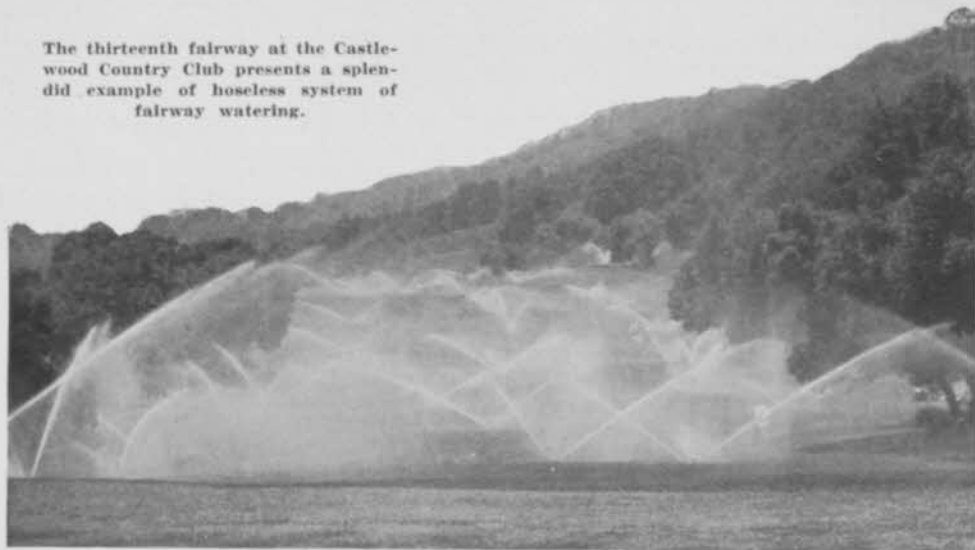


The thirteenth fairway at the Castlewood Country Club presents a splendid example of hoseless system of fairway watering.



Fairway Irrigation Is in Maintenance Spotlight

By EDW. B. DEARIE JR.
Ridgemoor C. C.

THE development of golf in the last few years has made great changes in methods of irrigation. Fifteen years ago there was scarcely any idea of watering large areas. Today it is one of the most important elements in golf course maintenance, but in most cases it is not given the consideration which its importance requires. Arid and semi-arid sections demand close attention to this subject.

In order that a golf course may maintain excellent fairways year after year they require water the same as the greens and tees. It must not be forgotten that constant irrigation of turf is in itself a method of fertilization. Water flowing over turf deposits fine particles of silt, organic matter and other forms of nutrition that aid materially in maintaining a healthy turf.

Water has a twofold purpose in turf culture: First, to make the grasses grow well and give them proper texture, and, second, to give sufficient moisture to the soil to sustain the plants during dry periods of the year. Fairway watering has not been sufficiently employed as yet. It

is, however, coming more and more to be appreciated that if golf courses are to be maintained in first-class condition it is obvious that fairways should not be allowed to dry up and become baked during the playing season.

There are several factors that have a direct bearing on the question of fairway irrigation. Rainfall, topography, nature of the soil, size of area and the species of grass to be planted are worthy of consideration, but the first question to be considered is how much water is available, and it is necessary that this question be answered satisfactorily as this is the basis of a permanent system of fairway irrigation. Fortunate is the club that can boast of a stream or lake that will give sufficient water to irrigate the fairways with an assurance of supply throughout the season.

In order that irrigation of any golf course be successful, it is necessary to determine the adequacy of supply at all times from the above sources so that the proper pumping equipment can be installed. To determine the size of pumping equipment

it is well to know that an area of 18 fairways averages about 51 acres, one acre containing 43,560 square feet. Therefore, to irrigate an acre to the same extent as an inch of rainfall it would require the equivalent of 43,560 square feet times $1/12$, or 3,630 cubic feet of water. This is equal to 3,630 cubic feet times 7.48 gallons per cubic foot, or 27,152 gallons per acre, subsequently the average one-inch coverage for a six-fairway watering, which is about the number of fairways watered by the latest system at one time, would require about 480,000 gallons.

