

matter in an active condition, and the best way to do that is to fertilize and lime the soil.

When a new material, whether organic or inorganic, is added to the soil, activity of organisms is much increased. The activity is a desirable thing except when there is a shortage of nitrogen.

It is assumed by some that organic matter can be increased by the addition of nitrogen to the soil. If that is true, most greens' soils should be very rich in organic matter. I believe this is true, but only when the soil receives phosphorus and potash in addition to nitrogen. In other words, a complete fertilizer is necessary to produce the amount of grass roots to definitely increase the organic matter content. Even if some of the bacteria do act like "brownies" or "fairies," remember that they must eat.

USE OF CHARCOAL ON GREENS

IN SOME parts of the country wood charcoal has come to be used regularly for building and topdressing greens. Its ability to produce a good physical condition in heavy soils is well known and successfully taken advantage of. Besides the good physical effect, charcoal holds considerably more water than does the same weight of mineral soil. Results from

using charcoal have been uniformly good.

Charcoal seems to do more than just improve the physical condition of the soil. It seems to have a fertilizing value as well. Recent tests show charcoal to have considerable water soluble salts in it. One of these salts is phosphorus. In fact, most charcoals have more soluble phosphorus than do soils. This helps to explain the good effects of charcoal on acid soils where soil phosphorus is quite insoluble.

The finer the charcoal the more basic in reaction. It is more than likely that some of the good effects of topdressing greens with charcoal are due to a neutralizing of soil acidity, or, to a supply of soluble calcium. This phase of charcoal utilization needs more work done on it. Sweetening of soil usually means the getting rid of soluble toxic material such as iron and aluminum in acid soils. The phosphorus carried in charcoal does this job of removing aluminum and iron very nicely.

Since charcoal absorbs water in large amounts, it should also absorb other things such as plant food. Evidence is that much soluble plant food is held in charcoal and prevented from leaching out of the soil. This justifies the use of charcoal even at considerable expense.



Turf Aeration Required by Fairways and Greens

Authorities agree that Turf aeration and the cultivation of a moisture retaining mulch are essential for the proper maintenance of fairways and greens. Spike Discs perform this work thoroughly and easily. The moisture laden mulch discourages "brown patch"—offsets the ground hardening effects of drought and hot sun.

Spike Discs double the effectiveness of reseeding and fertilizing. Seed and fertilizer settle in the close perforations made by the knife like blades and are not blown or washed away. The patented spike design prevents the ugly holes and hard edges made by old style implements equipped with round or square spikes. Every Course needs Spike Discs.

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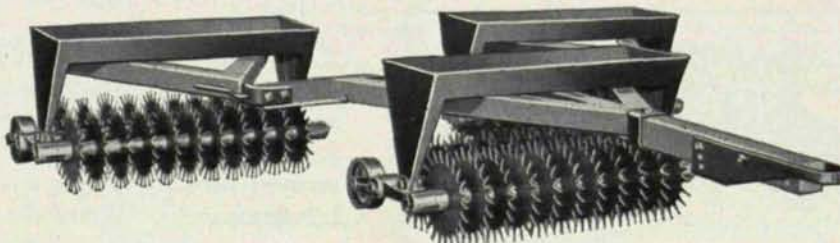
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Midwest Gossip

By A. L. BRANDON



RALPH N. JOHNSON
President, Midwest Greenkeepers' Association

THE annual dinner meeting of the Midwest Greenkeepers' Association, held January 5 at Hotel Sherman, committed its chief business of the evening by the election of the following officers, to lead the Association through 1933: President, Ralph N. Johnson; first vice-president, Peter Stewart; second vice-president, Edward B. Dearie, Jr.; secretary, C. A. Tregillus; treasurer, Fred Kruger; directors, D. W. Danley and J. B. Boyd.

Congratulations and good luck, gentlemen! President Johnson and Secretary Tregillus on re-election and the start of your second terms. Fred Kruger (the Senator Glass of the Midwest), the beginning of your fourth term as treasurer. We welcome Eddie Dearie back to an official capacity. J. B. Boyd and D. W. Danley to the Board of Directors and for Peter Stewart some sort of medal. Stewart has served in some sort of official capacity ever since this association has been organized.

CALO-CLOR

Our representatives will be on hand at booth number 40 to discuss your Brown Patch problems.

