



USGA JOURNAL

AND
TURF MANAGEMENT

A PROBLEM FOR THE LADIES



This is the sixth hole at the East Lake course of the Atlanta Athletic Club, where the Golden Anniversary Women's Amateur Championship will be held this month. It measures 147 yards and the green is practically surrounded by water.

SEPTEMBER 1950



USGA JOURNAL

AND
TURF MANAGEMENT

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USGA COMPETITIONS FOR 1951

Walker Cup Match: May 11 and 12 at Birkdale Golf Club, Birkdale, Southport, England. Men's amateur teams, Great Britain vs. United States.

(Dates entries close mean last dates for applications to reach USGA office, except in the case of the Amateur Public Links Championship. For possible exceptions in dates of Sectional Qualifying Rounds, see entry forms.)

Championship	Entries Close	Sectional Qualifying Rounds	Championship Dates	Venue
Open	May 21	June 4	June 14-15-16	Oakland Hills C. C., Birmingham, Mich. (not determined)
Amat. Public Links	*June 1	**June 17 to 23	Team: July 7 Indiv.: July 9-14	Univ. of Illinois, Champaign, Ill. (not determined)
Junior Amateur	July 2	July 17	July 25-28	Town and Country C., St. Paul, Minn.
Girl's Junior	July 30	—	August 13-17	Saucon Valley C. C., Bethlehem, Pa.
Women's Amateur	July 23	Aug. 7-8	August 20-25	
Amateur	August 13	August 28	Sept. 10-15	

*Entries close with Sectional Qualifying Chairmen. **Exact date in each Section to be fixed by Sectional Chairmen.

THROUGH THE GREEN

Champions' Formulae

When Mason Rudolph stopped in Louisville, Ky., on his way home after winning the USGA Junior Amateur Championship, he revealed to Earl Ruby, sports editor of the Louisville COURIER-JOURNAL, his formula for becoming a Champion.

"You've got to be a good caddie," he said. "You have to be courteous. And born lucky.

"It's like this: If you are a good caddie, you watch the men you caddie for.

"From them you learn the Rules of Golf, how to swing and how to act right. You know, how to smile when you feel like batting your head against a tree.

"You've got to be courteous or you won't get any help, and any poor kid needs help.

"Then, no matter how hard you work or how much your friends help or how good you get, you still have to be lucky to win a Championship.

"Take my final match. Chuck Beville and I were even going to the tenth. I hooked my drive behind a lot of trees. Chuck hit his down the fairway.

"There wasn't a chance for me to play around those trees. There was just one hole through the fork of one tree. I shut my eyes and swung. The ball went through that hole as if it had eyes, right to the green. It turned the match in my favor.

"That's what I mean. You have to be lucky."

Mason, Parge Fischer, Johnny Brown and Joe McKune drove direct from Denver to Louisville, with no stops for sleep. They did stop in Harrisonville, Mo., however, on the theory that what they needed most was a game of golf. Mason went around in 63, nine under par and a new record. Then they piled back in their automobile and drove on.

Bobby Locke exemplifies another formula for winning Championships, well described by Tom Scott in GOLF ILLUSTRATED after Locke's record 279 in winning his second straight British Open:

"Locke won not only because he was the best golfer in the field, but because he also had the best temperament, and that combination just cannot be beaten, no matter how hard the others may try.

"In a golf championship there comes to every competitor a crisis, or according to the ability of the players a series of crises, and it is the player who can forgive and forget who goes on triumphantly to win. Locke was able to do that and his just reward awaited him.

"His moment of anxiety came in the second round at the short sixth hole. There he pulled his tee shot and finished to the left of the green. His ball was in long grass and between ball and pin there was an intimidating pot bunker. With stoic calm the champion studied the shot and played right into the bunker. He was, no doubt, surprised, but if he were, he did not show it but lowered himself gently into the sand trap with bishoplike dignity, which demeanour he retained when he tried to take the ball too neatly only to see it roll back into much the same spot as it had been before he had played. He tried again and this time saw the ball go on the green but nowhere near the pin. He allowed himself the relaxation of rubbing his hand over his face. That was all. He then proceeded to miss the putt and ran up a six that would have shaken any golfer to his very shoes, let alone a man defending his title.

"There was no thumping of club on ground, no outward demonstration of any sort. He walked calmly to the next

tee, and proceeded to hole out for a birdie 4 at the 580-yard hole, and then went on his way relentlessly and methodically to register a round of 72.

"What other player in the world could have done likewise? Precious few. To most the unnerving experience would have upset most competitors so much that a total of something like 77 would have resulted. But that is where the South African is so much greater than most. The fact that he retained his composure after that experience undoubtedly won him the Championship. He had other adventures on that round, but on each occasion he extricated himself like the master he is."

Riding Now Supplanted

In forwarding three old clubs to the USGA Golf Museum, Oscar Furuset of Portland, Ore., provided an insight into the early days of golf in South Dakota.

"I bought these clubs," he related, "together with a number of gutty balls, from a man named Pat McClaire, who was football trainer and track coach at the University of South Dakota, where I was attending prep school in 1900. It is my recollection that McClaire had caddied in England and probably in Chicago.

"Although I was only a 15-year-old boy, Pat took quite an interest in me, probably because I tried to participate in athletic activities. He once told me that

A GOLFER'S LAMENT

A la Ogden Nash

Some people think that if they hit the
ball with great ferocity,
It will have a lot of influence on its
velocity;
Whereas it is the gentle touch
Which sends it flying more than much—
A gentleness applied with what
Emphasis on the right spot;
A firm persuasion that comes at the
end of a graceful swing
And sends that white sphere soaring
like a bird on the wing.
That is what the pros and the tigers
hold
And that is what one is continually
told;
But still nobody could ever compare
the flight
When I contact that little bit of
spherical white
With any bird on the wing. Unless it
be
A one-legged pullet with water on the
knee
Trying to take a running jump
And ending up bumpity-bump.
I've also been told that if your ball
finds a nice, deep trap
All you've got to do is lower your head
and give it a tap.
Fellow rabbits please observe,
If you want for aye to lose your nerve,
Do just that. Believe me when I say
A tap is as much use as bath salts on
washing day.
Take a bulldozer and a blaster
And afterwards attend to your wounds
with sticking-plaster.
And when you've shovelled the sand
out of your eyes

Prepare to admit that you've never had
better lies
Except once in a water-filled donga
Where erosion had been going on for
longer
Than eternity. But go on pretending
That no lie, however good, can catch
you bending.
And never make the mistake and think
that because you are on the green
Your troubles for that hole are over
because I've often seen
A hole that jumps out of the way
And cowers like a stag at bay
At sight of that round, white, rubber-
filled die
Coming towards it with a come-hither
look in its eye,
And dodging deftly left or right
Irrespective of my apoplectic plight,
And taking no note of the words under
my breath
Wishing it a fate far, far, far worse
than death.
There should be a law that unless you
reach a certain grade
In a certain number of years, you
should be made
To give golf best
And take and give everyone else a well-
earned rest.
Yet the ratio of golfers to those who
play but are fluffers
Is about the same as that of writers
to those who write but are duffers.
Perhaps this is where I should call a
halt
And stop being conscientious to a fault.
—TIBI.

Reprinted from South African Golf

there was a game called 'golf' which was going to be a great game in this country and would supplant riding as a social activity.

"I asked him how the game was played, so he laid out four holes on the campus, with tin cans for cups, and showed me. I bought the clubs and balls from him and started to play. Then some members of the faculty secured clubs from Spalding's in Chicago and started to play. They broke a number of windows, which caused the authorities to forbid playing on the campus.

"I took my clubs and gutty balls to my father's ranch, where I lost all the balls in the sandhills.

"The principal reason I am glad to contribute these clubs is that, although they are more than 50 years old—how much more I do not know—they have the basic designs and features of modern clubs and are not freaks or oddities, like so many clubs made thereafter.

"Another reason is that I wish to pay tribute to the late Pat McClaire, who was so right in his prediction of the game fifty years ago."

The clubs are a brass Prestwick putter, a Morristown iron and a Crescent brassie, two of them with the original hickory shafts and grips. Such contributions, of course, are received with particular gratitude.

USGA Women's Championship

The USGA's sectional qualifying system for determining Championship fields has long been a great success among male golfers, but it hasn't yet caught on with the ladies.

This year arrangements had been made to hold sectional qualifying in 19 locations to determine a field of 128 ladies who were to compete in the all-match-play Women's Amateur Championship. But only 157 entries were received. That did not warrant the far-flung qualifying system, so the sectional tryouts were cancelled.

The Championship will still be entirely at match play, with all entrants eligible. There will be as many first-round byes

SPORTSMAN'S CORNER

When Charley Boswell, of Birmingham, Ala., plays golf, a friend goes along to give him the direction and distance to each hole and to find his ball after each stroke. The friend also guides his footsteps around hazards and pitfalls on the course.

Charley lost his sight in the Battle of the Bulge, and a less courageous man might have accepted that as the end of his career as an athlete. Charley, however, had been a member of the University of Alabama football team that played in the Rose Bowl before the war, and he had also developed an enthusiasm for golf. As a sportsman, he learned to accept handicaps as a challenge.

In the fifth annual championship for blind golfers at the Augusta Country Club in Augusta, Me., Charley set an example for all handicapped individuals. He played the course in 112 and 108 for a 36-hole score of 220 and won the championship for the third time.

Thirteen other blind golfers exhibited the same courage at the same time, although none came within seven strokes of matching the skill which Charley has developed. The best indication of this skill came not in the championship but later when Francis Ouimet put on a tight blindfold and played a one-hole match with the blind champion.

Charley made the par-4 hole in 5. Francis topped his drive, was short with his second, took a couple of whiffs and a few putts and holed out for a 10.

as necessary to produce a proper draw.

Dates are September 11-16, and the place is the East Lake course of the Atlanta Athletic Club. Participants will include Curtis Cup Team members of both the British Isles and the United States. Another visitor is Miss Fay Crocker, of Montevideo, Uruguay.

The Curtis Cup match is at the Country Club of Buffalo, N. Y., September 4 and 5.

Necrology

We record with regret the passing of Lord Wardington, Chairman of the Championship Committee of the Royal and Ancient Golf Club of St. Andrews, Scotland, and formerly a member of the USGA Rules of Golf Committee.

A leader in another field of golf recently died — L. B. Icely, for many years President of the Wilson Sporting Goods Co.

University of Michigan's New Golf Clubhouse



When the first USGA Junior Amateur Championship was held at the University of Michigan in 1948, the boys found an excellent golf course but only a small shelter which served as a temporary clubhouse. This season the University opened a permanent clubhouse to match its course. An unusual feature is the manner in which the lounge merges into Albert C. Katzenmeyer's golf shop. There are lockers for 305 men and 63 women and 11 rooms which can be used for the Michigan football team on pre-game nights or for visiting teams. The basement will contain indoor driving ranges and a practice putting green.

Good Lawns

The Department of Agriculture's Leaflet 281, "Pointers on Making Good Lawns," very probably has in it all the information the home owner will need for making a lawn. This leaflet, prepared by the USGA Green Section in cooperation with the Bureau of Plant Industry, Soils and Agricultural Engineering, is a revision of an article that appeared in "Grass," the Department's 1948 Yearbook.