In view of the fact that the supply is satisfactory in quantity delivered through piping of sufficient size and with a suitable pressure at the sprinkler heads, the fairway can be watered so as to obtain a satisfactory growth of turf, but where the water supply is insufficient or piping too small or pressure too low, a proper application of water becomes so difficult as to render irrigation uncertain. Many examples of insufficient water supply are found on golf courses with such inadequate piping as to prevent the water being applied either economically or satisfactorily. Piping a golf course is an art in itself involving questions of pressure and other technical matter which must be worked out by an expert.

Florida and California have advanced irrigation engineering and the newly constructed courses in these states are being equipped with the newly designed hoseless water system throughout the fairways and tees. This system is a three-valve control, each valve controlling six fairways at a time and requiring only one man to operate it. The sprinkler heads are flush with the ground level and are spaced throughout so that they cover the entire fairway thoroughly in one operation.

Gravity systems are used chiefly, but there are also a number of high-pressure pumping systems requiring 300 pounds pressure at the pump for the proper coverage. The average golf course requires about 30,000 feet of piping and is the most economically maintained when hose and sprinklers can be avoided. This system has promises of extending eastward. That, coupled with the installation of fertilizer solution tanks for distribution of sulphate of ammonia in one operation will be the last word in golf course irrigation and fertilization of fairways.

Watering Fairways

By J. MACGREGOR

Chicago Golf Club.

THE most necessary requirement in watering fairways is knowing when to start watering. A good soaking rain penetrating about three inches will carry the fairways about ten days, after which time they begin to show signs of scorching. After the first week in June, one cannot depend on regular rains, so it is necessary about three days after a rain to start watering, as it takes from seven to eight days to completely water the fairways on an 18 hole course.

I purposely do not use the word sprinkling, as there usually is a tendency to just *sprinkle*, and not water. The soil should be soaked to a depth of three inches, which will keep the fairways in good condition until the cycle of the course has been made.

The system I use to determine the depth the water has penetrated, is by using a pointed stick, about two feet long, which the men carry with them, this being very necessary at night as the men cannot see how far the sprinkler has covered.

When watering the fairways, the men work 24 hours a day in 12 hour shifts.

The type I use has proven very satisfactory, three of them having been in use for five years.

These sprinklers throw 90 gals. of water a minute, and cover an area of 80 feet in diameter.

It usually takes about 20 min. to get a sufficient amount of water to penetrate the required 3 inches. On high spots which dry out more rapidly, the sprinkler is left 30 minutes, the amount of water distributed is 1,800 to 2,250 gals., so one can readily see what is meant by watering. Of course, it is necessary to have good pressure, say, from 65 to 75 lbs.

The water main should not be less than six inches to maintain this pressure. An elevated tank of 100,000 gals. capacity is necessary, also a reservoir or pond where the water can be areated and warmed, as cold water has a tendency to check the root action of the grass. Pressure tanks are not practical, being underground their water is always too cold.

Hydrants with two inch outlets, installed every fifty yards are needed for each fairway, so that the fairway can be watered with a minimum amount of hose. A

T a l k i n g I t O v e r

"The More You Tell, the More You Sell"

At the very foundation of success in pro shop merchandising is the telling of the shop sales story to the members. One of the most profitable newspapers in the United States has set for a successful advertising policy the simple phrase, "the more you tell, the more you sell."

It would surprise most pros to know how their members' ignorance of the extent and character of the stock carried in the pro shop is responsible for loss of sales, or that the pro depends on the shop business for a good part of his income. A typical case came up the other day as we were talking to a young pro who is anxious to educate himself as a good merchandiser and is well ahead of the rank and file of the field as a student of his job. The boy was commenting on selling to women. He said there were two women in his club to whom he was giving lessons, using clubs of his own stock for instruction purposes. He got these women enthused about golf. What did they do when they set forth to buy golf clubs? Why, they went to a department store and loaded up.

The youngster told us, "You bet I gave them hell!"

