

and hence they do not solidify by cohesion so readily.

Due to its water-holding capacity comparatively large changes in volume occur in organic matter and such changes in the organic matter in the soil have somewhat the same influence as freezing and thawing do on the soil and hence increase its granular structure.

MUCK SOILS NOT SUITABLE

THERE are certain muck soils which, although they may contain considerable organic matter, are not suitable for improving soil structure. Some mucks have high mineral and colloidal contents and may tend to increase rather than decrease soil plasticity and cohesion. Most commercial peat, humus, and peat moss on the market are suitable sources of organic materials for improving the structure of silt and clay soils.

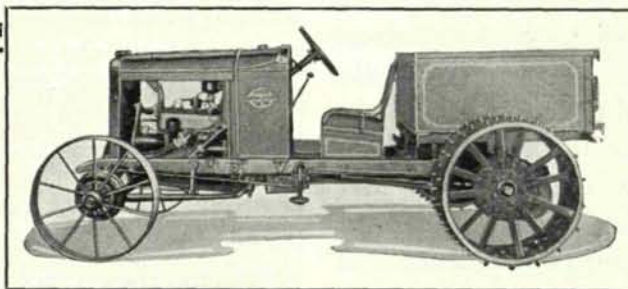
It has been found that the addition of organic matter to most clay and silt soils has more effect on decreasing their plasticity and cohesion than has sand. But it is seldom advisable to add more than one-third organic matter to putting green topsoil mixtures.

Since sand and some organic materials exhibit little plasticity and cohesion it seems probable that there are soils which contain sufficient of these materials to make them suitable for putting green purposes. If such a soil cannot be readily procured sand and organic matter may be mixed with silt and clay soils in sufficient amounts to make ideal soils for putting green purposes. It is, however, very difficult to describe a certain type of soil which, from all sources would be suitable. Soil classification does not include the percentage of organic matter in soil, also there may be a considerable variation in the amount of finer materials in soils of the same type.

Two soils from different locations which are classified as the same soil type may exhibit marked differences in their plasticity and cohesion and hence in their ultimate structure in the green. In a general way it is safe to state that soils classifying as sandy loams and which contain sufficient organic matter are suitable for putting green topsoil.

Soil experts would be able to judge more accurately how a soil would act under putting green conditions by handling the soil than they could by

**New
Proven
Silent
Drive**



**Priced from
\$495
to \$725**

STAUDE GENERAL UTILITY TRACTOR

The world's greatest tractor value! Light weight, powerful, speedy, quiet, economical. Easily pulls from five to seven 30-inch cutting units and rollers weighing up to 6 tons. Pulls discs, plows, sprayers, hauls dirt, etc. Has very short turning radius. Easy to

operate. Practically no repair bills. Wide surfaced, rolled edge tractor wheels do not damage turf. You can depend upon the Staude to fill every requirement. It has never failed.

Sold on a Money-Back Guarantee

You absolutely take no risk when purchasing the Staude. It has been manufactured continuously since 1916. Buy from your local Ford dealer, golf supply house or direct from us.

Pneumatic Tired Wheels



Steel tractor wheels demountable. May be replaced by Ford pneumatic tired wheels for paved roads.

Used on Nearly 2000 Golf Courses

Golf clubs everywhere endorse the Staude. Ask us to send you proof of satisfaction.

E. G. Staude Mak-A Tractor Co.
2630 University Ave., St. Paul, Minn.

● Write for Details ●

being shown the results of a soil analyses alone. Some soils examined while under field conditions may appear open and friable and in excellent physical condition, but that is no guarantee that this soil will not become as hard as brick under putting green conditions. Other soils are highly fertile and desirable for agricultural or gardening purposes.

Fertility, however, is what a soil is capable of producing under best possible conditions and in the putting green these soils may lose the structure they were maintained under in the field and in the garden and become infertile in the green. It is, therefore, advisable for the golf course constructor or the greenkeeper to subject his putting green topsoil to some test calculated to show in a short time what structure it may be expected to exhibit in the putting green after it has been in use some time. The best method of doing this is to test its plasticity and cohesion. There are numerous reasons why it is difficult for experimenters to arrive at exact numerical expressions of plasticity with soils. It is possible, however, to arrive at the relative plasticity and cohesion of different soils even by simple methods.

