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# The NATIONAL GREENKEEPER

*The Leading Journal of the World on Turf Culture and Golf Course Maintenance*

Official Organ of The  
National Association  
of Greenkeepers of  
America

## GREENKEEPING—Yesterday and Today

By JOHN MORLEY, *President*

*The National Association of Greenkeepers of America*

ABOUT fifteen years ago, there were scattered on God's green acres in various parts of the United States, a few hundred golf courses. The word "greenkeeping" was not generally known. About seventy per cent of the courses then in existence were under the direct supervision of "Professionals," most of them having received their training in the British Isles.

In most cases, the methods which they had been accustomed to, owing to the difference in climate and soils in this country, proved very unsuccessful. They were to a large extent handicapped because very little knowledge was to be obtained, even from Washington, as to what should be the best methods to pursue. There were not more than ten per cent that would qualify as the greenkeeper is known today.

In those early days while we were fortunate to be able to import good grass seeds from foreign countries for golf courses, we were lacking in our ability to know how to take proper care of turf and produce good results. It is

true that we had turf experts in those early days of greenkeeping; one of the leading turfmen being the late Fred W. Taylor of Philadelphia, who thought he had discovered that by mixing clay, bone-meal and cow manure in a cement mixer and placing them in layer formation in the making of a putting green, it would solve the problem of raising ideal turf. This method we



THE HIGHLY MODERN PEBBLE BEACH COURSE  
*This difficult layout is located at Del Monte, Calif. and will be thoroughly tested at the National Amateur Championship next September*

all know proved to be a failure.

### Equipment Scarce in Early Days

IN THOSE early days there were very few pieces of equipment suitable to keep a course in excellent condition. First we had to

cut the fairways with a one horse mower outfit. Then came the gasoline mower that weighed nearly a ton, with one single cutting unit. On an eighteen hole course, if we wanted to cut the fairways once in nine days, we were compelled to use two mowers, for one or the other was out of commission most of the time. Then came the sulky mower with three cutting units, drawn by a horse which had to wear iron or aluminum shoes. If the horses were not flat-footed, and the turf was soft, they would dig the toes of these shoes into the turf, leaving the fairways full of small holes.

About twelve years ago, golf in this country began to take rapid strides. And with this progress came improvements. But new courses multiplied so fast that it was impossible to secure enough men well versed in the art of greenkeeping.

To a large extent we were very fortunate to secure men who had at one time been well versed in farming and gardening. But they soon discovered that the methods applied to farming and gardening would not produce results for successful turf on golf courses. Each in his own way endeavored to find other methods, and with so many working along different channels, we gradually commenced to get information that tended to create better turf and better working equipment.

**Golf Courses Sprung Up Since the War**  
**S**INCE the World War, golf courses have sprung up in leaps and bounds, and from the few hundreds fifteen years ago, they now number over four thousand. Out of this vast number of men selected to take charge of these

courses, we have been enabled to produce a large number of successful men who are today well versed in greenkeeping. In the past few years "greenkeeping" has been placed in a position where it rightfully belongs, known as the Arts and Sciences. And instead of seventy-five per cent of golf courses, which were formerly taken care of fifteen years ago by professionals, today over eighty per cent of the courses are in charge of greenkeepers.

It requires from three to five years to produce grasses that will stand the wear and tear of the players, and to a certain extent it also requires the same amount of time for a pupil to acquire sufficient knowledge to make him rightfully known as a greenkeeper. With this in view, officials of new courses should take this under consideration. It also happens, during the early existence of a new course, that conditions are such that they often breed dissatisfaction among the members. No matter how hard the Chairman of the Green Committee and the person who has charge of the course try to

correct conditions, they still fail to obtain results, owing to the fact that the soils especially used in the making of putting greens were selected and cultivated by some of our golf architects to grow blue grass and clover instead of the various strains of Bents.