Mallinckrodt Chemical Works

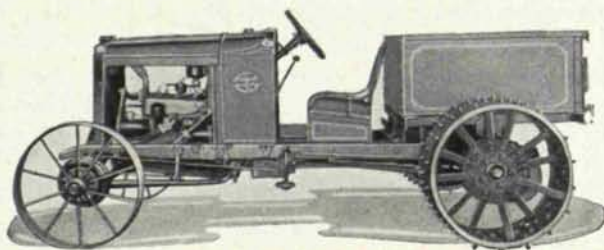
Before leaving the annual meeting, let us comment on the large attendance, the largest of any previous annual meeting.

The Midwest is going to maintain a booth at the N. A. G. A. Convention and we sincerely hope that all in attendance will pay the booth a visit. A Midwest member will always be in attendance and he will serve you to the best of his ability—dispense information about the city directions, etc., clubs, places of interest that you may wish to visit, etc. Jack Langell will be the chairman in charge and is supported by a large loyal committee.

President Johnson, Mr. Tregillus and Mr. MacGregor have been recently working with Dr. Harrison and Dr. Krause of the University of Chicago about a short course for greenkeepers. Plans as yet are not fully developed. It is planned to conduct the school during the first part of March. Attendance will be limited. Registration charge will not exceed ten dollars. Laboratory work will be featured instead of lectures.

See you at the Convention.

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Invest in a STAUDE General Utility TRACTOR

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to **\$725**

Manufactured continuously since 1916 and sold on a money-back guarantee.

Easily pulls five to seven 30-inch cutting units and handles rollers up to six tons, sprayer, plow or disc.

Buy through your local Ford dealer or direct from us.



PNEUMATIC TIRED WHEELS

For driving on paved roads, the steel tractor wheels are quickly removed and replaced with Ford pneumatic tired wheels.

A light weight, powerful, speedy tractor that does all the work of the modern golf course at but slight operating cost and with practically no upkeep expense. In satisfactory service for over 2000 golf clubs. Its proven silent drive is making the Staude more popular than ever. Write for complete details.

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In these days of necessary economy, it will be false economy to neglect the turf on your golf course. Good playing conditions mean satisfied golfers, and underfed grass cannot make good turf. Plant food is an essential part even of your depression budget.

The cheapest fertilizer may be the most expensive. A concentrated high analysis product will undoubtedly cost more per ton but the *cost per pound of plant food is less.*

There also is economy in application. Concentrated fertilizers go farther and do not require as much labor in handling.

Armour's *Special Turf Fertilizer* is a high analysis plant food. Conveniently packed in 100-lb. sift-proof bags, it is easy to handle and easy to apply. It is odorless — therefore not objectionable either on the course or around the storehouse.

In one twenty-ton car of Armour's *Special Turf Fertilizer* there is enough plant food to fertilize the fairways, greens and tees of an 18-hole golf course.

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The way to win permanent independence from Nature's haphazard watering of your course is to install an economical sprinkling system for complete regulated irrigation. This takes the matter of alluring fairways, that will secure popularity, into your own hands. Now is the time to plan such an improvement.

Buckner Systems are the leaders for low cost, highly efficient course maintenance. More Buckner Sprinklers and valves are in use on American courses than any other make. Without obligating yourself you may have the Buckner Catalog before you on your desk while you plan. *Write for it.*

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Official Program, Meetings, Etc.

Sunday, January 29

3:00 P. M.—Meeting Executive Committee, Headquarters, Hotel Sherman

Monday, January 30

5:00 P. M.—Meetings All Committees with Chairmen

7:00 P. M.—Exhibitors' Dinner—Headquarters, Hotel Sherman

Tuesday, January 31

10:00 A. M.—Golf Show Opens—Hotel Sherman (Admission Free)

7:00 P. M.—Meeting of District Vice Presidents

Wednesday, February 1

10:00 A. M.—Golf Show Opens—Hotel Sherman (Admission Free)

2:00 P. M.—Conference Opens—Hotel Sherman

7:30 P. M.—First Session of Business Meeting (Headquarters)

Thursday, February 2

10:00 A. M.—Golf Show Opens—Hotel Sherman (Admission Free)

2:00 P. M.—Educational Conference—Hotel Sherman

7:00 P. M.—Annual Banquet—Hotel Sherman. Guest Speaker, MR. HARRY RADDIX,
President, Chicago District Golf Association
(Secure tickets at Registration Desk)

Friday, February 3

10:00 A. M.—Golf Show Opens—Hotel Sherman (Admission Free)

10:30 A. M.—Annual N. A. G. A. Convention—Hotel Sherman (Open to Members
Only)

12:00 Midnight—Annual Stag Party (See Ralph Johnson or Gus Brandon)

NOTE: Location of the Conference Hall will be posted on the bulletin board in the
hotel lobby.