It tells how to begin to work up to a good lawn around a new house and discusses keeping turf in tune, renovating an old lawn, selecting kinds of grasses, restraint in watering and new combinations of cool-season grasses with warm-season grasses so as to have a good lawn throughout a long period. It contains a surprising number of facts on practical lawn handling.

Copies may be obtained free from members of Congress or from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

National Kid's Day

One of our authors, Maurie Luxford of North Hollywood, Cal., has asked us to publicize a request by the National Kid's Day Foundation that as many golf clubs as possible conduct National Kid's Day Sweepstakes on Saturday, September 23. This, of course, we are pleased to do in view of Luxford's statement that:

"All proceeds from this annual one-day drive will be spent in the furtherance of National Kid's Day, a movement through which summer camps for boys and girls eventually will be established in every state in the union."

From 'Gutty' to Golden Jubilee

By LINCOLN A. WERDEN
GOLF EDITOR, THE NEW YORK TIMES

The Women's Amateur Championship in Atlanta this month is the third and last of the USGA's Golden Anniversary tournaments. It is an appropriate occasion to consider how the game has progressed since the Newport Golf Club and the Meadow Brook Club entertained the first Championships in 1895.

In the early days of American golf the fascination of playing a course in the least number of strokes was sometimes difficult to explain to potential devotees. Humorists offered an oversimplified version by saying the purpose of the game was to hit the ball. If you found it the same day, they explained, you won. Nowadays comedians spend hours perfecting their golf games instead of their golf jokes.

Originally the appeal of chasing the "little white pill" was confined to special groups. In its infancy, golf was a "society" sport, limited to those who played on a handful of private courses. Equipment was scarce and most of those who became interested in playing golf learned of it while visiting the British Isles or had heard about it from those who had journeyed abroad.

The teachers were chiefly Scots and Englishmen, and the Rules were set down by the Royal and Ancient Golf Club of St. Andrews, Scotland. It was little wonder, then, that as far as early competitive honors went, the foreign-born men carried them off with few interruptions. The American women fared better in this respect than the men.

Since those days, golf has become a national pastime. The golf bug has bitten indiscriminately. Doctors, lawyers and even chiefs on our Indian reservations have joined the ranks of players from every walk of life. Most of the current professional experts are former caddies who learned the fundamentals of the game anywhere from the eastern seaboard to the plains of Texas.

"Mac" or "Jock" who once presided in

the golf shop is now almost conspicuous by his absence. Gone with them, too, are the clubs with spliced heads and hickory shafts. The pride of turning out a suitable club by which you could master the game was in the early days reserved for the professional with the Scottish or English accent who had learned club-making as part of his trade.

With thousands and gradually millions playing the game, instead of hundreds, the demand for golf paraphernalia exceeded the meager supply that trickled from homemade suppliers. Streamlining was applied to the production of golf equipment, as to other industries. The solid gutta percha ball with which Mrs. Charles S. Brown, Charles B. Macdonald and Horace Rawlins made history by winning the first Championships gave way to the rubber-cored and then to the liquid-center ball.

The "gutty" now has a place in the USGA Golf Museum. Steel shafts supplanted hickory and then whole sets of matched, numbered clubs appeared.

That was a sad day for the locker-room hero who used to relate his sterling play with the mashie niblick. He was forced thereafter to use less colorful language. He was playing those same shots now with a No. 8 iron, and his favorite spoon became, instead, a No. 4 wood.

As one disgruntled veteran instructor of the old school said to a somewhat bewildered pupil, "If you know how to count, I guess I can teach you the right club to use."

Ball Is Regulated

The increased speed of the golf ball was responsible for a drastic development. Longer-flight balls raised a perplexing question. If the ball could be hit farther and farther, courses would have to be lengthened and lengthened. This would mean more expenditures to buy more and more acreage. Golf-club

members were haunted by the financial nightmare.

Finally the USGA adopted, for the protection of its member clubs, a rule to limit the flight of the ball. A machine under the supervision of the USGA now provides a test to insure that the velocity of all brands does not exceed 250 feet per second at impact.

While the clubs and ball were undergoing experimentation, other technical improvements were introduced, such as deep markings on the faces of iron clubs to help stop the ball. When these markings became extreme, the USGA was forced to regulate them to restore personal skill to the game. Even sand, which once was taken from boxes on tees and used to tee up the ball, became obsolete with the introduction of the peg tee.

Perhaps the most significant change during the fifty USGA Championships has been the improvement in golf courses. Probably few present-day golfers appreciate the pastures and orchards that were first used in this country. Courses sometimes were laid out with the aid of eighteen stakes on a Sunday afternoon, says Robert Trent Jones, the golf course

architect. Distances were stepped off and stakes were driven into the ground to denote the location of the greens.

Turf Science

The care now given to course maintenance and particularly to putting greens, where championships are often won or lost, has been the basis for much study and research. The USGA employs scientists in its Green Section to develop better turf for the nation's courses. Brooks, streams and trees are utilized in an over-all plan of course design. Somewhat like pieces of putty in a sculptor's hand, they are fitted into the pattern that creates the golfers' playground.

A few holes could be added to a course in the 1890s for \$100. Constructing an 18-hole layout now costs from \$125,000 to \$500,000, depending upon the topography. Yearly expenditures of \$35,000 to \$40,000 are made now by many clubs for course upkeep. Few clubs allow unsightly obstacles or remnants of what was called "bush country" to remain near their fairways.

Bob Jones often tells of an experience with rough in the 1926 Open when Jock Hutchison, the good-humored Scot, was



Probably few present-day golfers appreciate the pastures and orchards that were first used for golf courses in this country. This is the course of the St. Andrew's Golf Club, which was organized in Yonkers, N. Y., in 1888.

his playing companion. Hutchison drove into the heavy grass bordering one fairway, and his caddie put down the bag in the rough. After the allotted time for retrieving the ball had expired, the caddie went back for the bag. "But the rough was so high," Jones relates, "he couldn't even find the bag."

Because of the widespread interest in golf, tournaments are held at every club and major ones in every sector of the land. A group of playing specialists among the professionals has sprung up so that there are year 'round circuits for men and women that follow the sun, from East to West, summer through winter. If the pros are not so hilarious as some of their predecessors, one reason is that competition is keener and they are on a continuous tournament grind. In the early days, when a pro went off to a tournament, it was in the nature of a holiday.

The champions in some of the old photographs not only bring a chuckle but they look as though they usually played in cold weather. The heavy jackets, hats and long trousers, held up by braces, are relics of the past. The age of knickers has been followed by

colorful slacks and shirts. Jimmy Demaret, of course, is the outstanding example. Although his outfits would startle pros of the bygone era, as well as Paris designers, galleries have become accustomed to his chartreuse slacks, pink and green sweaters and green suede shoes.

Game Still "Humblin' "

Conservatism has been tossed aside, too, in the swing. The Carnoustie style of swinging has been altered and more emphasis has been placed on hitting. "Power golf" is a term widely used in advocating the new principles that call also for a simple, abbreviated swing.

Many changes and the tremendous growth in the last half century have made golf an international sport, and the only interruptions in the Championship program have been due to wars that have caused six cancellations. An indication of the growth is the fact that there were only 56 entrants all told in the first USGA Amateur, Women's and Open Championships. There were approximately 2,500 entrants for the same Championships this year.

But for all its changes, golf remains "a humblin' game."



The care now given to course maintenance, and particularly to putting greens, is now the basis for much study and research. This is the 15th green of the Cypress Point Club at Pebble Beach, Cal.

The Molasses-Footed Golfer

By WALTER STEWART

SPORTS EDITOR, THE COMMERCIAL APPEAL, MEMPHIS, TENN.

The shower salon of the country club was rich with steam and needle-fingered torrents which beat soothing symphonies upon muscles long-stretched over five miles of fairway. Tile and metal shone with subdued splendor, and soap stung the nostrils with memories of deep pine woods, but there was surly discontent in the next cubicle.

"Two hours and a half to play nine holes," cried this wretched one. "Two and a half hours behind two guys and two gals who looked over their second shots for ten minutes and then missed 'em. If we hadn't slipped in front of them on ten when they were choking a soda, we wouldn't have finished before dark."

Yea, verily, for this nude and outraged gentleman had placed a moist finger upon golf's major plague spot: the player who is slower than an income-tax refund. For this enthusiastically reviled creature works a blight upon his own game and that of the fuming hordes condemned to play behind him.

He begins by stepping upon the first tee and scowling speculatively at the players disappearing down the slope in front of him. This group is out of artillery range, but he waits until they have left the green 400 yards away and then steps up to his ball. He addresses this much longer than Abe Lincoln did the boys at Gettysburg.

He waggles. He glances suspiciously down the fairway as though he feared that someone had treacherously removed it. The tee (which is wooden and probably susceptible to moisture) is replaced by one of plastic, and the drive is attacked—and sent into the cabbage at a sharp right angle.

This brings on a discussion of fate, physics and the eternal unfitness of things. The ball is discovered, surveyed in and knocked seven yards to the fairway. And now our earth shaker plucks a No. 2

wood from his quiver—puts it back and snatches out a No. 3 iron. Using a platoon system and unlimited substitution, he runs in a No. 6 iron, a No. 4 and emerges with the No. 2 wood which picks up 60 yards. Thirty of these are up and thirty down, but the green is finally attained and the slow-down striker attains full bloom.

He examines every inch of a 60-foot putt—removes invisible shreds of grass and studies a grain he wouldn't recognize if it were a luncheon-club identification platter. An engineer inking in plans for a bridge between San Francisco and Shanghai would be no more meticulous. And now there is a putt—a putt—another putt—and another, until the can is attained by cunning envelopment and the noisome little delegation gathers at the flag to add up scores, talk over old times and plan a fishing trip next October.

The Mounting Fury

This sort of thing goes on for 18 holes and grimly blasts the pleasure of those who follow. For there is no enjoyment in hitting a shot, walking a few yards and waiting five minutes to hit another. This process is a guilty thief of time and makes efficient golf quite impossible. You lose all concentration between blows. Fury boils in the rising blood pressure and you hack and slash as though the ball belonged to the players in front.

The maddeningly tardy player happily destroys his own game in the process, for it is impossible to moon endlessly over a shot and then hit it with crisp accuracy. Instead of attaining concentration, you are picking up partial paralysis, and it serves you right.

In fairness to the dreadful dubs, we must admit that the touring professionals are largely at fault. They have made slow golf a fetish, have carried it to extremes which will someday return to haunt them with five-man galleries. Many

(Continued on Page 20)

The Utilitarian Value of Trees

By JOHN R. WILLIAMS, M. D.

CHAIRMAN, GROUNDS COMMITTEE, OAK HILL COUNTRY CLUB, ROCHESTER, N. Y.

There is a widespread belief that the purpose of trees on golf courses is mainly ornamental. Their utilitarian value is rarely appreciated. The object of this article is to point out some of the important functions of trees and to outline problems presented in their selection and planting.

Trees, like all other forms of life, have their individual requirements for healthy growth. Of these the most vital is suitable soil.

