

Traffic on the Golf Course - Part 2

A continuation of reports from the 1963 Educational Program of the United States Golf Association Green Section. Other reports appeared in the May issue.

Minimizing Effects of Traffic

A PANEL DISCUSSION

By **A. M. Radko**, Eastern Director, Green Section of the United States Golf Association,
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A. M. RADKO:

Growing quality turf for golf is an exacting science. "Tough" turf is the order of the day because weak turf cannot long exist in this period of accelerated play and golf turf interest. Golfers today are as keenly interested in better playing conditions as they are in the game. They play at many different courses, remember the best from each course, and hope to introduce these "bests" into their home courses. These may include improvements in strains of grasses, management practices, machinery and products for use in maintenance. These all are aimed at the pursuit of the "tough" turf goal.

Turfgrasses become weak or injured because of a number of factors. Traffic is a major cause - traffic of golfers, utility equipment, maintenance equipment, and golf cars and carts. Heavy use of the course makes it difficult to manage for the best interest of the grass. The timing of management practices often is thrown off because it is necessary to get work done "in between foursomes", so to speak. Play, and not the best interests of the grass, dictates many management practices.

Increased foot traffic means more turf wear, scuffing, spike and spike shoulder marks. More play means more bruised turf due to ball marks and divots.

Use of the course when it should be closed leads to compacted soils and

bruised turf. Play after heavy rains, or while soil is in process of thawing in spring, or when grasses are frozen in winter, or when grasses are wilting ... all lead to trouble.

Traffic injury is frequently caused by features of terrain or design which funnel players or equipment into a definite pattern around greens, aprons, tees, bunkers, or approach areas. The use of equipment or golf cars during unfavorable conditions of soil, turf, or climate greatly increases the injury pattern.

The human element - whether it be vandalism, an error in judgement or calculation, or the misuse of equipment - also may weaken or injure the grasses.

GROVER C. KEETON:

In recent years practices in golf course maintenance have changed considerably. Sometimes we wonder if the initiative for these changes hasn't come about through the player rather than through the golf superintendent and the management controlling course maintenance. We, as superintendents and managers, are confronted with the challenge of staying ahead of the players with research work, planning, and adapting research results to our local course operations. Educational meetings result in the supervisory personnel gaining advance knowledge and taking stronger lead.

Maintenance practices may be con-

sidered in the categories outlined in the following paragraphs.

I strongly believe that one good practice which will minimize or overcome harmful effects of traffic is maintenance of a proper attitude on the part of maintenance personnel toward traffic on a golf course. Traffic, on country club courses and even more so on public courses, is what we want. Golf courses are closed due to **lack** of traffic, not due to **to** traffic.

Soils

What are the harmful effects of traffic on turf? What are we actually treating? Traffic is imposed at the surface; the turf shows the first effects but the soil sustains the greatest damage. The result is compaction, which simply means the reduction of pore spaces within a soil mass.

Irrigation, aeration and fertilization require one to work with soils. Soil has four functions. It provides support, nutrients, water, and air. In order to perform these functions properly, it must resist compaction under daily traffic even under adverse weather conditions.

We rely to a great extent on visual symptoms of poor soils. These include: 1. Shallow root system; 2. Hard soil; 3. Algae; 4. Dry spots; 5. Layers; 6. Variation in texture.

Fertilization

Fertilization is one of the equalizers to traffic damage on turfgrass. In planning a fertilization program, I like to apply what Dr. William O. Trogdon of Texas A & M College has said: "Use the **right amount** at the **right time.**" Used under this guide, fertilizer will speed the growth of turf to recover from traffic damage.

Aeration

In the case of cultivation, the right time and right kind are applicable,

and sometimes the right amount may be a factor to consider. Applying fertilizers after aerification or spiking is one way of getting fertilizer down to the root zone. Spiking is also used to overcome crusting and to provide oxygen during a period of warm weather when we have heaviest play. Aerification, by itself, is helpful; but generally it should be part of an overall program.

Irrigation

Irrigation is part of the daily operation during the warm season, but experience has indicated the wisdom of heeding the admonition to "water sensibly." Not enough water results in wilted grass and eventually loss of grass during the warm season. On the other hand, too much water aggravates compaction and creates difficulties.

Since the object of irrigation is to get the desired amount of moisture to the roots, an effective procedure is to check this by use of the soil probe. The Department of Irrigation, University of California, made a study of watering various soils which included sands, loams and clays. Results were presented in chart form by Dr. Robert Hagan. His chart has proven very helpful. For example, if we want to wet a 12-inch depth of loam soil, 1 1/2 inches of water is required. If grass has effective roots to a 24-inch depth and soil is wet to this depth, in the case of loam, we can go approximately 21 days between irrigations.

In general, the experienced irrigator is trying to "connect the moistures." Too many times, watering is done by guessing. Careful observation and use of available information make this practice unnecessary.

Conclusion

Golf has become tremendously pop-

ular, and our job is not to fight traffic-foot or equipment. As representatives of golf course management, we want to think in terms of inviting more players to play. We must study the over-all picture with a broader perspective. There are enough tools

available to enable us, through sufficient knowledge and imaginative management, to maintain good golf courses.

We should consider traffic on the golf course as a challenge rather than a problem.

Care and Handling of Golf Carts

A PANEL DISCUSSION AMONG:

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JAMES L. HOLMES:

What are the financial aspects of handling and care of golf carts? The following data are derived from: (1) "Golf Cart Usage and Control in the Metropolitan New York Area" — a survey among Member Clubs of the Metropolitan Golf Association, March, 1960; (2) Minutes of a meeting on "Golf Carts" held by the Chicago District Golf Association at Riverside Golf Club, January 21, 1961; (3) Personal correspondence with Oliver F. Burnett, Paradise Valley Country Club, Scottsdale, Arizona; (4) Personal experience.

Installation Costs

A. CLUB OWNERSHIP:

1. Four electrically equipped garages, built to house a total of 110 cars, cost \$41,000; thus, approximate cost to house one car is \$375. This is for completely enclosed building including electrical installation costs.

2. Two clubs installed electrical equipment but left cars in open. Cost \$3,600 and \$3,000. Unless adequate power is available to club grounds, electrical installation will probably exceed \$3,000 for 25 car outlets.

3. Initial investment for electric carts and garage: If cars are purchased in numbers, costs is around \$1-

000 per unit. Therefore, initial investment for 20 cars is: \$1,000 x 20 plus \$375 x 20 equals \$27,500.

4. Cart owners pay from \$1.25 to \$25 per month to store carts in club-owned property. The average of 15 clubs in New York and Chicago is about \$15 per month during the season and \$3 a month for winter storage.

5. An initial garage charge of \$300 to \$400 is assessed when a member first installs his cart at one club. This is in line with the original \$375 cost to garage one electric cart.

B. RENTAL:

1. Every conceivable arrangement has been made with rental agencies. Some clubs merely agree to use the agency's carts, and it is the agency's sole responsibility to deliver them to the first tee. Some clubs supply electricity, others housing and electricity, still others housing, electricity, and maintenance. Consequently, the installation cost to the club varies to such an extent among clubs that it is not practical to suggest any general estimates.

Profit (and Loss)

A. CLUB (OR MEMBER) OWNERSHIP:

This does not include club ownership whereby the club plans to make a