C. E. MILLAR



C. M. HARRISON



R. E. FARMER



GRA



H. I

Greenkeepers' Educational Program

MR. C. E. TREGILLUS, CHAIRMAN
Lasker Estate, Everett, Illinois

Wednesday, February 1

ADDRESS OF WELCOME—By John MacGregor

EFFECT OF CUTTING ON ROOT GROWTH—By Dr. C. M. Harrison, University of Chicago, Chicago, Ill.

REHABILITATING OLD GOLF COURSES—By Grange Alves, Pro-Greenkeeper, Acacia Country Club, Cleveland

HUNTING FOR THE PERFECT GRASS—By Professor H. B. Musser, Penn State, State College, Pa.

BETTERING MAINTENANCE AT SMALL-TOWN GOLF COURSES—By Professor V. Stoute-myer, Iowa State College, Ames, Ia.

MUNICIPAL COURSE MAINTENANCE—By Harold E. Stodola, Greenkeeper, Keller Golf Course, Saint Paul, Minn.

MAINTENANCE PRACTICES OF 1932—By O. J. Noer, Milwaukee Sewerage Commission, Milwaukee, Wisconsin

Thursday, February 2

GREENKEEPERS' VITAL IMPORTANCE TO GOLF—By Ganson Depew, United States Golf Association, Green Section, Washington, D. C.

BUDGETING FROM THE GREENKEEPERS' VIEWPOINT—By R. E. Farmer, Greenkeeper, Brynwood Country Club, Milwaukee, Wisconsin

BUDGETING FROM THE CLUB MEMBERS' VIEWPOINT—By C. W. Johnson, Green Committee Chairman, Sunset Ridge Country Club, Winnetka, Illinois

POSSIBLE EFFECT OF EXTENSION OF FAIRWAY WATERING RELATING TO PRESENT MAINTENANCE PRACTICES FROM THE GREENKEEPERS' VIEWPOINT—By Edward B. Dearie, Jr., Greenkeeper, Ridgemoor Country Club, Chicago, Ill.

POSSIBLE EFFECT OF EXTENSION OF PRESENT FAIRWAY WATERING FROM THE PLAYERS' VIEWPOINT—By Paul E. Green, Chicago, Ill.

POSSIBLE EFFECT OF EXTENSION OF PRESENT FAIRWAY WATERING FROM THE MOWER MANUFACTURERS' VIEWPOINT—By Edward H. Worthington, Vice President, Worthington Mower Company, Stroudsburg, Pa.

GREENKEEPERS' PROGRAM OF SELF-EDUCATION—By Professor J. G. Moore, University of Wisconsin, Madison, Wisconsin

POSSIBLE BOTANICAL AID TO THE GREENKEEPER—By Dr. E. J. Kraus, University of Chicago, Chicago, Ill.

Friday, February 3

RECENT TECHNICAL DEVELOPMENTS IN TURF MAINTENANCE—By Dr. John Monteith, Jr., United States Golf Association Green Section, Washington, D. C.

THE GREENKEEPERS' WORK IN BROAD PERSPECTIVE—By D. W. Danley, Manager, Glen Oak Country Club, Glen Ellyn, Ill.

SOILS, THEIR COMPOSITION AND FERTILITY—By Professor C. E. Millar, Michigan State College, Lansing, Michigan

MACHINERY MAINTENANCE—By Ralph Johnson, Greenkeeper, Medinah Country Club, Chicago, Ill.

INSECTS, THEIR HABITS AND CONTROL—By Dr. W. P. Hayes, University of Illinois, Urbana, Ill.

DEPARTMENTAL COOPERATION—By M. E. Farnham, Superintendent, Philadelphia C. C., Philadelphia



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Mephacide, For Brown Patch. Ask us about this new product.

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LYMAN CARRIER PRODUCTS, Granger, Ind.



Brown Patch Control

By ARTHUR BOGGS, Pro-Greenkeeper
Kirtland Country Club, Cleveland

IN MY last article I told you about some of the materials used in the control of brown patch and this article will tell you a little about the fungi and the remedy that has solved the problem for me.

