Chasing Brown Patch Is Not All

By Albert Brown, Pro-greenkceper Lido Country Club, Long Beach, L. I.

C HASING brown patch is not all there is to greenkeeping. Despite the fact that the name "greenkeeper" is apt to be misleading to those of the general public who have just recently aspired to become golfers, they must not forget that there are other duties on the course and many of them are perhaps of more importance to the golfers who financially support the clubs and courses.

The business of greenkeeping has at last won recognition and universal respect from the golf clubs and players of America. We believe an employee of a club who is responsible for the spending of from fifteen thousand to twentyfive thousand of dollars per year toward keeping the golf course in playing condition must fill an important position.

The National Association of Greenkeepers of America composed of a body of men of proven worth and intelligence certainly has a great future, for, as we see it this is only the beginning. Not one of us knows it all, nor perhaps ever will but with free discussion we will make some progress.



THE OCEAN BEACH IS FAMOUS AT LIDO Flanking the beach are the lawns and the practice putting green with an area of 130,000 square feet planted to Washington bent stolons



THE AUTHOR

Personally, I think the subject of brown patch has been overstrained during the last year, and, although very serious in itself it may overshadow the real work in hand of which as we all know there is abundance. We all have our worries from the usual kickers (of course passed on to us by the chairman of the Green committee or the secretary—bless their souls), on the rough being too rough or the pits too difficult for them. The greens too fast or the greens too slow, is a subject everlasting with the alibi golfers from coast to coast, but it is all in the game of golf for the player who is on the losing end the world over.

MY PROBLEMS ARE LIKE ALL OTHERS

G ETTING down to my own local conditions here at Lido on Long Island I may say that my maintenance problems hardly differ from what they would be in Maine

or Missouri, Michigan or Maryland. We mow our greens nearly every day including Sunday and the fairways twice each week. Our course is built on a sand bar with a six-inch layer of farm top soil on fairways and The so-called rough is the greens. natural sand itself, shaped up into mounds and hummocks to give it character, planted with tufts of coarse sea grass and having the appearance of natural seaside sand dunes. This is an ideal condition for natural hazards as it is thin enough to find balls easy but extremely difficult to play a good shot from. Of course this condition is only possible on sand, gravel or very sterile soil.

One edge of the course is hard up against the Atlantic ocean where the winds blow quite fresh about every day in the year and I mention this fact for the benefit of you fungus experts who believe that fungus or brown patch is native to dismal swamps and forest glades.

We have had small brown patch on eighteen greens the last two years and plenty of it and although the course is as I explained close to the sea, we have great variety of contour and a few elevated greens. Our highest greens seemed to be in every way quite as susceptible to disease as those lying only four feet above high water mark.

I might mention that our turf is composed of red fescue, Rhode Island bent, Seaside bent and Poa Annua (curse it). Every green is large, not one being less than ten thousand square feet with three of them fifteen thousand feet. Quite an area to maintain.

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Of course this eternal brown patch subject has to crop up again and at the time Brothers Morley and MacGregor so kindly visited me this summer I was quite optimistic over the outlook. I mentioned the fact that although we had been able to control it very readily with calomel-bi-chlorate combination and broadcast (with a suitable quantity of topdressing), by the dry method, still there must be something wrong with our modern methods of fertilizing.

The fact is that the low-lying areas of fairway which I had reason to believe were in a high state of acidity seemed to develop brown patch at the same time as did the putting greens. Now these fairways had not been fertilized for twelve years and had just got natur-

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ally sour on the low spots, and it seemed reasonable that the greens were in a similar condition, probably through the continued use of acid reacting fertilizer.

A series of tests made recently showed the infected areas in an acid condition and I have already taken steps to bring them back to a more neutral state. I would advise every greenkeeper to possess a soil testing outfit and acquaint himself as to its use.

