

realizing or providing for the cost of yearly maintenance thereafter; and, these exotic plantings, often not too well suited to their environment and neglected over the years, actually detract from the appearance of the course rather than add to it.

Any and all plantings should be considered first from the viewpoint of their natural fitness to the general scheme of things and their harmonious blending with the natural scene.

Each course and each locality presents its own problems and opportunities in infinite variety in the way of landscaping and of course it is not possible to set up any definite rule that will apply in all cases.

It might be helpful to mention a few of the more desirable trees and shrubs for southern golf course planting under the usual conditions. Inasmuch as I have had little experience with extreme South-Florida plantings, I will not attempt to suggest plant materials for that area but rather for North and Central Florida, Georgia and the Gulf Coast.

#### Large Trees

Among the larger evergreen trees adapted for golf course use in these areas are live oaks and other oaks native to this particular region, most of the native pines, particularly slash and long-leaf, Southern magnolia, the bays, camphor, laurelcherry, palms in variety, hollies, Southern wax-myrtle and many others. A few of the deciduous trees may be effective when planted along with the evergreen ones for their

spring or fall coloring such as scarlet maple, sweet gum and liriiodendron.

#### Flowering Trees

A list of the most effective flowering trees would certainly include dogwood, flowering crab, Judas (or redbud) tree, mimosa, crepemyrtle, Parkinsonia and acacia.

#### Medium and Large Shrubs

A few of the larger shrubs which are useful either for their flowers, foliage or both include cleanders in variety, the clump-type bamboos, ligustrum, bottlebrush, cassias, daubentonia, anisetree, yew podocarpus, photinia, pyracantha (or fire-thorn), the evergreen viburnums, hollies in variety and many others.

One group of plants which I think should be used more profusely on golf courses in the far South is the oleander. No other plant I can think of in any section of the country produces such a profusion of color over so long a season with as little care as these plants. There are some 12 to 15 common varieties and colors of oleanders cataloged by most Florida, South Georgia and Gulf Coast ornamental nurseries. If these colors are properly grouped and blended, superb color harmonies can be arranged, which are conspicuous for considerable distances. The foliage, too, of these plants is excellent the year-round.

Some of the most colorful and interesting lower growing shrubs for use where they can be properly maintained are azaleas in

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### LEFTHANDERS BATTLE PAR HERE JULY 30



This is the finishing hole across the lake from the 18th tee at Tippecanoe CC near Youngstown, Ohio, where the National Lefthanders Championship will be played July 30 to Aug. 1. No. 9 green is at the far right.

variety, camellia japonica and camellia sasanqua, flowering quince, the shrub jasmine, plumbago, lantana, hibiscus, halva-  
viscus, etc.

### Vines

Vines also have their use in enhancing the beauty of the course where suitable trees or fences are available on which to train them. Some of the most colorful ones are wistaria, bougainvillea, several varieties of Bignonia, Alamanda, coral vine, the red honeysuckle, star jasmine, tecoma and many of the climbing roses which are adapted to the far South such as the native white Cherokee, Mermaid, the white and yellow Banksia, and the old-fashioned climbing tea roses. These roses will usually thrive without spraying but should be planted with good soil preparation and should be fertilized adequately every year.

### Naturalized Flowers

Another way to add seasonal color to the course is by planting flower seeds which naturalize well in the odd corners or even perhaps in some of the roughs such as annual phlox drummondii, gaillardia, California poppy, toadflax, vinca rosea, and the common petunia. All of these are grown in rather poor sandy soil where the grass is thin or non-existent. Seeds are scattered generously in the fall to bloom in the spring and summer.

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## Simple Maintenance Cost Records Are Urged

Western Missouri and Kansas superintendents in their Heart of America Association Turf News outline a course maintenance cost record system that involves the minimum of paper work.

