the road to harmony open.

In summary, we wish to re-emphasize the following points:

1. The desire on the part of the superintendent and the membership for improvement makes renovation and in some cases rebuilding necessary.

2. Plan each improvement project thoroughly, do it at the right time for best results, and keep the length of time required to complete the project to a minimum.

3. Do not take on more work than you can handle comfortably in any one season.

4. Prepare the membership for improvement projects by informing them well in advance of what is to take place.

5. Pursue the improvement plan vigorously—leave nothing undone that should be done. Success with one project eases the way for the next.

6. Alter as necessary the maintenance and management program to derive full benefit of the renovation or rebuilding programs.

## **Good Drainage For Greens**

BY DR. RALPH E. ENGEL

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**D**rainage is one of the major building blocks in successful green construction. Without good drainage the task of turfgrass maintenance will always be more difficult and expensive. Excessive wetness increases soil compaction. Wet and compact soils lower the oxygen levels. This reduces the efficiency of the soil organisms, inactivates the root system, and gives shallow rooting. All these are factors which increase susceptibility of the turf to drought and heat. Often the extra stress produced by these conditions may bring disaster during critical summer periods. Even short periods of excessive wetness may cause drowning of

the root system or a slow down of water intake by the plant.

Good drainage is always a first class investment. Without it the area may be unfit for use on occasions. With good drainage, watering is easier, and overwatering or excessive rainfall is less likely to cause trouble. If a green has correct drainage, more watering can be done with sprinklers, and hand watering can be restricted largely to watering of the ridges and to syringing during periods of severe heat.

Good drainage can be characterized by prompt water movement off the surface and through the soil. Also, the system