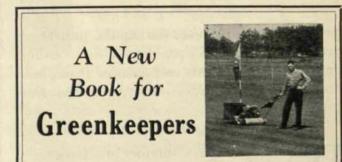
About the Size of Greens

D URING Convention week in Detroit last year many interesting subjects were discussed both in session and private argument which is all for the common good. One of them was about the area of the average green. Now this is an important subject and one that Green committees are vitally interested in for it means quite a difference in the budget of a club whether the greens will be six thousand or ten thousand square feet area. Of course local conditions determine to a great extent the playing area for the shape of a green will sometimes determine the size it should be. A green with a rim all around the back and sides which is very common nowadays can afford to be made quite small compared to one that is flat. Then again a green which is soft and heavy or in a low spot can be made quite small as against one which dries out very easily and is always fast to putt or pitch on, which must be made large.

Contrary to the opinion of some golf architects the length of a golf hole does not very often determine the size of the green.

A greenkeeper will often wonder how fast to have the putting surface or what standards to maintain, especially if he himself is not a golfer. Very often the chairman of the Green committee knows less about the matter than he does. Of course if he has velvet bent turf he has no choice with such a dwarf grass. Personally, I don't care for velvet bent greens to putt on as they are too fast for consistent putting and require a bigger putting surface.

We have entertained quite a few leading



There is a book on the press that records a new era of efficiency in putting green upkeep. It gives a record of Putting Green upkeep costs during the past year at several golf clubs, comparing the cost of work done with push type mower and with Jacobsen Power Putting Green Mowers. A chapter on control of Brown Patch recites some very interesting experiences. The book also describes the complete line of Jacobsen power putting green upkeep equipment and contains many illustrations of greens throughout the country.

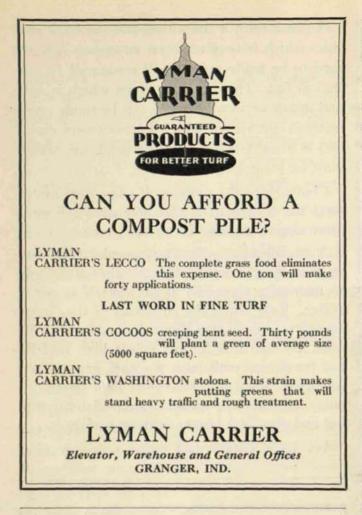
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golfers over this course during the past seven years in championships, near championships and open tournaments and most of them, both amateurs and professionals, preferred slow greens.

POWER MOWERS PROVE ECONOMICAL

D^{URING} the past summer we have very successfully used 24-inch power putting green mowers and would urge greenkeepers to give them a trial even if only to supplement their hand machine work. They are real money savers and make a real good job of cutting.

The maintenance of the so-called rough is another bone of contention with our friends the average dubs.

The rules of the game of golf mention only four parts of a course—fairway, putting green, teeing ground and hazards. A hazard is any bunker (sand pit), water (except casual water), ditch (unless excepted by local rule), bush, sand, path or road. Sand blown onto the course or sprinkled on the grass for its preservation, bare patches, sheep tracks, snow and ice are not hazards. Long grass is not a hazard.

I suppose most of you greenkeepers don't see how it is possible to have a good course without rough. This course (Lido) is famous for its rough, in fact so famous that most players don't want to play it again, although we have thinned it out considerably the last two years. Two golf courses I know of (real good championship courses, too), have no rough— St. Andrews, Scotland, where Bobby Jones won the British Open, and Lakeside, California.

I believe that a course which requires acres of bluegrass hay in order to keep the scoring high is badly in need of a good golf course architect immediately, so by all means get rid of your rough grass and keep it short. Mowing machines and tractors don't cost much nowadays. All this goes to show, brother greenkeepers, that we have other duties to perform besides chasing brown patch, so let us work together and get rid of it.



Sand Greens

Their Construction and Care

By DON SPARKS Chickasha Country Club, Chickasha, Oklahoma

AM writing you a few paragraphs on construction and care of sand greens as commonly used in the southwestern states.

Sand greens should be at least fifty feet across and level when they are finished.

First, place temporary stake at center of

green, where cup and flag staff should be permanently placed when the green is finished. Fasten one end of cord to this stake. Measure twenty-five feet of cord from stake. In this way a perfect circle can be made. Cut outside of the circle with a tiling spade. This will give a definite outline for the green fifty feet in diameter.