The system recommended:

Adequate cost records are a necessity to the efficient operations of a golf course. Unit costs are the only way for a committee chairman or superintendent to determine the proper amount to spend on each operation. In appearing before a board of directors, a chairman or superintendent with accurate cost records to back up his requests has the battle half won.

In all clubs, minority groups will at times advocate changes in maintenance practice and design, which are neither good golf nor sound maintenance. These pressure groups can sometimes be stopped by accurate cost records before they become a problem.

A golf course superintendent, working long hours, seven days a week, is prone to neglect paper work. He has little time for complicated forms and feels his time is better spent in seeing that the maintenance work is properly performed. Not having an office force at his disposal, he wants to keep paper work to a minimum. The following minimum is suggested.

Divide your maintenance work as follows:

**GENERAL EXPENSE:** Your salary; subscriptions; expenses to conferences and short courses and other items not directly chargeable to a particular division of golf course maintenance.

**PUTTING GREEN MAINTENANCE:** Mowing; watering; fertilizing; spraying; aerating; weed, disease and insect control; and miscellaneous, such as changing cups.

**FAIRWAY MAINTENANCE:** Mowing; fertilizing; seeding; weed control; aerating and watering.

**ROUGH MAINTENANCE:** Mowing; fertilizing; seeding; weed control.

**TEE MAINTENANCE:** Mowing; watering; seeding; weed control; fertilizing, and miscellaneous such as changing markers and service to ball washers.

**TRAP AND HAZARD MAINTENANCE:** Mowing; raking sand; weed control.

**MISCELLANEOUS:** Maintenance of water lines; service drives; service buildings; shelters and any other items chargeable to the golf course.

**GROUNDS AND BUILDINGS:** Mowing; spraying; care of flowers, shrubs and trees; repair to buildings.

Procure an accountant's work pad with 12 to 14 columns. Use one sheet from the work pad for each division each month. Use a column for each sub-division and a column for supplies and one for repairs. At the end of the day, enter the hours chargeable to each sub-division in the proper column. When you O.K. an invoice for the club bookkeeper, enter the amount on the proper page. 5 to 10 minutes a day will do this, if you do it every day while the day's work is still fresh in your mind.

At the end of the month, total the columns on an adding machine; multiply by the hourly rates to get the labor costs. Add the cost of supplies and repairs and you will have an accurate report of your expenditures for the month. At the end of the year, an hour with the adding machine will total the monthly sheets, and you will have the answer to many questions.

The above minimum has been used and proved adequate. The plan can be expanded to any extent you may desire, according to the amount of detail wanted.

Your totals will enable you to submit an intelligent annual report to your chairman. He, in turn, can use your report as a basis for his report to the board of directors. If you have done a good job with the amount of money provided, you have the facts to prove it. At times, accurate cost records can be your greatest asset.

