

# New Jersey Course for Greenkeepers

BY HOWARD B. SPRAGUE

THE College of Agriculture, Rutgers University at New Brunswick, N. J., held its second annual short course in turf management, February 24-28 with a splendid attendance of greenkeepers. This course which was started last year, is designed to acquaint greenkeepers, members of Green committees, estate managers and others in some of the fundamental principles that underlie the successful establishment of turf on golf courses, athletic grounds, parks and estates.

The enrollment was 66 this year as compared with 54 in 1929. Nearly every man was present every day of the course and interest was maintained throughout. The tuition is free and a nominal charge of \$5.00 only is made for registration.

Space will not permit a complete description of the papers and the discussions, but we print herewith the program as a guide to other colleges who may have the same kind of work in mind.

## Program

### Monday A.M.

- 1 hr. 9-10 Registration.
- 1 hr. 10-11 Modern turf management  
Dean J. G. Lipman
- 1 hr. 11-12 Soil types and plant growth  
Prof. L. L. Lee

### Monday P.M.

- 2 hrs. 1-3 Soil Physics—Structure, aeration, moisture supply, etc.  
Dr. J. S. Joffe
- 2 hrs. 3-5 Drainage—Natural and artificial  
Prof. E. R. Gross

### Tuesday A.M.

- 1 hr. 9-10 Principles of soil and plant chemistry  
Dr. J. S. Joffe
- 1 hr. 10-11 The natural supply of plant nutrients from the soil.  
Dean J. G. Lipman
- 1 hr. 11-12 The nature of commercial fertilizers  
Prof. A. W. Blair

### Tuesday P.M.

- 1 hr. 1-2 The use of commercial fertilizers  
Prof. A. W. Blair
- 1 hr. 2-3 The nature of soil acidity and its detection  
Prof. A. L. Prince
- 1 hr. 3-4 Forms of lime and their use on turf  
Mr. H. R. Cox

### Wednesday A. M.

- 1 hr. 9-10 Fertilizer tests at New Brunswick  
Dr. H. B. Sprague
- 2 hrs. 10-12 Soil micro-organisms and plant nutrition  
Dr. R. L. Starkey

### Wednesday P.M.

- 1 hr. 1-2 Compost materials and composting  
Mr. H. R. Cox
- 1 hr. 2-3 The structure and function of plants  
Dr. H. B. Sprague
- 1 hr. 3-4 The characteristics of good turf plants  
Dr. H. B. Sprague

### Thursday A.M.

- 1 hr. 9-10 The climatic adaptation of turf plants  
Dr. H. B. Sprague
- 1 hr. 10-11 The soil adaptation of turf plants  
Mr. E. E. Evaul
- 1 hr. 11-12 Seeds of turf plants  
Miss J. G. Fiske

### Thursday P.M.

- 1 hr. 1-2 Inspection of seed testing laboratory  
Miss J. G. Fiske
- 2 hrs. 2-4 Turf infesting insects and their control  
Prof. C. C. Hamilton

- 1 hr. 4-5 Weeds and their control  
Dr. H. B. Sprague

### Friday A.M.

- 2 hrs. 9-11 Turf diseases and their control  
Mr. E. E. Evaul
- 1 hr. 11-12 Starting new turf  
Dr. H. B. Sprague

### Friday P.M.

- 1 hr. 1-2 Renovating poor turf  
Mr. E. E. Evaul
- 1 hr. 2-3 Care of turf—watering, mowing, rolling, top dressing, etc.  
Dr. H. B. Sprague
- 1 hr. 3-4 Final conference  
Dr. H. B. Sprague

## ENROLLMENT OF STUDENTS NEW JERSEY GREENKEEPERS COURSE

- Abbot, M. M., F. H. Woodruff & Sons, Milford, Conn.
- Anderson, John, Crestmont Golf Club, West Orange, N. J.
- Applegate, Atwood, Cranmoor Country Club, Toms River, N. J.
- Baker, C. W., 129 Magnolia Avenue, Jersey City, N. J.
- Beckett, P. V., Watchung Valley Golf Club, Plainfield, N. J.
- Biase, M., Montclair Golf Club, Montclair, N. J.
- Boice, H., Hopewell Valley Golf Club, Hopewell, N. J.
- Brickley, W., Merchantville Country Club, Merchantville, N. J.
- Bryden, R., Yale Golf Club, Druffee Hall, Elm St., New Haven, Conn.
- Bullock, R., Aldecress Golf Club, Demarest, N. J.
- Burton, A. D., Mountain Rdg. Country Club, West Orange, N. J.
- Cameron, J., Yountakah Golf Club, Nutley, N. J.
- Carroll, T., Maplewood Country Club, Maplewood, N. J.
- Cavanaugh, L. J., Fox Hill Country Club, W. Pittston, Pa.
- Coerper, C. W., Montclair Golf Club, 101 Prospect Ave. Verona, N. J.
- Conover, J. L., S. R. Guggenheim Estate, Port Washington, L. I., N. Y.
- Davidson, J., 274 Bronx Avenue, Bridgeport, Conn.
- Dawson, R., Cranmoor Country Club, Toms River, N. J.
- Delmarle, V., Knickerbocker Golf Club, Tenafly, N. J.
- Dietrich, O. H., Atkins & Durbrow, Inc., 29 Burling Slip, N. Y. C.
- Eaton, A. V., Trenton Golf Club, Trenton, N. J.
- Eggleston, P. W., Park Ridge, N. J.
- Emeneger, F. W., Fairfield Golf Club, Southport, Conn.
- Fogarty, E., Shackamaxon Country Club, Westfield, N. J.
- Grady, J. J., Roselle Golf Club, Roselle, N. J.
- Granger, R. T., Toro Equipment Co., New York, N. Y.
- Hankinson, K., Quality Products Institute, Pennington, N. J.
- Hayes, R. J., Pelham Country Golf Club, Pelham Manor, N. Y.
- Hess, F., Bloomfield, N. J.
- Hodges, J. W., Atlantic City Country Club, Northfield, N. J.
- Hoile, W., Crestmont Golf Club, West Orange, N. J.
- Hopkins, H. E., Forsgate Country Club, Jamesburg, N. J.
- Isleib, H. T., Locust Grove Golf Club, Rahway, N. J.
- Jenkins, C. M., Arthur D. Peterson, Inc., New York, N. Y.
- Jones, F., Hollywood Golf Club, Deal, N. J.
- Keirstead, R. H., Canoe Brook Country Club, Summit, N. J.
- Kells, George, East Orange Golf Ass'n., R. F. D. Livingston, N. J.
- Laing, C., Metuchen Golf Club, Metuchen, N. J.
- Main, G., Maplewood Golf Club, Maplewood, N. J.
- Milnes, G. W., Metro. Golf Ass'n., Bloomfield, N. J.
- Mottolo, M., Canoe Brook Golf Club, Summit, N. J.
- Ness, S., Watchung Nursery, Plainfield, N. J.
- Ormond, J., Canoe Brook Golf Club, Summit, N. J.
- Peterson, A. D., Arthur D. Peterson, Inc., New York, N. Y.
- Pantley, H., Forest Hill Golf Club, Newark, N. J.
- Porter, R. C., Union County Park Commission, Elizabeth, N. J.
- Radway, E. S., Radwaner Seed Company, Inc., New York, N. Y.



