colleges and the men must come from their staffs on which there are many practical men. Perhaps you have raised the question, "Shall or should the greenkeeper be taught or educated," whichever you may call it. Your answer is, certainly, greenkeeping is a profession (it most certainly is) and men are educated in the other professions.

Business concerns that employ men spending \$20,000 or more annually, employ trained men and a greenkeeper spends at least that amount. Greenkeeping is comparable to farming, fruit growing or floriculture and men are taught to become farmers, pomologists and florists.

#### Greenkeeping Cannot Be Taught

SO FAR your arguments appear sound, but I believe greenkeeping should not, at least at the present time, be taught. In other words, one cannot teach greenkeeping. The accepted meaning of "teaching" is "to tell how." A teacher of greenkeepers cannot do that; too many influencing factors that are unknown to the teacher are involved.

If greenkeeping cannot be taught, what can be done, you ask? Greenkeeping should be acquired or assimilated, might be a good word. The broad meaning of the word teaching should be used. That broad meaning is "to give intelligence concerning." To use my pet phrase, "Our course at the Massachusetts Agricultural College is for greenkeepers and not in greenkeeping."

I had a very flattering letter the other day from a chairman who wanted a greenkeeper. He wrote "I understand that you give a course which considers the greenkeepers' problems."

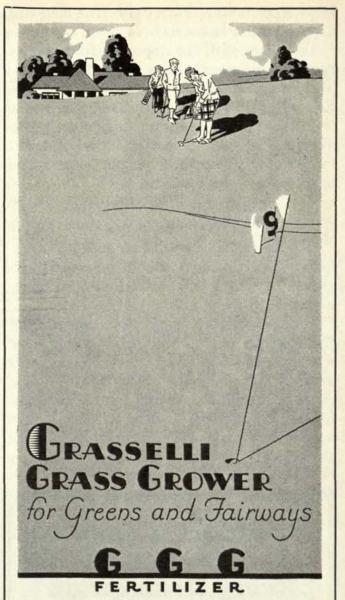
#### **HUMUS-STOLONS-SOD**

There is the same reason for purchasing quality in Humus that there is in considering quality in mowing equipment.

Quality, low moisture content and its hardwood source makes "Windrift" Humus, the cheapest Humus product on the market.

We sell Washington Bent SOD and STOL-ONS with a guarantee of delivery in a viable condition.

OHIO HUMUS PRODUCTS CO.



GRASSELLI GRASS GROWER, the complete mineral fertilizer for greens and fairways, was made from a formula approved and recommended by the U.

Being purely mineral it carries no obnoxious weed seed to sprout and cause unnecessary labor later in the season. It, unlike compost and manure, carries no disease germs. It is balanced so the grass receives complete nourishment. Ammonia sufficient to produce growth and that dark green luxuriant color so much desired, phosphate in such form and amount as to develop a wonderful root system which all grass must have to withstand the hard usage to which all greens are subjected and potash in the proper form and amount to insure a healthy growth. Packed in 50 pound paper bags.

## Grasselli Arsenate of Lead Powder for Grub and Earthworm Eradication

Experimental work carried on for the past five years under the supervision of the U. S. Department of Agriculture clearly indicates that grubs and earthworms in greens and fairways are satisfactorily controlled by the use of Grasselli Arsenate of Lead.

Write for folder giving complete information and directions for use.

#### THE GRASSELLI CHEMICAL CO.

Established 1839

Cleveland, O.

Branches in 19 cities

He is right! and a course with that idea will be successful. It certainly is at M. A. C.

To whom shall the opportunity to receive education be given? Any one? NO! Absolutely no! Because the education for the position of greenkeeper is just starting, and now is the time to make careful and strict prerequisites. If that is done and continued, the supply of qualified graduates can be controlled as to quality and numbers.

#### Who Is Qualified For Study

THREE groups appear as qualified. One—the active greenkeeper and assistant greenkeeper. The majority should come from this group. A school for these men must of necessity come in the winter.

Two—caddies, sons of chairmen, sons of greenkeepers, and professionals. Young men who have had not much experience as workmen on a golf course, yet who have been reared in a golfing atmosphere. A different course can be offered these men. Should they have four years of college? Yes, if they can afford the money and time. They will be broader visioned men if they do take it. Do

# Golf Course Supplies and Equipment of Every Description

We sell to clubs DIRECT at the lowest prices we are justified in offering—and allow NO DISCOUNTS to cooperative purchasing bureaus. This is the general policy on which we solicit your patronage.