Whose fault was it? The women are habitually department store buyers, and when they were in the market for golf clubs they followed their normal purchasing channel. With all his opportunities and all of his eagerness to sell the young pro simply had neglected to tell his pupils what he had in stock and how it was the best value for these prospective buyers.

The simple truth was that he hadn't talked the selling end of his business enough.

Every pro will see, in the bags of his members, clubs that have been bought from pros at other clubs when the members happened to be visiting. In most cases those lost sales mean that the home pro has neglected to keep his members continually reminded that he is at the club to sell as well as to teach.

The professional need not be a high-powered salesman to get a good volume of his business, but it is a certainty that he can't loaf on the job in letting his market know what it needs.

Greens Teamwork First Essential in Maintenance

At a recent meeting of the Midwest Greenkeepers' association we heard comments by the greenkeepers in attendance on co-operation between the greens chairman and his greenkeeper. These remarks outweighed in their significance a good part of the technical discussions that are held when these earnest experts get together.

There was none of the old stuff of the employee being afraid to speak out in meeting when his opinions conflicted with those of the man who

Between Ourselves

hired him. These greensmen talked of visiting various courses in the Chicago district and then submitting their comments to the greenkeeper in charge (their fellow member) and his greens chairman. Not one dissenting voice was heard when the plan was offered. The greens men said that there might be some valid criticism and some legitimate excuses for defects in the course, but each individual wanted his work assayed by a jury of stern and competent critics. If they were missing bets they wanted to know where and they were not afraid to have the findings presented to their employers.

To our way of thinking, this is one of the finest exhibitions of a whole-hearted aim to get courses perfect that anyone could ask. There might be some touchy and temperamental greens chairmen who would hold against their greenkeepers in an unduly strong and lasting way any of the errors of omission and commission that might come to light, but the Midwest greenkeepers, by their action, showed that they would bet their jobs greens chairmen of this type were not at their clubs.

This display of confidence in the justice and co-operation of their chairmen promises to be one of the most profitable new ideas in greenkeeping work, for it means that if mistakes are made, due to lack of knowledge or of money, they will be quickly found and corrected rather than be kept concealed by a man who is fearful of the consequences of discovery.

We congratulate the Midwest Greenkeepers' association on its adoption of this policy of "Lay on, MacDuff, and damned be he who first cries 'enough.'" We are confident that it mirrors the policy of boldly inviting constructive criticism that prevails among the leading greenkeepers of today and it shows the partnership for the good of the cause that exists between greens chairmen and greenkeepers at the representative clubs.

"Let George Do It" Tough on Managers

When a frolicsome member gets a bit of a cargo aboard and must be gently made a peaceful citizen, when bad weather cuts down the house income, when lack of housing facilities for help prevent getting the right staff of waiters, or when any of the thousand other difficulties arise around a golf club, the manager gets the job of working the way out of the trouble. Lots of the duties and miseries are strictly his, but few of them are his alone.

You can track down complaints regarding managers and in a great number of cases you will see that the responsibility of the errors should be shared by the house committees. In justice be it said that the committees usually don't realize their rightful duty.

When there's some unpleasant duty to be done around the club it's not a bad idea to see whether "the buck" should be passed to the manager entirely or whether the matter should be handled by a committee head.

Indoor Country Club New Field for Pros

WITH the majority of the desirable winter jobs in the south and west practically under lock and key the foresighted northern professional begins to think seriously about his winter employment in plenty of time to get lined up right. Indoor schools provide many with a bit of profit during the winter but the cases are not many when the professional who is running a winter school on his own does much more than pay his personal living expenses out of the profit of his school.

From Los Angeles comes the latest development of an idea that was launched in New York, an indoor country club. The idea is one that a pro has a good chance to sell to an enterprising hotel man who wants to make his establishment a winter headquarters for the easy spending golf club clientele. By putting over the idea with the hotel man the pro has provided himself with a first class winter job. In New York the indoor country club was promoted as part of a hotel's plan for getting business. Indoor putting course and nets and a well appointed and convenient luncheon and dinner spot with the golf club "atmosphere" drew good attendance.