**Hire Greenkeeper Before Course is Built**  
**I** AM of the opinion that the time is not far distant, when the officials of proposed new courses, as soon as they decide to hire a golf architect, will at the same time hire an experienced greenkeeper, who will be under the

### **U. S. G. A. Thanks Morley**

UNITED STATES GOLF ASSOCIATION  
 GREEN SECTION COMMITTEE

766 Broad Street  
 Newark, N. J.

January 10, 1929.

Mr. John Morley,  
 Youngstown Country Club,  
 Youngstown, Ohio.

My dear Mr. Morley:—

I wish to thank you personally and on behalf of the Green Section for the most interesting paper which you read at the Annual Meeting.

It is, indeed, a pleasure to have you, representing the National Greenkeepers' Association, cooperate with us in the work we are doing. We are all working toward the same end and we wish you to feel that any work which we may accomplish is entirely at your disposal.

With renewed thanks, I am  
 Cordially yours,  
 Wynant D. Vanderpool,  
 Chairman  
 Green Section Committee.

supervision of club officials during the building of the course and divorced entirely from the architect.

Time will not allow me to go into the ramifications of some of the work I have witnessed, pertaining to grasses. I will merely mention to you two courses where the above named trouble exists. Every method known has been tried with practically no effect. Both of these courses sent samples of their soils from putting greens to one of the leading experiment stations conducted by the State of Ohio to have it analyzed. The answer they both received was to dig up several inches of soil and replace it with soil containing a certain amount of acidity, that the soils they had contained too much lime, or in other words, they were too alkaline.

I have always been at a loss to understand that when a new club is organized, and they have selected a site which often consists of one hundred and fifty to two hundred acres of land, which usually consists of two or more farms—where one farm has been kept in the pink of condition, the other completely run down—that after the new course has been constructed and ready for seeding and fertiliz-

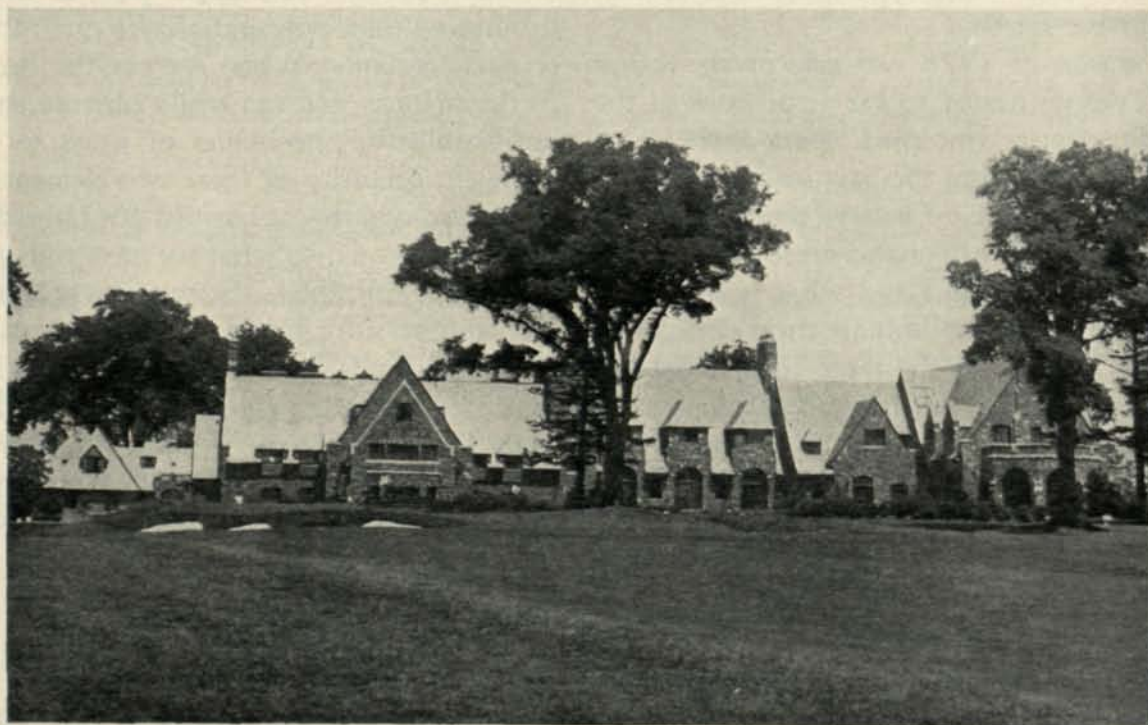
ing instead of giving the poor land more fertilizer and seed, and the good land less, in proportion, they usually give both the same quantity.

