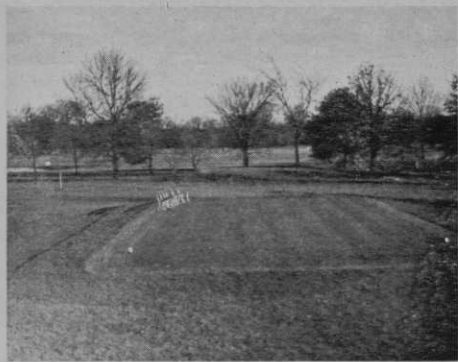




An excellent modern tee at Indian Creek GC, Miami Beach, Fla.



One of the creeping bent tees at Milwaukee Country Club.

Maintenance of Tees, Roughs and Traps Needs Attention*

By O. J. NOER

Tees are an important feature of the golf course, yet they receive scant attention in the literature devoted to golf turf maintenance, and on the programs at conferences. Greens are emphasized first, which is as it should be, then come fairways. Other features, such as tees, traps, and roughs are ignored or dismissed briefly with a few generalities.

Poor tees are accepted as a matter of course by many golfers. They become aroused and demand better ones after greens and fairways approach perfection, or after their eyes are opened by playing a course where the tees are good and the turf in fine condition throughout the playing season.

Tees on most of the older golf courses are small in size and elevated above the surrounding landscape. The steep banks make them unsightly and difficult to mow except by hand. Scything is often necessary. Some tees are terraced to provide shots from different elevations. The steep slopes are waste space and hard to maintain. They dry out and the mowers scalp along the top edge. Par four holes usually have two or three separate tees. The one out in front is for the ladies, the back one is for tournament play, and the main tee is for everyday use.

The women's and the championship tees usually have the best coverage of grass

because they are not heavily played. The everyday tees are frequently so small that there is bare ground on the playing space during much of the season. When heavily played tees are of postage stamp size, more area is the only answer to the query "What grass can we use to provide all season coverage". The hackers tear out turf faster than the grass can repair itself. Growth can be speeded with fertilizer and water, but there is a limit beyond which one cannot go even with the most aggressive growing grass.

Modern Course Tees

The tees on new modern courses are adequate in size. Where the play is never heavy, the area is about half the size of the greens. On heavily played courses the tees equal the greens in size. Tees on the par three holes are about one-third larger than the others because of the added wear from iron shot play. The distance from front to back is sufficient to provide a variety of shots and eliminates the necessity for building more than one tee. The slopes have gentle gradients to fit the tee into the landscape picture and make it possible to mow the banks with a three or five-gang fairway unit. The playing area of the tee is cut close by power mowers in most cases with a triplex mower. The cutting width of these machines is almost 80 inches.

Whenever old tees are replaced, the new ones should resemble the modern kind described above. They should be from one-half to equal the size of the greens and

Note: This is the last of three articles. The others appeared in the January and February, 1951 issues of GOLFDOM.

the ones on par three holes should be at least one-third larger. The playing area should be at one level with the front slightly elevated. The slope from front to back should be one-half per cent, or six inches for each one hundred feet of length. The tees should be elevated slightly and the banks should be long ones with gentle slopes to facilitate mowing. Besides simplifying maintenance, tees of this kind look as if they are a part of the landscape and are far more pleasing in every way than the old antiquated type.

The best soil for tees is a loam, or a silt loam. Either one provides the kind of surface desired by golfers. When addressing the ball on tees the player must have a



A large practice green provides amusement for older members and holds their interest in the club.

firm stance. The surface is too loose when the sand or organic matter content of the soil is too high. For greens it is best to err on the sand side to make sure surfaces will hold a pitch shot, but on tees it is better to lean toward the heavier silt fraction so the player can put power into the shot.

Best Tee Grass

Bermuda is the best tee grass for Southern courses. It makes a tight firm surface and repairs divots quickly, provided the soil is well supplied with food and moisture. The Tifton 57 Selection developed by Dr. Glenn Burton looks much better than common bermuda.

Shade is bermuda's greatest enemy. It is the reason why turf is bad on many tees. Clubs in the transition belt from Washington to Kansas City should not overlook this fact. Trial plantings should be on tees which are out in the open. Zoysia is much more shade tolerant than bermuda grass. Some selections of this grass may be the answer to shade in the South.

In the North, especially in the region south of a line through Chicago and New York, choice of grass for tees is not easy. There is need for a better grass than anything now available. Kentucky bluegrass

and fescue are used, but have serious limitations for tee use. Kentucky bluegrass will not persist under the close mowing demanded by players, and does not make a dense enough turf to resist clover and crab grass. Fescue is ideal for play, but cannot be cut close. It lacks aggressiveness, so recovery is too slow on heavily played courses.

