

TEN BIG JOBS

By
JOHN ANDERSON
President NAGA

times in the spring we should press the soil lightly around the plants where heaving, as a result of freezing and thawing, has taken place; but other than that, rolling is not important. We depend on the winter, the snow and the frosts particularly to improve the structure of our soils. Why roll it and undo all the good the winter has done by packing it tight again. Too heavy rolling of fairways in the spring before the soil is right has done much unnecessary damage.

5. Now mowing. Let's look at the machines we use for the cutting of the grass. First we have a special mower for the greens, then most of us have one for tees, perhaps approaches, then we have lawn mowers, bank machines or toppers, whatever you like to call them. Then come the fairway units and last but not least the hay mower or tall rough mower. In addition to those, some of us will have power mowers. Mowing must be an important job or we would not invest so much money in machinery to do it.

How close do you have to cut your greens is a frequent question. When I am asked that, my answer is 5/16 in. if I can get away with it. It is true the creeping bents and the velvets will stand closer cutting than 5/16 in., but most of the other grasses including *Poa annua* will suffer if constantly cut at, say 1/4 in. Many of us are induced to cut even closer than 1/4 in. by the pro or sometimes the players, especially the low scorers, but after we get down under 1/4 in. most of the grasses will suffer and be rendered more susceptible to disease than if kept at 1/4 in. or higher. Much depends on the greens mower being kept keen and properly adjusted, for a machine that is unevenly adjusted can easily give the impression that it is not cutting low enough although actually it is cutting so low it is tearing, so that the turf suffers.

In line with rough mowing in relation to play, clubs who are staging major tournaments often contemplate some fertilization of the rough in places where emphasis is desired on a straight shot. I believe we should at least give this some consideration.

6. Fertilization is the next job on the calendar. I am not so far off the mark

when I mention this point in connection with the rough. In addition to making conditions more advantageous for the straight player or placing a premium on the straight shot, a little fertilization will help eliminate many obnoxious weeds in the rough which might encroach on the fairway.

Any fertilization program either on greens, tees or fairways should be preceded by an examination of the soil. Tests should be made for acidity, also for phosphorous and potassium. Then we can apply the right plant food in proper quantities of which the soil may lack.

A well planned fairway fertilization program should be drawn up a year ahead. The greenkeeper then knows how to proceed. If the soil is acid and lime is to be used I believe it should be applied some months ahead of the fertilizer; for instance lime could be applied in late fall or during the winter and the fertilizer job begun in the spring. I believe that especially with the fertilizer, any quantity over 350 pounds to the acre should be applied in two or more applications.

Fertilizing the greens is a different problem. There we have to study the grasses more. Where *Poa annua* predominates in the spring, as it does on many courses, especially in our section, we try to study that in connection with the fertilizer program. For instance, if we want to check or retard the growth of the *Poa*, we will wait for spring feeding until the bents begin to grow, then fertilize so the bents will at least have an even chance with the *Poa*. If, however, we have to cater to the *Poa* as some of us do, the procedure will be different. I believe those clubs that are fortunate enough to have greens of creeping bent, one of the good strains of Metropolitan or Washington, have less trouble with fertilizing and topdressing than those of us who are plugging along with mixed grasses. However, this is a debatable point.

Applying fungicide, although a small job, is most important. I believe most greenkeepers start off the season with a lot of good intentions. No doubt we all think prevention is better and cheaper than the cure. How near we come to complete prevention is something else. I'm afraid there is a good deal of guess work

and luck, weather studying and barometer reading, and even then old mother nature has got us licked sometimes.

7. The next job is keeping the teeing grounds in condition. It is very noticeable on almost any course, except where the greenkeeper, for his own benefit, has managed to sell the idea of larger tees to the green-committee, and they in turn have gotten extra appropriations for enlarging them. On tees which are large enough so that the markers can be changed every day for a week, or better still, two weeks without using the same place twice, the maintenance is comparatively small. A practice of topdressing the tees almost every week, using a small quantity of seed in the topdressing, is a wise procedure.