SIMPLE METHOD OF TESTING SOILS

EQUAL quantities of the various soils or mixtures should be procured while dry enough to handle. They should then be wet and puddled in a uniform manner. It is important that the samples be handled alike as difference in wetting and mixing may confuse the results. A practical manner of handling the samples alike is to pour a similar amount of each sample into a similar container. A quart of soil in a 12-quart bucket is easily handled. Then add water slowly while mixing and churning with a stick until the soil will absorb no more water. If

too much water has been given, a little more of the same soil can be added to take up the superfluous water. With a little practice it will be possible to bring each sample to such a condition with equal handling that it will just flow from the pail when agitated. No record need be kept of the amount of water added to the different samples, the point is to add enough water to put each of them in the same plastic condition.

The samples should then be poured into uniform molds. Little troughs of equal size may be made for this purpose or small flower pots or small boxes of the same capacity, shape and material may be used. The tops of these samples should then be trowled to smooth them and the samples set under cover to dry. After a few days the samples may be removed from the containers and allowed to dry further. The time of drying of various samples should be noted. Samples containing too much organic matter will show up as they will take overlong to dry.

After the samples are thoroughly dry they may be handled and it will at once become apparent if some samples are unfit for putting green purposes. Soils too high in sand or organic matter, or both, will not stand handling and may break while being removed from the mold. Samples which exhibit too much cohesion will be difficult to break. Samples which took a reasonable time to dry, which could be removed from the mold without crumbling and which could be broken down readily between the fingers and thumb, are at, or approaching, the correct texture.

It will be found by this method that about one third of clay or silt loam soils mixed with a third coarse sand and a third organic matter such as cul-



The Buel Perforator

This is the only perforator with hinged spikes which will not rough or tear the greens and which will insure perfect penetration.

The Buel perforator affords the easiest and most efficient method for aerating, seeding and top dressing greens, grass tees and grass tennis courts.

The machine weighs 300 pounds and perforates a strip 24 inches wide with holes 1½ inches deep.

Manufactured by

J. F. BUEL

»

Woburn, Mass.



When the Constant Tramp of Feet Packs Down Your Greens

Renovate with



From the time a new green is opened to the first player, the steady tramp, tramp, tramp of feet across its surface slowly, but surely, packs it down until the condition of the soil area in which the grass roots are supposed to exist is no longer fit to sustain them. Even the best of original soil preparation succumbs to this army of heavy hoofs in time. If the original preparation hasn't been so good and water is used too frequently to soften the turf, the packing process is hastened.

The regular use of light applications of *Sorbex* will materially improve the condition of any greens turf. *Sorbex* is a moss peat ground 25 times finer than any peat moss, and its powder-like substance quickly penetrates the turf sod and gets right down into the soil. Once there it helps aerate to increase oxidation, control free water content, improve drainage and make a better, softer, long-lasting turf.

When you have to renovate "from the top down" without digging up your green—use *Sorbex*—there is nothing else like it—absolutely nothing to use that will compare with its capacity for doing a darn good job. We've a sample waiting for you—will you send your name and address so we can forward it?

Atkins & Durbrow, Inc. ≈ K-165 John Street, New York, N. Y.

tivated peat, humus or ground peat moss, will approach the condition described.

This method of testing soils for putting green purposes may seem very simple but it is surprising how few golf course constructors will bother putting their soils to any plasticity test before using them on the putting green. This does seem negligible when one considers that the putting green is not dug up or cultivated from year to year and hence there is little opportunity to improve the soil once the green is in turf. Also, many greenkeepers kick about the tendency of their putting greens to form a hard crust on the surface, but although they mix soil for top-dressing purposes many times a year they never go to the trouble of testing the soil except by its feel when it is in that fine, floury condition just after it has been put through the screen.

Many greenkeepers realize that poor topsoil conditions are responsible for a good portion of their putting green troubles, and I have tried to bring out the fact that one good reason for these conditions is that no adequate tests were made in selecting the soil or soil mixture. If we use the right kind of topsoil in building and topdressing the putting green it will drain well enough that the surface will

not be soggy even an hour after a heavy rain and yet the soil will not dry out quickly, nor will it become too hard. It will have sufficient resiliency to hold properly-played pitch shots and will be of proper structure for satisfactory plant growth.

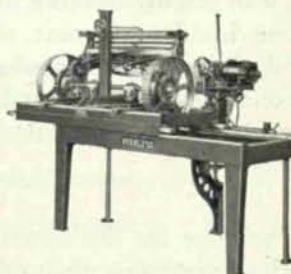
Well Known Greenkeeper

With eighteen years' experience is open for position in prominent club. Can furnish very highest recommendations from former employers. Has knowledge of construction as well as golf course maintenance. Write Box "K"—THE NATIONAL GREENKEEPER, Cleveland, Ohio.

The **PEERLESS** Mower Sharpener NEW MODEL D

Grinds all type of power-driven, fairway, putting green and hand mowers without removing mower wheels or reel knives. Carriage has travel of 42 inches. Very fast and extremely accurate. 6-inch grinding wheel driven by ½-h. p. motor and V belt. Very quiet running.