Reid, A. H., Watchung Valley Country Club, Plainfield, N. J.  
 Roth, B., Hackensack Golf Club, Hackensack, N. J.  
 Roth, F. J., Plainfield Golf Club, Plainfield, N. J.  
 Roth, W., Hackensack Golf Club, Hackensack, N. J.  
 Riley, W. F., Rock Springs Country Club, West Orange, N. J.  
 Schubkegel, C., Pinewald Country Club, Pinewald, N. J.  
 Sharkey, W., Essex County Golf Club, West Orange, N. J.  
 Snyder, D. M., Garwood Nursery, Garwood, N. J.  
 Smith, J., 215 Elm Avenue, Rahway, N. J.  
 Stroud, E., Laurence Brook Golf Club, 12 Pierson Street, South River, N. J.  
 Terhune, O. W., MacMullen Terhune Co., Maywood, N. J.  
 Tetor, P., Ridgewood Country Club, Ridgewood, N. J.  
 Walters, Capt. J. W., Raritan Arsenal, Metuchen, N. J.  
 Weiland, L., Springdale Golf Club, Princeton, N. J.  
 Williams, Miss F. M., Philadelphia Seed Co., Philadelphia, Pa.  
 Winn, E. L., Colonia Golf Club, Union, N. J.  
 Witte, C. P., Essex County Park Commission, 115 Clifton Ave., Newark, N. J.  
 Wunder, W., Maplewood, N. J.  
 Greehan, A., Essex County Golf Club, West Orange, N. J.

Rutgers in New Jersey also has a course to offer the greenkeepers. This is located in New Brunswick and is under the direction of Dr. Howard B. Sprague who was a speaker at Louisville.

"Live and learn" seems to be the motto of the modern greenkeeper. If we do not keep up with the trend to produce on a scientific basis we will not last long. Lucky is the greenkeeper who can take advantage of the opportunity to learn something of the scientific side of greenkeeping. Practical knowledge, coupled with science will attain great heights.

Spring is almost here and the busy season will soon be upon us. Before you get too busy, how about getting a few new members for the association. Run over and see that prospect who has been waiting for you to ask him to join.

Have you paid your dues for 1930? It takes money to run a golf course, also an association. Make out that check now while you are thinking about it.

The show committee will announce the headquarters for the 1931 show very soon. They have started to work on next year's convention already. There is no chance for cobwebs to collect on that committee.

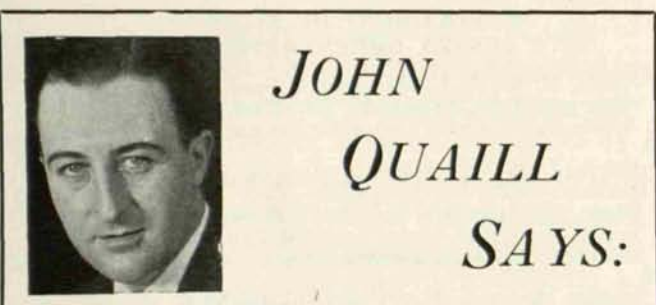
Boost the Association.

### Greenkeepers Appointed On Green Section Committee

President C. W. Colby of the Cleveland District Golf Association has announced the appointment of Frank Dunlap, greenkeeper Hawthorne Valley Golf Club, Frank Ermer, greenkeeper Ridgewood Golf Club, and J. H. Way, pro-greenkeeper, Canterbury Golf Club, to serve on the Green Section committee of the association.

As was the case last year when this plan was first instituted, the greenkeepers serve in an advisory capacity and assist the other members who are chairmen of Green committees of various clubs.

The Cleveland District Green Section is not a "service bureau" and does no purchasing for the clubs. It is merely a bureau of information and is used extensively by greenkeepers of the Cleveland District, who in practically all cases do the purchasing for their clubs.



**JOHN  
QUAIL  
SAYS:**

**T**HE greenkeepers have been busy the past few months attending short courses and conferences at several colleges and universities. There are about four or five short courses in existence at present and more will probably be started in the near future.

Massachusetts Agriculture probably runs the most complete course, it being about ten weeks long and covers many subjects. It is under the direction of Prof. L. S. Dickinson, whom we all know.

Pennsylvania State College has operated a short course and conference for the last two years and this course is also becoming well known to the greenkeepers of the Keystone State. Penn State is carrying on experiments not duplicated by any other experimental grounds in the United States and they are making good headway. Sixty-five attended the conference this year.

The University of Wisconsin opened up this year with an attractive conference for the greenkeepers of the middle west. It was well attended and the greenkeepers no doubt derived many benefits.

## BENT GRASS SEED

Nine-tenths of the seed offered by seed dealers invariably is of foreign origin and often is not acclimated to the severe variable climatic conditions of our northern states. SHOULD AMERICANS PLAY THEIR GAMES ON "GERMAN, NEW ZEALAND OR CANADIAN" GRASS WHEN THEY CAN PURCHASE SEED, THAT PRODUCES THE SAME KIND OF TURF, FROM AMERICAN FARMERS WHO GROW IT?

KINGSTON

A. N. PECKHAM

RHODE ISLAND

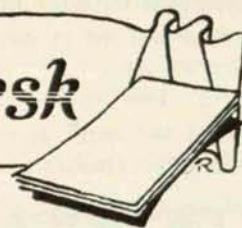
"Every penny of waste between farmer and consumer that we can eliminate will be a gain both to the farmer and consumer."—President Hoover

**10 YEARS  
of Furnishing  
SEED  
Direct from the  
FARMS  
Where it grows  
to you**





# Around the Office Desk



## TOURNAMENT SCHEDULE

### MARCH

- 27-28 North and South Open, Pinehurst C. C.  
27-29 Men's Tournament, Ocean-Forest G. C.  
31-1 Southeastern Open, Augusta C. C., Augusta, Ga.  
31-4 Women's North and South Amateur, Pinehurst C. C.