According to agronomists, there are more than 2,000 kinds of soil on the earth's surface. For practical purposes these are reduced to 16. On the grounds of the Oak Hill Country Club we have found eight varieties, but for purposes of brevity only five will be described.

Soil types in most of the northern half of the northern hemisphere were determined in large part by the last glacial epoch which began 50,000 years ago and lasted for 25,000 years. There were four of these ice caps, with intervening periods of about 100,000 years of temperate climate. Indeed, glaciologists believe we are now living in such an interval and that it will be followed by a fifth ice cap.

The last, or fourth, great ice sheet, as it affected the eastern part of the United States, began as a glacier in Labrador and Quebec. Slowly it pushed south and west like a mammoth bulldozer, gouging, scraping and pushing the soil and rocks in its path. Huge deposits of earthy detritus were transported from the north. As the climate became warmer and the ice receded, this material was deposited as hills and ridges, which we know as drumlins, through our northern states.

About 300 million years ago the grounds at Oak Hill were part of an inland salt sea, the bed of which was a stratum of clay. The glaciers later deposited the present hills of sand, boul-

ders, gravel, clay, loam and their various admixtures. This accounts for the diversity in our soil structure and the contour. We have large flat areas consisting mainly of clay, some of it almost impermeable to moisture and air, and some which are a mixture of clay and loam. Other plots consist of sand of almost flourlike fineness. Still others are mixtures of the foregoing and rich in humus.

These physical characteristics of soils are significant. A top and surface sub-soil largely of sand permits the rapid penetration and loss of water and soil nutrients. There is no storage of needed moisture. This undue drying is worsened by prevailing winds. Top and subsurface soils mainly of clay, because of their low porosity, permit the rapid run-off of rain-water, with consequent erosion and dehydration. Such soils usually are lacking in oxygen, a vital necessity for plant growth. Of the soil elements, that on the surface, the humus layer, is far the most important. Where humus is absent from the soil, a desert will be found.

Creating Humus

Humus is formed from decaying vegetable matter, as leaves, twigs and grasses. It is almost entirely organic. It supplies the many chemical elements of which soil nutrients are composed. It is on the floor of forests that nature has made most of the humus on the earth. A relatively small amount was produced by the western grassy plains. The forest layer of mulch may vary in thickness from a few inches to several feet, depending upon the type of tree water erosion and the destructive practices of man, its greatest enemy. It will vary in weight from one to 100 tons, oven-dry weight, per acre. After a rainfall, an acre of forest floor may store from 20 to 50 tons of water which later slowly supplies the ground water table and feeds the springs and brooks.

When rains are excessive, by means of their large leaf areas, trees evaporate back into the atmosphere large quantities of redundant water — individual trees as much as several barrels a day. When drought occurs and soils are dry, evaporation ceases completely, and by means of an elaborate root system plus its humus, the soil will hold as much as five times the amount of water that will be found in adjacent treeless areas. Thus trees automatically and efficiently perform the dual functions of irrigation and drainage. It was largely due to these facts that Oak Hill, by the planting of trees, was able to transform abandoned farm land, part of which had already become a semi-desert, into lush, grassy fairways and beautiful, wooded hills.

Since it takes an enormous amount of decayed vegetation and years of time to produce an appreciable amount of humus, the importance of its conservation is apparent. A good forest on a golf course may in time become a nature factory for the production of compost.

Trees are efficient regulators of atmospheric temperature. They cool the warm air of midsummer and temper the cold of winter. The temperature in the woods at Oak Hill in summer averages 8 degrees cooler than on the fairways. Individual trees serve similarly. They also lessen the force and destructiveness of winds. The average velocity of wind in this area is from 7 to 15 miles per hour. A tree plantation will reduce wind velocity from 30 to 60 per cent on the adjacent fairway. Air currents have a rapid-drying effect on fairway turf. This is especially true where the topsoil is largely sand. In addition to the dehydration, winds blow away topsoil, seed and fertilizer. Thus wind erosion may be a serious factor in turf development. Because of this it was not possible to grow a satisfactory turf on three fairways at Oak Hill until several wind breaks of tree plantations were developed. The value of wind breaks increases with the growth and density of the trees.

With these considerations in mind the

tree planter should make such selections of stock as will insure vigorous growth. For example, oaks with their long tap roots do best on deep, porous acid soil. Elms, shallow-rooted, will grow fairly well on any soil if their moisture needs are met. Willows and poplars thrive on wet lands. The pines and spruces vary in their needs. Few of them will grow well in heavy clay. Indeed in heavy clay areas we found it necessary to fracture the clay stratum by dynamiting, thus providing essential root drainage. The holes were then filled and the trees planted in a mixture of humus and loam. Where this was done, good growth resulted. Where it was not done, growth was negligible.

Before selections are made, the tree planter should consult nursery guides and authoritative works on tree culture.

Four Values of Trees

Aside from their decorative value, trees should be planted on golf courses for the following purposes: (1) As individual specimens to provide shade and comfort for tees and greens, (2) As small forests or plantations to regulate rainwater runoff and to conserve ground water, (3) As wind breaks to control erosive effects of winds and to temper extremes of heat and cold and (4) As storage reservoirs for leaves, twigs and grass cuttings as a future source of ever needed compost.

Plantings about tees and greens should consist of trees which do not shed their leaves during the golfing season. Oaks have this desired quality. Red, pin and white oaks in the above order are recommended. Evergreens, particularly specimen ornamental varieties, make desirable backgrounds for tees when supplemented by shade trees, as the oaks.

Evergreens should not be used about greens. They unduly penalize stray approach shots and cause unnecessary grief to the golfer. Trimmed evergreens are not beautiful.

Elms and maples should be avoided around tees and greens. Their place is in the rough and about the clubhouse.

Willows, particularly the Wisconsin

Lawn and Clubhouse at Oak Hill



All the beautiful trees seen in this photograph have been planted and dedicated as memorials within the last 25 years under the direction of Dr. John R. Williams. The site originally was abandoned farm land, and not a tree was visible from this point except for a few of the fence line elms in the distance. This photograph was made by Russ Holderman.

willow, are attractive. With the birches and poplars, they do well along water courses. Because of their tendency to plug drainage tile, poplars should be used sparingly and where they can do no harm.

Plantings along fairways should be so ordered as to create the effect of an avenue. As fairway hazards, trees are superior and far more economical than sand traps. They also may be planted as distance markers. Where possible avoid straight lines. Planting in clumps or

the staggering of specimens adds effectiveness.

Hillside rough is enhanced in beauty by the use of evergreens of various shades of blue and green, interspersed with colorful hard maple, white oaks and white birch. The mountain ash is beautiful and useful as a source of food for birds. In this connection the mulberry is highly desirable. Both of these trees, however, should be confined to the rough.

Dogwoods along the edges of plantations are attractive. Flowering shrubs

and ornamental fruit trees should be used sparingly and only around the clubhouse. They require too much care and are prone to troublesome infestations.

Nursery Reduces Cost

Finally, a word about costs and the element of time. Were one to attempt to carry out such a program as is sketched here, using mature or even half-grown stock were it possible to obtain it, the cost would be prohibitive. Landscaping a golf course with trees is a long-time program. In the matter of evergreens, using 2- or 3-year seedlings planted on suitable soil, a growth of from one to four feet per year may be expected. With deciduous trees, such as oaks, elms, maples and willows, a growth of at least one foot per year is usual. Where large numbers are required, seedlings may be started in a club nursery while 8- to 10-foot saplings from a commercial nursery may be set at once in permanent location. In the case of the latter a sizable shade tree will result in from 10 to 15 years. Oaks started from acorns will produce trees which will caliper from 4 to 6 inches in 20 years, while those from 10-year saplings will produce useful shade trees in this time. Contrary to the usual notion, the oak on good soil will grow as rapidly as the elm and make a far better tree.

In the club nursery at Oak Hill during the last 20 years we have grown from seed several hundred oak trees which are now in location and of good size. Moreover, we have a reserve stock in the nursery of more than 5,000 seedlings and saplings. Each year several hundred acorns are planted.

Trees are like humans. They are subject to disease and death. Our casualty rate each year is from 100 to 200 trees. Constant replacement is necessary. Trees of foreign origin are particularly vulnerable to disease and the elements. Scotch and Austrian pine, Norway and Colorado spruce are examples. They are suitable and useful for temporary planting, say 20 years. Hence a replacement plan is an essential part of a well-ordered

program. At Oak Hill, as time and finance permit, we expect to replace the short-lived and undesirable trees with oaks and other material from our nursery. Native trees are the most useful and beautiful.

Trees cannot be made overnight. They result only from time, thought and care. As carried on at Oak Hill the cost has been very little. Twenty years is a long time in contemplation, but in retrospect it is brief. Finally, it should be remembered that trees, like humans, when healthy are attractive from the first year of life. A country club can make no finer contribution to civic welfare than to use its idle spaces for the growth of beautiful trees. With a little intelligent effort and expense, it can justify its existence in the community by creating an arboretum or park which will uplift the whole countryside.

From a practical point of view, by its landscaping program alone, over a period of 25 years and at a cost of less than \$25,000, Oak Hill has enhanced the value of its property by at least \$500,000 and the surrounding home-site areas by another \$500,000. This increment in beauty and value will continue as will its cultural uplift.

This is the second and last of a series. The first was published in the issue of June, 1950, and discussed the aesthetic value of trees.

POSITION OF TRUST

The score card of the Fairfield Country Club in Jamaica, B. W. I., sums up the responsibility of each competitor in the following exemplary language:

"Each competitor holds a position of trust in respect to the whole field of players; and it is his duty not only to play but to see that his fellow competitors play the game strictly in accordance with the Rules and that the scores are correctly marked."

Wood Shots

By SAM SNEAD

PROFESSIONAL, GREENBRIER GOLF CLUB, WHITE SULPHUR SPRINGS, W. VA.

Woods are easier and simpler to use than irons. For one thing, they generally are used off the tee or from only good lies in the fairway. A wood club has a wide, flat sole which is designed to right the club to some extent if it should be swung a little too deeply into the turf. Hence, with the right mental disposition, your wood play should be up to, if not excel, your iron game.

The position of the ball on wood shots should be to the left of center. I like to play my drives off the left heel, with each of my other woods down to the No. 4 moved slightly back towards center. I also recommend a slightly closed stance, with the right foot pulled back about one inch.

The ability to relax is an asset to all strokes, but particularly to wood shots. Often, when a golfer picks up a wood, he has a vision of hitting the ball a country mile, and he tries to fulfill his vision by brute force. He forgets that each wood is designed for distance, just so he won't have to break his back to hit a 250-yard drive. You will get more distance out of your woods if you are relaxed when you shoot.

Balance is important throughout the entire swing. Develop the swing gradually. Don't rush it. Keep in mind that you are swinging the club. Don't lift it or you may lose some of your precious balance. Take your time on the backswing, pause when you reach the top and then start the downswing smoothly and unhurriedly.

As the backswing is started, your body naturally turns with your arms and the left knee bends slightly. About halfway back, your wrists start to cock, and at the top of the swing the club should be back over your shoulders and just about level with the ground.

