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## Houston Pro Calls for USGA Cooperation at Tulsa PGA Meet

Nearly 100 pros of the South Central Section PGA examined possibilities of handling their jobs better for their customers and themselves during the section's annual education and teaching conference held in the Hotel Tulsa, March 11-13. Twenty-seven firms exhibited golf equipment and apparel.

Woody Kerr, Chickasha (Okla.) CC, the section's pres., Douglas Smith of the Southern Hills staff at Tulsa, sec. of the organization, Bill Wotherspoon, Southern Hills pro, and Ben Dickson set up the program and display arrangement.

The panel of salesmen and golf professionals which discussed pro buying and selling problems was headed by U. C. Ferguson. It included Leon Faucett, John Hainje, Jay Kimbrough, Cliff Calderwood, Charles Weisner, Marion Askew and Doug Smith. The panel discussed expenses in selling to pros, advertising, manufacturers' policies as pros see them, pro buying problems and, of course, the club trade-in situation.

### Recommends Insurance Coverage

Graham Ross, pro at Dallas Athletic Club CC talked on the golf car operation. He stressed the advantage of having a good mechanic on the job and of making sure that all cars are fully covered by insurance. He advised shopping around for insurance as there is a wide range of policies available.

Bob Dunning of Dunning-Jones, Inc., discussed course construction and maintenance standards, telling the pros what they ought to know about turf management and course operation. Dunning explained the benefits of the "sandy soil" type of construction of greens, tees and fairways in preserving excellent playing conditions and in keeping maintenance costs moderate despite heavy traffic and other adverse conditions.

John M. Winters, Sr., USGA pres., and Dick Forrester, a PGA vp, described the

functions of their organizations. Winters detailed accomplishments of the green section to which the USGA has allotted \$1,600,000 since 1928. He also told the reasons for ball implement testing and rules formulation and explained why and how the PGA can supplement the USGA's work. Forrester stressed the importance of working to make National Golf Day a success. It is, he declared, the one nationwide educational and welfare operation in golf, and an immensely valuable public relations opportunity for pros. Forrester, pro at Houston CC, made it quite plain that the USGA might consider how it, too, can cooperate with the PGA.

### Oklahoma State Show

Labron Harris, pro at Lakeside GC, Stillwater, Okla., and coach of the Oklahoma State university golf team, along with Bo Wininger, Johnny Palmer, Jerry Pittman and several members of the present Oklahoma State squad, gave a series of lectures and demonstrations. Harris estimated that in 1975 there will be more women than men playing golf. He said women at his club must be able to score 85 or better for 9 holes before they can play the course. He added that the women's committee handled this by saying to the new players, "You wouldn't want to play bridge with someone who didn't know a club from a spade."

Herb Graffis, GOLFDOM editor, speaking on "What's the Score in Golf Business?" recommended that the pros concentrate on setting up budgets for their yearly operations and periodically checking to see if they are staying within them. He went into detail in showing how a pro can make more money in handling his job to the satisfaction of his members by figuring out how to run his business just as he learns the strategy of playing a course.

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### Maintenance Costs

At the three USGA green section meetings held across the country in March, Joe Dey, the USGA's executive director, pointed out that it cost an average of \$3,059 to keep a golf hole in shape in 1960. This was an increase of 3.4 per cent over the previous year. When all the figures are tallied for 1961 it probably will be found that the cost increase will again be about 3.4 per cent or possibly a little higher.

THE *LaHer*

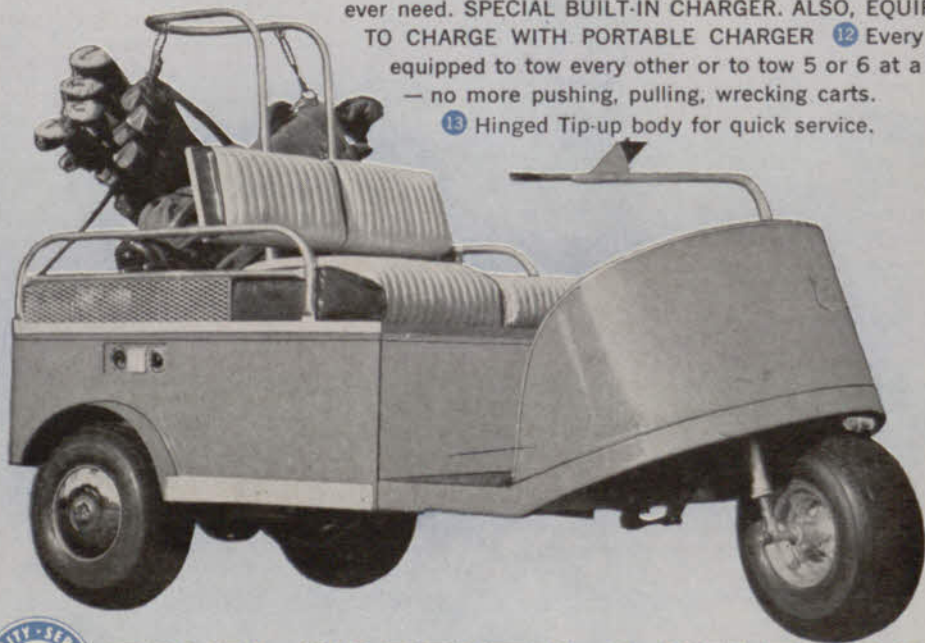
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# **Turf Questions ...and answers**