### APRIL

- 5 Annual Team Match, Pinehurst vs. All South, Pinehurst C. C.  
7-10 Women's Four-Day Tournament, Ocean-Forest G. C.  
7-12 North and South Amateur, Pinehurst C. C.  
14 Mason and Dixon Tournament, White Sulphur Spgs.  
18-22 Mid-April Tournament, Pinehurst C. C.

### MAY

- 15-16 Walker Cup Matches, St. George's Course, Sandwich.  
26 British Amateur, St. Andrews, Scotland.

### JUNE

- 16 British Open, Holyoke, England.  
18-21 St. Albans' Amateur Championship, St. Albans' Golf Club, St. Albans, L. I.  
23-25 Ardsley Junior Championship, Ardsley-on-Hudson Club, New York.  
23-28 Ohio State Amateur Championship, Toledo Country Club, Toledo, O.  
24-25 Invitation Open Tournament for Shawnee Shield, Shawnee C. C., Shawnee-on-Delaware.

### JULY

- 8-11 California Junior Championship, Del Monte, Calif.  
10-11 Northern California Women's Golf Association Invitational Tournament, Del Monte, Calif.  
10-12 National Open, Interlachen C. C., Minneapolis, Minn.  
17-19 Fairview Open Championship, Fairview Country Club, Elmsford, N. Y.  
31 Invitation Tournament for Buckwood Trophy, Shawnee C. C., Shawnee-on-Delaware, Pa.

### AUGUST

- 1-3 Midsummer Tournament, Del Monte, Calif.  
5-11 National Public Links Championship, Municipal Golf Course, Jacksonville, Fla.

### SEPTEMBER

- 22-27 National Amateur Championship, Merion Cricket Club, Haverford, Philadelphia, Pa.  
30-October 1 Arcola Senior Championship, Arcola Country Club, Arcola, N. J.

### OCTOBER

- 13-18 Women's National Championship, Los Angeles Country Club, Los Angeles, Calif.

## Hawthorne Boss Says Hello

March 5th, 1930

Colonel John Morley,

Youngstown, Ohio.

My dear Colonel:

I salute you and send congratulations, not only for your deserved title but for the wonderful showing at Louisville.

I have just returned from the South to which place I journeyed from the Convention and hasten to assure you of the excellent time I had and to comment on the marked improvement in every department of the show. This, to my mind, is proof that the old adage "Nothing succeeds like success" must be true.

The machinery and supply exhibits were marvelous and what an improvement over former years. Of course, thanks to Fred Burkhardt.

The talks were splendid and full of meat.

I hope to be able to drop in on you sometime during this summer.

With best wishes and hope for your continued good health, I am, dear Colonel,

One of your obedient privates,

R. H. Montgomery.

Hawthorne Valley Golf Club

Dearborn, Michigan

## A Novel Plan

A NOVEL plan in the construction of golf courses has been announced by Ulrich Golf Courses, Inc., Sycamore, Ohio. In outlining this plan, Mr. R. O. Ulrich, president of the company, says:

"Where a community is interested in a golf course to the extent that they will support same by a satisfactory membership we construct and operate a course under our own management. We opened our first course under this plan at Shelby, Ohio last August with a membership of over two hundred as the Shelby Country Club.

"Under this plan we give the members of each club practically all the privileges as if they owned the course themselves, they having an organization among themselves of their own officers, committees, etc. The plan proved so popular with the members that we decided to add additional courses and now have under construction a new course at Marion, O., and at Upper Sandusky, O., both of which will be opened soon.

"The kind of course we construct at the beginning depends of course, largely upon number of members and membership fee. The idea of members having a

Address all communications relating to  
Association membership, dues, etc., to--

**JOHN QUAILL, Secretary**  
426 Highland Avenue  
West View, Pittsburgh, Penna.

Address all communications relating to the  
Golf Show at Columbus, Ohio in 1931 to--

**FRED A. BURKHARDT**  
Chairman, Show Committee  
405 Caxton Bldg., Cleveland, Ohio



place to play golf without any details or to be troubled in any way about its management has certainly been highly satisfactory.

"Smith & McCallip of London, Ohio are our engineers and we build greens of bent grass sod purchased from Ohio Humus Products Co.

### Lost Hog Finds Good Home

Fred Burkhardt, greenkeeper of the Westwood Country club, happened to look out over the green last Friday. He rubbed his eyes and looked again. Then he dashed madly toward the course.

For a wayward hog, weighing more than 500 pounds, was nonchalantly beginning a leisurely stroll across the well-kept grass of the golf links.

After much persuasion, Burkhardt convinced the animal that it isn't nice for heavy hogs to walk around on country clubs' golf courses, and after more persuasion had the hog corralled in a shed.

Then came the problem of finding the owner of the hog.

Burkhardt reported the incident to Police Chief Gundar Robertson of Rocky River, who dispatched officers all over the village seeking the owner of the lost hog. But no one had lost a hog in Rocky River.

Then, on Sunday, Chief Robertson was notified by a resident of an advertisement in the Sunday paper lost and found column, pleading for the return of one 500-lb. hog, lost from a truck between Lorain and Cleveland. The chief called the advertiser, Fred Dahs of Kimball, O., who called Monday for his hog.

Burkhardt, who fed the animal for three days, says he knows now what is meant by people "making hogs of themselves."

—Rocky River Call

# Hyper-Humus

**A Super Quality of Soil Humus  
A Cultivated, Prepared Soil Organic**

Use it as a compost for top dressing established greens.

Mix it with top soil and sand for foundation of new greens.

Hyper-Humus is not dug raw from our deposit at Newton but is scientifically produced by cover cropping and cultivating of the upper six inches only to produce a top notch humus true to name—a pure soil organic. Disease free—clean, odorless, pleasant to use.

100 pounds will retain 190 pounds of water. So insure your greens and fairways this Spring against a repetition of the famous 1929 drought.

Write for literature and our special suggestions to greenkeepers gained by actual operating experience.

from **HYPER-HUMUS COMPANY**  
48 Park Place - Newton, N. J.