Some golfers have the idea that if you don't hurry the downswing right at the start, you will lose power in the stroke. This is not true. Speed and



Sam Snead

timing produce distance, and most of the speed of the clubhead is generated when it is only three to three and one-half feet from the ball. This is the point at which you begin to unleash the power in your wrists.

I use the word "unleash" to describe the uncocking of the wrists, because the wrists do not roll. Instead, they come through with a whipping action, the hands returning to the position they had at the address. That is the only position for the hands if the clubface is to meet the ball squarely.

One more point—I don't think it is stressed enough in modern teaching—is to keep your head behind the ball. This will cure many of the faults of trying to force the ball by pulling your body or hands in front of the clubhead.

Just relax and let the club do the work.

Artificial Obstructions

By JOSEPH C. DEY, JR.
USGA EXECUTIVE SECRETARY

To most golfers, the Rules of Golf are just a maze of technicalities, and the high point of all is the one dealing with artificial obstructions. This is a delightful little section known whimsically as Rule 7(4). It is the cause of more inquiries to the USGA than any other Rule; of 100 written requests for interpretations handled thus far in 1950, eight dealt with our old friend 7(4).

The subject of artificial obstructions has more than passing importance for all golfers because it deals with a privilege accorded to the player. Many Rules are merely prohibitory or otherwise negative. Good old 7(4) gives you some rights, and it's well to know what they are.

Now, just what is an artificial obstruction? The first paragraph of Rule 7(4) goes into great detail in giving examples—boundary stakes (but not fences or fence posts), water outlets, drain covers, protective screens, bridges and abutments, shelters, material piled for removal, guy wires, to name only a comparative few.

The definition winds up this way: "... paper, bottles and similar artificial objects." Thus, distinction is drawn between artificial obstructions on the one hand and, on the other, such natural objects as worms, loose stones, leaves, twigs, or anything growing. The natural impediments, incidentally, are covered in Rule 7(2 and 3).

Having defined artificial obstructions, Rule 7(4) proceeds to state its purpose, in the following section, which is new to the code this year:

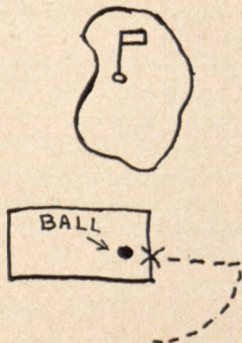
"Relief. The player is entitled to freedom from interference by an artificial obstruction in order to strike the ball in the direction of his choice (subject to limitations elsewhere in this Rule). This does not mean that the desired line of flight of the ball must necessarily be free of such interference. Regardless of how the desired line of flight may be affected,

the player is entitled to specific relief as follows:" whereupon the Rule goes into detail about the sort of relief you get in various situations.

The first type of relief is described in a paragraph which is identified as "(a) Removal of Obstruction." It says that you may remove any obstruction which is movable.

Next is "(b) Ball on or Within or Touching Obstruction." This charming paragraph deals with a ball lying on or within or otherwise touching an immovable obstruction. It says that in such a case you may lift your ball without penalty and drop it (or on the putting green place it) within two club-lengths of that point of the obstruction nearest where the ball originally lay; of course, the ball must come to rest not nearer the hole. The foregoing does not apply to play in a hazard; there's a separate clause for that, permitting a ball so situated in a hazard to be lifted and *placed* in a similar lie and position, etc.

Now what is "that point of the obstruction nearest where the ball originally lay"? That means exactly what it says—every word in the Rules of Golf has been well chewed over before getting into print. The diagram below illustrates what is meant:

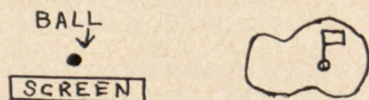


The rectangle is a drain cover. Point X is that point of the obstruction nearest where the ball originally lay. The rule says you may drop the ball within two club-lengths of that point. Thus, if the horizontal dotted line is two club-lengths long, you may drop the ball anywhere within the territory bounded by the dotted line, provided the ball comes to rest not nearer the hole than its original position.

That brings us to the last paragraph of Rule 7(4) — it is headed “(c) Obstruction Interfering.” Bear in mind that every word carries a meaning. Now, then:

If your backward or forward swing or your stance is interfered with by an immovable obstruction which is within two club-lengths of your ball, you get the same sort of relief as described in paragraph (b). That is, you may lift the ball without penalty and drop it (or on the putting green place it) within two club-lengths of that point of the obstruction nearest where the ball originally lay. The foregoing does not apply in a hazard, because in that case you may place the ball in a similar lie and position, etc.

Now, to test your knowledge, here's a little sketch, much like one recently submitted by C. T. Littlejohn, Jr., of Honolulu:

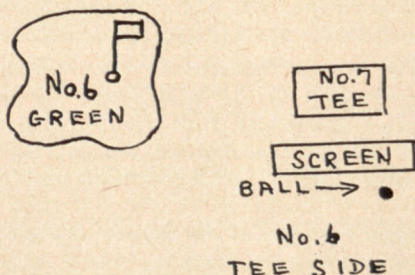


The ball is a foot away from the protective screen. The player's objective is the putting green shown. May the player lift the ball without penalty and drop it two club-lengths away from the screen?

No. It's true that the screen is immovable and is within two club-lengths of the ball. But it does not interfere with the player's backward or forward swing or his stance. So he has to play the ball as it lies.

Finally, here is a case presented by H. G. Mesing, Chairman of the Golf Com-

mittee of the South Hills Country Club in Pittsburgh:



No. 50-97. R. 7(4c).

Q: There is a protective screen about 30 feet long and 10 feet high back of our No. 7 tee and directly opposite to our No. 6 green (diagram submitted). Ball comes to rest on No. 6 tee side of the protective screen. The player contends that he is entitled to two club-lengths from the screen on either side of the screen. This would definitely give him the advantage, inasmuch as he would not have a clear shot to No. 6 green if he had to play his ball from No. 6 tee side of the screen. Were he permitted to play his shot from No. 7 tee side of the screen, he would have an open shot to the pin, which in our opinion is unfair advantage.

In the absence of specific local rule, what would be the decision of the USGA in this regard?

A: If the player is entitled to relief under Rule 7(4c), the ball must be dropped on the same side of the obstruction as its original position.

Under Rule 7(4c), an immovable obstruction must be within two club-lengths of the ball and must interfere with the player's backward or forward swing or his stance.

When these conditions prevail, the ball may be lifted without penalty and dropped "within two club-lengths of that point of the obstruction nearest where the ball originally lay, and must come to rest not nearer the hole." The point of the obstruction "nearest where the ball originally lay" obviously would be on the same side of the screen.

Rule 7(4, Relief) provides in part: "The player is entitled to freedom from interference by an artificial obstruction in order to strike the ball in the direction of his choice (subject to limitations elsewhere in this Rule). This does not mean that the desired line of flight of the ball must necessarily be free of such interference."

Municipal Golf in Los Angeles

By MAURIE LUXFORD

CHAIRMAN, GOLF COMMITTEE

LOS ANGELES CITY RECREATION AND PARK COMMISSION

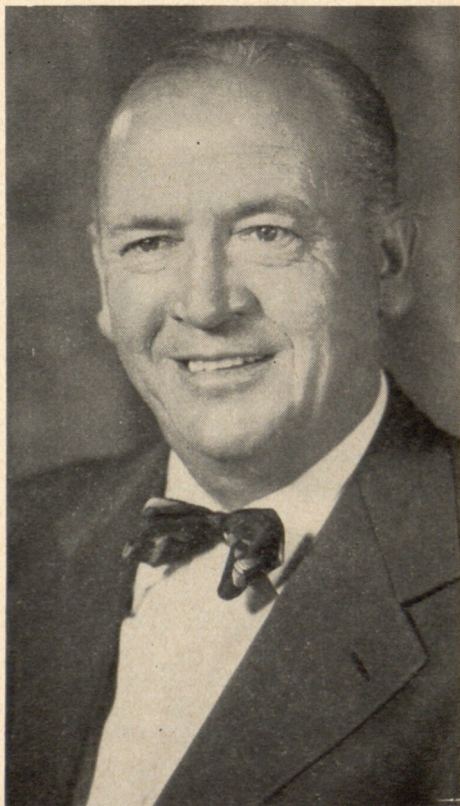
Given great impetus by the opening last summer of the 7,003-yard, 18-hole Rancho Municipal Golf Course, public links golf in Los Angeles has continued its steady growth, with increased play on the city's municipal courses offering a specific example of the game's appeal.

In addition to Rancho, which is located in West Los Angeles, the Los Angeles City Recreation and Park Department also operates the 18-hole Wilson course (6,866 yards), the 18-hole Harding course (6,469 yards) and the nine-hole Roosevelt course (2,623 yards). All are standard golf courses. Three additional pitch-and-putt courses are operated: the nine-hole Coolidge course in Griffith Park, the nine-hole Rancho course and the 18-hole Holmby Park course. Three driving ranges are among the other municipal golf facilities of Los Angeles.

A total of 483,161 rounds of golf were played on these seven courses in 1949. The Rancho course was opened in July, 1949, for the USGA Amateur Public Links Championship. It was, therefore, in public use for only half the year.

From 1944 until June 1, 1950, a standard green fee of \$1 prevailed on all full-size, 18-hole courses. The inflation which affected all living costs in the post-war period made itself felt in the operation of Los Angeles' city courses, too. While revenues continued to exceed operating costs, this trend resulted in a steady shrinking of the increments to surplus upon which the city depended to build new and badly needed courses.

Operating expenses for the Los Angeles municipal courses in the fiscal year 1948-49 totaled \$311,437. Subtracted from the gross revenue of \$377,225, this left a net of \$65,788. This surplus went into development of new golf facilities. For reasons mentioned above, any surplus at the conclusion of the 1949-50 fiscal year is bound to be considerably less.



Maurie Luxford

The outlook for the fiscal year 1950-51 is much brighter. The Recreation and Park Commission, after very careful study and analysis and following consultation with leading golfers and golf writers, authorized an increase in the rates at city courses which brought these charges more nearly in line with present-day conditions.

The basic green fee of \$1 for 18 holes was increased to \$1.50. The basic fee of 50 cents for nine-holes was raised to 75 cents. A new fee of 50 cents was established for making advance reservations.

As part of the new plan, a greatly improved reservation system has been instituted. Reservations are now made

entirely by telephone to a central reservation office established in the City Hall headquarters of the Recreation and Park Department. A great improvement has been effected over the old reservation system which caused many golfers to wait long hours in line and which was hard to keep free of abuses.

Though the rates were increased, the great majority have readily accepted the new situation, recognizing its validity and importance to the future of golf in Los Angeles. The point of view was aptly expressed by Joseph C. Dey, Jr., Executive Secretary of the USGA, who wrote:

"I certainly was interested in news of the rate increase of Los Angeles' municipal courses and the plan to use the proceeds on additional courses. It is obvious that you have saved the day for public-course golf in one of

the most golf-minded sections of the country."

As a result of the increased revenues anticipated under the new rate structure, the Recreation and Park Department expects to start in the fiscal year 1950-51 building another course to help relieve the pressure on existing courses. The new facility is planned for the Sepulveda Flood Control Basin in the San Fernando Valley, and an application has already been filed with the federal government to obtain the long-term use of this valuable and well-located land.