Not only do we serve the metropolitan clubs to their satisfaction, but a large and growing volume of our business is based on the conscientious, efficient and saving service which we render to smaller clubs, remote from the main sources of supply.

Circulars and prices promptly furnished.

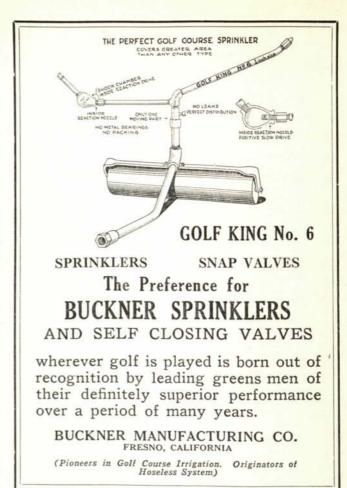
Should you not receive a copy of our new catalog, out March 1st, please let us know by filling out and mailing coupon, below.

Name					6															V.		G.				
Club .	* *		*								*					*									9	
Addres	ss																									

Arthur D. Peterson, Inc.

Golf Course Supplies

11 East 44th Street - NEW YORK



they require four years of college? No, a twoyear course can be made sufficient, providing the first summer of such a course is required to be spent working on a golf course under a successful greenkeeper. Such a method is practiced at the Massachusetts Agricultural College.

The third group, new men or new blood. This should be the smallest group in numbers but is very important, for new blood is always healthful. It is poor practice to inbreed. These young men should be picked from applicants who are attracted to the profession because of the love of the soil, and a sincere desire to become greenkeepers. They should be discouraged by all the doleful tales possible, told of all the trials and tribulations of a greenkeeper and then, if they still desire to come, take them for they will make good greenkeepers.

Training for this group should be two terms in college studying general maintenance problems, such as roads, walks, shrubbery care, and fundamentals in soils and grasses. These two terms should be followed by six months



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It took years of experiment to combine a combination of fertilizers that will produce grass of fine texture and root growth enough to sustain the top.

#### YOU CAN'T AFFORD TO GAMBLE

Compost pile and home mixed fertilizer is the same hit and miss method that has been used for years. Can never equal LECCO prepared in perfect balance to produce grass of the finest texture.

Write for our testimonial literature telling what other greenkeepers think of Lecco.

If you want genuine Washington Bent Stolons-we have them.

#### LYMAN CARRIER

Elevator, Warehouse and General Offices GRANGER, IND.

training on an approved golf course. The greenkeepers taking these men should be entirely in sympathy with the college idea, and should endeavor to give the boys as much practical training as possible. However, the boys must not be favored in any other way than being given a variety of jobs.

If they fail to satisfy the greenkeeper, fire them from both the course and college. If they live through the ordeal, they should be required to return in October for a full college year of technical training. Again the Massachusetts Agricultural College is used as an example.

The responsibility for the selection of this new blood should be equally divided between the colleges and the greenkeepers.

What are the duties of a teacher, or what shall be taught? I'll describe briefly our methods at M. A. C.

#### The Winter School at M. A. C.

THE winter school for active greenkeepers is an intensive course, the men working in class room or laboratory eight hours a day, five days a week. The subjects studied are

motors, water systems, equipment, grasses, grass seeds, soils, fertilizers, landscape arrangement, cost keeping and analysis, (you know your costs are not worth much unless they are analysed) and managerial problems. Every bit of the work is done with the practical results in mind.

In the two year course, the men are given enough golf architecture to make them appreciate their unfitness to become golf architects (that is a profession of its own) and to also realize how golf architecture and maintenance costs are allied. We do not teach golf architecture.

Should there be any hard and fast rules given by the instructor?

No. Of course there are chemical formulas that are fixed, and mechanical laws that cannot be broken, and all the fundamentals of the various subjects should be given as hard facts.

Why no facts! Because every tee, every fairway, every green, yes every trap on every golf course presents an individual problem.

Every possible condition should be noted for each general problem. In other words the



"Beautiful Turf from Tee to Green"

## Grass Seed

## of Known Quality

TESTED for PURITY and GERMINATION

South German Bent Colonial Bent Rhode Island Bent Cocoos Bent Special Putting Green Bent Formula Superfine Fairway Formula (with Bent) Bent Stolons Fancy Red Top Kentucky Blue Chewing's N. Z. Fescue

Prices and information on request

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 recleaned until they are brought up to the highest possible state of purity and germination, special care being given to the elimination of weed seeds.

#### Golf Course Equipment and Supplies

We carry a most complete line of equipment and supplies, always ready for prompt shipment. Catalogue sent upon request.