## Newton-New Jersey

## What a Putting Green Is

By JOE WILLIAMSON  
Greenkeeper, Scioto Country Club

*Long years have I dreamed and lived in hope  
That I some day would glean  
And learn the secret art and dope  
To make a putting green.*

*For years I have labored and tilled the soil  
This mystic thing to know;  
But, alas, in vain has been my toil,  
For it's a place where the grass won't grow.*

*The Pros tell us what it should be  
Which does not make it so;  
For what it is, is what puzzles me,  
And I still would like to know.*

*'Tis quite a puzzling problem—  
At least it is with me,  
For to satisfy the dub or pro  
Has sapped my energy.*

*A putting green is our despair,  
Now this you can't deny,  
With all the dope that's been put there  
Then do you wonder why?*

*For you put in dope at much expense  
From every clime and source,  
Instead of using common sense  
And letting Nature take its course.*

*The scientists won't come right out  
And tell us what to do  
For they, like us, are in grave doubt  
And would tell us if they knew.*

*A putting green, take my advice,  
Is a putting place—that's all.  
It's mostly the salesman's paradise  
And only the greenkeeper's pall.*

*This much I've learned, I now declare,  
No matter what you sow  
A putting place all rank and bare—  
And a place where the grass won't grow.*

### Modesty Outraged

The man was playing alone. Two boys kept following him around the course. At the ninth hole, he turned to the boys and said "You'll never learn to play watching me."  
"We're not watching you," said one of the boys. "We're going fishing as soon as you dig up some more worms."  
—Electric Magazine. The Cedarbrook News.

### Spraying Time Is Near

The time is not far distant when greenkeepers and superintendents of grounds will be facing the problem of spraying their putting greens, tennis courts, polo fields, baseball diamonds and fine lawns to bring them into early condition and to produce the clean, healthy expanse of fine turf which is demanded by their employers.

It is for the above class of work that the Friend sprayer is particularly adapted. This company makes a small outfit known as the "Golf Friend" which is a self contained unit of ample capacity and can be moved about easily from place to place. This power sprayer eliminates a deal of hand labor and can be used for soluble fertilizers, as well as insecticides and fungicides. It is manufactured by the Friend Mfg. Company, Gasport, New York, who have agents in most of the large cities of the United States.



# 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

## Airport Seeds

Seaboard Seed Co.

## Arsenate of Lead

Sherwin-Williams Company

## Ball Washers

J. Oliver Johnson, Inc.  
Worthington Mower Company

## Ball Locators

Worthington Mower Company

Bent-Coos County State Sealed and  
Certified

J. M. MacCullough's Sons Company

## Bent Seed—Cocoos Creeping

Lyman Carrier, Inc.  
Stumpp & Walter Company

## Bent Seed—Prince Edward Island

J. M. McCullough's Sons Co.

## Bent Stolons

Hubbard Nurseries  
O. M. Scott & Sons Co.  
Stumpp & Walter Co.  
Ohio Humus Products Co.  
Robert F. Leesley Grass Co.  
Illinois Grass Co.

## Bridge Floors

Armco Culvert Mfrs. Association

## Brown Patch Control

Stumpp & Walter Co.  
J. Oliver Johnson, Inc.  
American Seed Co.  
Reade Mfg. Co.  
Golf Course Supply Co.

## Catchbasins, Corrugated Iron

Armco Culvert Mfrs. Association

## Cast Iron Pipe

McWane Cast Iron Pipe Co.

## Charcoal

Cleveland Charcoal Supply Co.

## Compost Distributor

Toro Mfg. Company  
MacGregor Compost Distributor Co.

## Compost Mixer

Toro Mfg. Company  
Universal Sand Equipment Co.

## Compost Screen

Ideal Power Lawn Mower Company

## Drainage Engineers

Wendell P. Miller and Associates

## Drainage Gates

Armco Culvert Mfrs. Association

## Dump Carts

Toro Mfg. Company  
J. Oliver Johnson, Inc.  
Worthington Mower Company  
Peter Henderson & Co.

## Fairway Irrigation

Buckner Mfg. Co.  
Pelican Works  
Thompson Mfg. Co.  
Campbell Irrigation Co.

## Fairway Mower Blades

The Budd Mfg. Company

## Fairway Mowers

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

J. M. McCullough's Sons Co.

## Fairway Rollers

Toro Mfg. Company

## Fertilizers

Milwaukee Sewerage Commission  
J. Oliver Johnson, Inc.  
Peter Henderson & Co.  
Golf Course Supply Co.  
T. W. Wood and Sons.

## ADVERTISER'S INDEX

American Seed Company	24
Armco Culvert Mfrs. Association	31
Atkins & Durbrow, Inc.	46
Buckner Mfg. Company	22
Budd Mfg. Company	24
Campbell Irrigation Company	32
Carrier, Lyman	39
Cleveland Charcoal Supply Company	19
Cooper Mfg. Company	35
Doty, Henry H.	45
Fate-Root-Heath Company	34
Golf Course Supply Company	22
Hardie Mfg. Company	25
Henderson, Peter & Co.	8
Horner, R. S.	49
Hubbard Nurseries	25
Hyper-Humus Company	17 and 44
Ideal Power Lawn Mower Co.	14 and 15
Illinois Grass Company	16
Jacobsen Mfg. Company	36
Johnson, J. Oliver, Inc.	20
Koppers Products Company	30
Lawn Equipment Corporation	23
Leesley	42
MacGregor Compost Distributor Co.	17
McCullough's, J. M. Sons Company	23
McWane Cast Iron Pipe Company	39
Miller, Wendell P.	19
Milwaukee Sewerage Commission	35
Nelson, L. R. Mfg. Company	19
Nitrate Agencies Company	11
Ohio Humus Products Company	40
Peckham, A. N.	42
Pelican Works	30
Pennsylvania Lawn Mower Works	Cover
Philadelphia Seed Company	24
Philpott Rubber Company	21
Reade Mfg. Company	20
Roseman Tractor Mower Company	37
Scott, O. M. & Sons Company	49
Seaboard Seed Company	23
Sherwin-Williams Company	Cover
Standard Mfg. Company	48
Staude, E. G. Mak-A-Tractor Co.	38
Stumpp & Walter Company	37
Thompson Mfg. Company	16
Toro Mfg. Company	Cover
Universal Sand Equipment Company	28
Virginia-Carolina Chemical Corp.	21
Wood, T. W. & Sons	31
Worthington Mower Company	13

Virginia-Carolina Chemical Corp.  
Nitrate Agencies Co.  
Koppers Products Co.  
Atkins & Durbrow, Inc.  
Lyman Carrier

## Flag Poles

Ideal Power Lawn Mower Company  
Standard Mfg. Company

## Flexible Steel Mats

J. Oliver Johnson, Inc.  
Golf Course Supply Co.

## Golf Course Construction

Ohio Humus Products Co.