Someone has said, "If officials or green-committees would always remember that each new sand trap is an added yearly expenditure, there might be less of them." But that is beside the point, our job is to take care of them. The average golfer will have no reason for kicking, if there are about three inches of sand in the traps, kept reasonably loose so that a ball can be exploded out when necessary, and raked often enough so that at no time will there be many large holes or footprints, creating unnecessary hazards. Banks and edges must be kept trimmed with a scythe or sickle, so that the grass is no higher than the rough has to be kept.

8. We come now to one of the most important jobs of the greenkeeper, "care of machinery." A golf course is a plant manufacturing golf as a pleasure for club members, and the standard of the plant's product will be just as good as the machines which manufacture those products. The factory has to keep its machinery up-to-date or its manufactured or finished goods will not be marketable.

If golf clubs would imitate the factories and create a depreciation or sinking fund, so that new machinery costs would be written off over a three or four year period, the greenkeeper would have a chance to keep his machinery up-to-date.

It is true that at small clubs a mechanic cannot always be kept, but there is generally one man among the crew who is mechanically inclined and, assisted by supervision and instruction from the greenkeeper (who is supposed to be engineer, plumber, builder, roadmaker, and a host of other experts in one), should be able to take care of repairs and overhauls

during the winter. This is saving money for the club as well as keeping one man off community relief.

9. Now we pass on to the nursery—whether it be a turf nursery, a tree nursery, or a soil nursery. Maybe some of us have all three. If so, the job becomes more important. First though, let us talk about the turf nursery. Some years ago I had a plot of ground 20 ft. x 20 ft. where I tried out fertilizers, fungicides, and insecticides. This was useful, but there comes a day when some of my greens passed out and I didn't have any turf to re-sod them. I realized it was time I woke up and started a turf nursery. I started off with 15,000 sq. ft. and seeded it to south German mixed bent. It takes a lot of time to keep this nursery in shape with mowing, weeding, topdressing, treating for brown patch, etc.

If your nursery is in A-1 shape all ready to be transferred to the greens, nothing ever seems to happen to the greens; but just as soon as the nursery is weedy and not fit for anything, suddenly overnight two or three greens pass out.

With skimpy budgets, reduced staffs, and so much work waiting to be done, it seems sometimes as if it would be impossible to devote any time to the nursery; but if we are not prepared to keep it in shape, we will be wasting the club's money if we ever start one.

10. Selection, training and use of labor is just about the greenkeeper's most important job. If the workers are willing and loyal they can be easily trained to do any job on the course. The average club member and many green-chairmen think that all there is to mowing the greens, for instance, is plenty of strength and the less brain the better. This is not so. A man takes a pride in his work, especially when he is given a specific job to do such as mowing a certain number of greens and given to understand that it is up to him to have them looking slick. Most men will try their very best in various ways to bring this about. Many course workers can be seen taking weeds out of the greens after or while they are mowing them, but power-mowers and routine are apt to eliminate the fine touch of the green crew.

Pride in his work is often reflected in the tractor men. Give them their own machine and hold them responsible for it, and more often than not this machine will al-

This view from tee on short hole at the Eastman Durand municipal course, Rochester, N. Y., is another example of the great improvement being made in many course architecture throughout the country. Many of our municipal and fee courses now offer as sporty a layout as can be found anywhere.



ways look well groomed and every flaw promptly reported so that it takes care of the maximum amount of work each and every day. If you get a good man, treat him well; and if he does a good job, give him credit for it. Create in him a sense of responsibility and it will repay you many times. Pay him the maximum rate for that type of labor in the district, and a little more if he is worth it. Don't forget that two loyal satisfied men are worth more than three or four dissatisfied trouble makers.

Happy is the greenkeeper who has a green-chairman who understands the job of maintaining a golf course and who can answer the criticisms of the members about the conditions of the greens or some part of the golf course. In this connection the greenkeeper should keep his chairman well posted as to the general work, especially anything in the general routine that might give the members cause for complaint.

WITH times improving, what have you done in soliciting the renewal of memberships of former members?