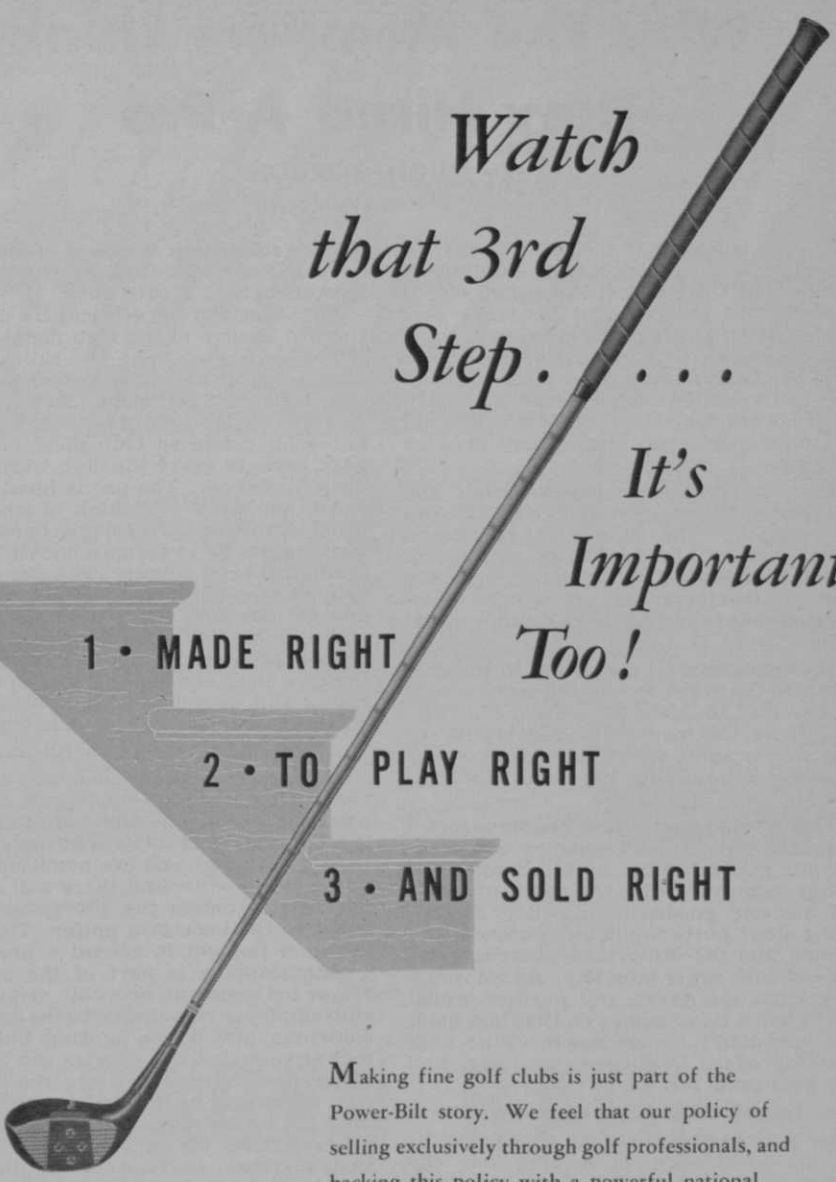
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# Why The Members Think They Hired A Pro

By HUGH GORDON

Professional, Roanoke (Va.) Country Club

The pro is primarily the golf idea man at the club. It is the successful handling of this part of the job that keeps him on the payroll. But the scope of his work does need clarifying. He performs a good many services for his club as part of his role as local Mr. Golf, and a proper perspective of the relative importance of each would improve his efficiency and promote better understanding between himself and his club members.

The combination of businessman and sportsman that makes up a good pro is not too common. The club wants to hire a person who will be sportsman on the golf course, businessman in the shop, gentleman with the members, and yet will be uninterested or backwards in the club's social affairs.

And sometimes, it may seem to the club members that they have hired a pro who is uninterested on the golf course, a gentleman above the mercenary matters of the shop and a sport at the club's social affairs where he makes the ladies his business.

When I was pro at a fashionable resort, I frequently completed foursomes as a courtesy for guests at the hotel, as one does at any country club. On some of these matches our goodnatured policy of conceding short putts would be tightened, and I would find the other three watching me hole out with eager intensity. As we would walk from the green, my partner would say, "I had a lot of money on that last hole; glad you didn't let me down." Who does what for whom in this pro business, and who gets paid for it?

## Trouble When Pro Gets Rich

One part of the pro's job, with or without his knowledge, is helping out the players to whom golf is just one more gambling device. Without setting the stakes, he may be ace or deuce to their big play. Some of these gamblers expect to pay all their club expenses with their earnings. If the pro bets high with them, and wins, there is ill will. He becomes the rich man, and so his salary should be cut. And no one respects the loser.

There is delicate stepping for the pro, who may seem to be the rich man, or the big hearted Joe; but must always be the golf idea man who knows how to make the game interesting with dime bets, and so

never gets himself into a position in which he can lose more than he can afford, or win enough to create envy.

That is one of the services the club hired the pro to give to the club members.