**FRED V. GRAU**



## **Improving Unwatered Turf**

Natural rainfall is the sole source of water for a major portion of the turf in North America. More and more irrigation systems are being installed, some in areas where there is a persistent nagging question: "Is there going to be enough water?" When water runs short, the limited available supplies go first to domestic uses, to industry and to agriculture. Turf is the first to be cut off. Nothing is more useless than an expensive irrigation system and no water. Shortages usually occur in mid-summer when turf needs are greatest. Turf that has been developed with copious quantities of water will suffer the most when water is denied it.

Shortages of water for turf are not in the future — they are here — now! Explosions of population, increased industrial development, more water for agriculture and hundreds of new golf courses will continue to put a strain on the supplies of fresh water. Without trying to introduce "scare tactics", it is logical for every turf manager to learn how to grow the best possible grass with the least amount of water. Those with unwatered turf must learn to produce high quality grass with natural rainfall only.

### **Reserve of Plant Food**

Continuously adequate supplies of nutrients in the soil represent the first and foremost step in producing high quality turf. It is a foregone conclusion that moisture will be the limiting factor in grass growth with natural rainfall being as variable and fickle as it is. It is essential to have a reserve supply of plant food in the soil ready to be converted to the needs

of the plants as moisture is made available. If the plant food can be delivered to the grass steadily and uniformly as the grass needs it, then maximum turf density can be accomplished within the limits of the moisture that is available.

In the natural grasslands of the world, nature provided a tremendous storehouse of slowly-available nutrients in the deep humus-rich soil of the prairies. Now, with the rich soils largely dissipated, we must provide synthetically another storehouse of nutrients that essentially will duplicate nature's methods. We are fortunate that science has provided materials and tools whereby we can closely emulate nature.

### **Controlled Release Rate**

We need to provide the soil a reserve of nutrients that will resist leaching, that is insoluble and that will release nutrients to the plants at a controlled rate equivalent to the needs of the plants. The thing to avoid is a supply of quickly available materials that rapidly release nutrients in such quantity and at such a rate as to damage the turf.

In growing high quality turf with natural rainfall only, it behooves us to use grasses which are best able to tolerate periods of drought and also are best able to utilize the nutrient reserves in the soil when moisture is made available thru rainfall. Within their regions of adaptation these grasses stand high on the list: Bermuda, zoysia, tall fescue, bluegrass, red fescue, buffalograss, gramagrass and crested wheatgrass. Improved strains deserve first attention for their ability to

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produce better turf than their common counterparts. A grass that has been severely damaged by leafspot in the spring can't take advantage of stored fertility as well as one that is highly resistant to the disease. Merion blue, for example, repeatedly has been shown to produce denser turf that stays greener longer into drought periods than common Kentucky blue.

### Recharged by Rainfall

The grasses cited have the ability to grow well when moisture and plant food are available, then to become dormant by degrees when moisture is denied. They lose green color as drought stresses become greater, but well-fed turf retains a desirable playing cushion. Roots and rhizomes become charged with food reserves. When rainfall recharges the soil with moisture, the turf literally bursts forth in new verdance and again develops dense, cushiony grass. Reserves of nutrients in the soil are there, ready to feed the grass as soon as moisture is present to permit movement of materials into the roots.

Cultivation of soils beneath unwatered turf must be done to permit the maximum rainfall to enter the soil. Runoff wastes valuable water. Many tools are available to cultivate turf soils. Some can be used only when soils are wet so that soil moisture lubricates the parts that enter the soil. Others are built so that they can operate when soils are quite dry. Reserves of nutrients can best be incorporated into turf soils when they, the latter, are cultivated. Then materials have the best chance of being carried deeply into the soil where bacterial action enhances their value.