Beginning at the center of the green, spade out a layer of dirt about six inches deep; working from the center to the outside, decrease the depth to five inches. This allows a slight drainage from

DON SPARKS Oklahoma greenkeeper the outer edge of the green to the center from which tiling is laid to lowest point on the outside of the green. The earth removed may be used for leveling or constructing bunkers near the green to save expense of hauling away.

After the dirt is removed, cut a ditch for a

four inch tile from the center of the green, so that the tile will be just flush with the top of the cleaned off surface. After the tiling is laid, spread a layer of finely crushed rock or chat over the fifty foot circle space to a depth of three inches. After the rock is leveled off, place

> one inch of sand or gravel over the entire surface.

After the green is tamped, it is ready for a coat of an inch of oiled sand so that the green may be kept smooth and the oil prevents the winds from blowing off the fine sand. The oiled sand should be prepared before it is spread on the green.

The sand should be screened. This may be done by pitching the sand on a screen while it is being loaded. Level off the top of the load. Pour waste or crank case oil over the top of the load, using

about one-half barrel of oil to a yard of the This cut oil will readily mix with the sand. This oiled sand should be from one to sand. two inches deep over the entire surface of the green. Place a heavy screen at the mouth of the tiling to prevent sand from washing out.



A TYPICAL SAND GREEN IN OKLAHOMA Strangely enough the depth of sand governs the speed of the ball so that great care must be used in the construction and upkeep of these putting surfaces





Never drive a wagon onto the green, but throw the sand from the wagon from points around the green. This scattering of the sand helps to even it up and thoroughly mix the oil. Use a garden rake to level down the sand and then use a light roller to pack it.

If the foregoing directions are followed, a sand green will be as near perfect as can be had which will be permanent and as good for putting purposes as can be made to approach grass greens. Sand greens after use should be gone over and smoothed out with a drag that can be made from a small heavy rug.

The approach to the green should be sodded with bermuda grass by spading up and putting in roots of the grass and then smoothed down. The bermuda grass will stand drouthy sections and will do well even up into the oiled edges but will need to be trimmed frequently to keep it from growing or spreading over on the green.

Ordinarily, greens constructed in this way will last a season without further sanding with oiled sand. But after heavy rains, the sand has a tendency to pack and become hard. Then it



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is necessary to use a harrow that is made by driving spikes into a two by four about onehalf inch apart. The spikes should be sharpened. Use the spiked side to break up the hard pan and the smooth side to smooth down again.

After rains the oil may be washed from the sand. Then it is necessary to reoil the sand on the green. Use a sprinkler and work up the sand with the harrow and then smooth down. Loose oiled sand should be kept well smoothed about one-half to an inch thick on the green so that a ball will stick when pitched onto the green. The purpose of the oil is to hold the sand together and give an even and consistent surface to putt over.

It is necessary for players to have small individual smoothers to smooth out a putting path after they are on the green. A round stick about eighteen inches long straight and about the size of a broom handle with a hinge in the center that attaches it to a shaft about like the putter shaft is used.

Sand greens are less expensive than grass greens as they do not have to be watered and mown. They are suitable for the semi-arid regions where it is difficult to grow grasses that are suitable to putt on. They are good the year around which is not always true of grass greens in the south and west.



Prince Edward Island Bent

By LEWIS M. EVANS, Greenkeeper Cedarbrook Country Club, Philadelphia, Pa.



LEWIS M. EVANS He is president of the Philadelphia Association of Golf Course Superintendents

THE year 1928 surely brought its cares and worries and as it draws to a close one hesitates to even think of grass, let alone write about it. But the particular strain I am going to discuss stuck with me during those trying days of the brown patch period and I feel

that this is the proper time to give credit to a hearty strain of the bent family.

About three years ago on the advice of four of the members of the club we started to use Prince Edward Island bent seed and we were immediately impressed with the general character of the grass, its beautiful dark green color, and I can now add its resisting qualities against brown patch. I planted a garden of twenty-five hundred square feet and it was here that I had my real opportunity to study its great qualities that prompts the writing of this article.