Get after them. They probably still prefer your club just as they did when they joined and before tough times got them. Work out an adjustment of their old accounts, if necessary, and you'll have them back as staunch and enthusiastic members if they've survived the depression.

Wise Managers on Guard Against Athlete's Foot Epidemics

A GAIN it is the bad season for athlete's foot, that always irritating and stubborn, and frequently quite dangerous skin disease.

Managers must guard against occurrence of the disease among their members because it's the manager who is bound to be seriously criticized when there are cases of this preventable fungus malady.

Footbath solutions placed in rubber trays outside the showers and emptied into the shower compartments as a disinfectant measure at the close of the day are the most reliable, inexpensive means of preventing athlete's foot epidemics at golf clubs, according to managers who have had long and perplexing experience with complaints of athlete's foot.

The preventive solutions also should be used in cleansing wooden bath slippers if these are used. However, paper bath slippers has almost altogether displaced the wooden sandals at first class clubs.

WHEN making piping installations, don't take off turf with the turf edges even with the edge of the trench. Leave a shoulder of dirt. It makes neat replacement of the sod easier.

Advance Sales Indicate Western Open Will Draw Big Gate

IOWA, in entertaining the first major championship in the state's golf history, promises to restore the Western Golf Assn. Open championship to its old-time financial status.

Advance sale for the Western Open at the Davenport (Ia.) CC, June 19-21 gave early indications that attendance might establish a record for the Western affair. Davenport is 180 miles from Chicago and the same distance from Des Moines. It will draw from a territory rich in golf interest.

The Davenport course is 6,359 yds., making up for its lack of length by an abundance of natural hazards.

Sarazen set the men's record last summer with a 64. Joyce Wethered shot a 78 on it for a woman's record which lasted but one day. Lucille Robinson in the qualifying round of the Iowa State women's tournament scored 77.

Numerous exhibition appearances of star pros at the course have seldom resulted in cutting under the par of 71.

North Joins Green Section as Monteith Aid

H. F. A. NORTH, well known to Eastern greenkeepers by his work in turf at Rhode Island State college, has joined the Green Section of the USGA as assistant to Dr. John Monteith, Jr. North takes the place formerly occupied by Ken Welton on the Section's staff and already has plunged into the accumulation of work that has swamped Monteith since the Section has been laboring short-handed.

North's addition to the staff is an especially fortunate choice for the Green Section, Monteith and the golf clubs. Technically and temperamentally he is well qualified for his new work.

He graduated from agricultural course at Iowa State college in 1922, then taught agriculture and allied subjects at Mount Ayr high school in southwestern Iowa. At the University of West Virginia he did graduate study and worked in the department of agronomy and genetics. This assignment included work in the state seed laboratory. The graduate studies included genetics, plant breeding and plant pathology. He received his Master's degree in West Virginia in 1928 and re-

mained there for a year as assistant seed analyst and assistant in agronomy and genetics.

He went to the Rhode Island Agricultural experiment station in November, 1929, to fill the vacancy left when E. S. Garner resigned as agrostologist there. Garner had established several sections devoted to a study of the production of bent grass seed. These experiments were continued by North and were published in 1934 and 1935.

North continued and extended the work with fine turf at the Rhode Island station. He studied particularly the velvet bents and made many valuable observations on the control of webworms, earthworms and diseases, along with his study of the seed production of the more valuable strains of bents.

In 1934 a bulletin of his was published dealing with the management of bent grasses kept at putting green height and also reporting the quality of the turf from vegetative plantings as compared with seeded plantings of the same strains.

North has kept in close contact with greenkeeping problems in the New England district since going to Rhode Island. For a long time he has been Secretary of the Rhode Island Greenkeepers' club.

Pro's Kids Steal Show at Illinois PGA Dinner

THE three Kelly kids, sons of Mr. and Mrs. Tom Kelly, stopped the show at the second annual Illinois PGA dinner and dance attended by 500 pros, managers, their families and friends. During the floor show headed by Sophie Tucker, the Kelly boys, aged 7, 9 and 11, went on in popular songs, parodied for the pro event. The lads put their stuff across in real pro fashion. They're great.