Specialists in Golf Grass Seeds and Equipment 30-32 Barclay St., New York instructor must be the "Pros" if the "Cons" are the students and the "Cons" if the "Pros" are to be educated. One must go around the entire 360° of the circle. Such training will permit the greenkeeper to be better able to diagnose his turf, machinery, cost, or water system trouble, and properly prescribe for the particular problem.

In the study of equipment it is particularly necessary for the instructor to refrain from any influencing talk, yet he must see that every good and bad feature of a machine is discussed. I want to say here that if it wasn't for the help and co-operation given us by all equipment manufacturers, seedsmen and all the departments of our college, we could not possibly do the successful job that is being done now.

With such a training as I have briefly described, given in a practical atmosphere, the greenkeeper will be able to meet the problems with intelligence and confidence.

Gentlemen: In closing I'm going to quote from Elbert Hubbard because I think he sums up the whole situation:

## **Grass Seed Fertilizers** Seeders Discers **Greens Equipment Toro Equipment Grounds Equipment** Rollers

When in Chicago visit our show room where you will see the largest display of equipment in the country. A Postal will bring our 1929 catalog.

## J. Oliver Johnson, Inc.

World's largest golf course equipment house Morgan Huron Superior Sts. CHICAGO, ILL.

@ Reg. 10J Inc. 1928

"The only time a man grows is when he is green. The moment he thinks he is ripe, he starts to get rotten."

## Tournament Schedule

British Open Muirfield.
 9-10 Ladies' International Matches, St. Andrews.

10-12 Monterey Peninsula C. C. Invitation, Del Monte. British Ladies' Championship, St. Andrews.

27 British Amateur, Royal St. George's, Sandwich.

June 5-8 Westchester Co. Amateur, Green Meadow C. C., Harrison.

Section Qualifying, National Open, St. Albans G. C., L. I.

Irish Amateur, Portmarnock.

27-29 National Open, Winged Foot Club, Mamaroneck, N. Y.

8-13 Western Amateur, Mission Hills, C. C., Kansas City,

9-12 California Junior, Del Monte.

12-15 Metropolitan Amateur, Montclair G. C., N. Y. 18-20 Metropolitan Open, Lido C. C., Long Beach, L. I. 24-26 Metropolitan Junior, Morris Co. G. C., Convent Sta-

tion, N. J.

26-28 Gold Mashie, Ocean Links, Newport, R. I.

August

1-4 N. Y. State Amateur, Mohawk G. C., Schenectady. 5-7 L. I. Open, Salisbury Links, Salisbury Plains. 8-10 N. J. Open, Elmwood G. C., Paterson, N. J. 26-31 Women's Western, Mayfield C. C., Cleveland, O. 26-31

September

2-7 5-6 National Amateur, Pebble Beach, Cal.

L. I. Senior, Wheatley Hills G. C., E. Williston Irish Open Amateur, Portush

10

Westchester Co. Senior, Scarsdale G. C., Hartsdale Metropolitan Seniors, Hudson River C. C., Yonkers 17-18

Westchester Co. Open, Gedney Farm G. C. 23-25 French Open, Forqueux, France 24-25

Women's National, Oakland Hills, Birmingham, Mich.

Statement of the Ownership, Management, Circulation, Etc., required by the Act of Congress of August 24, 1912, of THE NATIONAL GREENKEEPER, published monthly at Cleveland, Ohio, for April 1929. State of Ohio, County of Cuyahoga, ss.

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared Robt. E. Power, who, having been duly sworn according to law, deposes and says that he is the Editor of the National Greenkeeper and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, The National Greenkeeper, Inc., Cleveland, Ohio; Editor, Managing Editor and Business Manager Robt. E. Power, Cleveland, Ohio.

Managing Editor and Business Manager Robt. E. Power, Cleveland. Ohio.

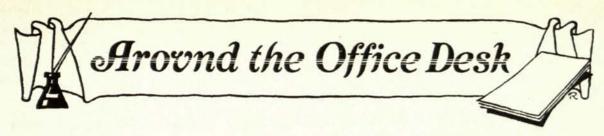
2. That the owner is: (If owned by a corporation, its name and addresses must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

The National Greenkeeper, Inc., Cleveland, Ohio. Robt. E. Power, 10601 Lake Ave., Cleveland, Ohio, The Britton Printing Co., Caxton Bldg., Frank H. Clark, 2848 Drummond Rd., Shaker Hts., Ohio, H. L. Richey, 3263 E. Fairfax Rd., Cleveland, Ohio, Frank H. Pelton, 2672 N. Moreland Blvd., Shaker Hts., Ohio, F. E. Percy, 3159 South Moreland Blvd., Shaker Hts., Ohio, F. E. Percy, 3159 South Moreland Blvd., Shaker Hts., Ohio, C. F. Lowe, Aurora, Ohio.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or

My commission expires Jan. 8, 1932



ENTHUSIASTIC reception of the offer of the new N. A. G. A. Committee on Standards to furnish advice and assistance to golf clubs is apparent on every side.