### Out of Season

**Q.** At our course we have a rather large membership and the traffic on our small greens is terrific. After reading your fine articles, I thought perhaps you could help me with my problem.

During the winter we have several members who are persistent in removing the snow from the practice green and wearing a path from one cup to the next. Cups cannot be changed due to the frozen condition of the soil. When I try to explain the damage this does they want many technical reasons as to why it should not be putted on. It would be of great help to the green committee and myself if you could give us these reasons.

You advised us two years ago to plant Penncross seed on three of our greens. At

the time we were reluctant to accept seed over stolons. At the end of two seasons the greens are in excellent condition.

(West Virginia)

**A.** When, in the judgment of the green chairman and the superintendent, it is necessary to close the course or any portion of it, all members should accept the ruling. Action of this kind is taken reluctantly by the committee, knowing that some members will be disappointed. But it is far better to incur the displeasure of a few selfish players than to jeopardize the pleasure of the rest of the membership.

Frozen grass cannot repair itself. Worn paths made during winter most likely will need to be resodded when growing weather comes. It is wholly unfair to incur extra maintenance expense because of damage caused by a few out-of-season players.

Sudden thaws can leave the surface soft and mushy while the soil beneath is still frozen and firm. Traffic at this time causes sod to slip, buckle and shift, severing roots. The grass then dies. In addition, footprinting creates such bumpy conditions that pleasurable putting is impossible. Many topdressings will be needed to bring the putting surface back.

If the play of the diehards continues, these players should be persuaded to finance the building of a green on which they can play without restriction. All repairs and maintenance costs would be added to their club bill each month.

Your report on the excellent condition of the three greens seeded to Penncross bent is very gratifying.

### Resodding with Zoysia

**Q.** We want to grow some zoysia sod from seed to resod some tees that we can't keep grass on. We've heard that it can take heavy traffic.

What kind of seed should we get, where can we get it, and what is the best way to plant it? Any other information will be welcome.

(North Carolina)

**A.** Zoysia sod, grown in a nursery and sodded on the teeing ground, will resist a tremendous amount of club, foot and machine traffic when given adequate feeding and sensible management. Good soil is preferable but not essential. Good drainage is necessary.

All seed in this country comes from the Orient and is known as Japanese lawngrass, or common zoysia.

See your local seed merchant. If he does not carry the seed he can get it from the importer. So far as we know the only firm that imports zoysia seed is Herbst Bros., Inc., 678 Broadway, New York 12, N.Y.

Unless otherwise noted, your zoysia seed will reach you with the hulls on. This seed must be pre-germinated for best results. Mix

(Continued on page 136)

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# Stabilized Turf

*It may offer a solution to the compaction problem caused by golf cars and heavy-footed players*

By G. D. GHASTER

With the advent of the caddy cart, and now the powered golf car, supts. are faced with an increasing problem of soil compaction, the primary cause of dead turf around tees and greens. The thought and sight of using blacktop to take care of these conveyances has encouraged me to speak up for stabilized turf.

Stabilized turf is what I call grass established on a soil mixture that under any moisture condition, will support pedestrian and vehicular traffic.

## Grass Not Sheared

The problem of establishing and maintaining grass on areas to be used by people and their equipment is not one of turf durability so much as it is one of soil stability. When soils are stable the grass is not subjected to a grinding and shearing action. The holes or pores in the soil remain open and free for the movement of water and air.

Sand particles of a selected size provide a soil mixture that will remain open and porous indefinitely and, at the same time, support heavy loads regardless of the wetness of the mixture. The important point is that the sand particles be carefully selected as to size so that the smallest particles will not fit into the holes or pores between the larger particles and thus plug them. Sandy soils, compacted to their maximum density, cannot be altered by traffic. This is the basis for stabilized turf!

Extensive investigations have shown that stabilized turf shoulders on highways and freeways can be established and maintained at small cost compared to asphaltting and will support vehicular traffic — even heavy trucks. Several selections of particle sizes have been formu-

lated into stable mixtures. Mixtures of sandy soils for coarse and for fine turf are given in Tables I and II.

## Not Mixed With Subsoil

Coarse stabilized turf soils (Table I) can be used for maintenance of access roads and for golf car pathways down the sides of the fairways or in the roughs. Depending upon the strength and moisture condition of the subsoil on the site, three to six inches of moist stabilized soil mix can be used. This soil is spread on the surface of the existing dry soil but must not be mixed into the subsoil. The stabilized soil is compacted to at least 90 per cent of its maximum density. At this density, the stabilized soil will have about 30 per cent pore space — 15 for air and 15 for water storage.