A Reconditioner Attachment can be furnished at an additional price for "lapping-in" putting green mowers with emery paste. This Attachment can be quickly clamped to the Sharpener by two clamps. Write for Catalog.



THE FATE-ROOT-HEATH COMPANY
532-568 Bell Street Plymouth, Ohio



*Fred
Burkhardt
Says:*

DON'T lay aside your bill for dues but pay it just as soon as possible. If you are not able to do this, please write us to that effect.

There is a possibility that a few bills for dues went astray or were not delivered because of an incorrect address; therefore, if you did not receive your bill, will you kindly write to me, giving your address, and at the same time (in order to save yourself an additional stamp) paying your dues. Remittances should be mailed to F. A. Burkhardt, secretary, Box A, Rocky River, Ohio.

* * *

If the Association is to continue to grow and carry on even more successfully in the future than it has in the past, the cooperation of each and every member is necessary. Does such an urge apply to you? Have you contributed your share of personal interest and active service to the building up of our Association? If you have not, now is the time to begin.

* * *

First of all, have you secured a new member for the Association? Why not make an effort to do this? You fully realize the benefits derived from the Association and also the worthiness of the work it is doing. It offers so many material advantages, besides the spirit of good fellowship, you certainly can prove to a brother greenkeeper that a membership in this organization is highly desirable.

* * *

Another opportunity to bestir yourself in doing your bit, is in helping to bring the Death Benefit Fund up to a one hundred percent membership. This fund is handled similar to those of other large fraternal organizations and is, indeed, worthy of any efforts you are able to extend in promoting it.

* * *

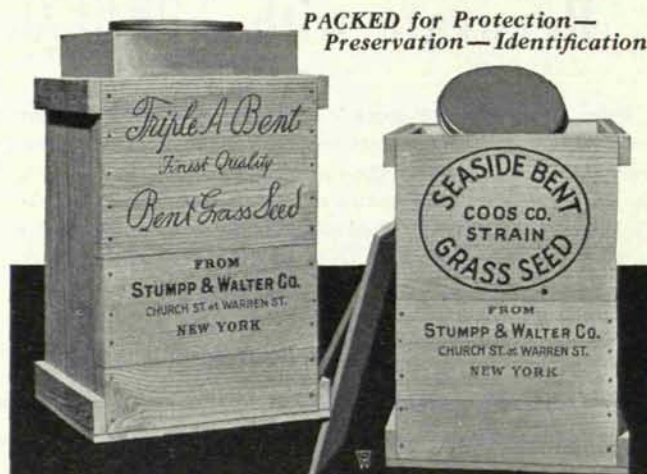
The price for this insurance is very low, within the reach of everyone, yet it offers prompt payment at the time of death when it is needed. The amount of insurance paid, depends wholly on the number of members

paying into the fund and for this reason, we are desirous of having a one hundred percent membership.

This is probably just the chance, you have been seeking, so join the Death Benefit Fund, and thereby enter into a new insurance, without any of the bother generally entailed. Whether you join this fund yourself, or get another member to join, you will be showing loyalty, which is so important to every organization.

The N. A. G. A. life insurance is the cheapest you can buy, because all the money received is paid back without overhead costs or other expenses.

We are ready and eager to supply all information and details, that you desire, concerning this insurance fund and memberships. **ACT NOW.**



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

Two Outstanding Bents

Triple A Bent

This is a comparatively new strain of *Agrostis capillaris* that produces turf of the same beautiful color and texture as Velvet Bent. The seed we offer has been remachined for the elimination of weed seeds and has a purity of over 99%. It has been an outstanding plot at our trial grounds.

Seaside Bent (Coos Co. Strain)

This is a true strain of *Agrostis maritima* (now known as *Agrostis palustris*) that has produced some of the finest greens in America. It is a creeping, quick-growing grass producing a closely matted turf of fine texture and beautiful color. As all Seaside Bents are not alike, the plants showing considerable variation, it is necessary to obtain seed of known quality from a reliable source. Our personal representative in the collecting areas passes on all seed supplied us.

Other Turf Grasses of Known Quality

South German Bent Colonial Bent Fancy Red Top
Chewing's N. Z. Fescue Kentucky Blue Rough Stalked Meadow
Special Bent Formulas for Putting Greens and Fairways

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.

Write for our Special Prices to Golf Clubs

Stumpp & Walter Co.