## Golf Equipment

Stumpp & Walter Co.  
Peter Henderson & Co.

## Golf Flags

Ideal Power Lawn Mower Co.  
Stumpp & Walter Company  
Peter Henderson & Co.

## Golf Cart

Ideal Power Lawn Mower Co.

## Greens Brush

MacGregor Compost Distributor Co.

## Greens Mower Blades

The Budd Mfg. Company

## Greens Mowers

Ideal Power Lawn Mower Co.

## Greens Sprinklers

L. R. Nelson Mfg. Co.  
Buckner Mfg. Co.  
Thompson Mfg. Co.  
Pelican Works  
Campbell Irrigation Co.

## Hand Mowers

Ideal Power Lawn Mower Co.

## Hole Cups

Standard Mfg. Co.

## Hole Cutters

Ideal Power Lawn Mower Co.

## Horse Drawn Mowers

Pennsylvania Lawn Mower Works  
Worthington Mower Company  
Roseman Tractor Mower Co.

## Hose

Peter Henderson & Co.  
Philpott Rubber Co.

## Hole Rims

Ideal Power Lawn Mower Co.

## Humus

Hyper-Humus Company  
Ohio Humus Products Co.  
Peter Henderson & Co.  
Atkins & Durbrow, Inc.

## Insecticides

Peter Henderson & Co.  
Sherwin-Williams Company

## Iron Pipe

McWane Cast Iron Pipe Co.

## Lawn Mowers

Pennsylvania Lawn Mower Works  
Toro Manufacturing Company  
Worthington Mower Company

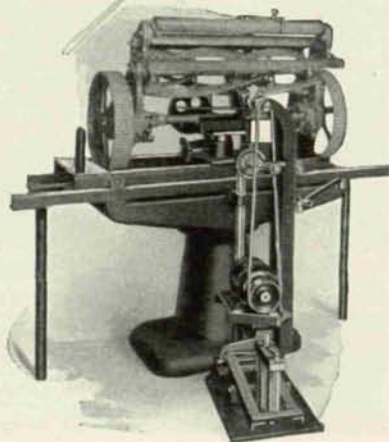
## Mowing Equipment

E. G. Staude Mak-a-Tractor Co.  
Toro Mfg. Company  
Pennsylvania Lawn Mower Works  
American Seed Company  
Jacobsen Mfg. Company  
Ideal Power Lawn Mower Co.  
Worthington Mower Company  
Roseman Tractor Mower Co.  
Cooper Mfg. Company

## Mower Sharpeners

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

Use a Hardinge Mower Sharpener  
and Keep Your Mowers Sharp  
all the Time



Sharpens bed knives and reels of  
all mowers

Write for illustration—particulars—price

HENRY H. DOTY, Distributor  
Highland Park, Illinois



## Market Place and Buyers' Guide—Continued

### Power Mowers

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

### Power Mowers—Roller Type

Ideal Power Lawn Mower Co.

### Power Mowers—Wheel Type

Ideal Power Lawn Mower Co.

### Putting Green Mowers

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

### Power Mower Blades

The Budd Mfg. Company

### Rakes

Golf Course Supply Co.  
Pennsylvania Lawn Mower Works

### Rhode Island Bent Seed

A. N. Peckham

### Rollers

Stumpp & Walter Company  
Toro Mfg. Company  
Worthington Mower Company

### Rough Mowers

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

### Seed

O. M. Scott & Sons Co.  
J. Oliver Johnson, Inc.  
Stumpp & Walter Co.  
Golf Course Supply Co.  
Seaboard Seed Co.  
A. N. Peckham  
T. W. Wood and Sons.  
Peter Henderson & Co.  
Philadelphia Seed Co.  
J. M. McCullough's Sons Co.  
Illinois Grass Co.  
Lyman Carrier

### Signs

Standard Mfg. Company

### Siphons, Corrugated Iron

Armco Culvert Mfrs. Association

### Sod Cutters

J. Oliver Johnson, Inc.

### Sprayers

Hardie Mfg. Company

### Sprinklers

L. R. Nelson Mfg. Company  
Buckner Mfg. Company  
Thompson Mfg. Co.  
Pelican Works  
Campbell Irrigation Co.

### Sprinkling Carts

Reade Mfg. Company  
Worthington Mower Company

### Stolons

O. M. Scott & Sons Co.  
Hubbard Nurseries

### Storm Sewers, Corrugated Iron

Armco Culvert Mfrs. Association

### Street Culverts, Part Circle

Armco Culvert Mfrs. Association

### Sulphate of Ammonia

Koppers Products Co.

### Tee Mowers

Toro Mfg. Company  
Pennsylvania Lawn Mower Works  
Jacobsen Mfg. Company

### Tee Stands

Ideal Power Lawn Mower Co.

### Top Dressing

Hyper-Humus Company  
The Ohio Humus Company  
Atkins and Durbrow, Inc.

### Tractors

E. G. Staude Mak-A-Tractor Co.  
Toro Mfg. Company  
Roseman Tractor Mower Co.

### Water Pipe

McWane Cast Iron Pipe Co.

### Well Casings, Corrugated Iron

Armco Culvert Mfrs. Association

### Worm Eradicators

Reade Mfg. Company  
Peter Henderson & Co.

## Classified Advertisement

PRO-GREENKEEPER WITH TEN YEARS experience desires position. Successful experience in greenkeeping, construction and maintenance. Best of references.—Address—J. O.—The National Greenkeeper, Cleveland.



## BETTER LAWNS at Lower Cost

The combination of cow manure and Peat Moss Soil Improver brings you the best turf and lawn builder it is possible to secure in one reasonably priced product.

The advantages over other conditioners is the fact that the dehydrated cow manure is natural food for the soil organisms on which plants thrive; and peat moss maintains aeration, moisture constancy and many other valuable requirements. INVESTIGATE.

\$2.50 per 50 lb. bag

\$75 per ton

f. o. b. Juliustown, N. J.

**Atkins & Durbrow, Inc.**

27-G Burling Slip New York, N. Y.

means of taking care of these small streams.

However, during the spring of 1929, this storm water overflowing across the fairways had worked out the turf in places and had also deposited large quantities of clay silt which would be very objectionable to the players even though the sod were uninjured.