Municipal golf has come a long way since the early days. And municipal golf has not only been continuously self-sustaining but has produced its own surplus revenues with which to build new city courses—the only way in which this could be accomplished.



When Stanley Bielat, of Yonkers, N. Y., Frank Rutkiewicz, of Honolulu, Salvatore Fiorillo, of Norristown, Pa., and John Dobro of Chicago reached the semi-final round of the Amateur Public Links Championship in Louisville, they felt they were entitled to sit down and relieve their aching feet. So they did. Bielat survived the other three to win the Championship.

The Ladies: Then and Now

Fifty years have passed since Miss Frances C. Griscom of Philadelphia won the Women's Amateur Championship at the Shinnecock Hills Golf Club in 1900 and she doesn't play anymore. She stopped abruptly the year she was beaten by a girl who was not born in 1900.

Miss Griscom's enthusiasm has never waned, however. Only last June she sat by the 18th green at the Merion Golf Club one tense afternoon to watch the Open Championship.

In this year of the Golden Anniversary Championship at the East Lake Course of the Atlanta Athletic Club, the game is fortunate to have a keen witness who can recreate its early years.

Mr. Cox's Cup

Miss Griscom made her debut in the second Championship at the Morris County Golf Club in New Jersey in 1896, which was the first for the cup presented by Robert Cox of Gorgie, Edinburgh, Scotland. The cup was a major attraction. The NEW YORK TIMES exhausted its superlatives in describing it:

"Probably the most elaborate and handsomest trophy that has ever been offered as a prize in any contest ever held in this country will be the beautiful, thousand-dollar silver cup recently given by Mr. Robert Cox of Scotland to the United States Golf Association for the Women's Championship of America.

"The deed of gift, which was accepted by the United States Golf Association with the trophy at its annual meeting February 8, 1896, is as follows:

"I, Robert Cox, of Gorgie, Edinburgh, Scotland, by these presents, and for the encouragement of the ancient and royal game of golf, do make over and convey to the United States Golf Association, in perpetuity, a trophy for the Women's Amateur Championship of the United States, to be played for under the rules of the association governing such championship and subject only to the condition that the first competition shall



Miss Frances C. Griscom in 1900

be held at the Morris County Golf Club, and the trophy is to remain in the custody of the club of which the winner is a member until won by the member of another club. Witness my hand and the seal of St. Andrews at Edinburgh on this 20th day of January, 1896.

Robert Cox

Witness, John M. Chapman.'

"Mr. Cox, the worthy donor of this magnificent prize, is a member of the British Parliament, besides holding many smaller honorable positions in Edinburgh. He has been a frequent visitor to America, and it was while visiting friends in Morristown shortly after the golf links were laid out there in the spring of 1894 that Mr. Cox realized the possibilities of the game in this country and the enthusiasm for it which would undoubtedly be developed among the women and got the idea that he would, at the proper season, present a cup for the ladies' championship of America,

and witness the first contest for his cup."

Miss Griscom had started playing golf only two years before over three holes cut in thick clover on her father's country place, and although she was among the eight qualifiers, she was eliminated in the first round.

Unfeminine Concentration

"Miss Beatrix Hoyt was supreme," Miss Griscom recalls of the 16-year-old winner. "She could even break a hundred!" In 1897 and 1898, Miss Griscom was a semi-finalist, and in the first year of the Nineteenth Century, she won. A share of the credit undoubtedly was attributable to a distinctly unfeminine example of concentration.

"I had the second best score in the qualifying," she recalls, "so the shirt-waist I wore became a lucky one. It was washed each night and worn the next day. In the final, before a gallery of four thousand, it split from neck to waist and I never knew it."

Present-day scoring continues to amaze Miss Griscom, whose score in that qualifying round was a 96 to Miss Hoyt's 94. They were the only scores under 100 and were truly remarkable in their day.



Miss Beatrix Hoyt in 1897.

"In 1898 Miss Elsie Cassatt set the record at Merion with a 61-62-123," she comments. "Mrs. E. A. Manice won the driving competition that year with a drive of 134 yards, 1¼ inches.

"It was not until the Haskell ball appeared in 1901 that scores began to improve. Personally, I never was as good with the new ball, although I managed to break ninety occasionally before I stopped playing tournament golf.

"The greatest changes in fifty years, though, are in the courses. They now have beautiful turf, perfect greens and raked bunkers. In our time we played out of footprints and all sorts of rough places."

The First Championship

The improvement in women's golf over the half century, however, is also revealed by turning back to the records of the first USGA Women's Amateur Championship, which was at stroke play over the nine holes of the Meadow Brook Club on Long Island. The NEW YORK SUN proclaimed, the day after the competition:

"New York claims the first amateur woman golfer of America, through the prowess on the Meadow Brook links yesterday of Mrs. Charles S. Brown, a resident of the city, who has learned the game to good advantage during her summer sojourns at Shinnecock Hills. Her victory was gained by the narrow margin of two strokes from Miss N. C. Sargent of the Essex County Club, the champion on the links near Boston, while third place in the competition was won by Mrs. W. B. Thomas, her clubmate. Mrs. Brown's score for the eighteen holes was 132, making the women's record for the links.

"Mrs. Brown is a graceful driver, but her great advantage was in finely directed approach strokes and in putting. One putt, on the home green, made the hole from a distance of thirty feet, and other putts were nearly as good. Mrs. Thomas played an even game, some of her drives and brassie shots being very good. The longest drive of the match was made by Miss Harrison. Charles W. Barnes, her scorer, paced the distance from the tee to

the ball and found it to be 128 yards. Her brassie and approach strokes were usually excellent; one approach with the lofting iron dropped the ball dead on the green at the eighth hole. Mrs. Shippen was not in her best form, but her long and high drives were very effective. Poor luck befell Miss Ford at the start, but her second round was in good style. A fall into the brook cost her 16 strokes on the first round, at the second hole.

"The scores follow:

Mrs Charles S. Brown, Shinnecock Hills Golf Club-
Out11 4 9 4 5 7 9 14 6-69
In 7 3 9 4 5 6 12 13 6-63—132

Miss N. C. Sargent, Essex County Country Club-
Out10 5 12 5 6 5 8 10 9-70
In 9 4 10 4 5 6 9 8 9-64—134

Mrs. W. B. Thomas, Essex County Country Club-
Out10 5 10 7 6 10 9 10 8-75
In 8 5 8 5 6 5 9 12 8-66—141

Mrs. William Shippen, Morris County Golf Club-
Out 9 4 6 4 7 7 9 11 11-74
In12 4 8 5 9 7 8 11 7-71—145

Miss Harrison, Shinnecock Hills Golf Club-
Out 9 4 12 6 6 7 15 8 10-80
In 7 4 10 9 5 6 11 10 8-70—150

Miss Anna Sands, Newport Golf Club-
Out10 4 8 5 6 9 10 13 12-77
In 8 10 11 6 6 6 9 15 7-78—155

Miss A. Howland Ford, Morris County Golf Club-
Out 8 16 9 5 9 8 9 12 10-86
In 5 4 10 5 9 9 9 10 11-72—158

Mrs. Arthur Turnure, Shinnecock Hills Golf Club-
Out 9 6 12 5 6 7 7 15 8-75
In 7 6 12 5 7 5 10 19 9-80—155

Miss Helen Shelton, Morris County Golf Club-
Out 8 4 10 5 8 7 11 16 11-80
In11 5 15 4 8 9 9 12 8-81—161

Mrs. Fellowes Morgan, Morris County Golf Club-
Out 7 15 12 7 8 12 9 12 8-90
In 9 8 6 4 5 10 9 14 9-74—164

Miss May Bird, Meadowbrook Hunt Club-
Out10 11 14 5 6 10 12 13 9-90
In10 8 16 4 9 7 8 13 8-83—173

Miss Louise F. Field, Morris County Golf Club-
Out 9 9 13 6 10 12 13 15 10-96
Withdrew."

The Molasses-Footed Golfer

(Continued from Page 8)

of these snail-geared pros operate as though they were being paid double for overtime. They take so much time lining up putts that greenkeepers sometimes move the cup before a stroke has been accomplished, and this endless study affects the professional's concentration almost as much as that of the degraded duffer.

And the deliberate professional is taking chances with his witnesses, for, as a group, a golf gallery is rather like a small child. It can remain quietly stationary only so long. Then the strain becomes too great. There is a shuffling of feet as stiff knees relax. There is a splutter of voices and the players flinch before it, when they are almost entirely responsible.

Ralph Guldahl was the most irritating of this species, for Ralph would often walk 180 yards to the green before firing his second shot. The green had been there when he had toured the course that morning, but Ralph wished to assure himself that there had been no hanky-panky in the meanwhile.

Many of the glossier amateurs have fallen into this rut, this rut which runs ankle-deep in chilled molasses. During a tournament last year, we saw Bill Campbell on the 18th green with Wil Wehrle, and Campbell examined the line of his four-foot putt so long that Wehrle lay down and snored gently.

Remember what Alex Smith said — "Miss 'em quick."

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Wanted: Several Thousand Golfers

Wanted: SEVERAL THOUSAND GOLFERS, FOR EASY WORK AS FOUNDERS OF "GOLF HOUSE." SHOULD BE INTERESTED IN WELFARE OF THE GAME, ESPECIALLY ESTABLISHMENT OF USGA GOLF MUSEUM AND LIBRARY AND PERMANENT USGA HEADQUARTERS. JOB CONSISTS SIMPLY OF WRITING ONE CHECK — YOUR OWN — FOR ANY AMOUNT YOU WANT TO GIVE. ALL YOU DO IS ISSUE A CHECK — OTHERS WILL DO THE WORK. COMPENSATION WILL BE THE SATISFACTION OF HELPING ESTABLISH AN ENDURING CENTER FOR GOLF. FOUNDERS OF "GOLF HOUSE" WILL BE LISTED ON A PERMANENT ROLL. SEND APPLICATIONS — WITH CHECKS — TO:

USGA GOLF HOUSE FUND
73 EAST 57TH STREET
NEW YORK 22, N. Y.

In case you don't know, "Golf House" is the name of a modest building at 40 East 38th St. in New York City. It has been acquired to house the invaluable golf memorabilia in the USGA Museum and Library — famous clubs, balls, pictures, documents, medals, books — in addition to serving as USGA headquarters. The USGA expects to occupy it at the end of September.

But it isn't paid for. Total cost, including alterations and furnishing, is expected to be approximately \$100,000. The Fund now stands at \$54,051.35 thanks to the generosity of 3,103 contributors.

Will you please do two things, if you haven't already done so?

1. Give us an answer to the above advertisement.

2. See to it that your Club enrolls itself as a Founder.

It would be regrettable if any USGA Member Club were to fail to help establish

"Golf House." We hope the governing boards of all clubs not yet participating will take prompt action. Some clubs have added a fixed amount as a contribution to each member's monthly statement of house charges; the member, of course, has the privilege of canceling the charge. Other clubs have made lump contributions from their treasuries.

But regardless of the method selected, the USGA cordially invites all USGA Member Clubs, all individual golfers, golf associations, and everyone interested in the game to enroll as Founders of "Golf House."