The greenkeeper of yesterday had a more peaceful mind, and although he lacked the knowledge and experience which greenkeepers possess today when he retired for the night, his sleep was usually quiet and refreshing. The greenkeeper of today, especially during the playing season, knows no rest or contentment. When he gets up in the morning and goes forth to take up his daily duties on the course, he never knows what Mother Earth "Nature" has in store for him. He knows if we are kind to her, she will endeavor to repay us.

But unintentionally we have tried to force Nature to give to us more than she could produce. And by so doing, we have brought upon ourselves diseases that we are unable to control.

#### Greenkeepers Are Studying Mother Earth

A FEW of the leading greenkeepers of today are commencing to dig into the mysteries of Mother Earth. They have been informed that fungi in the soil as well as those we often find on old stumps of trees when analyzed con-



THE WINGED FOOT COUNTRY CLUB, MAMARONECK, N. Y.

*This famous course on the shores of Long Island Sound will be the scene of 1929 National Open Championship*

tain nitrogen, hydrogen, oxygen, carbon, phosphorus, potassium, sulphur and iron. And we learn that to have good fertile soil, that these same elements must be present. Which makes some of us wonder that the nearer we bring the soil and turf, especially those on our putting greens to perfection, the nearer we are bringing them to destruction. And we see the results of several years of labor lost in a few hours by the dreaded brown patch and other diseases.

And as we stand upon one of these putting greens, our vision goes back to yesterday when we observed the grasses in the pink of condition. Today they are deplorable. You stand bewildered and sad. You look down the fairways and observe the grasses there are nearly all burnt up, for it has not rained practically for over four weeks. But all of a sudden you observe at a distance a certain portion of grass that is beautiful and green. Upon close observation, you realize that it is what is known as fairy rings and enclosed in this beautiful green turf we observe a number of toadstools. The fungi to this turf were beneficial. Those on our putting greens were detrimental. And we begin to realize that these fairy rings are given to us as a warning to keep close to Nature, Mother Earth.

The season of 1928 was one of the worst I have ever witnessed so far as diseases of the soil and turf were concerned. I am of the opinion the results during the past season will be a blessing in disguise. I believe that in the season of 1929 we will make rapid progress in knowing what is right and what is wrong to do, so as to lessen or eliminate these obnoxious diseases. Not all of the large brown patches that appear on our putting greens during excessive heat and humid atmospheric conditions are caused by parasites, but from fermentation of insoluble organic matter in the soil. We should endeavor to try and standardize the fertilization of our soils. To know what is best for clay, silt and sandy loams.

#### Maintenance Changed in Recent Years

**I**N RECENT years, golf course maintenance has been changed considerable. The put-

ting green mowers did not cut the grasses so close as they do today. We used to cut the putting greens every other day. Now we are often compelled to cut them twice a day. With the old style mowers, they used to leave ridges in the turf. Some will say that these putting greens were just as fast then as they are today. This is true in many cases. We used to roll them every day with a heavy iron roller. Then we commenced using the long wooden rollers.