John Morley, chairman of the committee, sent out a letter to a complete list of Green Committee chairmen furnished him by the NATIONAL GREEN-KEEPER, and he has been swamped with replies of congratulation. Chas. M. Groves, chairman of the golf committee of the Brooklawn Country Club at Bridgeport, Conn., writes as follows:

"Many thanks for your esteemed letter of the 3d instant. If at any time our Golf Committee requires the services of your Committee on Standards we certainly will be pleased to avail ourselves of your generous offer.

"Kindly permit the writer to express his keen enjoyment of your very interesting lecture at the U. S. G. A. January meeting.

"We wish you continued success in your field of splendid results."

MANY of the chairmen are writing in for information showing the need for just such advice as the committee on Standards is able to give. Down at the Lancaster, Ohio, Country Club, J. W. Deffenbaugh is chairman of the Green committee, and here is what he says:

"I have your letter of April 3 addressed to Mr. Fulton, now president of the Lancaster Country Club. We are building No. 9 green. We are just about ready to put on the seed or sod, we expect to grow Washington bent. We are undecided whether to use seed, stolons or sod. I would like to have your advice and

where the same could be bought near here. Last fall we obtained bent seed from Scott at Marysville, Ohio to reseed Green No. 1.

"It appears to me that No. 1 will be ready to play on by the first of June; as indicated it was sowed from the seed. Any advice from you will be very greatly appreciated."

UP AT Gorham, New Hampshire, where the Androscoggin Valley Country Club is located Dr. H. H. Bryant, Jr., is chairman of the Green Committee. He writes, "Will you kindly advise me regarding the use of poultry manure and sulphate of ammonia on putting greens."

WAY out in Kirksville, Mo., S. W. Derby has a problem he wants the committee to solve, to wit..

"Your letter of April 3d received, stating that you will give information regarding the care of greens. I would like a little information in regard to our greens. I am on the Grounds and Green committee and there seems to be some difference in opinion in regard to the care of the greens. We have creeping bent grass and this will be the third year since they were put in. Our soil is none too good and I feel that the greens should be fertilized, but I am not sure what kind is the best. Some of the committee think they should not be fertilized, only need a top dressing. We all agree that the topdressing is needed, but all we have to use is plain loam mixed with sand so it will not cake.

"I would appreciate it very much if you will give me some information in regard to the above. I might mention that there is quite a lot of white clover working in the greens."





Mr. John Morley Dear Sir:—

I am instructed by the Greenkeepers association of New Jersey to extend to you sincere congratulations on your re-election to the office of president of the National Association of Greenkeepers, and feel sure that the greenkeepers will benefit by their selection, as they have done in the past. Best wishes for your continued success."

(Signed) John Cameron, Sec'y

#### Williamson Joins Scioto

JOSEPH Williamson, formerly greenkeeper at the Guyan Country Club at Huntington, West Va., has accepted the position of greenkeeper at the Scioto Country Club, Columbus, Ohio. Speaking of his new position, Mr. Williamson writes—

"Am pleased with the change after being lost in the hills of West Va. for six years to get into the open country again, and most especially to have the association of George Sargent, who has been taking care of both ends for some time past and feels relieved at my coming.

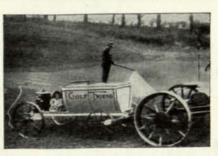
"I also want to acknowledge your good work and sincere efforts and your wonderful success in putting over the National Association. It was a long felt want and you deserve every credit for putting it over, and though I have been very silent have been keeping in touch and watching since you gave me the invitation to become a Charter member."

We hope now that Mr. Williamson will be more active in the N. A. G. A. and we also hope he will write a story for the magazine at the earliest opportunity.

#### This Is Service

Recently we found that it pays to take time to write to the Committee on Standards at Youngstown, Ohio when in doubt about materials.

Chemistry tabulates about 100 elements, solids, liquids and gases of which in simple or compound form all known matter or material is composed. Knowledge of the action of any material under given circumstances comes best generally from individual



One of the smaller sprayers at work, driving a fine spray into sod of putting green with special Golf Gun.