Prince Edward Island bent is not a creeper but each blade stands upright and that prevents that matted, tangled condition so common to many of the strains. In spite of the fact that we have cut thousands of plugs from this garden and put in our greens to replace clover, and that these plug holes covered over in the garden I still insist that it is not a creeper, but that it makes new growth from the roots and not from runners above ground. This past season I saw but three spots of large brown patch in this garden and that speaks volumes for any turf in the Philadelphia district this year.

Mr. Donald Ross the well-known golf course architect and friend of the greenkeeper has been making some changes on the course here and as I have walked around with him on the course we always stopped at this garden and he admired and complimented this beautiful Canadian bent.

I recently vegetated a new green and grass garden from stolons purchased from a fellow member of the National association, Mr. Hiram Godwin of Redford, Mich., and to date they are doing fine, so 1929 will furnish the opportunity to compare the true qualities of these two beautiful, but different strains of bent. I have not taken the liberty to call the Godwin strain by any particular name as I feel I would do it an injustice, but having heard of the care used in its selection I think it justly deserves the name "Godwin Selected." My sincere hope is that I may have the opportunity to write an article in 1929 telling of good qualities.

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Putting Green Construction

By JOHN SHERIDAN, Greenkeeper The Chagrin Valley Country Club Chagrin Falls, Ohio

THE construction of a putting green is the most important work on a golf course. It depends greatly on the soil conditions. The plan of construction I have reference to is for heavy clay.

The top soil which is available on the green site should be put in a pile out of the way and lay for at least three weeks. By doing so the soil heats and many weed seeds are destroyed. The green then can be shaped as required with the material which still exists on the green site, or out of traps which have been planned close to the green.

The pitch and size of the green depends greatly on the length of the hole, for instance, holes ranging from one hundred and twentyfive yards to two hundred and twenty-five yards shouldn't be too large, but should have the most

To Golf Club Officials

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pitch, not only to hold the ball but to insure quick surface drainage in wet weather so the green will never get too soft to allow the high pitched balls to punch it full of holes. This type of green for short holes shouldn't have more than sixty-five hundred square feet of putting surface and a pitch of one foot in forty. Other lengths may have a pitch of one foot in forty-five or fifty and a putting surface up to ten thousand square feet.

When the green is rough graded it is advisable to allow it to lay for a while in case it should settle out of shape. One extra foot to every four should be allowed in deep fills.

Tiling the Green

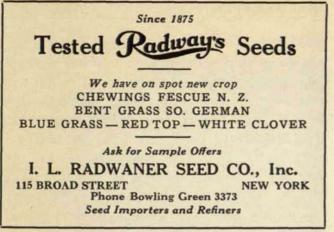
THE green is now ready for tiling. A main line is placed up the center from back to front with four laterals on either side, herring bone style, using four inch golf drain tile placed at a depth of eighteen inches from the surface of the finished green and covered with six inches of cinders and back filled.

The top soil should be now put on if possible no less than six inches. An application of as much as twenty tons of well rotted manure ploughed in and well disced up is advisable and for clay land an application of twenty tons of sand disced in.

The green should be allowed to lay for a

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while so as to let the weed seeds germinate. About ten days before planting time an application of one hundred pounds of sulphate of ammonia is applied and disced in.

Hand Rake Before Seeding

THE green should be hand raked to remove all small stones and turn the surface. The soil just before seeding should be kept moist to insure quick germination. If bent stolons are planted it should be done on a dull day or late in the evening. The stolons should be evenly spread over the ground and covered with a light application of fine top soil applied with a topdresser and lightly rolled and watered.

The surface of the green should never be allowed to get dry and in a very few days of favorable weather the grass will begin to show. When the ground is well covered topdress it down, and encourage the runners to take hold. All it needs is an occasional topdressing and cutting with a tee mower if the runners should get too long. An application of one hundred



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pounds of Milorganite every couple of weeks will help out wonderfully and in four months of favorable weather the green should be in nice shape for play.