Merion bluegrass alone, or in combination with zoysia or bermuda, may be the answer to turf cover in the transition zone between Northern and Southern regions. Farther north, Merion bluegrass only, or mixed with bent may be the answer.

Zoysia Matrella is being used in the Louisville area for tees and is liked by players and the golf course superintendent. Turf must be grown in a nursery first and transferred to the tee. This grass spreads too slowly to make turf from plugs planted on tees which are in play.

The use of bent grass on tees is on the increase. Some sow seed and others plant stolons. Both Colonial and Seaside are used alone or in combination. Many of the older stolon planted tees are of the Washington strain. In recent years other selections have been tried. Arlington looked like the ideal grass because of its resistance to most diseases, and the fact



Small tees seldom have good grass. Crab grass and goose grass take possession in midsummer.

that leaves are almost like fescue in toughness. It has not lived up to expectation under heavy play because it does not grow fast enough to repair divots quickly and prevent infestation by poa annua and crab grass. Other strains have performed better. Cohannsy, Collins, and Congressional have been good. Toronto is a fast, aggressive grower which repairs divots rapidly and is very satisfactory when properly maintained. Dr. Grau is enthusiastic about some of the newer Green Section selections because of their lower moisture requirements.

Some bent tees have been in play for

many years, and have been very satisfactory when properly maintained. The tees at Brynwood and Milwaukee Country Club were built and planted with Washington bent stolons in the late Twenties, and have been in continuous play ever since. The Brynwood tees are smaller than average, yet they have never been renovated. The tees are cut close at both clubs, with a power greens mower. They are fertilized generously and top-dressed occasionally. Milwaukee Country Club has a nursery of Washington bent alongside each tee. It is two mower widths wide, and as long as the tee. It is mowed each time the tees are cut. After plugs are used to repair divots, the holes are filled with soil so the bent can cover-over before more plugs are needed. Brynwood relies upon fertilization to keep good turf.

Treating Divot Scars

The simple way to treat divot scars is to seed with domestic rye grass once or twice a week. The seed is mixed with damp soil and carried in a twelve quart pail. The workman drops a handful into each fresh divot scar. Then he steps on the spot to press the seed into the soil. Some peat should be used in the soil to hold moisture and speed germination. The rye grass provides cover until the bent heals the scars.

The importance of close cutting cannot be over-stressed for bent grass tees. It is the only way to keep the turf satisfactory for play. Divot scars are bad where the bent is long, and players cannot control the ball because of grass between the face of the club and the ball. Keeping the turf tight simplifies maintenance and minimizes disease.

A moderately dry soil provides a finer surface, and makes disease a less troublesome problem.

Most tees do not get enough fertilizer. Its use is important to foster aggressive growth to speed healing where play is heavy. Rates should be a third to a half more than on greens. Nitrogen is most important because it is the growth promoter. The requirements for phosphate and potash are midway between fairways and greens because clippings are seldom removed. Where catchers are used, the fertilizer program should provide larger amounts of phosphate and potash than otherwise. Lime should be applied when the soil is moderate to strongly acid.

Shade is pleasing to players during hot weather. Some plantings are too dense. They serve as a barrier preventing the free movement of air across the surface, and they exclude sunlight all day. Good grass can never be maintained under these conditions. Besides too little light, the mass of tree roots in the tee deprive the grass of food and water. There should be

enough open space around all tees to provide good air drainage and insure sunlight during a good part of the day. Then trenching to cut tree roots, or root pruning once or twice a year, will do much to help keep good turf.

Little thought is given to placing benches and ball washers. They should be well away from the tee, otherwise the wear from constant traffic is sure to produce ugly bare spots.

Turf for Roughs

Roughs receive scant attention as to quality of the turf. Emphasis is placed upon cutting height because players are most interested in that feature. It is generally agreed that the penalty should be one-half stroke. More thought should be given to the plant population of grass and weeds. Bluegrass or fescue make the best rough in the North. Creeping bent is not desirable because of its fluffy character. The best roughs are not cut closer than three inches.

At one time Chicago Golf Club had exceptionally fine roughs. The turf consisted of a good cover of sheep fescue. These roughs required very little mowing or other attention. The stand of fescue was sufficiently dense so the bunch growth habit of this grass did not unduly penalize the off-line player.

There is not enough grass on many roughs. Impoverished soil is one reason,



Dense bluegrass rough and bent fairway. High cutting of the rough stops the bent along the edge of the fairway.