The first 2,840 Founders were listed in previous issues of the USGA JOURNAL. Below are the next 220, and others will be published subsequently. To all of them, the Association expresses its profound thanks for their generosity and their sincere interest in the enduring welfare of golf.

A

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Mr. and Mrs. Edward A. Atlas
John H. Attas

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Stanley H. Bekins
William F. Bell
William P. Bell
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William F. Bogle
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Gay Brewer, Jr.
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CLUBS

Army Navy Country Club, Va.
Augusta National Golf Club, Ga.
Bellevue Country Club, N. Y.
Brook-Lea Country Club, N. Y.
Elmwood Country Club, N. Y.
Hershey Country Club, Pa.
Irondequoit Country Club, N. Y.
Lafayette Country Club, N. Y.
Maplewood Country Club, N. J.
Ridgmont Golf Club, N. Y.
The Shaker Heights Country Club, Ohio
Talbot Country Club, Md.
Terrace Park Country Club, Ohio

ASSOCIATIONS

Alabama Golf Association
Georgia State Golf Association
Hawaii Public Links Golf Association
Ohio Golf Association
Southern Golf Association

OTHER

American Society of Golf Course Architects.

THE REFEREE

Decisions by the USGA Rules of Golf Committee

Example of symbols: "No. 50-1" means the first decision issued in 1950. "R. 7(3)" means Section 3 of Rule 7 in the 1950 Rules of Golf.

Ball Striking Competitor's Ball

No. 50-50. R. 12 (4), 18 (Def.)

Q: In stroke play, A's ball is on the green. B's ball is in the trap. B's shot comes out, lands on the green, rolls and hits A's ball.

MRS. H. D. WOLF
BALTIMORE, Md.

A: There is no penalty. Rule 12(4d) provides: "If a competitor's ball which is at rest be moved by another competitor or his caddie or forecaddie or his clubs or his ball, the ball shall be replaced."

If both balls had been on the putting green (see Rule 18 (Def.)) before the stroke, Rule 12 (4c) would have applied, with a penalty of two strokes against B.

Practice Swing on Putting Green

No. 50-52. R. 7(3), 18(4).

Q: If I should take a practice putting swing on the surface especially prepared for putting and my putter blade should touch the grass, is that a violation of Rule 18 (4) ?

BARBARA DAWSON
PIEDMONT, CAL.

A: A practice swing of itself is permissible (see Rule 7 (3)) even though the player's club may touch the putting surface. However, it is up to the player to leave no doubt that he has not roughed or scraped or otherwise tested the putting surface, else he is subject to penalty under Rule 18 (4).

Ball Lost, Unplayable, Out of Bounds: Penalties Explained

No. 50-57. R. 8, 9, 19(b)

Q 1: In stroke play, what is your ruling in regard to (a) lost ball, (b) out-of-bounds ball, (c) unplayable ball when no provisional ball has been played?

A 1: Rule 8 governs when a ball is lost or deemed unplayable. It provides in part that "the player shall play his next stroke as nearly as possible at the spot from which the lost or unplayable ball was played, adding a penalty stroke to the score for the hole. If the stroke was played from the teeing ground, a ball may be teed anywhere within the teeing ground; if from through the green or a hazard, it shall be dropped; and if on a putting green, it shall be placed."

In stroke play only, if a ball be deemed unplayable, the competitor may proceed as above or, at his option, he may "tee and play a ball under penalty of two strokes, keeping the point from which the ball was lifted between him and the hole; if this be

impossible, he shall tee and play a ball under penalty of two strokes as near as possible to the place from which the ball was lifted but not nearer the hole."

Rule 9 governs when a ball comes to rest out of bounds. It provides in part that "the player shall play his next stroke as nearly as possible at the spot from which the ball which is out of bounds was played." The penalty is loss of distance only.

Q 2: How does Rule 19(b) apply in the above instances?

A 2: Rule 19 permits a player to play another ball provisionally to save time in the event that his first ball may be lost, unplayable, out of bounds or in a water hazard. Rule 19(b) simply specifies that any such provisional ball must be played before the player or his partner goes forward to search for the original ball; a ball played after the player goes forward to search becomes the ball in play and constitutes abandonment of the original ball.

Questions by: S. TAI
SPOKANE, WASH.

Smoothing Hazard after Stroke

No. 50-58. R. 2(1), 17(1e)

Q: Player in hazard smoothed footprints after playing shot, failing to get out. Opponent called hole before any further shot was made. Player claims no penalty under Rule 17, Sec. F.

GENE BOTHUYNE
PASADENA, CAL.

A: If player's action improved lie of ball or could have assisted him in subsequent play of hole, he lost hole. If not, there is no penalty. See Rules 17(1e) and 2(1).

Defending Champion Qualifying

No. 50-59. Misc.

Q: The girl who has been champion for the past two years at our club has plans that will necessitate her absence on the day set for qualification for the championship matches. Would the just thing be to use her average score for position and allow her to participate in the matches without qualifying on that day, or may she play a round before she leaves town and use that score for position, or should she be omitted from the matches as she cannot qualify on the appointed day?

MRS. MARK T. KESSENIH
ROSLYN ESTATES, N. Y.

A: The Rules of Golf do not cover. It is a question for the local committee to decide. Customarily, all entrants are required to qualify for a match play tournament.

In our opinion, the local committee should require the defending champion to qualify at the same time and under the same conditions, as other entrants or should exempt her from qualifying altogether. It would not be fair to use an average of her previous scores or to permit her to play on a different day.

First Ball Only in Play

No. 50-60. R. 19(1)

Q: (Sketch submitted.) The player plays from the tee directly toward the green on a dog-leg hole. It is a blind shot, and the ball goes toward a water hazard. The player immediately tees and plays a second ball. He finds the first ball in the fairway, in front of the green, and the second ball in the water hazard. Which ball is in play?

JOE T. McEWEN
NASHVILLE, TENN.

A: The first ball is in play until the player indicates otherwise.

The player hit a second ball provisionally as provided in Rule 19(1). When he determined that the first ball was playable, he would have been within his rights in abandoning the provisional ball, and no penalty would have been incurred had he done so.

Water-Hazard Penalty

No. 50-61. R. 9(1), 17(2)

Q: Considerable discussion has taken place with regard to the water-hazard Rule. There is a small group who hold that a ball in a water hazard under the new Rule is the same as out of bounds. The majority contend that this is not true and that the only thing the new Rule does is to give the player an option as to how he shall play his next shot.

Will you be kind enough to give us the proper interpretation?

HERMAN C. J. PEISCH
MINNEAPOLIS, MINN.

A: The majority's contention is correct.

When a player's ball lies or is lost in a water hazard and he avails himself of relief under Rule 17(2), he counts the original stroke and also incurs a penalty stroke, regardless of the option under which he proceeds.

When a player's ball comes to rest out of bounds, he counts the original stroke, but he does not incur an artificial penalty stroke also; see Rule 9(1).

A player may play a ball from a water hazard without penalty if he finds it playable. He may not play a ball from out of bounds.

Bag Has Status of Clubs

No. 50-63 R. 1(2a, 3), 12(6), 20(1, 3a)

Q 1: Rule 12(5) states that if player's ball strike opponent's clubs, opponent shall lose hole. My ball struck my opponent's golf bag which caddie had placed by green. She maintained that I struck her bag and not her clubs; therefore no penalty.

A 1: If you entered a claim as provided in Rule 1(2a), your opponent lost the hole

(assuming that your opponent had not already holed out). Rule 12(5) covers not only the opponent's clubs and caddie but also the bag in which the clubs are carried or any other apparatus used to carry them.

Caddie Cart Has Status of Clubs

Q 2: What if ball strikes golf cart to which bag of clubs is attached? Would there be a penalty?

A 2: Yes. See answer 1 above.

Cancellation Voids Disqualification

Q 3: Three of us signed tournament sheet on Friday to play in medal tournament. Weather became so bad we quit at nine, although course was not declared unplayable. Competition for first round was to have taken place Friday, Saturday and Sunday. Subsequently, it snowed and play was cancelled over week-end. The tournament chairman said since we three signed up and did not finish round, we were disqualified for tournament in spite of fact that whole round was cancelled. What about this?

A 3: Although your group violated Rule 20(1), your disqualification was automatically cancelled if, as we understand it, Friday's play was cancelled under Rule 20(3a); and you should be allowed to start again on the same basis as all other entrants. The Rule of equity governs—see Rule 1(3).

Questions by: MRS. HENRY PAGE
DENVER, COLO.

Committee Should Correct Error

No. 50-65. R. 21(4b)

Q: In a three-day medal tournament an error was made in addition on the final day of play. The pro posted a total of 233 (instead of 232) for 78-78-76. This apparently created a tie by two contestants. The tournament committee in checking the scores the following day discovered the addition was wrong. Does the tie hold or does the contestant with the actual lower total win?

MRS. J. R. MEDART
ST. LOUIS, MO.

A: The competitor with the lower total wins.

Rule 21(4b) provides in part: "The competitor is solely responsible for the correctness of the score reported for each hole. The committee is responsible for addition of hole-by-hole scores." The committee should correct any error in addition whenever it comes to attention.

Ball Moved to Improve Lie

No. 50-66. R. 10(2)

Q: Under summer rules players inadvertently moved balls as in winter rules. Understand penalty one stroke although some question as to number of strokes if moved by hand or by clubhead. Medal tie local championship involved.

MISS MARIE G. SPATES
SILVER SPRING, MD.

A: Rule 10(2) governs. Penalty is two strokes. Inadvertence has no bearing.



Correspondence pertaining to Green Section matters should be addressed to:
USGA Green Section, Room 307, South Building, Plant Industry Station, Beltsville, Md.

REDUCED MAINTENANCE UNDER GOVERNMENT CONTROLS

Considering the possibilities of controls of materials and manpower which would be imposed if the United States should find it necessary to mobilize completely, golf clubs should begin to study methods of reducing course maintenance.

Each golf course and each area will be confronted with different problems. Therefore, no general rules can be set forth which will fit all conditions. It is not too early for greenkeeping superintendents to take stock of their own situations, however, and to formulate some concrete ideas which can be suggested to their green committees for operation of the course with a minimum of labor and materials.

Some lessons in golf-course maintenance under wartime conditions were learned during World War II. For instance, livestock grazing should not be undertaken before consulting your state experiment station. Cattle would starve on some golf courses. Neither should fairways be plowed up to make space for gardens until the need for such land is found to be urgent.

Cooperation and the mutual exchange of ideas, equipment and labor will be helpful to all the clubs within an area. The problems of each area should be discussed at your local greenkeepers'

meetings. A little constructive thought now may help a great deal later.

Nurseries of the grasses which require a minimum of water, fertilizer, disease-control materials and mowing would pay big dividends during a period of curtailed maintenance. Many such grasses are available, and they have been studied for long periods of time.

Economy of maintenance and conservation of natural resources have been the central themes of USGA Green Section research and activities for years. Through our system of maintaining putting greens *without artificial watering* and *without application of fungicides*, we have learned how to have an acceptable putting green even under extreme restrictions, if necessary, and we can furnish information on the subject.

Through our insistence on *water conservation*, we have learned how to grow some combinations of drought-tolerant grasses under minimum maintenance for tees and fairways. Planting stocks of several new grasses have been increased to the point where our supply can be shared with Member Clubs and Green Section Service Subscribers.