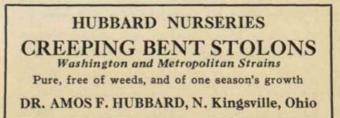
Chicago Greenkeepers Meet

The first dinner-meeting of the winter season was held December 5th at the Great Northern Hotel, Chicago, by the Mid-West Greenkeepers Association.

Reports of all committees were asked for by President John MacGregor. Alex Binnie, vice-president, made a report in behalf of the advisory committee stating that in the future more attention should be paid to actual greenkeeping problems and recommended that these problems should be discussed on the floor. He stated his opinion that such action would greatly increase the value of the association. Much discussion followed on the use of arsenate of lead for grub control and weed elimination. Some interesting opinions were expressed. It was suggested that more experimentation might be in line.

A nominating committee to select candidates for the coming election of officers was named as follows: Matt Bezek, chairman, Beverly Country Club; Peter Stewart, Lake Shore Country Club; D. W. Danley, Glen Oak Golf Club; R. Thode, Glen Acres Country Club; and William Howard, Exmoor Golf Club.

The next meeting will be held Wednesday, January 2nd, at the Great Northern Hotel at which will take place the annual election of officers.



Better and More Economical Compost

By JAMES A. SMITH

PRACTICAL experience, during the past few years has shown that materials entering into and the manner of handling compost can be greatly improved upon.

The primary purpose of the compost pile has been to produce a humus from decaying sod, manures and other organic matters and to have



THE WELL-KNOWN REDAN HOLE AT LIDO The shot is 160 yds. and the green slopes away

this humus, through ageing, become a fixed part of the earth in which the decay has taken place.

Since the production of good compost is one of the most expensive operations we have on the golf course and so frequently the product proves unsatisfactory, the following methods of economically handling should be of interest.

It has been demonstrated that a one-half acre plot of almost any ordinary, well drained soil, so located that it will not become easily infected with weed seed, makes a good beginning for a compost bed. This should be plowed as deeply as possible and reduced to a fine state by farm tools.

Upon this should be spread forty-five tons of good humus, or its humus equivalent of well rotted manure. This should be at once disced until it appears to be a good mixture of earth and organic matter. If well rotted manures are used the quantities should be increased several times over the quantity of the humus indicated.

From this on, the more frequently it is stirred with the plow, disced and cultivated, the better mixture of earth and organic matter there will be and the progress of ageing will be speeded up. If good humus, comparatively dry, is used, within six months a perfect, permanently mellow, easily screened top dressing will have been produced and ready for use. Rotted manures will require approximately one year of ageing before a complete decay has been accomplished. If top dressings are needed and the compost bed is wet, opening up with a spike harrow, on a bright day with a drying wind, will quickly allow the screening of the top inch or more.

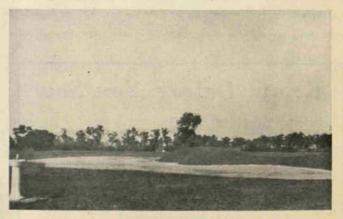
Upon this area it is possible to produce approximately 500 tons of good top dressing at a total cost of less than \$1 per ton, due to the mechanical means employed. The area exposed to the weather speeds up the necessary ageing.

No More Free Prizes

By EDWARD B. DEARIE, JR., Secretary The first meeting of the winter season was held Wednesday, November 14th, at the Great Northern Hotel, Chicago, by the Mid-West Greenkeepers Association.

The recent greenkeepers' tournament was the principal subject of discussion. A letter from Mr. Fred Sherwood of Northmoor Country Club, Ravinia, introduced the topic. Suggestion was approved that a letter be sent to him while he is spending the winter in England thanking him for his services in connection with this event. After some discussion, the organization went on record as opposed to the acceptance of prize money from merchants and as favoring the use of funds from the treasury.

A membership drive was approved and plans were suggested to bring in additional members. The possibility of having an application blank published in green-



14th HOLE AT RIDGEMOOR C. C. CHICAGO, This is the author's home course

keeping magazines met with favorable consideration. It was felt that greens chairmen should be encouraged to insist on their greenkeepers joining the organization.