The golf pro is also the skilled laborer who works at his trade, the supplying and maintaining of golf clubs. He may hire assistants to do the work, or do it himself, but each tarnished club must be cleaned with care, to make the club worthy of its owner, his boss. The pro is hired for that work, and when you think of what sewer constructors and proctologists and pest exterminators do to earn an honest penny, it is mighty pretty work. The pro ought to be glad he can roll up his sleeves in a pinch and get the mud and marks off the clubs, and get the umbrellas dried and with the proper bags. He is not the sportsman in the gay shirt and fancy pants in the back end of the shop but the club hired him to do this work, or to get it done right.

## Promotion Is Pro's Business

The pro is a sound business man and part of his job is the running of club tournaments. Every one has more fun if there is a big entry and there are events planned to give both high and low handicap players a chance to win. And there will never be big entries unless the pro gives them a boost to the uncertain golfer. That's why the club thought it needed a pro.

Handicapping is part of the pro's job. He, or his assistant, or a club member, or a club employee responsible to the committee chairman, may do the figuring, but the pro makes sure that the players are reminded to get their scores put into the handicap box. Whatever his actual part in the work may be, to the golfers he is the man who takes strokes off their chances to win in their matches. And the club wanted it that way or they wouldn't have hired a pro.

The pro has the cure for what ails the player's game. The swing may be too sick a thing for a radical cure, but the golfer can be helped to get more fun from the game. Clubs better suited to his swing, or to his changing physical capacity as the years go by, may be his medicine. The pro is the expert who can analyze the faults and give the kind of help the player can take. The club hired him because he had this special training and skill.

The pro knows the rules in golf. If he

*(Continued on page 65)*

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*Walter Hagen*



New grass fairways at the Midland (Tex.) CC take shape against background of mesquite brushland as thousands of gallons of water and miles of pipe convert desert wasteland into veritable oasis. Above photo was taken from atop 420,000 gallon storage tank which feeds irrigation system.

## Midland Course Great Exhibit Modern Golf Turf Science

Texas, which is rumored to be a state slightly addicted to the use of superlatives, has ample justification for talking large about the new North course of the Midland CC. Midland is a city of about 15,000 in west Texas about half way between Fort Worth and El Paso. The trip of 274 miles south and west of Fort Worth to Midland is not much of a drive the way they regard distance in Texas.

Midland started in golf with a 9-hole sand green course which later got bent greens. Now there is being completed on a 583 acre tract bordering the city a course that will measure 7,353 yards from the back markers, have a par of 72 and if the best laid plans of turf experts don't gang a-gley the course will be an outstanding exhibit of modern golf turf science.

### Course To Rate with Best

Fred Hogan, former mayor of Midland and prominent in Texas oil business, is the club member who has been given the responsibility of seeing that Midland gets a course that will rate with the best in the nation. Hogan knows his way around in golf and has been especially active in promotion of junior play.

Ralph Plummer was given the architectural assignment. Plummer has been the architect on some excellent new and remodeling jobs on 18- and 9-hole layouts in the southwest, among them those at

Alice, Tex., Artesia, N.M., Alta, Okla., College Station, Tex., Temple, Tex., Dallas CC and Lakewood CC in Dallas, and River Crest CC at Forth Worth. He was given instructions to shoot the works on this job and come out with something that would be fun for the home folks and a great test



Closeup showing early stages of grass in one of the fairways on the new Midland course.

of golf that would get stars from all over the golfing universe praising the course if Midland ever wanted to put on a superstar affair. And Midland might. Those oil