Their daddy is pro and manager at the Sunset Valley GC, Highland Park, Ill.

Lew Waldron, Mohawk pro, was assigned the M. C. job by Elmer Biggs, president of the Illinois section.

Pros who have batted up on radio programs were repaid for their courtesy by the performances of Tom, Dick and Harry and other star radio acts.

Managers at the party made professional favorable comment on the manner in which Leonard Hicks, Morrison manager, and his staff, served a big banquet, tasty and hot.

WAGES NEXT MAJOR CLUB PROBLEM

WAGE increases, inevitable as prosperity returns, were brought sharply to focus in the northern sector of the Chicago district when course employees of several prominent clubs went out on a strike for higher wages.

"Strike" is only a word of convenience in this instance. The majority of the employees were intimidated by picketing of their homes and courses at which they were employed. The action was engineered by the business agent of a hod-carriers union who, together with muscular and threatening emissaries, attempted to form a golf course employees' union.

Although the walk-out occurred when opening play impended at the courses and there was urgent necessity for work, there was less than a week during which work at the effected courses was practically suspended.

Strike plans died abortively because there is not enough money in course employees' wages to support a union business agent in the style to which he is accustomed; hence ultimate acquaintance with this unhappy fact was not without its effect in discontinuing organizing efforts. Furthermore, golf clubs countered with the statement that they had a fixed amount for the maintenance budget and would operate with fewer men and more machinery to keep the wage item in balance.

Relief Scale Is

No Help to Clubs

The situation was complicated by the public works hourly scale being higher than that paid at golf clubs, and by men on relief not being willing to take golf course employment when offered because of interfering with their chances of getting back on relief when the golf season was over and their income cut off.

Men who returned to work were given approximately a 15% increase in hourly wages against the approximate 58% increase demanded by the strike organizer. An increase was contemplated when budgets for this year were prepared at several clubs so the net result of the walk-out was to bring into public view a matter that has been discussed at many club directors meetings.

Highspot of the aftermath of the news-

paper publicity on the course workers "strike" in the Chicago district include:

Increases in fees at a few daily-fee courses to care for slightly higher wage scale.

Extension of the monthly instead of hourly pay basis.

A back-of-the-barn strike meeting by one club's course workers which was promptly settled by greenkeeper putting into effect a 10% pay increase on his own initiative.

Serious study of the labor problem by club officials and department heads.

Fortunately, the affair comes up when golf club condition is improving. The golf clubs, as well as the club employees, have had a tough time of it during the depression. Before a club can pay any wages it must have members and it was only last year that a definite, national upturn in the memberships took place.

It Is About Time to Restore Pay Cuts

Club officials who look at the club labor situation in a calm, informed manner admit that the loyal and specialized skill of the majority of club employees calls for making good on the promises of compensation for pay-cuts made when times got tough. Administrations that made those promises long since have left office and the promises have been forgotten; but not by the employees. Financial operations of clubs are modestly but solidly improving, and with this improvement, maintain officials who have closely studied the situation, there should be voluntary wage increases on the part of the club, if merely to show the clubs' attitude of sportsmanship and recognition of employees' loyal interest.

Obviously the course maintenance employees are by far the most seriously affected class of club employees under the prevailing conditions of increasing costs of living.

When the golf season is over, the course employees have no other source of income. They're not like house employees to whom restaurant, hotel and tavern jobs may be available. Generally, too, the course employees are the lowest paid of all club help.

Considerable improvement would result in the golf club employment situation were

members to take an interest in winter jobs for the club workers. At some of the best operated golf clubs officials and members make earnest, successful efforts to see that their club employees are given off-season jobs.

Greenkeepers who know the difficulty of recruiting and training a crew of expert workmen who know every blade of grass on the course, are so keenly conscious of their employees' living problem that in numerous instances they have voluntarily cut their own salaries in order to keep men at a labor cost within the barest budget required for good maintenance.