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COURSE
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eradicating Golf
Course pests, and
for the application of liquid
fertilizers.

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experience but the drawbacks of that is the uncertainty of and the waiting for results and usually an expenditure of money, all of which can often be avoided by drawing on the knowledge of men of long experience and aptitude for observation of the action and judgment of comparative values of materials used in their practice.

So when considering the purchase of certain material that we thought but were not sure was of special value for golf courses we wrote for the opinion of the Committee on Standards before buying it, not after.

And it was lucky for us that we did because it saved us some money and a lot of regret.

As it only takes a few minutes to write the Committee on Standards we are going to get their advice again on anything they are likely to know more about than we do. The cost of a stamp is only 2c but the cost of a wrong purchase is usually rather high.

> Yours very truly, Cleveland Charcoal Supply Co.

#### Walter Reed Well Satisfied

GREENKEEPERS in the northern Ohio district will remember Walter C. Reed who for several years was greenkeeper at the Shaker Heights C. C. and later at Pepper Pike. Walter is now greenkeeper at the Westwood C. C., Clayton, Mo., a suburb of Saint Louis.

"I am here," says Reed, "in a district where the greenkeepers are not organized and everybody is for himself. And as I am with one of the very best clubs in this district and am kept very busy all the time, I have very little chance to visit the other clubs. But I soon will be able to get around and visit other greenkeepers and have them join our association if I can because there are some very fine clubs in the Saint Louis district.

"I have put over a very hard problem here on this course which all the members and directors are very proud of and they all treat me very fine. They are the best people I have ever worked for. We have a 27-hole course, and two big practice greens and everything is up-to-date. The first nine is called the red

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Two Successful Remedies

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REMEMBER when you purchase seed direct from the

farms where it grows you are assured of an absolutely fresh, viable, acclimated, winter-hardy product.

SAVE the middleman's profit. Buy your Creeping Bent and Rhode Island Bent seed direct from the farmer who grows it.

Kingston, Rhode Island

Write for Pamphlet

A. N. PECKHAM

nine; the second nine is called the white nine; and the third nine is called the blue nine. We have three starting places and everything goes by colors, red, white and blue flags, tee markers, direction flags, etc. I have wonderful greens of which I am certainly proud."

#### Obituary

Louis Ferrari, assistant greenkeeper of the Essex Golf and Country Club, Sandwich, Ont., passed away suddenly at his home, March 15, 1929. Mr. Ferrari was born in Falmenta, Italy on August 7, 1872, and came to Windsor, Canada in the summer of 1893, and immediately took up gardening which line he followed until the spring of 1913. He then went into the employ of the Essex club and worked there as assistant greenkeeper till his death.

Mr. Ferrari was a member of the National Association of Greenkeepers of America and his surviving relatives immediately received several hundred dollars from the Death Benefit Fund of the association.

Capt. Truran Speaks His Piece

NOW that time for reflection on our gathering at Buffalo has passed, I feel that it is very essential, and indeed a part of my duty to the association to respectfully tender my observation from a layman's point of view. To my mind the convention was a complete success and its organizers are worthy of all congratulation.

The chief fault and probably the only fault that commands attention is the program held on Saturday morning. This portion of the entire arrangement is no doubt the most important one of the convention, for it is at this meeting that one learns who's who, what the association is founded upon, and the various allocations that member's subscriptions are connected with.

I feel sure that many members travel from distant fields to the convention to know more of its activities -what can be gathered when the membership card is received after all requisite dues have been paid. Members indirectly (and fellow greenkeepers from the outside world to our association), have often expressed their wishes to know more of the organization, and in what way are the annual dues allocated. The obvious reply to this would be-"Come to the convention and there you will be fully informed."

Alas, on joining the meeting this particular morning (Saturday), I found but only a small gathering. Here was the most essential topic of the convention and such was miserably attended. I wonder if it could be so arranged that the program participated on the morning in question may in future be subdivided so as to be included in each day's allocation of talks.

The last day of the convention is too late for this great and important item. Many of the members have already departed, while others have their minds preoccupied in preparing for their early departure, and enthusiasm is on the wane.

No association can hope to carry on or prosper without the influx of members, there lies our greatest form of propaganda. Members may depart to the four points of the compass fully aware of the inner workings of their organization and ready to impart such knowledge to those who are knocking at the door for admission.

This is only a friendly criticism, given in a spirit of goodwill, so characteristic amongst associates I met at Buffalo, and in appreciation of that splendid old man and brother compatriot, President John Morley.