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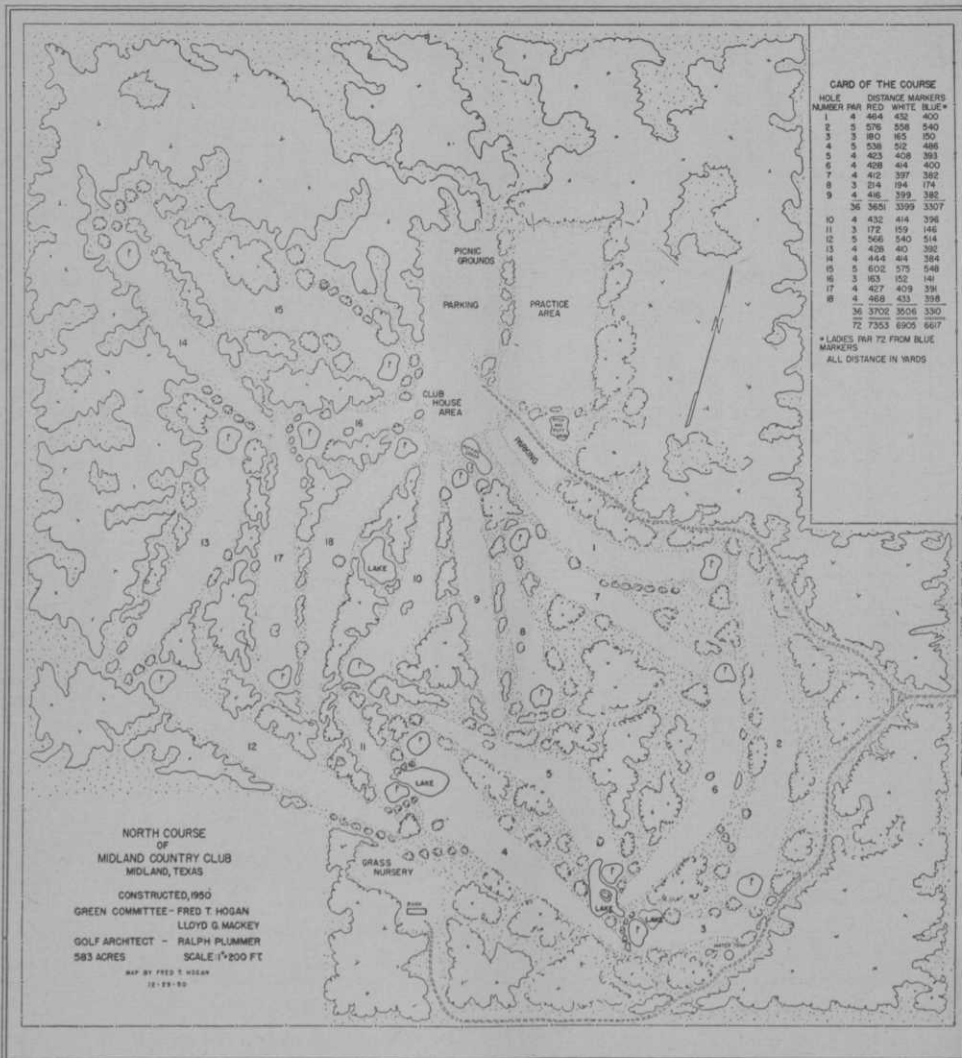
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### Bring In Experts

Plummer and Hogan began getting experts in the act right from the start. Jim R. Watson, agronomist of Texas A&M College and sec. treas. of the Texas Turf Assn. and Fred Grau, director of the USGA Green Section, laid out a soil conditioning program for converting the rugged mesquite brushland and dunes into a finely-turfed golf course. The Goldthwaite's Texas Toro Co. was put on the job for irrigation and equipment.

The irrigation that's changing the wasteland into a beautiful oasis starts with five wells that pump into a 420,000 gal. steel tank. There are nine miles of pipe on the course. You can guess from this refer-

ence to steel storage and pipe there won't be anything like the Midland course built in the U.S. for years, until the government restrictions, put into effect after Midland construction, are lifted.

There is no out of bounds on the Midland course. One of its features is a large night-lighted practice range such as GOLFDOM has been urging for club installation for several years. As far as we've learned this is the first one to be installed on a new job.