But the greenkeeper is faced by realities, not theories or philosophies, the survival of the fittest, or law of the jungle doctrines mournfully accepted as final by directors who conscientiously cope with the wage problem. The greenkeeper has to get the work done by good men.

As a matter of cold, accurate reporting GOLFDOM sets forth that the wage problem is one that is causing some drastic revisions of golf club operating and financing policies now.

Foresighted, competent greenkeepers who already have done much with the labor management and utilizations problems, figure that they still have plenty to worry about in progressing in this phase of course maintenance. Most of them believe that the monthly basis of pay is bound to come and a revision of labor management plans, to make use of rainy day hours, is going to have a decided effect in course maintenance of the future. The hour wage basis, they state, keeps men at home on rainy mornings and when the sun comes out around 10 A.M. with lots of rush work to be done, no one is on the job.

More extensive use of existing types of machinery, new inventions to displace manual labor, and more careful consideration of long-term equipment buying and amortizing practices are going to play a big part in the happy solution of a labor problem now disturbing club officials, greenkeepers and course employees.

Kirtland Upkeep Show Draws Big Cleveland Attendance

UNDER sponsorship of the Cleveland District Assn. of Greenkeepers, a most successful and well attended golf course maintenance demonstration was held May 4 at Kirtland CC, Willoughby,

O. Ben Zink, president of the local greenkeepers and superintendent at Kirtland, acted as host.

All makes of tractors and mowers were on display and were given a working test while the assembled greensmen, augmented by a number of green-chairmen and estate superintendents, looked on. Highlight was the introduction of rubber tires on fairway mowers.

Zink, in addition to his duties as host, had several examples of his own handiwork on display, including a power green mower with a third wheel to take the weight off the operator's hands and arms, and a vacuum-cleaner device, still under construction, for removing bugs from greens.

Greenkeeper team matches are scheduled for June 1 at Portage CC, Akron, in which teams from Cleveland, Columbus, Akron, Cincinnati, Toledo and Pittsburgh districts are expected to compete.

St. Paul Legion 40&8-ers All Set for Sixth Annual Junior Meet

SIXTH annual Junior Golf tournament of the American Legion 40-and-8 outfit will be played at Highland Park, St. Paul, June 29, 30 and July 1. Voiture 39 of St. Paul originated the event and Kief Vaux of that outfit has religiously ballyhooed it as a premier golf tournament for kids, until this year the tournament is taking the aspect of a national boys' championship.

Several voitures in Eastern states have signified their intention of sending kids to the tourney. Many pros with likely boy champions are 40-and-8ers and are grooming their charges for the St. Paul engagement.

Legionnaire George Jacobus has given the kid event the paternal benediction of the PGA.

The boys are handled on an army camp basis while in St. Paul with all regulations, including medical inspection, being followed just like the kid tournament sponsors had to do themselves some years back, whether they liked it or not.

This event is conducted and supervised in a way that has won the enthusiastic endorsement of the juvenile contestants' parents.

All pros who are legionnaires are requested to get the dope on this tournament from A. J. Fandel, Hamm Bldg., St. Paul, and co-operate in making this golf event one of the same class as the Legion's national junior baseball championship.

HE KEEPS HIS CLUB "CIVILIZED"

By GEORGE KEMP, Jr.

"YOU know you have to keep your plant up each year or pay through the nose. It's the same way with the operation of a clubhouse. Let that go down in the character of service or in the type of membership and it's even harder to put back into repair than the boards and brick and piping around a clubhouse."

The veteran G. A. Kendall, manager of the old and august Glenview club (Chicago District) was talking about the problems that confront many managers, with class again becoming the objective and asset of clubs that have passed the point of considering the problem of money alone. A star years ago in the hotel business and one of the very best in club management, Kendall is a quiet, philosophical expert whose agility and alertness belies the number of years he has spent in catering to the good living demands of a distinguished clientele.

He has the highest and most cheering hopes for the future of club management. Through competent club management, blessed by the backing of officials who are gentlemen, epicures and sound businessmen, Kendall is confident that the club managers are to become leaders in a new post-depression era of civilized good living. In his opinion the clubs are emerging from the demoralization of prohibition and the panic.