At Los Angeles the Indoor Country club has an advisory board that includes several officials of golf clubs in the district. Of the enterprise, E. L. Hutchins, its vice president, says:

"The club secured the roof of the building located one block east of the Biltmore Hotel and Pershing Square—so it is as near the center of the city of Los Angeles as it is possible to get.

"The lounge room, I believe, is the first of its kind in America, as it is typically Scotch from the tartans of the famous clans bordering the room; and the family crests on the pillows. The upholstered furniture is all in plaids, and the carpet carries the color of Scotch heather. The dining room is so arranged that we have a nine-hole carpet putting course surround-

ing dining room service. Our dining room service accommodates approximately 100 people; at the rear we have private dining rooms, card rooms and offices. The course is so laid that with the padding underneath, the heavy nap on the carpet offers quite a resistance to the ball.

"Our outdoor roof was laid out by John Duncan Dunn. We will have three nine-hole real grass putting courses, with the distance between holes laid out on a yardage basis. On the roof of the dining room and lounge room also is space for eight driving practice nets that will be used by the members of the club. We also are interesting the professionals of outdoor clubs to give lessons to members of their various clubs in the nets.

"We have been recognized by several of the outdoor clubs, and are able to get guests cards to these clubs that provide them with an outdoor course. We have sold these outdoor clubs with the idea that in getting our members to play and practice regularly, that they are good prospects for an outdoor club membership.

"We have to lay a 3-ply roof covering, then lay two inches of crushed stone and approximately ten inches of specially fertilized earth, and seed with cocoons bent seed on our roof course. Those who are experienced in growing grass on the roof of buildings, find that growing the grass from the seed gives a sturdier stand of grass than if we grew the seed on the ground and laid the sod, as we have heat conditions to contend with that grass does not have on the earth.

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This is the "back of the house" force at Sunset Ridge, a trained team that keeps the club operations comfortably "out of the red."

"Back of the House" Keeps Club Out of the Red

IN THE four years that the Sunset Ridge Country club has been operating not two pounds of meat have been unaccounted for. That is one of the "tip-offs" to the reason of the successful management of Harry O'Hagan who has been manager of the club since its opening.

The Sunset Ridge club has a membership that is far younger than that of the average metropolitan district golf club. The club dining room must compete for the business of these young fellows with the best of the Chicago territory's loop and suburban restaurants for youth tends to see America first when dining out rather than making a habit of eating at one club. Consequently O'Hagan has to present menus that are among the most extensive and choicest offered to a club of 225 members. The variety and character of his offerings are indicated by some of the typical dinner bills shown with this tale of his methods. His \$1.50 dinners would bring many clubs into the red but there never has been a year that the Sunset Ridge restaurant hasn't made money. He figures on a 50 per cent cost for the food served and out of the remaining 50 per cent must come the cost of preparation, service and a profit which will be

sufficient to show a good return on the investment represented in the service of meals at Sunset Ridge.

O'Hagan bases his success on the harmony and skillfulness of the operation in "the back of the house," as well as on a most thorough checking system whereby not so much as a box of matches is checked out of the store-room without a record of its disposal being made.

A sample of the form showing his daily "received record" is reproduced herewith. It has space for listing the source of the material, the weight or quantity, and the price. In the event that bills are sent later than delivery of the material these bills are checked against the "received record." A similar form is kept by the storekeeper for recording material distributed out of the storeroom through the club. The daily records are transferred into a book that is kept as a permanent record. This record enables O'Hagan to definitely check his material and its use with weather conditions and other factors that determine proper purchasing.