Specialists in Golf Grass Seeds, Fertilizers and Equipment

132-138 Church St. (at Warren St.) New York

Tri-State Gossip

By JOHN QUAILL, *Secretary-Treasurer*

On Monday, March 14th, the Tri-State Golf Course Superintendents' Association was host to the chairmen of Green committees of the local clubs. There were forty men present and a very enjoyable evening was spent.

O. J. Noer of Milorganite fame was the principal speaker of the evening and brought out many good points and his talk was well received.

* * *

John H. Melady of New York gave a talk on grass seeds and was likewise well received. Other speakers were: S. M. Parks, Chairman of the Green committee, Highland Country Club and Henry Eby, the county agent of Allegheny County Farm bureau.

* * *

Last month several of the Tri-State boys attended the greenkeepers conference at Pennsylvania State College. The conference was well attended and was very instructive and interesting. The work of Penn State is progressing very fast and those in charge of the work deserve much praise for the work that has been done.

* * *

At the meeting in April, it is the hope of those in charge of the program to secure the services of a well-

known expert on flowers and planting. This should be an interesting meeting and a good attendance is looked for.

* * *

The outdoor meetings will start in May and a good schedule is planned. The plans include a meeting at Pennsylvania State College Experimental Gardens in July and arrangements are under way to have the Philadelphia Superintendents' Association meet there at the same time and make a state-wide affair of it.

Cleveland News

By WALTER E. KNOWLES, *Secretary*

The March meeting of the Cleveland District Association of Greenkeepers was considered one of the best held for some time. The film, "Golf Hazards," which was shown at the New York Conference, was shown at this meeting.

Mr. M. J. Renkschler, chemist and bacteriologist of Willoughby, Ohio, who was the speaker of the day, presented his talk on chemical actions and reactions. This was so understandable, interesting and instructive that the boys just wouldn't let him stop.

* * *

Plans are being consummated to learn of the processes of manufacture of the various kinds of charcoal at the April meeting.



GOLF TURF must stand ...the SUMMER TEST

and yours will
if you **APPLY NACO**
...this **SPRING**

Only healthy grass on fairways and greens can stand up during the rough treatment of summer. Only well-fed turf can resist the combined onslaughts of dubs, sun, drought, disease and insects and still keep its velvety complexion.

When hot-weather hazards put your course to its severest test, you're thankful for NACO, the complete golf course fertilizer.

NACO fertilized turf grows right and stays right throughout the playing seasons. NACO imparts those qualities of strong root-structure and weed-killing, vigorous growth so much desired by greenkeepers.

NACO-fed turf comes through the summer-test with flying colors.

Sold by Golf Supply and Seed Houses and Manufactured Exclusively by

NITRATE AGENCIES COMPANY
104 PEARL STREET - - NEW YORK CITY

Iowa Greenkeepers Organize

By JACK WELSH, *Pro-Greenkeeper*,
Wakonda Country Club, Des Moines, Iowa



JACK WELSH

IOWA's first short course for greenkeepers was held Monday, March 7, at the Iowa State College, Ames, Iowa. It was a zero day but that did not keep the Iowa boys away. We had sixty-three register for the meeting; every one who attended was well pleased, and thought it went over with a bang.

We had a nicely balanced program. Dr. B. S. Pickett of Iowa State College was chairman of the meeting, and arranged the program. Dr. Pickett was unable to attend on Monday but he had a good pinch hitter in Dr. Vernon Stoutemyer.

Luncheon was served at the College Memorial at which time the Iowa Greenkeepers' Association was organized. Leo Feser made a nice talk about the Minnesota Association, and what they were doing, and was well received. Leo did a great job in helping us get organized. The officers elected were as follows: President, Jack Welsh, Wa-

konda C. C., Des Moines; Vice President, Mike Shearman, Sioux City C. C., Sioux City; Secretary, C. G. Yarn, Woodside Golf Club, Des Moines; Treasurer, Ed White, Woodside Golf Club, Des Moines.

Honorary members, Leo J. Feser, Dr. Vernon Stoutemyer.

The Iowa Association will hold regular monthly meetings, on the second Monday of the month. The annual meeting will be held on the second Monday of June.

The first meeting will be held at the Wakonda Country Club in Des Moines on April 11. The plan of the Iowa Greenkeepers' Association is to create a better understanding of greenkeeping and good fellowship, and as a body we can bring this about more quickly.

The boys left for home feeling the day well spent, and it looks as if the Iowa Short Course will be bigger and better next year.