MOLDS

AS FAR as fungus goes (what we call brown patch) reams of articles can be written about its forms, where it comes from and how it develops but for our purposes we know that it belongs to the mold family and in that classification there are many kinds of molds, mildew, smut, etc. Mold, then, covers the start of our trouble, which has no cell coloring matter and derives its nourishment from organic compounds.

Our greens are ideal locations for the development of mold, because we use a soil rich in organic materials and most greens are planted with bent. Bent grass forms a dense growth (which is desirable, from the golfer's standpoint, because it makes a good putting surface), but it is also an ideal bed for mold development.

WATER

YOU can argue until the cows come home whether to water or allow greens to dry out. Some claim that the drying-out process keeps down the brown patch trouble, but I am firmly convinced that it does not pay to allow your greens to dry out because bent grass, with its dense and powerful root growth, can and does conserve moisture and to thoroughly dry out a green would destroy the growth.

To dry out and then wet down a green does not improve the situation. True, molds contain about 90% water or moisture—dry them out and fungi lie dormant until moistened again. Acidity, temperature, soil construction and a hundred and one things influence the development of fungi.

REMEDY

IN EXPERIMENTING with many kinds of formulas containing all the well-known ingredients used for the control of molds causing brown patch we have found that we can go just so far with safety and anything beyond that safety limit spells ruination to the grass. It has been our experience that the most effective and fool-proof treatment for this pest consists in applying a solution of a highly purified form of an organic compound of mercury developed for us by a young chemist friend of ours who has spent a number of years in studying this problem and in developing a special product for this purpose.

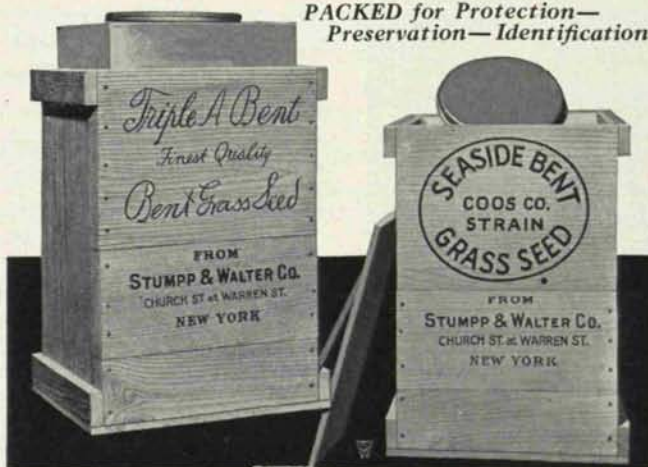
A number of such organic compounds of mercury are to be found on the open market but we have not found them as effective or as safe to use as the one developed by our chemist friend. While we realize that the use of

calomel and bichloride of mercury results in some improvement and is the treatment recommended by a number of experiment stations, the continued use of this treatment in our hands has shown very bad eventual effects on the grass growth.

The special fungicide we are using at present is now available in bulk and as it is used in very small quantities and in the form of highly-diluted solutions its effect on soil and grass growth is negligible even after long continued use.

After three years of intensive practical study and with the help of a nationally-known chemist I am mighty pleased to be identified with this outstanding contribution to the golf courses of the country.

PACKED for Protection—
Preservation—Identification



Two fine Bents in 50-lb. tin canisters, enclosed in strong wooden boxes

Two Outstanding Bents

Triple A Bent A stoloniferous type of *Agrostis capillaris* which produces turf of the deep apple-green color and fine silk-like texture of Velvet Bent. The seed has been processed so thoroughly for the removal of weeds that it consists of over 99% pure seed.

Seaside Bent (Coos Co. Strain) A true strain of *Agrostis palustris* (formerly known as *Agrostis maritima*) which has produced some of the finest greens in America. Quick to grow and strongly creeping, it yields a closely matted bluish green turf of very uniform texture, similar in appearance to a fine vegetative turf.

Special Formulas containing Bent

Special Putting Green Bent Formula—consists of imported and domestic grass seeds of the highest quality, that will produce a fine, uniform and enduring turf.

Superfine Fairway Formula (with Bent)—contains Bent seed, as well as Kentucky Blue Grass, Superfine Red Top and Chewing's N. Z. Fescue. We adapt it to your conditions so a uniform and enduring turf is secured.