Monthly Audit

A monthly inventory of all material on the shelves and in the refrigerator and elsewhere in the storeroom is made and

3 0 0 0 A C R E S

DEVOTED TO THE PRODUCTION OF

BENT GRASS SEED

HAVE you any conception of what it means to harvest three thousand acres of Bent grass here in southern New England? It means seventeen farms to supervise. I would rather be responsible for the management of 50,000 acres of the prairies of the Middle West than to manage the operations on these seventeen farms, most of which are fenced with the old-fashioned stone walls taken from the fields. Many fields, however, still have stones enough left in them to compare favorably with the proverbial "Hell's Half Acre," but out in the Middle West, or Far West, in the North or in the South, they can't grow the Bent grasses for seed production. Whereas, the different species of the Bent grasses produce the most beautiful turf of anything in existence in practically all sections of this country, it is only here on the rock-bound coast of southern New England that are found the proper latitude, the proper rainfall and climatic conditions where the Bents, when supplied with proper plant food, produce their most virile seed.

LONG BEFORE THE BOSTON TEA PARTY, the old Narragansett farmers harvested Rhode Island Bent seed, which at that time was called Burden, to plant on their fields, and it was on this grass that they pastured the famous Narragansett breed of pacers—the Rolfs Royce society transportation of Colonial days. It was here that Bent grass was first discovered on this continent, and from this smallest state in the Union, Rhode Island Bent derived its name. No fields of Rhode Island Bent (*Agrostis Tenuis*) or True Creeping Bent (*Agrostis Stolonifera*) are now harvested by me unless they were specially planted and fertilized for seed production. These fields invariably run 98% or better as to purity of variety.

The Platter Is Licked Clean

Please don't write and ask me to spare you a few pounds, for I haven't any at all—not a single pound. However, the latter part of July, we shall start harvesting the new crop, and by the first of August I shall have some of the new seed thrashed and cleaned ready to deliver.

*Purchase Fresh, Acclimated Seed Direct
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The only grower of True Creeping Bent seed (*Agrostis Stolonifera*) in commercial quantities in America.

There also is a highly developed morale to the organization that is the direct outcome of these conferences. Sunset Ridge opened with waitresses but these were replaced by waiters because of their ability to carry bigger loads and give swifter service with a smaller force.

The fact that a waiter takes more interest in his work and has some definite ambition of advancement also influenced O'Hagan. As a constant reminder to the force of the standard of service demanded O'Hagan has a sign by the checker's desk reading. "Club waiters should have courtesy, patience and speed." This spot was deliberately picked for the location of the sign for considerable emphasis is placed on the checking system at the club. Each waiter signs for his book each morning and all checks are checked at the start and finish of the route through the kitchen. Checks are departmentized by a color plan, white for the main dining room, pink for the grill room, blue for the soda grill and yellow for cigars, cigarettes and candy.

Electric Ice Saves

"Don't order too much" is one of the basic policies of the Sunset Ridge management. Food is prepared as close to the time of its service as possible and this speedy plan once in a while, during an unexpected rush of business, makes it necessary for O'Hagan to get Sunday deliveries of material. To protect himself in such emergencies he has kept close contact with the salesmen and executives of the companies supplying him with perishable products.

Only fresh vegetables are served in season at Sunset Ridge. Another big feature of the menu is fresh sea-food. This calls for lots of refrigerator space. Last year the club used ice but this year it invested

in Frigidaire equipment. The dry temperature and its close control O'Hagan's records show has been responsible for effecting a saving of approximately \$3 a day in meat losses alone.

Cotton-Seed Hull Use for Putting Greens



COTTON-SEED hulls putting greens are showing good results in arid and semi-arid territories. These greens are constructed of a patented composition of crushed hulls of cotton-seed to which there remains attached to the husk some of the cotton lint or fiber. They are a product of the recovery of vegetable oil. These greens are formed by laying down three or four inches of the loose hulls and thereafter compacting and rolling them to a final thickness of from three-quarters to one inch. When properly constructed, the green has a surface in some respects similar to that of very closely mown grass.

The mat blends nicely with the turf of the fairway. Strong winds do not disturb the surface or disarrange the mat. The surface of the green may be slightly undulating or sloping and likewise the shape may conform to the whim of the architect, and to accomplish these results entails no expense or effort beyond that required for a flat circular green other than the



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