Captain J. P. Truran North Hills Golf Club, Douglaston, Long Island

#### Use Thompson Fertilizer Spreaders To get even, accurate and economical distribution

Investigate this line of three Thompson Spreaders designed to successfully spread all kinds of dry commercial fertilizers and particularly the highly concentrated fertilizers which must be so evenly applied. One machine was especially designed to apply Sulphate of Ammonia on creeping bent and spread other fine powders to destroy fungus growth. No matter how thin the application or how heavy, there is a Thompson Spreader for the purpose. Send for our literature on Spreaders and Grass Seeders For Golf Courses. Write Today. We can help you with your problems. BEALDERICALDIAN SALES ALLES AND A

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Seed Selection We will select your Seed.

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## Market Place and Buyers' Guide

Where reputable manufacturers and dealers list and describe their products. Greenkeepers are requested to write the Market Place for any special information they desire about supplies or equipment

Airport Drainage Armco Culvert Mfrs. Association. Wendell P. Miller and Associates

Arsenate of Lead Sherwin-Williams Company Grasselli Chemical Co.

Worthington Mower Company

Ball Washers

J. Oliver Johnson, Inc. Worthington Mower Company

Bent Stolons

Hubbard Nurseries O. M. Scott & Sons Co. Stumpp & Walter Co. Hiram F. Godwin

Rird Houses Michigan Cedarcraft Co.

Bridge Floors
Armco Culvert Mfrs. Association

Brown Patch Control
Mallinckrodt Chemical Works
Arthur D. Peterson, Inc.
Golf Course Supply Co.
Stumpp & Walter Co.
J. Oliver Johnson, Inc.
American Seed Co.
Reade Mfg. Co.
Bayer-Semesan Co., Inc.

Catchbasins, Corrugated Iron Armco Culvert Mfrs. Association

Charcoal Cleveland Charcoal Supply Co.

Cocoos Creeping Bent Seed Lyman Carrier, Inc. Stumpp and Walter Co.

Compost Distributors

Toro Mfg. Company MacGregor Compost Distributor Co.

Toro Mfg. Company

Wendell P. Miller and Associates

Drainage Gates
Armco Culvert Mfrs. Association

Dump Carts
Toro Mfg. Company
Worthington Mower Company
Ideal Power Lawn Mower
J. Oliver Johnson, Inc.

Toro Mfg. Company

Fairway Mowers
Pennsylvania Lawn Mower Works Toro Mfg. Company
E. G. Staude Mak-A-Tractor Co.
Worthington Mower Company
Ideal Power Lawn Mower

Michigan Cedarcraft Co.

Fertilizers
Milwaukee Sewerage Commission
Golf Course Supply Company
J. Oliver Johnson, Inc.
Lyman Carrier, Inc.
Synthetic Nitrogen Products Corp.
Grasselli Chemical Co.,
Arthur D. Peterson, Inc.

Fertilizer Sprenders O. E. Thompson and Sons

Flexible Steel Mats J. Oliver Johnson, Inc. Golf Course Supply Co.

Fungicides Sherwin-Williams Company Grasselli Chemical Co. Bayer-Semesan Co., Inc.

Golf Equipment Michigan Cedarcraft Co. Stumpp & Walter Company Arthur D. Peterson, Inc.

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Hyper-Humus Company Ohio Humus Products Company

Insecticides

Sherwin-Williams Company Grasselli Chemical Co. Mallinckrodt Chemical Works Bayer-Semesan Co., Inc.

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Roseman Tractor Mower Co.
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Ideal Power Lawn Mower
Arthur D. Peterson, Inc.

Mower Sharpeners
Fate-Root-Heath Company
Toro Manufacturing Company Henry H. Doty

Power Mowers

Toro Mfg. Company
Golf Course Supply Co.
Worthington Mower Company
Jacobsen Mfg. Co.
Roseman Tractor Mower Co.
Ideal Power Lawn Mower

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Toro Mfg. Company
Pennsylvania Lawn Mower Works
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Jacobsen Mfg. Co.
Roseman Tractor Mower Co.

Rakes
Pennsylvania Lawn Mower Works

Rollers

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Rough Mowers

Toro Manufacturing Company Jacobsen Mfg. Co. Roseman Tractor Mower Co. Worthington Mower Company

Lyman Carrier, Inc.
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Golf Course Supply Company
J. Oliver Johnson, Inc.
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Arthur D. Peterson, Inc.
A. N. Peckham
I. L. Radwaner Seed Co.
Stumpp & Walter Co.