IOWA STATE PROGRAM

- 9:00 a. m. Preparing the Soil for a Golf Green: drainage, fertility, mixing, improving.
(a) General—Vernon Stoutemyer, Iowa State College.
(b) Acidity and Fertility Tests. B. J. Firkins, Iowa State College.
(c) Fertilizers for golf courses. O. J. Noer, Milwaukee, Wisconsin.
- 10:50 a. m. Grass Seeds. Their purity, viability, longevity, sources of supply, facilities for testing. H. D. Hughes, Iowa State College.
- 11:20 a. m. Bent Grass Greens: Planting and Care. John Welsh, Wakonda Club, Des Moines.
- 12:00 m. Luncheon.
- 1:30 p. m. Species and Varieties of Grasses. Vernon Stoutemyer, Iowa State College.
- 2:00 p. m. Insect Pests on Golf Greens. Dr. C. J. Drake, Iowa State College.
- 2:30 p. m. Maintaining Greens—a symposium. Brown patch; fertilizers; weeds; watering; repairing small damages; moles; gophers.
Leo Feser, Woodhill Country Club, Wayzata, Minn.
Dr. R. H. Porter, Iowa State College.

Rid Your Greens of WORM CASTS Without Injury to Turf

ELECTRIC

WORM
ERADICATOR

Dependable for 43 Years

ELECTRIC brings the worms to the surface where they can be removed instead of causing them to putrefy in the soil. One application does the work. Also helps to control "brown patch" and has a mild, stimulating effect on turf.

We can supply complete outfit for treating greens. Shipments of "ELECTRIC" Worm Eradicator made on approval.

Write for
Full Information

READE
MANF'G. COMPANY
185 Hoboken Ave.
Jersey City, N. J.



LEWIS WASHERS AND TEE EQUIPMENT

Every player satisfied—that's the result when Lewis Equipment is installed. Simple, thorough, good looking and always convenient—universally known as the best.

Leading Clubs and Public Courses throughout the world use Lewis Washers, tee data plates, waste containers, tee stakes, towels and now the new Lewis Bag Rack. You can increase player good-will by equipping every tee thoroughly.

See your equipment dealer.

G. B. LEWIS CO.

Dept NG 432 WATERTOWN, WIS.



Bag Rack \$5.50



Tee Data Plate \$1.50



Canadian News

By J. H. EVANS, *Golf Editor*
Toronto Globe

ADDRESSING members of the Ontario Greenkeepers' association at their March meeting in the Sons of England Hall, Toronto, Greenkeeper W. Pritchard, of the Thornhill Golf and Country Club, frankly confessed that what he had learned in the 1928 Detroit convention of the National Greenkeepers' association concerning the use of arsenate of lead had saved his club a considerable sum of money and what was more that it had been invaluable to him in eradicating worms from the putting surface, approaches to the greens, and from the fairway.

* * *

The Thornhill Golf and Country club at Thornhill, Ont., is a comparatively young organization with a substantial membership, however, which has taken a keen interest in its course. The club's hope has been that its test would compare with the better known Canadian courses. An idea of the problem confronting Greenkeeper Pritchard over the past five years in his attempt to provide the club with what it desired was contained in his own illustration when he informed his fellow greenkeepers that in 1927 that putting surface resembled onion beds with thousands of worm casts covering them.

PRITCHARD GIVES HIS EXPERIENCE

"Workmen were compelled to pole or brush each green daily for a half hour before they were able to cut them with the result that the putting surface for each day's play was muddy in appearance," said Pritchard. "At that time the club had four bent greens and their appearance was always better than the appearance of the remainder of the greens on the course. The four greens were of Arlington strain. Since that time the Thornhill club has developed other fine bent greens by the excision method and by sodding."

* * *

"In the fall of 1928 demands of members of the club who were faced with invidious comparisons daily, made it imperative that something had to be done to eradicate the worms. I had used three different kinds of eradicators during the season. They were costly, did not give the desired result and lasting effect and others were too dangerous to handle on account of the possibility of burning the greens. During the Detroit convention of the National Greenkeepers' association I naturally paid some attention to worm eradicator and decided on the use of arsenate of lead during 1929."

* * *

Pritchard stated that he had given each green on his course during 1929 three treatments of arsenate of lead at the rate of 5 pounds for each thousand square feet with satisfactory results. His method of applying it was simple. He used the 100 pound drum in which the

arsenate had been shipped, placing it in the center of the green on a wheelbarrow. He placed the required amount of arsenate in the drum, filled the drum with water and stirred it thoroughly. The solution was sprayed over the green with a home-made syphon to which had been attached a length of hose leading to the water valve and the other to the spraying nozzle. The operation required 20 minutes.