Your Green Section is in a position to serve you. Your suggestions on ways to conserve during critical times would be appreciated.

CRABGRASS CONTROLS

Crabgrass probably ranks first among all the weed pests that confront the turf grower. Broadleaved weeds are no longer considered to be a major problem, because they can be controlled by the use of 2,4-D.

There has been a frantic search in recent years for a material that can be sprayed or dusted on crabgrass to eliminate it from turf. Several materials are now available which will kill crabgrass. All of them, however, must be handled carefully to prevent damage to permanent lawn species. Characteristics of the various materials are given in the following paragraphs.

Sodium arsenite has been used for crabgrass control for many years. It must be handled carefully because it is extremely poisonous. No definite rates of application can be specified, because many factors modify the effectiveness of the material as well as its toxicity to permanent grasses. In spite of its drawbacks, sodium arsenite has been used successfully in many instances. It does require careful handling.

In recent years, materials containing *phenyl mercury* have appeared on the market. They are among the more promising new materials. These are also violent poisons. Usually several applications are needed. Good results have been obtained in many cases but in other cases failures have resulted even when the materials have been applied by experienced operators.

Potassium cyanate is perhaps the most recent material to make its appearance in the role of a crabgrass killer. This material is considered to be relatively non-poisonous. It appears to be quite effective in killing crabgrass, although it does produce some temporary discoloration on permanent turf grasses. The relatively non-poisonous nature of this material is a factor which will appeal to many users.

The names of most proprietary compounds give no clue as to the active ingredient or the percentage of the material present in the product. It is

therefore advisable to read the small print on the label. It is also wise to follow the manufacturer's directions in applying these materials. Most manufacturers have done a great deal of research in devising rates and methods of application of their materials.

All crabgrass killers have one feature in common. They are much more harmful to weak, thin turf than to healthy, vigorous turf. Unfortunately, most of the cool-season grasses (bluegrasses, fescues and bents) are weakest during the season when crabgrass is growing most vigorously. As a matter of fact if these grasses can be managed so that a dense turf is maintained throughout the summer months, crabgrass will not be a problem.

The warm-season grasses (zoysia and Bermuda) grow actively during the summer months and are therefore better able to withstand the effects of chemical treatments during the summer months when crabgrass must be treated. Grasses which grow actively during the summer rarely need to be treated for crabgrass, however, if they are well managed and vigorous.

It is the belief of the Green Section that crabgrass control is a long-range problem. It will be met by the development of grasses that are more resistant to crabgrass and by the development of better management practices. It is quite probable that some of the crabgrass killers now being developed and tested will become a part of the management program on many turf areas.

In conjunction with good management practices, crabgrass killers will be useful. Used without the accompaniment of good management, chemical crabgrass control will be practically hopeless.

SUGGESTED READING

"Efficient Use of Fertilizers," FAO Agricultural Studies No. 9, August 1949, \$2.00. Food and Agriculture Organizations, 1201 Connecticut Avenue, N. W., Washington 6, D. C.

A L G A E

The July, 1923, issue of the USGA Green Section BULLETIN, page 200, stated: "As soon as the soil is put in condition to grow a good turf, you will have no more trouble from algae."

In October, 1925, the BULLETIN suggested 4 ounces of corrosive sublimate in 50 gallons of water to 3,000 square feet to eliminate algae, followed by top-dressing.

In September, 1927, algae again came in for discussion. A bent green had brownpatch and had been treated with ammonium sulfate and compost. The dark, shiny patches soon covered the entire green. Overwatering was given as the cause. Less water and topdressing with 50 per cent sand, 25 per cent organic matter and 25 per cent loam were suggested.

In January, 1930, the BULLETIN again answered a question on algae. Again drainage was stressed, and the idea of spiking was suggested. Lime also was recommended to help the physical condition of the soil.

In 1950 the Green Section is receiving many requests for help in controlling algae on putting greens. The brief review indicates that the problem has received attention ever since the Green Section was started in 1921.

Algae is a one-celled green plant which is present in the soil everywhere. It requires an abundance of water for growth. It cannot stand competition from healthy turf. When soil is compact, drainage poor and turf thin, and when overwatering is practiced, algae becomes troublesome, particularly during the hottest part of the summer. The greenish-blackish scum smothers what little grass is there and, when dry, the crackly crust splits and curls. Where algae appears, this suggested program may give good results:

1. Dust the affected turf with hydrated lime at 2 to 3 pounds to 1,000 square feet.

2. Use less water to allow surface to dry. Lightly wash in the dew early each morning.

COMING EVENTS

Sept. 6-7 — Turf Field Days, Rhode Island State College, Kingston, R. I. Dr. J. A. DeFrance.

*Sept. 7-8 — Turf Conference and Field Days, Southeastern Turf Research Center, Tifton, Ga. Dr. G. W. Burton.

Sept. 11-12 — Turf Field Days, State College, Pa. Prof. H. B. Musser.

Oct. 15-17 — National Turf Field Days, Washington, D.C. USGA Green Section, Beltsville, Md. Dr. Fred V. Grau.

Oct. 25-27 — Turf Conference, Manhattan, Kans. L. E. Lambert.

Oct. 30-Nov. 3 — American Society of Agronomy Annual Meetings, Cincinnati, Ohio, L. G. Monthey, Madison, Wis.

1951

Jan. 11-12 — Maryland Turf Conference. University of Maryland, College Park, Md. Ernest N. Cory.

Feb. 12-14 — Texas Turf Conference, College Station, Texas.

Feb. 26-Mar. 1 — Turf Conference, State College, Pa. Prof. H. B. Musser.

*These dates formerly were publicized as Sept. 14 and 15.

3. Aerate the soil deeply to try to stimulate new grass roots.

4. Apply turf fungicides by the dry method to avoid applying more water, of which there already is too much.

5. Topdress lightly with a mixture of 70 per cent coarse sand, 20 per cent loam, 10 per cent organic matter when the turf begins to recover.

When algae trouble is over in the fall, take stock of conditions and try to prevent the trouble for the years ahead by:

1. Correcting the poor drainage conditions.

2. Correcting the poor physical-soil conditions. Algae usually is worst on heavy clay soils.

3. Introducing a more vigorous, better-adapted strain of grass.

4. Planning a better-adapted watering program.

5. Examining the fertilizer program to see if a change is indicated.

FAIRY RINGS

Turf areas over all the world are affected to some degree by fairy rings. The circular areas usually are marked by grass of a different color, by a different growth rate, by the absence of grass or by the appearance of mushrooms. In the days of superstition in England, these rings were supposed to mark the paths of dancing fairies. In France these circles were inhabited by "huge toads with bulging eyes." In Germany the dead grass on the inner side of the ring was attributed to the resting place of a red-hot dragon. In Holland the devil was supposed to have churned his butter in the circle, and for a milk cow to eat the taller, greener grass would mean ruination of the animal.

Dr. H. L. Schantz, in the USGA Green Section BULLETIN, June 17, 1922, Vol. 2, No. 6, page 180, gives a most interesting discussion of the subject. A diagram of the action of the fungus below the soil surface is especially interesting.

The suggested control in 1922 was to soak the soil with copper sulphate or Bordeaux mixture. This method would kill the fungus but, unfortunately, it had a tendency also to kill the grass. This method of control is not recommended.

The reason that fairy ring fungi are detrimental is that the mycelium (thread-like body of the fungus) render the soil waterproof. Water cannot enter the soil, and the grass dies because of drought.

In the BULLETIN for 1924 the suggested control was iron sulphate (1 pound to 1½ gallons of water). The soil was thoroughly soaked after loosening. The treatment was repeated in two weeks at half strength. This may injure grass temporarily but should not kill it.

In the BULLETIN for 1932 the subject was reviewed. In addition to the iron sulphate treatment, forking and drenching with "weak" solutions of corrosive sublimate were suggested. Removal of sod and replacing the soil to a 6-8 inch depth was suggested. Well-fertilized, watered turf rendered fairy rings less conspicuous.



Fairy rings occurring on the fairways of old Bannockburn Golf Course, Glen Echo, Md. This picture was taken in 1932.

In TIMELY TURF TOPICS for 1940, it was suggested that the depth of the fungus in the soil largely was responsible for poor control with fungicides. The surface soil filtered out the fungicide and rendered it ineffective.

In 1950 fairy rings are still with us and no doubt will be for many years. No specific chemical control measures have been developed to date. Best recommendations are to open the soil thoroughly and deeply with suitable aerating equipment and to soak the area liberally to prevent the loss of grass. The use of copper fungicides is not recommended for fear of copper poisoning on the turf. No objection can be found to the use of iron sulphate or corrosive sublimate. There is no assurance that they will give results. In many cases the fairy rings disappear and may not become evident again for many years.

We invite our readers to share with us their experiences with fairy rings. Any authenticated control measures will be welcome.

SCHEDULE FOR NATIONAL TURF FIELD DAYS

SUNDAY, OCTOBER 15

5:00 P.M. — Informal get-together of graduate students and research workers at Hamilton Hotel, 14th and K Streets, Washington, D. C.

7:00 P.M. — Meeting of graduate students and research workers in the Chantilly Room at the Hamilton Hotel for discussion of current projects, results to date and future plans. Everyone is invited to attend this session.

MONDAY, OCTOBER 16

9:00-9:30 A.M. — Registration at turf plots, Beltsville Turf Gardens, Beltsville, Md. Dinner tickets will be sold at the time of registration and until noon. None will be sold after that time.

9:30 A.M.-12:00 and 1:30-4:00 P.M. Inspection of plots.

Crabgrass controls.

Ureaform fertilizers on bluegrass.

New grasses and combinations.

Putting-green turf with no sprinkling.

Merion bluegrass alone and in combination with warm-season grasses.

Arlington bent and U-3 Bermuda in combination.

Vegetative planting by machine.

Trials of new fescue strains.

Trials of new zoysia strains.

Trials of new bent strains.

Spring and fall renovation.

6:00 P.M. — Dinner at Prince Georges Golf and Country Club, Landover, Md. Buses will be at hand to take visitors to the club and to their hotels. The theme of the speaking program will be "Economies in Turf Maintenance."

TUESDAY, OCTOBER 17

Field Trip to Woodmont Country Club, Bethesda, Md., and to Fairfax Country Club, Fairfax, Va. Buses will be available for this trip. New grasses and combinations will be seen under actual play. Practical golf course maintenance will be reviewed. Arrangements are under the guidance of the Mid-Atlantic Association of Greenkeepers, Hugh McRae, President,, 3029 Klinge Road, N. W., Washington, D. C.

* * *

The Beltsville Turf Gardens are at the Department of Agriculture, Plant Industry Station, on Highway U. S. 1, 10 miles north of Washington and 26 miles south of Baltimore.

Suggested accommodations are: Hotel Hamilton, 14th and K Streets, N. W., Washington, headquarters for the Sunday, October 15, session, or any other downtown hotels. Motels on U. S. 1 near Beltsville include: Del-Haven White House Cottages, Berwyn, Md., and Canary Cottages, Beltsville, Md.