Armco Culvert Mfrs. Association

J. Oliver Johnson, Inc.

Sprayers

Friend Mfg. Company

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L. R. Nelson Mfg. Co. Buckner Mfg. Co. Economy Irrigation Company

Sprinkling Carts Reade Mfg. Company

Stolons

O. M. Scott and Sons Illinois Grass Co. Hiram F. Godwin

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Street Culverts, Part Circle Armco Culvert Mfrs. Association

Worthington Mower Company Standard Mfg. Co.

Toro Mfg. Company Jacobsen Mfg. Co.

Tractors E. G. Staude Mak-A-Tractor Co. Toro Mfg. Company Worthington Mower Company Roseman Tractor Mower Co. Ideal Power Lawn Mower

Watering Systems

W. A. Buckner Mfg. Company Economy Irrigation Company

Well Casings, Corrugated Iron Armco Culvert Mfrs. Association

Worm Eradicators Reade Mfg. Company.

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## Economy Sprinklers Save Cost

Another new and very welcome face in our family of advertisers this month is the Economy Irrigation Co., Inc., of 21 Spokane St., Seattle, Washington. This company has been selling Economy sprinkler equipment for fifteen years during which time they have made constant improvements to meet the more rigid requirements of modern golf course maintenance.

This company manufactures the famous Economy Traveler, which is in pretty general use throughout the country. This sprinkler is said to be the only one in the world that moves itself, making one revolution in one-half to four hours. Another famous leader in the Economy line is the President which has a patented speed control and covers from one hundred to one hundred and twenty feet diameter and is both economical and durable.

Those who have sprinkling to do especially at night realize the tremendous saving in labor cost by the use of the most modern and up-todate equipment. The initial cost of a complete outfit of sprinklers is hardly a factor when they will pay for themselves with labor saving in one or two seasons. In addition there is the tremendous satisfaction of the members of the club in having evenly watered, healthy fairways and putting greens.

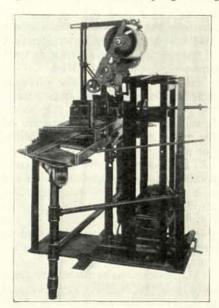
#### Introducing Mr. Doty

It is a pleasure to introduce to our readers this month, Henry H. Doty, distributor of the Hardinge Lawn Mower Sharpener, which will be well remembered by those who attended the National Greenkeepers' Show in Buffalo. Mr. Doty's place of business is Highland Park, Ill., a suburb of Chicago, and his mower sharpener is proving very popular among those who are using it.

One of the chief features of the Hardinge lawn mower sharpener is

the fact that it sharpens the ground blade, as well as the revolving blade and will take any size up to thirty The Hardinge will also sharpen herringbone blades with ease and efficiency.

The Hardinge machine is designed around the cup grinding



THE HARDINGE MOWER SHARPENER

wheel, instead of the disc grinding wheel used with other lawn mower sharpeners.

The cup-shaped grinding wheel it is claimed, is the only form of wheel that will grind the three places on any type of lawn mower that must be ground to put the machine in first class cutting condition-they are; front edge of the ground blade, inside surface of the ground blade, and the reel blades.

It is also the only type of grinding wheel, so the makers claim, that will grind clearance on the inside surface of the ground blade without giving it a hollow ground clearance or hitting the back of the blade

holder. The spindle carrying the grinding wheel has ball bearings that are grit proof.

A photograph of the Hardinge lawn mower sharpener with particulars and prices will be mailed up-

#### Milorganite Grows in Favor

The Sewerage Commission of the city of Milwaukee reports, through its Business Manager, Mr. V. H. Kadish, that their business in Milorganite this year shows 100% increase over last year. This is very



when you use

## Calo-Clor Calogreen

Your greens are longer protected from renewed attacks of Brown Patch.

#### Other Advantages

- 1 Cheaper to use-only 3 oz. per 1,000 sq. ft. of turf required.
- 2 Cost per pound about the same as other remedies requiring 1 lb. to 1000 sq. feet.
- Fewer applications are required.
- 4 Easier and quicker to apply.
- Do not burn.

#### Write for Free Booklet

describing the United States Department of Agriculture's tests leading to the development of Calo-Clor and Calogreen. It also includes full directions for use,

#### Mallinckrodt Chemical Works

St. Louis, Missouri

Branches:

New York Montreal Philadelphia

#### INDISPENSABLE

The National Greenkeeper, Cleveland, Ohio,

Gentlemen:-Enclosed find check for three dollars for a subscription to the NATIONAL GREENKEEPER for one year including the January, 1929 number.