* * *

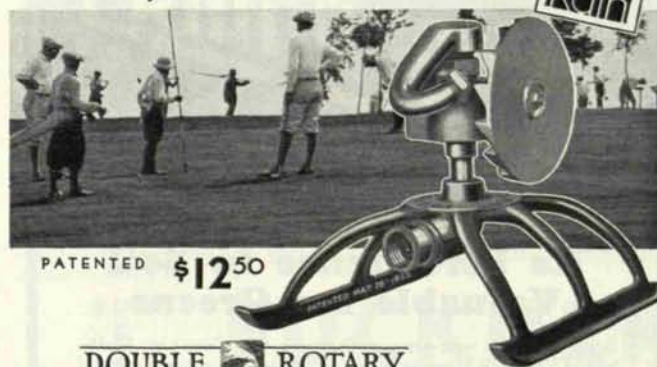
"My experience was that there was a more even distribution of the solution than by mixing with top dressing and that the expense was much lower," stated Pritchard. "By the end of 1929 I could say that the greens were under control, although I must admit approaches and fairway were bad. As a matter of fact, the job was so large that it was impossible to do more during the season than eradicate worms from the putting surface. In 1930, I extended the treatment to some of the approaches and last season to all approaches and a portion of the fairway with excellent results.

THORNHILL GREENS ARE CLEAN AND PLEASING

"The Thornhill greens have a clean and pleasing appearance. I can say that their appearance is due entirely to the use of arsenate of lead. The effect has been lasting, the cost of material has been small and the cost of labor also small, in comparison with other material which had been used. Another point that should be born in mind is that there was no damage to turf or even ill effects

Prepare Now for Dry Weather...

Next Best to Rain



PATENTED \$12.50

DOUBLE ROTARY SPRINKLER

Next Best to Rain

Here's insurance against dry weather spoiling greens and fairways. The Double Rotary Sprinkler keeps them green and speedy despite the scorching sun. Sprinkles with sufficient penetrating force to reach grass roots. Will not wash or pack soil. Will not puddle. Self-operating. A big water saver.

Covers any circular area up to 80 feet or down to 15 feet in diameter, according to pressure.

Ask your Pro or local dealer. If they cannot supply you, order direct. Try 10 days under money-back guarantee of satisfaction. Descriptive literature on request.

Double Rotary JUNIOR

The ideal all-purpose sprinkler for home owners. Four sprinklers in one. Sold on same guaranteed basis.

PATENTED



\$7.50

DOUBLE ROTARY SPRINKLER CO.
209 COCA COLA BLDG. KANSAS CITY, MO.

"Does Scythe Work of 8 Men"

"Your mower does the scythe work of eight men in a day. Am delighted with it. Expect to buy and put to work two more Gravelys this year," writes Manager of one of country's best known Golf Courses.

Combination Sickle and Rotary type mower indispensable for both large and small courses. With narrow, Single-



Wheel Traction, it works places where no other mower can touch. Cuts tallest, toughest weeds or grass. Mowers out in front, with Swivel Action, do perfect job on steep sides of bunkers and traps, over roughest ground on hillsides. Eliminates 75% hand-trimming. A postcard brings positive proof.

Gravely Motor Plow & Cultivator Company
Box 413
Dunbar, W. Va.

shown after the use of arsenate of lead. The Thornhill club has topdressed its fairways extensively during the past three years.

Pacific Coast Gossip

By ARTHUR LANGTON

THE early spring, usually filled with construction activities, is this year extremely quiet on the coast. In most sections the weather, for once, is in the greenkeepers' favor. So far there have been neither droughts nor heavy floods.

IMPROVES
Hyper-Humus
SOIL

Its Persistence In Soil
Valuable for Greens

Added to the well-known features of "Newton Cultivated" Hyper-Humus such as moisture retention, soil warmth and aeration, general improvement, increase of beneficial bacteria, etc., is its persistence in the soil in comparison with common peat, peat moss, spent mushroom soil, well rotted manure, etc.

In a comparison test under scientific conditions—the disappearance of Hyper-Humus was only 9.9%—whereas the loss of other materials was from 13.4 to 32.4%—the latter figure being manure.

This means that Hyper-Humus will exert its influence over a more extended period than other organics.

If you haven't yet acquired the "Hyper-Humus Habit," when treating your greens—why not get in touch with us NOW for advice on renewals and renovations for 1932? Your turf deserves Hyper-Humus.

HYPER-HUMUS COMPANY
52 Park Place Newton, New Jersey

SAVE YOUR GREENS AND BANK ACCOUNT - WITH FUNGO AND VEG-E-TONIC



Before you spend a cent for fungicides for 1932, get acquainted with

FUNGO FOR BROWN PATCH

and other fungus diseases. The entirely different combination product which also eradicates worms and other vermin, making purchases of Arsenate of Lead, etc., unnecessary.