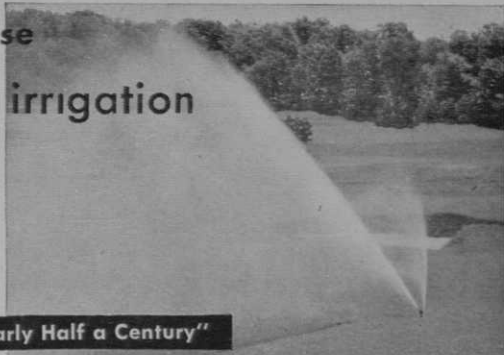
and grub damage is another. After the grass dies, weeds take possession. Before the discovery of 2,4-D, dandelion, plantain, and buckhorn were bad. Crab grass and chickweed have taken their place and have become the potential source of infestation in the adjoining fairways.

On courses where white grubs cause damage, the roughs as well as the fairways should be treated with Chlordane to control them. The rate of application

(Continued on page 69)

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MAINTENANCE OF TEES

(Continued from page 34)

should supply 10 pounds actual Chlor-dane per acre to provide complete protection against Japanese, Asiatic, and the annual June beetle grub. Double this quantity should be used for the two and

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three-year life cycle June beetle grub because they live at deeper levels in the soil. Chlordane is effective for three to five years.

Treatment for Weeds

Any broad-leaf weeds in the rough should be killed by spraying with 2,4-D during May or early June. When there is chickweed adjacent to the fairway it should be killed earlier in the spring, or late next fall. Sodium arsenite is the best herbicide for it. The rate for chickweed or clover need not exceed 1 to 2 pounds per acre. Three or four sprayings spaced seven to ten days apart may be necessary for complete kill. Crab grass should be killed in July, August, and even in early September. Sodium arsenite is the cheapest herbicide, although potassium cyanate is very effective for fall treatments. Where discoloration is not objectionable, the rate for sodium arsenite can be 5 to 7 pounds per acre, otherwise the amount should not exceed 2 pounds. A wetting agent should be added, especially at the lower rate. The lower quantity produces good results. Three sprayings, spaced two weeks apart are desirable.

Representative soil samples should be tested for reaction. Moderate to strongly acid roughs should receive one to one-and-a-half tons per acre of finely ground lime-

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stone. Where available phosphorous is low, superphosphate should be applied once at 400 to 500 pounds per acre. The effects will last from three to five years, at least. The use of a little nitrogen is desirable also, say 200 pounds per acre of



Sheep fescue along the edge of a trap beside a green at Philadelphia CC.

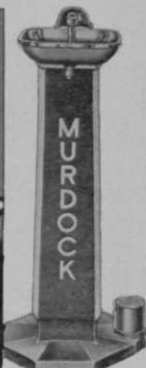
ammonium nitrate. Where organics are substituted, the rate should be about 750 pounds per acre.

Where there is no grass, reseeding at low rates is justified. On hard compact soils a seed bed should be prepared by

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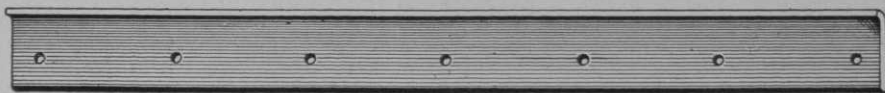
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heavy discing with discs set straight, or with one of the large type aerifying machines.

After a good stand of turf is secured, reasonably high cutting will control chickweed, clover, crab grass, and creeping bent. The latter becomes a troublesome problem on watered courses and creeps into the rough unless blue grass or fescue are permitted to make several inches growth.

Attention to Traps

Traps around greens should receive constant attention. The sand should be deep and of the correct character. Weeds should be kept in check by hand-weeding or with weed killer. Farnham has been using a strong sodium arsenite solution, about 5 pounds to 40 or 50 gallons of water. This has been very effective. Several clubs in Texas report excellent results by placing the insoluble 2,4-D acid over the surface before adding sand.

The banks at many clubs consist of pegged layers of inverted sod. Philadelphia Country Club uses a strip of sheep fescue sod along the edge of the traps.

Many traps are placed too close to the greens for power mowing. There should be a wide apron between the trap and the closely mowed putting surface in order to permit turning in a wide arc when power mowers are used. Somewhat closer cutting on the apron next to the green pleases the player. One or two mower widths is ample.

FLY CONTROL PROBLEM

(Continued from page 46)

on the market and are appearing almost daily that even the specialist is hard pressed to keep up to date. It is no easy task to keep informed on latest develop-

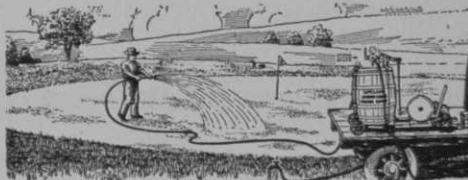
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