The course was planted to winter rye, greatly to the delight and nutrition of Texas rabbits which even on their normal austerity diet are so big they have to be shot with elephant guns. Later the Bermuda was sprigged in for fairways.

Twelve carloads of peat moss and 18 carloads of sand and 18 carloads of gravel

(Continued on page 66)



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# Stolon Method of Planting and Developing Putting Greens

By J. A. DEFRANCE, J. A. SIMMONS and C. H. ALLEN, JR.

The health and vigor of putting-green turf and cost of maintenance depend greatly on proper construction. After a putting green has once been prepared and planted, alterations are costly and difficult to make. This paper does not deal in detail with putting-green construction, but there are a few fundamentals that should not be overlooked.

**Adequate sub-surface drainage** is the first step in constructing a putting-green. It is essential to remove excess gravitational water, to aerate the soil, and to help remove the danger of winter-killing and injury from heaving.

Two methods, both satisfactory under proper conditions, can be used for sub-surface drainage: (1) tile drains overlaid or backfilled with crushed stone or gravel, (2) a porous material, such as, coarse gravel. If the topsoil is a good sandy loam, coarse gravel will usually give adequate sub-drainage; topsoils of a heavier texture may need tile drainage.

**Surface drainage** should begin with the leveling and grading of the sub-grade to the desired contours of the finished green. This will allow for uniform topsoil over the sub-grade.

After the topsoil has been placed on the green, it is graded to correspond with the contours of the sub-grade. Be sure that excess surface water will drain readily from the surface. Areas in the green that hold surface water will become sources of trouble.

The topsoil should consist of 10 to 12 inches of sandy loam containing organic matter such as a good grade of peat or humus. The organic matter is thoroughly mixed into the topsoil by cultivation, or the materials can be mixed and screened before placing on the green. Screening will remove stones and other objectionable debris. The upper 9 inches of the soil should be free of stones, which interfere with the "hole-cutter".

**Avoid layers** of any kind of materials that might interfere with movement of water either up or down. Provide a good bond between topsoil and subsoil. Let uniformity of application, thorough mixing and incorporation of materials be the keynotes in construction and thus prevent layering effects from use of any material alone such as peat, humus or sand. Also,

avoid any method in construction such as excessive rolling that would cause a layer and interfere with growth of roots.

It should be mentioned also that many layering effects have been caused by top-dressing and composting with various types of materials and compost mixtures which have been quite different from the soil make-up of the green. It is only reasonable to expect, for example, that if a green is constructed of 2 parts sandy loam, 1 part sharp, clean sand and 1 part organic matter, any topdressing should correspond to such a mixture.

Once the grade has been established, the soil is raked and rolled until it is firm and settled. By proper use of the wooden rake as a levelling board, bumps on the soil surface are removed and small depressions filled in. At the same time, all stones should be raked from the soil and removed from the green. Gradual rolls are desirable on the green if they are properly graded for surface drainage and mowing.

**Weed-free seedbeds** have been developed by clean-cultivation, use of certain fertilizers such as calcium cyanamid, and use of chemicals such as PMAS. No changes in grade should be made once fertilizers or chemicals have been applied to the soil.

**Pre-planting treatment.** Careful preparation of the seedbed before planting will greatly help the stolons in the early stages of growth.

The most reliable method of determining the proper amounts of fertilizer and lime is to have a soil test made of a uniform sample taken from the upper 6 inches. This is accomplished by taking samples from various parts of the green and thoroughly mixing them together. Because different grasses vary in their nutrient requirements, information concerning the variety of grass that is to be grown on the green should accompany the soil sample when it is sent to the soils laboratory.

Fertilizer and limestone can be applied separately or thoroughly mixed together and distributed uniformly over the green. Then the materials are cultivated into the upper 4 to 6 inches of soil.

Earthworms and grubs of Japanese beetle, June beetle and others can cause serious injury to a putting-green. These pests are effectively controlled for a mini-