I received the copy requested and find it full of valuable advertisements

covering tools, machinery, equipment, turf grasses, seed, etc.
In my estimation it is a publication indispensable for golf courses, private and municipal parks, country clubs and general landscaping.

Very truly yours, (Signed) A. E. ALLEMAND Elks Country Club, Shawnee, Oklahoma.

## WHEN

## Will YOUR playing season begin?

It is a matter of record that golf courses with Miller Engineered Drainage have extended their playing season three and four months. That pays.



Reduced maintenance cost is another result. We work cooperatively with architect or local contractor.

#### WENDELL P. MILLER

and Associates
GOLF COURSE DRAINAGE

Engineers - - Constructors

208 So, La Salle St., Chicago 85 East Gay St., Columbus, O.

gratifying, and not only indicates the worth and popularity of this product, but is a personal tribute to Mr. O. J. Noer, who travels constantly throughout the country visiting golf courses and helping green-keepers with their turf problems. Mr. Noer is one of the very few men in this country who combines a highly specialized technical knowledge with a vast amount of practical experience in turf culture.

A very rapidly developing new use for Milorganite has been found, namely, as a carrier or vehicle for arsenate of lead. The makers say that to date nothing else has put in an appearance that is as satisfactory for this purpose as Milorganite.

Although the company's business has doubled their increased production enables them to fill all orders promptly.

Free Seed Testing

In order to get an official analysis on grass seed samples I. L. Radwaner Seed Co. Inc., 115 Broad Street, New York City, N. Y. are offering a FREE service of grass seed testing to golf courses and architects. Ten (10) samples will be tested absolutely without charge for one year, even if the club is not a customer.

This service will be maintained without influence or favoritism, based strictly on quality of a four ounce sample submitted under your own code name, so that we will have no idea if seed is ours or procured from other sources. A strictly unbiased report will be given

promptly, through our new connection in official seed testing service.

Clubs also have privilege of mailing samples direct to the laboratory at place designated by us, for direct test at our expense if so desired.

#### How Humus Improves the Soil

The use of humus as a soil conditioner, bacterial home, moisture holder and carrier for concentrated fertilizer materials is a well-known practice—though the exact function of humus in the soil is not as well understood as it should be.

Humus will render the physical condition of the soil so as to permit the easy penetration of the roots. It will also increase the capacity of the plants dissolved in water. Without moisture the plants must perish.

The breaking down of inorganic food substances in the soil by means of bacteria is an important consideration. These bacteria live and multiply in the organic material in the soil. Indeed, bacteria play a more important part in our soils than we usually realize.

Many soils have no fit medium in which the bacteria can live and multiply. The result is a leachedout soil and steadily lessening productivity. Such a soil can be restored by the liberal use of humus.

Another effect of humus is to raise the soil temperature especially during the night when a high temperature is most needed. A soil rich in organic not only absorbs heat from the sun during the day, but

also sustains bacterial life which raise the temperature by fermentation. The result is that the soil is kept warm through the night as well as by day.

The Hyper-Humus Company, Newton, N. J., makes a specialty of preparing humus for greens. The product, known as Hyper-Humus is non-acid and thoroughly aerated. It may be purchased direct from the company in carload lots at very moderate cost.

Armco Drainage

Heavy rains this spring and the damage done by storm water is causing greenkeepers and golf club officials many sleepless nights. Every day we hear of a putting green washed away or part of a fairway gone, and we know of two or three clubs where expensive concrete retaining walls are being constructed to care for this hazardous situation.

If these clubs would call upon the Armco Culvert Mfrs. Association, Middletown, O., and seek advice of their expert engineers they would be surprised to see what intelligent assistance and co-operation they would receive, because the Armco Co. has been draining land for so many years and in so many parts of the country that their data is accurate and reliable.

The Armco Co. issues a series of bulletins which are filled with actual photographs of drainage conditions and how some of the more serious problems have been solved. Every greenkeeper should have this Armco

## BOB HAYES of Pelham



Robert J. Hayes, prominent among greenkeepers and a strong association worker, who was active in the organizing of both Westchester and Metropolitan Greenkeepers associations, has recently been elected to the Presidency and Vice Presidency of the above organizations in the order named.

Mr. Hayes, Greenkeeper at Pelham Country Club, Pelham Manor, N. Y., superintended the construction of the course at this club, which work was done during 1920 and upon its completion took over the maintenance. This club is located on Long Island Sound near New York City.