## Storms Cause Washouts

AFTER several bad washouts had thus occurred it was decided that installing pipe large enough to carry the maximum storm water flow would lead to lessened maintenance costs and better playing conditions. As a good growth of sod had been obtained on both greens and fair-

## Cleveland Club Installs Armco Pipe

THE new course of the Country Club of Cleveland on South Woodland Road lies in some of the most beautiful country in northern Ohio. The terrain of the course is gently rolling and is crossed by numerous streams which add both to the beauty and difficulty of the course. Many of the fairways pass through groves of magnificent beech, maple and oak which make their contribution to the harmonious natural attractiveness of the course.

The course was constructed in 1928 and since then work of improving both the grounds and the buildings has gone steadily forward. This improvement will culminate in the spring with the completion of a \$600,000 clubhouse. The course itself will be formally opened about July 1.

When the course was constructed in 1928, it was planned to carry the smaller streams under the fairways in tile of a capacity sufficient only to carry the ordinary dry

weather flow. No attempt was made to provide ample capacity for storm water, which was left to flow over the fairways. At the time it was thought that this plan would provide an economical and adequate



INSTALLING ARMCO PIPE AT THE CLEVELAND COUNTRY CLUB  
Photo shows Bert G. Sheldin, greenkeeper, helping lay a 30-inch pipe on No. 5 fairway. A minimum amount of excavation, quick placing and easy aligning are characteristics which speeded up the work



# A Magazine Which is Paid For Is Read---

CONRAD KREMP  
PRESIDENT  
GEORGE D. ATWOOD  
VICE-PRESIDENT

Queens Valley Golf Club, Inc.  
FOREST HILLS, N. Y.

January 7th, 1929

R. C. SHEPHERD  
TREASURER  
S. E. CANADAY  
MANAGER

The National Greenkeeper,  
405 Caxton Building,  
Cleveland, Ohio,

Gentlemen,

Please send The National Greenkeeper for one  
year, to the following:- W.C. Taggard, 22 Abingdon Road,  
Kew Gardens, New York,  
S.J. Reynard, 18 Cathbert Place,  
Kew Gardens, New York,  
W.L. Baker, 515 East 16th. St.  
Brooklyn, N.Y.

The above is the new Green Committee for this  
year and our president has asked me to have them receive  
the "Greenkeeper".

Can you start them with the January issue?  
Send the account for the three subscriptions  
to the club.

Very truly yours,  
Queens Valley Golf Club,  
Francis A. Whiting  
Manager-Greenkeeper.

Above is an unsolicited subscription order  
from a prominent Long Island Golf club for  
ALL the members of the Green committee.

*Proving the powerful reader interest in*

## The NATIONAL GREENKEEPER

*The only journal in the world on turf  
culture and golf course maintenance*

ways during the summer of 1929 it was necessary to choose a pipe which could be transported over the fairways and laid with as little damage to the grass as possible. All the commonly used types of pipe were considered with this in view.

As the work had to be done during November and December and as the roads over the course are unimproved, it would have been difficult or impossible to get the heavy rigid pipe of the required size to the site of installation. Even though the pipe could have been delivered it could not have been moved across the fairways and laid without great damage to the sod. A monolithic box would have involved the mixing and placing of sand, gravel and cement on the fairways which would again have been disastrous to the turf.

On investigation, it was found that injury to the turf could be avoided with corrugated iron pipe which weighed only one-tenth as much as rigid pipe. Also this type of pipe has characteristics—quick handling, self-aligning, frost proof—which, in addition to its durability, make for economy of installation. Hence Armco corrugated pipe was selected as the best suited for the purpose, and a careful survey of the tributary watersheds revealed that 30, 42 and 48-inch pipe were required in the various fairways through which the streams passed.

The Armco pipe was furnished in 20-foot lengths to expedite laying. Delivery was made by truck to the nearest point reached by improved roads, from where the pipe was rolled over the fairways and newly made greens to the place of installation, in some cases a distance of over 1,000 feet, without damaging the sod in the least. Three men, at the most, were needed to roll these sections.

Excavation for all the pipe installed on the golf course proper was done by hand. The pipe was lowered into the trench with rope slings, no special equipment of any kind being needed. Backfilling was done by hand and immediate steps were taken to provide an early growth of turf which will remove all traces of the former troublesome streams. In all approximately 1,000 feet of the various sizes of pipe were installed, the improvement being carried out under the supervision of Bert G. Sheldin, greenkeeper and superintendent.



# Peat Moss and Cow Manure

We introduce to our readers this month "Driconure," a new top dressing prepared and sold by Atkins & Durbrow, Inc., 27-G Burling Slip, New York City. It is a high-grade, sterile, odorless, ready-to-use, dehydrated cow manure combined with a sterile, high-test source of organic media.

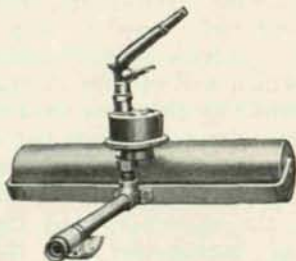
The ingredients are just manure from high protein fed cows and quality peat moss functioning as a humus-making material and a reservoir for soil moisture. The composition is about thirty-five parts of peat moss and sixty-five parts cow feces—no straw, shavings or trash. It analyzes almost equivalent to a 2-1-2 fertilizer, embodying the desirable properties of humus.

Driconure is an organic food for soil organisms, which organisms make chemical fertilizing media available as plant food. Being natural food for these organisms, they multiply rapidly and their multiplication helps pulverize the soil into a loam, thereby increasing aeration and water holding capacity.

Driconure comes packed in bags of about fifty pounds, containing four and one-half bushels of the coarse granulation (unground) and three and one-half bushels when pulverized. It is as we said before a cow manure on a peat base; dehydrated. The price per bag is \$2.50 f.o.b. plant Juliustown, New Jersey.

## The Slow Rotary

The Slow Rotary manufactured by the Campbell Irrigation Company, Woodbury, New Jersey, is an automatic irrigator for watering putting greens and fairways. Being



CAMPBELL ROTARY SPRINKLER

a new kind of sprinkler one or two facts of its construction are worth noting.

Its outlet tube is automatically turned very slowly by the water pressure and the peculiar shapes, proper sizes and angles of projection of its three nozzles causes the water to be distributed evenly in fine sprays throughout the whole area covered.

An outstanding feature of this new style of golf course sprinkler is its ability to project the water low and wide, thus insuring a large coverage, 7,500 to 12,000 square feet. It is adaptable to a low or high water pressure (35 to 125 lbs), covering an arc of 100 feet in diameter at 50 pounds and wider at higher pressures; discharging 8 to 20 gallons per minute, according to the pressure and size of the nozzles.