Don't buy a pound of fertilizer until you learn about

VEG-E-TONIC

golfdom's soluble turf food, free from useless "filler." Highest analysis. Extremely economical.

Send for interesting and practical McClain Monthly Schedule System of green treatment and fertilization. We have a big proposition that will save you thousands of dollars. All free. Write today, and operate the course for less this year.

McClain Brothers Co. 129 2nd Street
Canton - Ohio

Play on golf courses which have maintained good playing conditions throughout the past season has been fairly heavy; not exceptional, but good when one considers how little is the total now being spent on golf when compared with other and more prosperous days. Several golf courses have changed hands owing to financial difficulties, but practically all are operating.

Although all may be quiet on the Western front, there is a prevalent feeling of tension in greenkeeping circles caused by thoughts of what the coming summer will bring forth. Another season of scald, heat, and brown patch like that of last year will be disastrous in many quarters, and a number of golf courses, precarious as their position now is, will not be able to survive.

However, last year was unusual in more ways than one. It added to the greenkeepers' total of experience so that for the most part they feel that fate has done its darndest and they found themselves able to cope with it.

Come what may, greenkeepers need no longer fear the ravages of the deadly brown patch, in the opinion of L. T. Parker of the Pasadena Country Club, for he has uncovered a positive panacea for the greatest of turf ailments. Parker states that never in his long experience has he known of an attack of brown patch to survive a fall of snow.

JOHNSON APPOINTED LOS ANGELES GREENKEEPER

After passing his civil service examination with a score of 93½, W. H. Johnson has been appointed as head greenkeeper of the two Los Angeles municipal golf courses at Griffith Park. He was formerly in charge of the Royal Palms club of San Pedro.

One of the greatest problems connected with Johnson's new position is based upon the fact that the courses in his care are built in the former path of one of Los Angeles' famous wandering rivers. Consequently while the soil is extremely gravelly providing perfect drainage, it contains practically no humus, and Johnson has to go to the nearby hills to obtain soil for new greens which he is building.

The Pacific Coast golfing world was saddened by the recent news of the death of George C. Thomas, Jr. As one of the outstanding golf architects and sportsmen of California, his passing is mourned by many.

Minnesota Gossip

By H. E. STODOLA, Secretary



H. E. STODOLA
Secretary, Minnesota
Association of Golf
Course Superintend-
ents.

THE first meeting since the Short Course was held at Westwood Hills clubhouse, Monday March 14. At this meeting we had a fine speaker. He was obtained by Mr. Gerald McNulty, owner of Westwood Hills and Pat Johnson, greenkeeper. The Minnesota association owes these men a vote of thanks. The speaker was Mr. Sven Norling, successful hydraulic engineer. He is well versed in drainage and knows a great deal about peat soils. He is a graduate of a famous University in Sweden. Besides his business he holds a position with the Minneapolis Survey Board.

* * *

Norling told about the properties of peat; its large content of organic matter, unavailable nitrogen and water-holding capacity. He went on to explain how to take care of cracks in peat fairways. First of all he explained that cracks are caused by drouth and shrinkage. Plenty of water would cause that peat to expand and the crack would disappear. If you have the cracks with no water to soak the peat than the next thing to do is fill the cracks with peat.

* * *

The reason for this is that when it rains again the peat will expand on both sides and the filling will give and let the walls come together. If you use clay or sand it will be a temporary proposition. When you get a rainy season the walls of the peat crack as they cannot come together because this clay wall will stop it. Therefore, your crack can never heal up gradually. Mr. McNulty and Pat Johnson have filled their cracks with peat and it works out just like Mr. Norling explained.

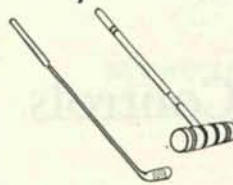
* * *

Another thing—you can keep peat from cracking if you maintain your water table from three to five feet from the surface. Have your tile line three feet down. In a rainy season it will drain the peat. In a dry season you should be able to close this tile system and no water can escape. You can go so far as to pump water into your tile line and keep the water table at three feet. The point is; keep the upper three feet of peat fairly moist and you will have no cracks and good grass growth.

* * *

Then he touched on mixing peat in your topdressing to create a cushion effect on hard greens. He said that 50% peat and 50% coarse loam would be ideal. His talk was very good and questions were thrown at him so fast that he did not even have time to keep his cigar lit. His

~ even as a **PUTTER**
Surpasses a Croquet Mallet ~



Jacobsen
**POWER
Putting Green
MOWER**

- all the speed of any Triplex mower.
- all the capacity of any power mower.
- cuts *finer* than any hand mower.
- lightness consistent with good mowing.