Write for our special prices to Golf Clubs on above or any other turf producing grasses, such as South German Bent, Colonial Bent, Fancy Red Top, Kentucky Blue, Chewing's N. Z. Fescue, Bermuda Grass, Carpet Grass, etc.

Remember—All our seeds are of the highest quality, obtained direct from the most reliable sources of supply and are botanically true to name. All seeds are new and are cleaned and re-cleaned until they are brought up to the highest possible state of purity and germination, special care being given to the elimination of weed seeds.

Our new supplement to "Golf Turf" containing complete list of equipment and supplies, sent upon request.

Stumpp & Walter Co.

Specialists in Golf Grass Seeds, Fertilizers and Equipment
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New Jersey Notes

By JOHN ANDERSON, President
Greenkeepers' Association of New Jersey



JOHN ANDERSON

THE greenkeepers of New Jersey held their monthly meeting of the association in the Newark Athletic Club in Newark, N. J., on Monday, January 9, 1933. Owing to bad weather conditions only 20 were present but with that number a very lively meeting was held.

After the usual business was disposed of, a discussion on ways and means to bring the work of the greenkeepers more than ever before the club members and the golfing public was engaged in. It was the consensus of opinion that with golf clubs in

the financial position which they find themselves at the moment, there is a danger that course maintenance will be overlooked. In the final shake-up, many clubs will find themselves with the course in such a neglected condition that revenues, instead of increasing as business begins to improve, will decrease because economies were practiced which had exceeded a limit where they were practical.

Many clubs have been operating on a maintenance budget so reduced that fairways, tees, and in many instances, greens, have not had the required attention in the last two seasons, but this cannot go on forever. The golf courses will soon show up these deficiencies and the result will be thin, spotty, weedy fairways, with cuppy lies for the ball, and tees will lose that matty, vigorous turf so necessary to the teeing up of the ball for a long shot.

GREENKEEPER MUST STATE FACTS

BUT what has all this to do with the greenkeeper? No doubt he is applying his appropriation to the very best advantage and can do no more. Let him keep in constant touch with his Green chairman and bring to his notice conditions on the course where fairways or tees must have added attention or they will go back. He should even put the case before the Board of Directors and it may be they will see the need for curtailing expenses in the club house so that some extra funds can be diverted to the upkeep of the course.

Mr. Fred Roth, up-to-date greenkeeper at the Plainfield Country Club, led a discussion on budgeting with the object of getting together as much information on this subject as possible and to assimilate it so that it can



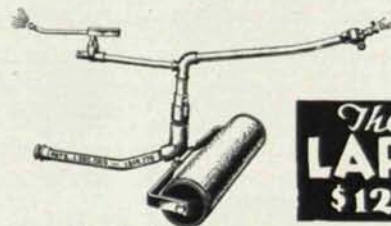
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- Wood Charcoal properly applied to golf turf prevents sod from packing . . . absorbs moisture without swelling or breaking down and gives it off as needed.
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The Two Greatest Golf Course Sprinklers-priced to meet today's needs



Now you can have the far-throw, even distribution, and economical efficiency of the famous LARK Sprinkler for only \$12.50. Worm gear nozzle with thumb-screw adjustment controls speed of sprinkler rotation. Coverage up to 125 feet. All the famous advantages of the LARK for \$12.50. All parts high quality brass except 18" roller base and hose connection.



For smaller areas, demand the TEE Sprinkler. It has many of the LARK's advantages. Worm gear nozzle adjustable by thumb-screw controls speed of rotation; even distribution of water; economy; and dependability. Covers up to 80 feet. Costs only \$7.50. Ask about our 15-day trial offer on these sprinklers.

Dependable - Economical - Sturdy

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be practically applied by the greenkeeper. The result is that at the next meeting in February as many as a dozen men will have papers showing exactly how they propose to use their appropriations. How many men will be employed, how the fairways and the rough are to be mowed and just how often. How often the bunkers will be trimmed and the traps raked. How the greens are to be mowed.

If he has not enough help, will he cut the greens every other day or will he have to cut nine one day and the other nine the next? If he employs seven men will that answer the question on the eighteen-hole layout, or will he have to do with six and less trimming in order to get the necessary fertilizer or material he thinks he ought to have to keep his greens and fairways up to a standard that the club members have been used to?