Liquor

Habits Improve

In the matter of drinking, Kendall sees a wholesome improvement. There are not the youngsters drinking now that there were during prohibition and there again is a distinct development of connoisseur tastes among those to whom first class liquor was a rarity for many years.

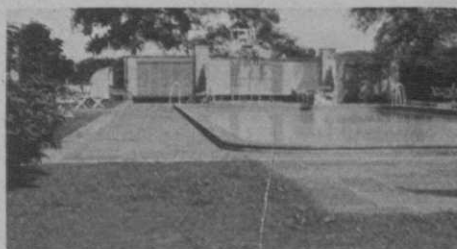
Formerly brand names meant something to the connoisseur of liquors. The same brand names may not mean anything now and the club manager whose members expect the best must be an expert appraiser of the quality of the merchandise. In its present status, Kendall declares, the liquor industry's policy of volume is not one calculated to fit the high class club manager's requirements of quality. So insistent is Kendall on searching markets for beverages and food that will meet the Glenview standards that he imports some of the

Scotch he serves at the club. He sees to it that his members are served and learn to recognize superior quality by knowing superior quality himself.

Naturally such an operating policy makes Glenview a highly desirable club to join. During the depression Glenview had its membership problems, not as acute by a long way as the majority of clubs, but handled the problem by having its membership committee sift applicants on a basis of standing as gentlemen rather than be stamped into financial considerations mainly. Costs of membership were reduced, which had the effect of bringing younger members into Glenview. Kendall considers that an important part of his job is the education of these younger members as epicures. He reasons that the more competent a manager is to handle this sort of training, the more positively the manager contributes to the standing and prosperity of the club.

Although he was associated with several of the most famous chefs in America during the lush days of American society's epicureanism, the Glenview manager forecasts more women cooks at the better eating places.

Disappearance of game from menus Kendall laments as something that has made the problem of a superb variety of food a difficult one at clubs, and the



Glenview's pool brings the families of members to the club, thus complicating Kendall's supervisory duties.

rising food prices continue to worry the manager.

In connection with buying problems Kendall relates that old Potter Palmer, the hotel man, used to know the price of every glass and every potato in his hotel.

With an average inventory of \$1,700 in food at Glenview, Kendall has worked out a checking and accounting system that prevents wastes. He works on the policy that money is easier to handle than liquor and food, so by watching for possible leaks in the food and liquor service, keeps a vigilant guard over his club's money.

Kendall is a crank on cleanliness. His employees and every detail of the clubhouse and its cottages must be immaculate or there is enough hell raised with the one responsible for untidiness to identify Kendall as a candidate to slug Joe Louis silly. His particular aversion is flies. His kitchen has only one door and is cross ventilated. Garbage disposal is quick and thorough. A fly around the Glenview clubhouse is a rare sight.

You Get What You Pay For

He also is firmly committed to engaging only the best help and seeing that they are cared for in a manner satisfactory to them. He attributes to this difficult phase of country club operation, considerable credit for the high operating standard of Glenview. "To have a good club you have to have good help and treat them well. Low class employees can't serve high class members, and the club that tries that hasn't a chance to identify itself as a first class establishment," Kendall asserts and backs his assertion with service favorably commented on by leaders in international society, finance and statesmanship who have been served as members and guests by the Glenview staff.

Service of women and younger people now is more of a study for golf club managers than it ever has been before, Kendall emphasized. Daintiness in appointments and service and an authoritative knowledge of the best in foods, liquors and service, are essential for the club managers.

The Glenview manager makes it plain that he hesitates to set forth hard and fast general rules in club management. There are too many variables to warrant a number of inelastic rules. You may have 60 reservations for a dinner and 360 appear. Everyone has his own problem with extra waitresses and waiters and with

emergency food supplies. However, despite the problems common to the golf club manager, Kendall comes out even in restaurant operation and ahead on the bar and rooms.