—including what no other power mower possesses, a Greens Brush Attachment for lifting matted Bent turf to the knives, making so perfect and complete a cut that daily mowing, as with hand power machine, is not necessary.

Large, turf-protecting, rear rollers that condition the green without packing or scuffing. High-speed, 7-

blade reel with $\frac{3}{8}$ -inch frequency of cut that produces the finest putting surface. Made in 19 and 24-inch cutting widths.

Free Demonstration on your own greens. We challenge comparison. You name the place. Orders now being filled for immediate delivery. Catalog and prices upon request.

JACOBSEN MANUFACTURING CO.

735 Washington Avenue, Racine, Wisconsin

JACOBSEN
BUILT TO SAVE RUNNING EXPENSE

YOU.

Who Are Responsible for the
**FAIRWAYS
AND GREENS**

Wouldn't it be great to be able to say at the end of next playing season "Well fellows, we gave you the finest course you ever played over, and what's more, we actually saved you real money on its upkeep?" It is easy and economical to keep fairways and greens luxuriously verdant, in perfect playing condition, through the driest summer with the

BUCKNER
One-Man Sprinkler System

The savings this system will accomplish for your club will soon pay for its complete installation. That other clubs know this from experience is evidenced by the fact that they use more Buckner equipment than any other make.

Let us send you our latest catalog containing all the facts about golf course irrigation.

BUCKNER
MFG. COMPANY
FRESNO, CALIFORNIA

Factory Representatives
P. L. Baldock, 2240 Casitas St., Pasadena
Gordon Buckner, Athens Athletic Club, Oakland
Buckner Irrigation Company, Nixon Bldg., Chicago
Eastern Engineering Representatives
Wendell P. Miller and Associates, 105 W. Monroe St.
Chicago

Grass Seed
Fertilizers
Brown Patch Controls
Rollers
Distributors
Buckner Sprinklers
Milorganite
Arsenate of Lead

J. Oliver Johnson, Inc.

World's Largest Golf Course Equipment House

Morgan-Huron-Superior Sts.

CHICAGO, ILL.

© Reg. J O J Inc. 1928

talk was what we wanted and if Mr. McNulty reads this I hope he will realize our appreciation of obtaining Mr. Norling.

MINNESOTA HAD AN OPEN FEBRUARY

Minnesota had an open February and the greens were exposed. There was plenty of snow mold. Now in March the greens are covered with snow again and conditions are ideal for snow mold. Most of the greens in the Twin Cities were treated in the fall with mercuric preparations. As a last resort when the disease is seen now it is immediately sprinkled with calomel mixed in sand. We are all hoping that this snow will leave fast and that our damage will be small.

* * *

The meeting became informal toward evening and the boys changed ideas until dinner was served at seven. Mrs. Johnson is a fine hostess and surely puts on a fine spread for the hungry greenkeepers. We thank her sincerely.

The next meeting will be the Annual meeting, Thursday, April 7, at seven o'clock, at the Sea Food Grill, Lake and Hennepin Avenue, Minneapolis. We want a 100% turnout of active members and election of officers will take place. Be sure to be on the job.

Mid-West Notes

By C. E. TREGILLUS, *Secretary*

WHEN March was ushered in with pussy willows and spring flowers, the Midwest began lining up for an early start on golf course operations. However, when near-zero weather arrived a few days later and settled down for a week's visit, the picture changed considerably.

At this date it is difficult to say whether the turf has suffered damage from this topsy-turvy winter. The regular winter season was unusually mild with periods of growing temperature and this recent cold snap will most likely leave the turf with depleted food reserves. Some assistance in the form of readily available fertilizer will be most opportune when the big spring push gets under way.

The last gathering of the Midwest Greenkeepers' Association brought a good turnout of the membership. An interesting, technical address by Mr. George Thomson on the origin and disposition of plant food elements was so well appreciated that the meeting ran an hour or so overtime.

Many clubs are reorganizing their grounds staff in the hope of meeting reduced revenues. We trust such moves will not work hardship to those who have given the best years of their lives to the greenkeeping industry and the promotion of that sort of turf that makes golf a real pleasure and relaxation.

Did You Get Yours?

The descriptive literature of the 1932 National Fairway mower, heavy-duty type, with the latest improvements.

Outstandingly Favorable Comment

was accorded this mower at the Greenkeepers' Show in New York in January for its sturdy, rugged construction and guaranteed quality which "made a hit" with the most critical.

The 1932 model costs us more to build, but we've lowered the prices.

Send for the Catalog

National Mower Co.

839 Cromwell Ave. Saint Paul, Minn.