Out of this heap, no doubt, the New Jersey greenkeepers will be able to get something tangible so that they can work out a definite program of economical upkeep for 1933.

Minnesota Notes

By H. E. STODOLA, *Secretary*

THE first meeting of the year was held in the log room of the Superior Golf club, where Mr. Bloomquist saw that we were made comfortable. Mr. E. L. Kidder, Agronomist, gave us a very interesting and instructive talk on fertilizers.

He told us that soils may need more than the three standard elements, nitrogen, phosphorus and potash. In one section of Maine where the fields were heavily fertilized for years, there came a time when the yield became small. For some unknown reason one farmer added 500 pounds of good old Epsom salts to an acre. The yield was exceptionally good. The reason was that the salts supplied gypsum which was needed. Sometimes in desperation we would like to give a tight green a good dose of salts and see what would happen.

GREENKEEPER'S JOB IS GOOD TURF

THE main job of the greenkeeper is to raise good turf. To raise a healthy stand of grass you must give it plenty to eat. It needs many things. Most of these are supplied in abundance by the soil. However, there are three that are usually deficient in some amounts. They are nitrogen, phosphorus, and potash.

It is up to the greenkeeper to find out in what proportion each green needs these elements. He can take repre-

BENT

HEADQUARTERS

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sentative samples from each green in the fall and test them in the winter when he has time for thought and research.

Chemical supply houses will furnish you with reliable tests for acidity, amount of phosphorus and potash.

There is a standard to go by for a good bent green. It is something like this.

Phosphorus	pH	Potash
150	5.5-6	400

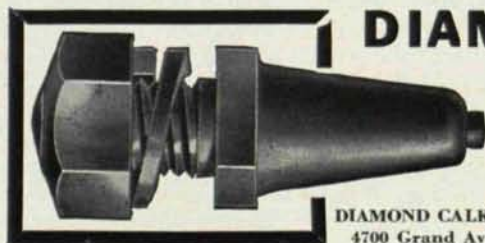
The 150 for phosphorus means 150 pounds to the acre. pH is a scale for acidity and alkalinity. 7 is neutral. Above 7 means alkalinity and numbers below 7 mean acidity. 5.5-6 is ideal for bent grass. 400 for potash means 400 pounds potash to the acre.

Take your soil sample from the green and you get something like this.

Green	Phosphorus	pH	Potash
3	150	6.5	250
Ideal condition	150	5.5-6	400

Therefore this green is good in phosphorus, has plenty of lime because it is a little above 6, but is short in potash. Next year give this green about the same amount of phosphorus you have been giving it, use a little more nitrogen to make the soil more acid, and go almost double on your potash application and you should have good results. Then next fall make the same test and observe your readings. This method of procedure seems very businesslike and should result in good greens.

The last issue of the NATIONAL GREENKEEPER was highly praised and Francis Ouimet's article received much favorable comment. The Greenkeepers are moving in the right direction and must keep up the good work because they have just started.



DIAMOND

Steel Center Tractor Spud is sharp until completely worn away. Will not harm turf.

Write for Details.

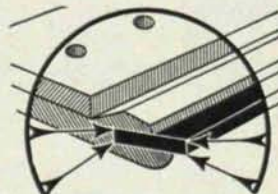
DIAMOND CALK HORSESHOE CO.
4700 Grand Ave., Duluth, Minn.

Just Try 'em and See!

Norman Haas, greenkeeper for Transit Valley Country Club at East Amherst, N. Y., tells us all of his mowers, excepting green mowers, are equipped with Budd Blades. One unit bought last February convinced him. They can save time and money for you, too.

THE BUDD MFG. CO., Dept. N. Ravenna, O.

BUDD • BED • BLADES



CHICAGO GOLF SHOW EXHIBITS

L. R. NELSON MFG. COMPANY Peoria, Illinois — Booth No. 16

THE famous line of Lark sprinklers will be exhibited by the above company at the Chicago Greenkeepers' Show. This season they are putting out a new "Tee" sprinkler which is especially suitable for sprinkling tees and other large spaces around the golf course.

The new Nelson tee sprinkler has an easy rolling base and an even distribution on any pressure. It will cover areas from thirty to one hundred feet depending upon the water pressure.



LARK GREEN SPRINKLER AND TEE SPRINKLER

The regular Lark sprinkler is too well known to need description. It is used on golf courses, estates and public parks in every state in the Union and many foreign countries. Users have found that the Lark sprinkler is extremely dependable and the splendid material used in its construction makes for long life and economy.