Kendall not only insists on smooth, quiet, expert cooperation within the house department of Glenview but rates departmental harmony with the professional and greenkeeping operations as a prime essential of management at a high class club. Together with Jock Hutchison, famed pro at Glenview, and the club's well-known greenkeeper, Ed Haupt, Kendall provides a club operation that demonstrates quality of service is one of the most substantial of all club assets.

A NEW DRINK with a Puerto Rico rum base is going up (and down) in great favor at golf clubs famed for smart bartending.

It's said to be the one innovation in the drink line since repeal. The ingenious Swizzlestick is the trick of the drink. One of the points to command the rum drinks is that rum ages four times as fast as bourbon and for that reason a first class supply is available.

Recipe for the "Swizzle":
Put Swizzlestick in 8-ounce glass
Fill glass with shaved ice
1 teaspoon sugar
Juice of half a lime
1 jigger of swizzle rum
Fill glass with selzer or sparkling water
Swizzle with Swizzlestick.

Inverness All-Star Round-Robin—This year's Inverness Round-Robin best ball championship will be played at the famous Toledo course June 20 to 28 inclusive. Eight two-men teams of the leading professionals will be invited.

Bad weather at last year's inaugural put it into the red, but the exclusive and unique character of the event commanded so much national newspaper space the Inverness members are underwriting the event again, determined to make it an annual fixture.

Ohio Has Fee Tourney. Ohio Golf Course Assn., consisting of 16 fee courses mainly in Cleveland district announces second annual handicap championships. A class, 14 and under; B, 15 to 24; C, 25 and over. Inter-club team play championship starts June 21 and continues until all teams in the league have competed against each other.

AS BENTS DIFFER, SO MUST CARE

By H. B. MUSSER

Agronomy Dept., Penn State College

IT IS A FAIRLY safe bet that there are very few greenkeepers in the northern half of the United States who have not, at some time or other, done some experimenting with vegetated turf. This is particularly true at courses where there have been a few old greens that originally were seeded with South German mixed bent. These greens generally have such a wealth of different type bents that there is an almost irresistible urge to try out some of them. And that "urge" becomes particularly keen when we watch a green go from bad to worse during a spell of bad weather, but find here and there a patch of turf that is good in spite of the beating it is taking. This was the origin of Washington, Metropolitan and a number of strains of creeping bent that have been selected by greenkeepers for use on their own courses.

With increasing use of vegetatively propagated bent has come gradual realization that our maintenance practices must be adapted to the individual needs of the particular type that we are using. Without any intention of becoming involved in endless argument as to the relative merits of vegetated versus seeded turf, it may be safe to suggest that at least a part of the controversy is due to a failure at the beginning of vegetative culture to recognize that our selections needed special handling.

Can't Handle All Strains in Same Way

During the process of testing the many selections of creeping bent developed in our breeding work at the Pennsylvania experiment station, it soon became evident that we could not get a true picture of the quality of different strains by handling all of them in the same way. In judging the quality of any particular plot we are always troubled by the possibility that a strain might have given a much better account of itself had it been treated differently.

And so, it seemed desirable to lay out larger test plots where each strain could be given a maintenance treatment that

would bring out the best that was in it. No attempt is being made to test at one time all of the hundred-odd selections growing in our nursery. This would require greater facilities in time and budget than are available. Only those strains are given final maintenance tests that have shown some indication of quality in the small test plots.

The first series of these plots were planted in the fall of 1934. The plots are 12 ft. wide by 21 ft. long and have been graded as nearly level as possible. The seedbed was well prepared, with an organic matter content (peat) of approximately fifteen per cent, and a liberal supply of fertilizer and lime to a pH reaction of 6.7. This first series consists of three new selections that have given a good account of themselves in the small test plots together with the Washington and Metropolitan strains and a seeded plot of South German mixed bent.