Ed Tabor, PGA representative, hits balls off special hard-wearing, drought-tolerant mixture of U-3 Bermuda and cool-season grasses during National Turf Field Days last year.

THE EFFECTS OF IRRIGATION AND MOWING PRACTICES ON THE QUALITY OF FAIRWAY TURF

By WILLIAM H. DANIEL

Investigations were started at Michigan State College in the fall of 1948 to study the effects of irrigation and mowing practices on the growth of Kentucky bluegrass and creeping red fescue.

The ultimate aim of the investigation was to determine the desirable practices, that is, the practices which will produce a thick, dense turf that will: (1) resist invasion of weeds, (2) hold golf balls at uniform and suitable heights above the soil, (3) afford the golfer a firm stance and (4) present a pleasing landscape all season long.

Experimental

Two adjacent, parallel strips, each 18 feet by 180 feet, were planted in the fall of 1948. One was seeded with Kentucky bluegrass, one with creeping red fescue. The area was divided into 10 plots for irrigation purposes. The irrigation practices were designed to maintain the soil moisture at five levels, very low to very high.

Time of watering and amount of water used were controlled by the use of Bouyoucos soil-moisture blocks and soil-moisture meter. A soil-moisture block was placed at a depth of 4 inches in each plot 6 feet by 18 feet, so that the moisture available to the turf could be determined throughout the season. The photo on page 31 shows the relative position of the blocks and the meter used in reading them.

The parallel strips of Kentucky bluegrass and creeping red fescue were divided into three strips, 6 feet by 180 feet, for mowing practices. One strip of each was mowed with the cutter-bar set at a height of $\frac{1}{2}$ inch, one at 1 inch and one at $1\frac{1}{2}$ inch. The watering and mowing practices are at right angles to each other.

The very high range of soil moisture was maintained by additions of water

every other day by irrigation or rainfall. Water applied during three months totaled 28.6 inches, but rapid internal drainage prevented the development of poor aeration on this Hillside sandy loam soil. Meanwhile, turf plots maintained in the high and medium ranges received only four inches of supplemental irrigation, which provided sufficient soil moisture for good growth throughout the season. The non-irrigated plots, very low soil-moisture range conditions, averaged only 11 per cent available soil moisture during August.

Conclusions

The inter-relationship of different grasses, height of cut and irrigation are of extreme importance in growing better fairway turf. Changes in management of fairways cause cumulative effects, which may not be noticed during the first year.

Soil-moisture blocks buried four inches in the soil gave good indications of the moisture available to the turf and aided in maintaining the five soil-moisture ranges by varying supplemental irrigation. Few irrigations were required when they were applied in medium amounts at the time the blocks indicated that the soil was dry. Turf that became dormant recovered very slowly and gave a poor playing surface longer than just during the dry period.

The use of soil-moisture blocks is recommended for fairways to reduce the possibility of excess watering and to indicate further the proper time and rate of application for greatest conservation of water and labor.

The turf in the medium soil-moisture range plots had less yield, equal ratings and gave approximately the same ball support as that of the excessively watered plots.

EDITOR'S NOTE: The matter of water management is extremely important. The section on discussion of yields, ratings, etc., has been omitted in the interests of brevity.

The investigations reported in this paper were conducted by William Daniel, research fellow, as part of the requirements for the degree of Doctor of Philosophy under a turf fellowship sponsored cooperatively by the Detroit District Golf Association, the United States Golf Association and the Midwest Turf Foundation.

ARTIFICIAL WATERING OF LAWN GRASS

In the spring of 1927 a series of tests was laid out on turfs of Kentucky bluegrass, Chewings fescue and the Washington strain of creeping bent at the Ohio Agricultural Experiment Station, Wooster, Ohio. Watering rates consisted of unwatered plots, 50 per cent in excess of normal, 100 per cent in excess of normal and 200 per cent in excess of normal. The 36-year average yearly rainfall was used to determine normal.

Results of this experiment showed: (1) additional water was needed to keep the grass green during extended drought periods, (2) the unwatered plots started growth earlier in the spring in most of the years when observations were made, (3) water 50 per cent in excess of normal was enough to keep the grass in a green growing condition and (4) statistical analysis indicated that quantities of water above the 50-per cent rate were superfluous. In fact, results showed increases above the 50 per cent rate to be detrimental. "The greater the quantity of

water that had been applied, the poorer was the grass."

This thinning out of the desired grass species on the watered plots was apparently a reflection on root development because "with each added increment of water, there had come to be a decreased quantity of underground growth (roots and root stocks)." This fact was determined by actual measurement.

Chewings fescue was the first to show evidence of thinning out by the appearance of velvet grass *Nothololcus lanatus* (L). "In the check plots there was practically none of this grass, but in the watered plots there was high correlation between the quantity of water used and the number and size of the patches of velvet grass."

The authors were also interested in knowing: (1) when water is needed and (2) the approximate quantity required. They found that Livingston's ('15) standardized spherical black atmometer



Soil-moisture blocks buried four inches in soil under white arrows were used in irrigation studies at Michigan State College and gave good indications of moisture available to turf through readings on soil-moisture meter shown above.

indicated water needs on the basis of evaporation increments. "The results indicate that on a soil like the Wooster silt loam, grass should be maintained in a good growing condition, providing it's watered as soon after a rain as the evaporation from a black atmometer equals 320 cc of water." At each artificial watering the equivalent of one inch of

rainfall was added (623 gallons per 1,000 square feet.)

Abstract from Ecology, Vol. XV, 1934, by F. A. Whelton, J. C. Carroll and J. D. Wilson.

EDITOR'S NOTE: It should be pointed out that the atmometer referred to in this abstract measures the rate of evaporation of moisture. The evaporation rate must be correlated with the rate of water loss from any given soil type. The Bouyoucos blocks described in the article by Dr. Daniel are used to measure moisture conditions within the soil. The use of the Bouyoucos blocks therefore represents an advance in techniques for studying soil moisture.

BRIEF BUT IMPORTANT

Crabgrass control is easier to accomplish with PMAS preparations, potassium cyanate formulations and good old sodium arsenite. Newest wrinkle with sodium arsenite is to spray one pound to the acre with a good wetting agent at regular intervals of 7 to 10 days. Potassium cyanate gets mature crabgrass and goosegrass. PMAS doing excellent job on highly specialized turf; it looks as if we're closer to the "foolproof" chemical. The big interest in chemicals is to find which one is most effective for renovation and in helping to get the improved turf grasses under way. Zoysia seed has been listed by one seed firm—of foreign origin, no doubt. USGA Green Section and Department of Agriculture, cooperating, are driving hard to develop domestic production of desirable types of zoysia seed. Improved zoysias and bluegrass make a great team for superior fairways and lawns. Crabgrass loses out because it can't stand the competition. Z-52 strain of zoysia looks extremely promising from Rhode Island to California. **Bob Harlow** in GOLF WORLD writes: "Ulmer Hawkins . . . building a nine-hole course at Gainesville, Florida . . . Hawkins is having success with centipedegrass which requires very little upkeep . . . never has to be mowed and presents a fine fairway surface . . ." Research to date indicates that, all reports to the contrary, centipedegrass *does* need mowing for fairways and lawns. **Dr. G. W. Burton** has a centipede lawn at Tifton, Ga., and he owns a mower. Uses it, too. Pythium reared its ugly head on bent greens in

Washington and Philadelphia in late June. High temperatures and very high relative humidity preceded the attacks. No satisfactory control yet devised for Pythium. Copper dusts in light doses are suggested as best bet until pathologists find the answer. **Dr. John Cornman** and **Gene C. Nutter** are doing a great job with the New York State Turf Association. Bulletin 15 just crossed our desk. It contains good information on potassium cyanate for crabgrass control. Bulletin 14 covered the PMAS work of **Dr. DeFrance**. Don't miss **Dr. Cornman's** "Crabgrass Killers As I See Them" in Bulletin 15.

Every major city in the country may some day be faced with a serious water shortage, an official of the U. S. Geological Survey warns.

Dr. A. Nelson Sayre, chief of the Survey's groundwater branch, has told the Geological Society of Washington that United States water consumption has increased "almost unbelievably" in the last 100 years.

The per capita rate has jumped from a few gallons a day to more than 700 for every man, woman and child, he said.

Yet the government's data show the country's water resources underground are limited in any particular area, he pointed out. Wet years or dry years may cause some fluctuation, but in the long run there is no detectable change in the net amount of water available underground.

IT'S YOUR HONOR

From the Junior Champion

TO THE USGA:

I was just lucky to win, but it never pays to give up, does it? I will certainly try to live up to it in every way.

MASON RUDOLPH
Clarksville, Tenn.

From Denver Country Club

TO THE USGA:

On behalf of the Denver Country Club, I want to express our sincere appreciation for having had the opportunity to hold the third Junior Amateur Championship.

The competitors were collectively the finest group of young gentlemen I have ever had the pleasure of meeting, and their sportsmanship could well serve as an example for many more experienced golfers.

All of us who had any connection with the tournament feel that it is one of the most worth-while activities of the USGA and trust that it will continue for many years to come.

With the current furore about slow play, some observations on that subject might be of interest.

In the third round, Don Bisplinghoff and Merritt Marcus played 18 holes in exactly 2 hours 10 minutes. The winner, Bisplinghoff, was two under par.

In the quarter-final round, Bisplinghoff was eliminated by Gene Hay, 4 and 3, the latter being four under par for 15 holes. On the first nine, played in exactly 1 hour, Hay used 10 putts and scored a three-under-par 32.

The final, between Mason Rudolph and Chuck Beville, consumed 2 hours 40 minutes for 17 holes, with at least 20 minutes accounted for in getting a sizable gallery across six crossings of Cherry Creek.

Naturally, being young, the boys cover ground between shots a great deal faster than older golfers do, but the dispatch with which every shot was played would have been a revelation to any of our present-day pros and amateurs. In seven rounds, I saw plenty of shots missed and poor judgment used, but I honestly feel that none of these mistakes resulted from too much speed in reaching decisions.

They were mistakes of inexperience, rather than of carelessness.

Having seen shots messed up by some of the best—and slowest—in the game, I can't help but feel that our older competitors could learn a great deal from watching the youngsters, and it would certainly make the game more fun for everyone.

GERALD H. PHIPPS
Chairman, Golf Committee
Denver Country Club
Denver, Colo.

For "Golf House"

TO THE USGA:

The members of our Society are very happy to contribute to that wonderful project called "Golf House."

We feel that "Golf House" will fill a long felt want and will have great interest and golf educational value for present and future generations of golfers.

WILLIAM P. BELL
Secretary-Treasurer,
American Society
of Golf Course Architects

Professional Intent

TO THE USGA:

Recently a local young man by the name of Bill Johnston was disqualified from playing in the Amateur Public Links Championship because he violated one of the USGA rules, to the effect that he had declared his intention of becoming a professional.

I would like to protest against this rule as I think it is unfair. I don't think a man should be deemed a professional until he actually becomes one. If this rule were rigidly enforced, then only those who were wealthier would be, in a strict sense, amateurs.

CHARLES D. SMITH
Salt Lake City, Utah

Editor's Note: The USGA Journal invites comments on matters relating to the welfare of the game and will publish them as space permits.