For ragged tee and green areas on courses and trampled grass in parks, around schools and other public build-

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G. D. Ghaster, a graduate student in landscape horticulture at the University of California, Davis, recently was appointed park and street Supt. for the City of Davis. He studied turfgrass management under Dr. John Madison. He was graduated in Soil Science from the University of British Columbia.

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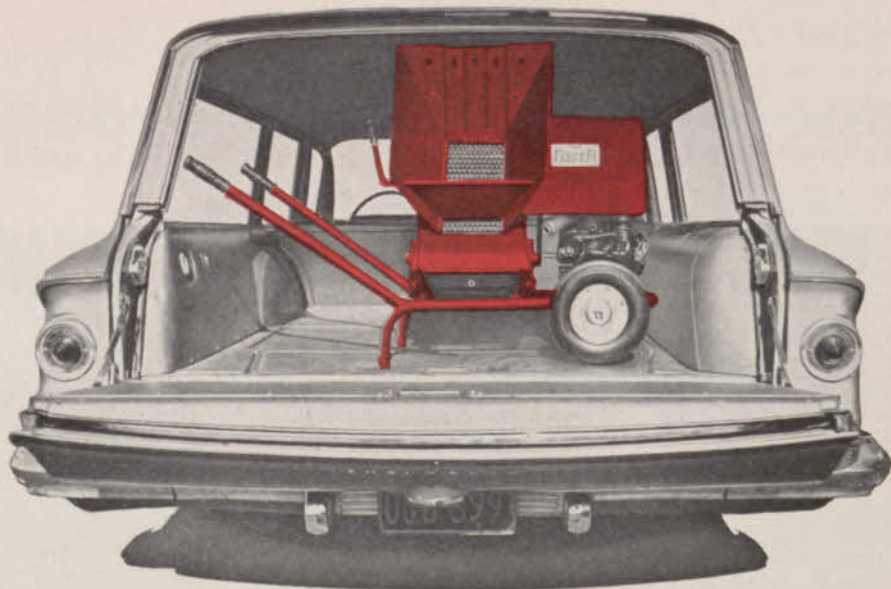
ings, a fine stabilized turf soil mixture can be used (Table II). Four to twelve inches of this mixture is laid down and compacted to near its maximum density. Again, this soil mixture must not be mixed into the subsoil. This is the seedbed; topsoil must not be used on this stabilized soil.

## Establishing Grass

The usual procedure for seeding, fertilizing, and watering when establishing new turf can be followed. Sprigging can be with adaptable grasses. At the University of California in Davis, experiments with sprigging and seeding a stabilized turf parking lot showed that a ¼ inch mulch of sand, firbark, sawdust, or other coarse organic mulch material aided the establishment of the grasses.

It is common knowledge that a sandy soil does not hold water and nutrients so well as a clay or loam soil. Therefore, as is the usual practice on most golf courses, (Please turn to Page 92)





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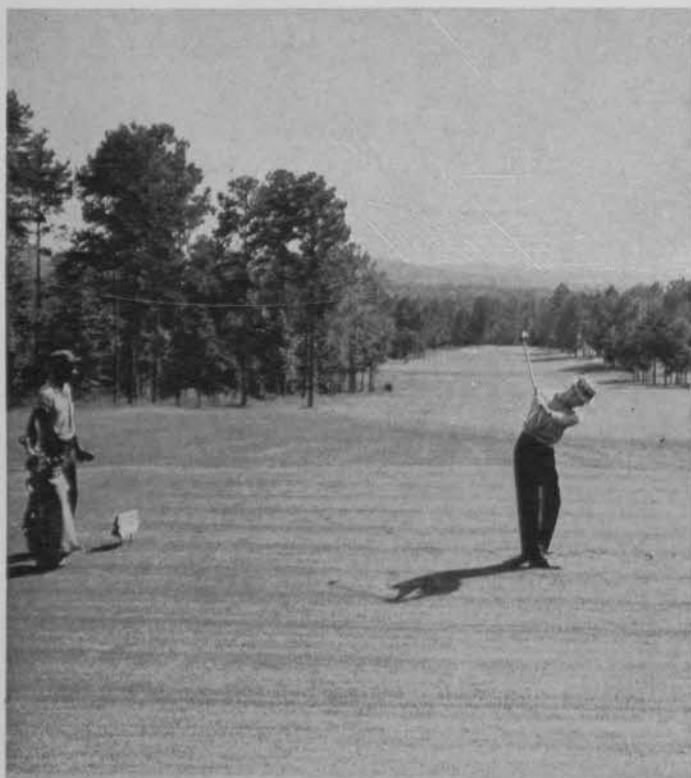
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