Topdressing is Chief Variation in Treatment

An attempt has been made to treat each plot in such a way as would develop and maintain the best possible turf the strain was capable of producing. It was found that it was not necessary the first year to vary treatments on each plot a great deal, except in the matter of topdressing. The soil fertility was very good to start with, and so the matter of fertilizer applications for the first year were not as important as they will probably become later. However, different strains of bent showed a very appreciable difference in quantities of topdressing needed to condition them properly.

The following tabulation shows the amounts of topdressing material per 1,000 sq. ft. used on each strain during the first year after planting. Figures on a strain of velvet and a seeded Oregon colonial obtained on smaller plots are interesting and are included for comparison.

Dates of Top Dressing and Quantities Applied per 1,000 sq. ft

Grass	May 28 cu. ft.	June 14 cu. ft.	June 30 cu. ft.	July 11 cu. ft.	Aug. 2 cu. ft.	Aug. 29 cu. ft.	Sept. 27 cu. ft.	Total cu. ft.
Strain No. 7(29)3 (vegetated)	7.9	7.9	7.9	6.4	14.3	4.8	5.6	54.8
So. Ger. M'x'd. Bent (seeded)	9.9	0	4.8	2.8	9.9	4.0	4.8	36.2
Strain No. 2(29)4 (vegetated)	7.9	7.9	14.3	7.9	11.9	4.0	4.8	58.7
Metropolitan (vegetated)	11.9	9.5	9.5	10.3	15.9	6.4	6.4	69.9
Strain No. 6(29)4 (vegetated)	6.4	7.9	7.9	7.9	13.9	4.0	5.6	53.6
Washington (vegetated)	9.9	7.9	9.9	7.9	13.9	4.0	6.0	59.5
Oregon Colonial (seeded)	9.9	2.0	4.0	4.0	9.9	4.0	4.8	38.6
Velvet (seeded)	9.9	4.0	0	4.0	2.0	4.0	2.0	25.9

In studying the tabulation it should be kept in mind that the record covers only the first year after planting and that treatments of the strains under test may have to be varied quite materially during succeeding seasons. Thus, it will probably be necessary to change topdressing applications very drastically on the seeded plots after the turf has reached a greater degree of maturity. However, the tabulation indicates what the situation has been in the first year of the life of a greens' sod and that topdressing practices must depend upon the type of turf used.

Naturally, the question immediately arises as to whether these figures really represent the relative difference in topdressing requirements among the types of turf tested. In other words, has the treatment produced the best possible putting green surface on the various plots? This raises the same old question that has always been with us, namely—what constitutes good quality turf?

What Standard Rates Putting Turf?

Now, if turf is to be used as a putting surface it would seem to be only common-sense that any yard stick used to measure quality should include actual putting trials on it. In order to determine whether the treatments given were effective in producing a true putting surface, a series of putting tests were made on each plot with a mechanical putter. The putter used is the one developed by the Green Section of the USGA and was made available through the courtesy of Dr. John Monteith, Jr.

In making the tests five sets of the mechanical putter were made on each plot and five putts were made at each setup. The tests were made over a three day period, from September 10 to 13, just at the end of the hot summer period when turf usually is at its lowest condition. In all cases tests were made on dry turf in the afternoon four hours after clipping to a quarter-inch height. The last previous topdressing had been on August 29. The following summarized tabulation gives the results of the putting quality tests on the large strain plots:

Strain	Average Length	Average Deviation from straight line
Strain No. 7(29)3.....	16'- 1.6"	0.7"
So. Ger. M'x'd. Bent.....	13'- 8.6"	0.5"
Strain No. 2(29)4.....	18'- 6.8"	1.9"
Metropolitan	15'-11.9"	2.1"
Strain No. 6(29)4.....	16'-11.7"	0.5"
Washington	15'-11.9"	0.7"

The first column of the table represents the average length of the putts at the same stroke by the putter on each strain. The second column gives the distance from the point where the ball came to rest, to the true line of the intended putt.

The tests are of interest because they demonstrate that the treatments given the plots during the season were fairly close to what they should have been to produce a true putting surface. An average fluctuation from a straight line for 25 15 ft. (or more) putts of from only one-half to two inches is a pretty good record.

The figures on length of putts are not