THE OHIO CULTIVATOR COMPANY Bellevue, Ohio — Booth No. 51

A NEW lawn mower of distinctive design and appearance is announced by The Ohio Cultivator company, farm implement manufacturers of Bellevue, Ohio, under the name Famous Ohio reversible lawn mower. The feature of this lawn mower which appears most distinctive to the casual observer is the fact that it cuts when it is pulled through the grass as well as when it is pushed.

This is a forward cutting type lawn mower with the flexible ground bar and reel hung forward of center instead of in the rear. The result is that with this mower it is possible to cut right up to walls and edges, which fact does away with the use of a sickle and shears for trimming around the sides and edges of the lawn. Another feature of advantage is the fact that it may be adjusted for the height of cutting by means of a ratchet lever on the handle bar which raises and lowers the cutting bar and ground roller from a height of $\frac{1}{2}$ to 3 inches in a fraction of a second. Thus, during the hot season when it is best to leave grass rather long, it is extremely easy to make the necessary adjustments on this mower.

It is also especially adapted for terrace work and the cutting of bunkers on golf courses. In this work the mower is reversed and pushed up the terrace or banking without operating. It is then pulled towards the operator and cuts as it comes down, saving a great deal of labor and energy in this difficult type of cutting.

Due to the general design of the mower and the forward mounting of the reel, the power of the operator is applied very low down on the frame, which results in the ground roller sticking to the ground under all conditions of roughness or when an obstruction is drawn into the reels. The result is that the mower follows the contour of the ground at all times and does not jump or skip over any patches of grass.

ARMOUR FERTILIZER WORKS

Chicago Heights, Illinois — Booth No. 55

THE exhibit of the Armour Fertilizer Works is solely in the interests of their Special Turf Fertilizer. This product is made particularly for use in growing turf on golf courses, city parks, athletic fields and large estates. It is purely an inorganic plant food analyzing 10% available nitrogen, 8% available phosphoric acid and 6% available potash.

The booth will consist of samples of the fertilizer, as well as the bag and booklets describing the product, and pictures showing the remarkable results that have been obtained. In attendance at the booth will be two representatives of the Armour Fertilizer Works—Messrs. Paul E. Burdett and Girard B. Secker.

Both of these men are thoroughly versed on fertilizers, their composition, and the results to be obtained from the use of the various ingredients. These men are also particularly well qualified to answer any of the problems which come up in the fertilization of greens, tees and fairways.

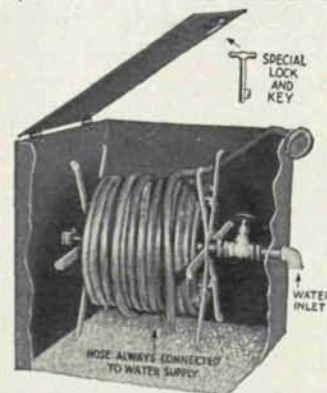
Those attending the Convention are earnestly requested to present any of the problems which they may be having in the production of turf on their own courses.

McCLAIN BROTHERS COMPANY

Canton, Ohio — Booth No. 58

McCLAIN BROTHERS company will display all of their products at the Chicago show and greenkeepers should be very interested in their practical and labor-saving line. Mr. W. McClain will be in charge of their display, and will be pleased to explain all details.

One of the newest ideas ever brought to greenkeepers is the McClain Hydro-Mixer, which has been developed and patented by the McClain company. It is claimed by the above company that this small bit of equipment will save greenkeepers hundreds of dollars, both in time and labor in the treatment of



McCLAIN UNDERGROUND HOSE LOCKER

greens with fungicides, sulphate of ammonia, fertilizers, vermicides, etc. It reduces the time required for green treatments from hours to minutes and cuts labor expense to the bottom. The Hydro-Mixer allows you to treat an entire golf green by mixing and pumping only 25-gallons of concentrated solution.

This company will also exhibit their Underground Hose Locker which is a much needed piece of equipment. They claim it is a time, labor, money and hose saver. It is a permanent receptacle for the hose at every green and is very ruggedly built throughout of heavy steel. The extra heavy cover permits tractor mowing. It has a revolving metal reel which will hold 150-feet of one-inch hose, which is always connected to the water supply ready to use.