## Leesley Bent Grass

Robert F. Leesley Grass Co., 22nd Street at Harlem Avenue, Riverside, Illinois, who for years have been growers of creeping bent grasses, will have a very fine crop of stolons for spring and summer delivery.

This company has a splendid nursery of very fine stock and will be able to announce prices at an early date. Inquiries may be sent to the above address.

## Jacobsen in California

It should be of interest to the western readers of the NATIONAL GREENKEEPER that the Jacobsen Manufacturing Company has established a warehouse branch in Los Angeles. This new branch is under the direction of Mr. K. L. Barnes and is located at Westland Warehouse, Los Angeles.

Mr. Barnes was formerly from the Kansas City territory of the Jacobsen Manufacturing Company, and has had many years' experience in the sales and servicing of Jacobsen Power Lawn Mowers.

## TEE MARKERS

*never need painting*

**M**USHROOM shape. Cast in one piece aluminum. Self polishing—scuffing shines them. Won't rust. Easy to move. Plant close to ground. Don't interfere with golfers. Save replacement expense. Can't hurt grass.



## STANDARD Bag Racks

Handy for bags. Cast aluminum. Always look new. Fit any 2" O.D. tubular post. Send for circular describing Standard Golf Course Equipment.

*Ask about free trial offer*

Standard Mfg. Company  
Cedar Falls, Iowa



This new western Jacobsen Branch will carry a complete stock of mowers and parts, and also, expert repair service will be available.

## Fine Bent Grasses

A splendid booklet covering the above subject has just been issued by the J. M. McCullough's Sons Company, 316 Walnut Street, Cincinnati, Ohio.

The introduction is a reprint of an article entitled, "Commercial Bent Grasses in Canada" by Dr. M. O. Malte, which was published in the April, 1929 issue of the NATIONAL GREENKEEPER. The author is one of Canada's leading agronomists and his article is considered by far the best ever published on this subject.

This interesting booklet also contains an article by Professor L. S. Dickinson of Massachusetts Agricultural College, Amherst, Mass., entitled, "Facts on Lawn Management," which gives accurate details on the construction and preparation of the seed bed, including chapters on drainage and fertilizers necessary for fine turf. There is also a tabulation reprinted from the Bulletin of the U. S. G. A. Green Section giving rates of seeding of fine turf grasses.

Copy of this booklet just issued will be mailed free upon request.





## TRACTOR WHEEL SPUDS

The R. H. wheel spuds save time installing and removing, they are made in many sizes for any type tractor or purpose. Low price and quality has been welcomed by Golf Clubs, in use on 2,000 clubs. Sample spud and circular on request; advise make of tractor and purpose used for.

(If your Ford or Equipment dealer cannot supply, write direct).

**R. S. HORNER - Geneva, O.**

Manufacturer of  
Wheel Spuds, Golf Tractor, Golf Wheels  
for Fordson and Trucks

## Seed that lives up to your Expectations



Mr. H. G. Peterson, who has the worries of the Corey Creek Golf Course at Mansfield, Pa., on his shoulders, writes:

"We seeded our greens with a 50-50 mixture of R. I. Bent and German Bent. In six weeks we had a wonderful stand of grass. I have never seen a more uniform seeding. The grass came up thick as could be and we used about five pounds per one thousand square feet. The writer personally supervised the building of the greens and you may refer to me any time you please."

There is a vast difference in seed. Most authorities will agree that the purest seed is not only the best to sow, but the cheapest in the long run. We invite a comparison of Scott's Seed with any on the market. Write or wire for quotation.



More than 1000 golf clubs sow Scott's Seed

## Why Can't Lecco be Duplicated

Lyman Carrier has just issued a new booklet describing completely and accurately what Lecco is and why it can't be duplicated. The statement is made that Lecco is a complete grass food and careful explanation of how it acts under different conditions are set forth in a very intelligent manner.

What will interest greenkeepers is the fact that Lecco can be applied by hand with the simple Cyclone seed sower, which can be bought in any hardware store. The average treatment for a putting green is thirty pounds twice a month for each five thousand square feet. The Cyclone seeder which costs about \$2.50 holds thirty pounds is ideal for the purpose. Mr. Carrier further states that ten pounds a month is the correct amount for tees that are 1000 square feet in area.

This interesting circular will be sent free of charge to any greenkeeper who will send a post card with his name and address to Lyman Carrier, Cleveland office, Willoughby, Ohio.

one of the members desired to go from one end to the other of the most beautiful lawn, so rich with verdure, so cool and pleasant during the heat of the day, a pleasure to be there.

"The grounds were given over to them for inspection, if possible to find out the mystery involved. So beautiful, yet they seemed to note a little whistling noise like water running beneath. Had it thundered once they would have decided the clouds were doing some good raining above them.

"The man inside of the window looking on built up the thought. It is the new under-ground absorbing water system that has made the attraction. The birds thought they could hear the worms moving; it was the water discharging from the lead pipes beneath the ground. The beauty of it was the water was not flying around to disturb them. What a wonderful water system for club house grounds, so inviting to the birds and pleasing to know the lawns are being watered generously with no flushing in sight. A true observation."

## Budd Reduces Prices

Greatly increased production on Budd "4 Cutting Edges" blades has made possible price reductions on some of the items ranging from 25 per cent to 50 per cent of former prices. This and the improved design of 1930 models—adaptable to any mower on the market—make Budd "4 Cutting Edges" blades a distinctly revolutionary step forward in grass cutting progress.

More and more greenkeepers are seeing for themselves some of the wonders of this new mower blade—how it completely does away with sharpening or grinding—how its four cutting edges give fast, clean

cutting for two seasons—how the patented grooved holder for the blade prevents warping.

The holder, incidentally, is bolted into place for good—and can then be forgotten. Never any need for removing those bolts. When the cutting edge of the blade starts to get dull, the blade is simply slipped out of the groove, turned so a new edge comes into position, and slipped back into the holder again. Simple as changing a safety razor blade.

These blades are made by the Budd Manufacturing Co., of Ravenna, Ohio, and may be actually tested in local use by any greenkeeper on the new Free Trial Offer that is now being made. A card direct to them will tell you the full story.

## Kemp Soil Shredder

The Kemp Mfg. Co., Dept. G, 2001 Peach St., Erie, Penna., manufacturers of power soil shredders issues an interesting catalog, which not only tells about their product but gives a lot of valuable information about handling of compost and proper soil treatment. There is an especially interesting chapter on "Soil" by Alex Lowry of Michigan State College, which in itself is worth writing for.

The Kemp shredder mounted on a wheel carriage can be transported anywhere about the golf course wherever top dressing material is obtainable. It has been proved in a great many cases, so the makers claim, that the Kemp has paid for itself in a single season through saving of time and labor costs. Every part of the machine is sturdy and durable which eliminates delay and repair bills.

The Kemp catalog will be sent free to those who request it.

## The Birds Visit Daily

"At the time of the thrill, was September of last year. Least did the writer think of relating this occurrence to the golf maintainers, through the widely circulated magazine, the NATIONAL GREENKEEPER," writes J. T. Plummer, head of the Pelican Works, Niles, Mich.

"Here it is—how we came to have all of the birds in the neighborhood and so many kinds. They would jump to and fro with the greatest interest as if to know what the great mystery could be. Every



### New Stay-Dry Sulphate Delights Experts

Greenkeepers and turf-maintenance experts who have seen and tested a new kind of sulphate of ammonia, which never lumps or cakes and is so dry and fine that it can be broadcast by hand evenly at the rate of 1 pound to 1,000 square feet, are unanimous in the opinion that this new sulphate should be the back-bone of every greenkeeper's turf-conditioning program.

This superfine, non-lumping sulphate, manufactured by the Koppers Products Company, and known as Koppers Sulphate, in addition to being kiln-dried and screened, is extra-processed so that all moisture-attracting elements are either neutralized or entirely eliminated. It costs no more than the ordinary commercial grades because of efficient manufacturing processes and machinery. But its splendid fine, dry, mechanical condition . . . like sea sand . . . means a big saving of time, labor and money in application.

Koppers Sulphate contains the maximum of nitrogen (20.75%) and comes packed in 100-pound, moisture-proof bags which are ideal for handling and storing. It has been especially prepared for golf-course use and its sponsors claim that light, frequent applications by hand or machine will produce for any greenkeeper the kind of fine, thrifty, weedless greens and fairways that warm the cockles of a turf-expert's heart.

Although Koppers Sulphate is a comparatively new product, having been on the market only one year, it has been thoroughly tested, both by its manufacturers before it was offered to golf clubs, and by scores of clubs since. It carries the endorsement of such outstanding greenkeepers as John Morley, Lewis Evans, John Quail, John Pressler, Ralph Martin, G. F. Jacob, Emil Loeffler, and many others.

Any greenkeeper can get a trial package free by writing to The Koppers Products Company, 1201 Koppers Building, Pittsburgh, Pa.

Koppers Sulphate is carried in stock, ready for prompt shipment, in New York, Chicago, Philadelphia, Boston, Cleveland, Detroit, Pittsburgh, Providence, Hartford, Syracuse, Milwaukee, Baltimore, Salem, Mass., Elizabeth, N. J., Yonkers, N. Y., Lansing, Michigan, and Paris, Kentucky.

### Thompson Sprinklers

The Thompson Mfg. Co., 2251 E. 7th St., Los Angeles, Calif., is now issuing a very fine catalog covering their sprinkling equipment for 1930, which includes a large line of sprinkler heads to be used singly or in multiple series as the case may require.

The Thompson product is particularly well known, especially on the West Coast and is rapidly making its way through the Eastern sections of the United States and Canada. It is a very high grade product adaptable to every purpose.

### Titan Fairway Mowers

This is the title of an interesting catalog issued by the F. & N. Lawn Mower Co., Richmond, Indiana, largest manufacturers of lawn mowers in the world. The F. & N. Quintet consisting of five 30-inch type mowers can easily cut 75 to 100 acres a day and is one of the sturdiest and best built outfits on the market.

The "Titan" mower is self-adjusting with Timken roller bearings and many other features of mower design which this company's vast experience has brought about.

An interesting book of testimonials is included with the F. & N. catalog which tells briefly the experience of these machines in actual operation.

### National Mowers

The National Mower Company, 839 Cromwell Ave., Saint Paul, Minn., has just issued two new circulars covering their new National Power Quint and their regular Triplex and Quint units. The latter can either be arranged for pulling or pushing as desired, and push frames are supplied for Fordson and Staude tractors.

### Grass Seed and Supplies

"Quality grass seeds for a quarter of a century" is a slogan of the American Seed Co., Detroit, Mich. The head of this company, Mr. Ernest Chamberlain, has had a great many years experience in the golf course trade and he himself has patented many pieces of equipment of special value to greenkeepers. Among them is the Chamberlain Hole Cutter, the shell of which has a serrated edge that allows easy, clean cutting and lessens the amount of time and labor involved.

Besides grass seeds of all sorts, the American Seed Company carries

a complete line of equipment and supplies and its catalog is an encyclopedia of information. A copy will be sent upon request.

### Keep Weeds Out

O. M. SCOTT & SONS

This company, established sixty years ago, has just issued a new booklet giving the names of a thousand golf courses which use Scott's seed in all parts of the United States. The list is imposing and interesting and includes many of the finest golf courses in the world.

Part of this booklet is devoted to a history of the business, which was started by O. M. Scott in 1870, at which time he operated a small country elevator and was said at that time to be a "crank" on seed cleaning. He could not stand to have weed seeds and did everything possible to eliminate them.

Instead of selling seeds to farmers as in the old days, the Scott company now specializes on seeds for golf courses, but have never relinquished its high standard of clean seed free from weeds because as they say, "weeds simply don't belong in golf".

A copy of this booklet of interest to everyone connected with golf courses will be sent free of charge upon request. Address O. M. Scott & Sons, Marysville, O.

### Johnson's Specialties

A particularly interesting item for the small golf course is a high pressure tank sprayer which may be carried over the shoulder and is unexcelled for spraying brown patch spots early in the morning. It has a capacity of four gallons with a 27-inch hose and 18-inch extension pipe with nozzle, and the price is only \$6.50.

Another interesting item is a weed stinger, which consists of a tube fitted at the bottom with a sharp pointed plunger which when thrust into the ground releases a fixed supply of solution in the tube, either gasoline or chemical which kills the weed at the root and does not injure the surrounding grass or turf. The price is only \$3.75, f. o. b. Chicago, and can be sent parcel post.

This new Johnson's catalog supersedes previous editions and contains a number of new items not listed last year. Prices also vary in some cases. It is a handbook which should be in the possession of every greenkeeper for reference, and will be sent free upon request.