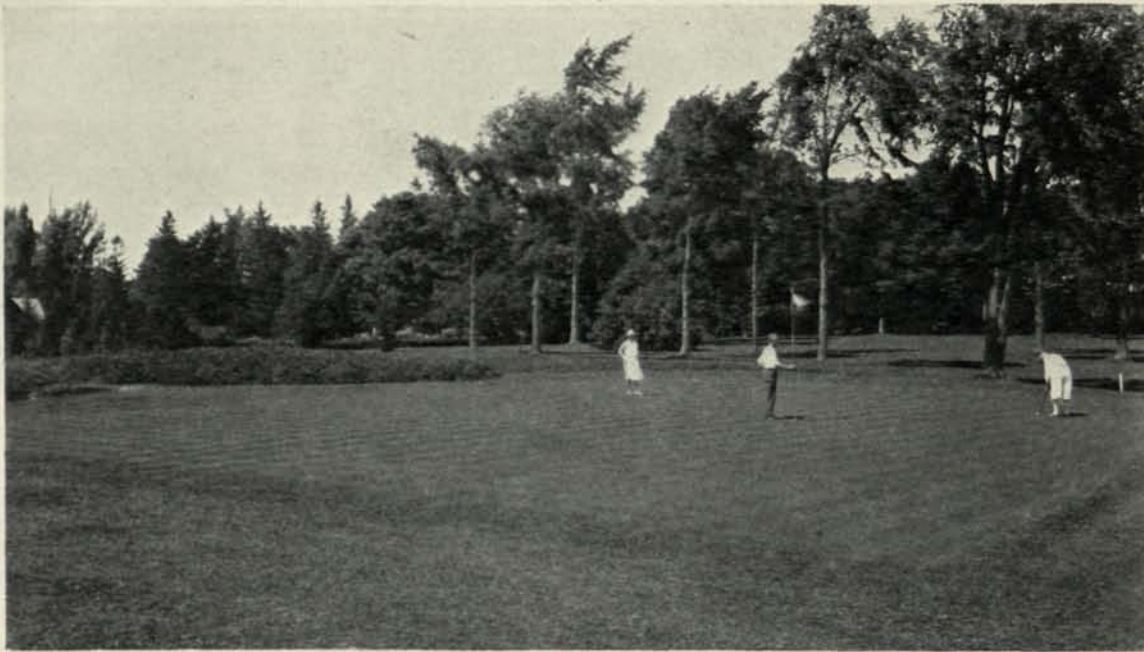
Today most greenkeepers with the exception of early spring, with the improved mowing machines, don't need to use any roller at all. When we allowed the grass to grow long in former days and kept the blades down by rolling, we did not have so much disease, if any, on our putting greens. I admit that I am not an expert to give advice that others can with safety follow. My aim is to put others to thinking, that we may eventually come closer to the truth.

So let me quote to you this opinion. The closer that we cut the turf the stronger the roots become. The channels of the roots become larger, thus allowing the hair roots to force more food and water than the grass plant can consume. The blades of the grass are full of small pores. The upper part of the blade containing these pores inhales oxygen; the lower part, carbon. When we cut the turf close to the surface, you can easily observe that it is impossible for the blades of grass to obtain sufficient quantity of these two elements.

Yesterday golf courses did not have the water systems equal to what we have today. During a hot, dry spell, the putting greens often turned brown for the want of water. We used to use the old fashioned sprinklers watering six or seven putting greens each night. Today, with the high pressure pumps we now have, a large number of courses are watering their putting greens every morning before cutting the grass.

#### Do We Water Too Much?

**T**HE question arises—is this good or bad? Let us see. If the season happens to be dry and no rains for long periods of time, this system of watering very seldom goes into the soil



SCENE ON THE BEAUTIFUL SKANEATELES COUNTRY CLUB, SKANEATELES, N. Y.  
*The efficient work of the greenkeeper is easily apparent here*

more than three or four inches, below this depth you have created a hard pan and also prevented a proper capillary movement of water. This water that you give the soil contains a certain amount of air; this air is mixed after it enters the soil with gases which the soil contains. During humid weather, this air and gas cannot escape fast enough out of the soil, thus it raises the turf in irregular manner and the turf does not always come back to its former condition, unless rolled it creates an uneven putting surface, with this method of watering. I do not care what kind of fertilizers you use—the results are the same.

For illustration, let us take a fertilizer consisting of 9-5 and 2, that means 16 pounds of plant food out of a hundred available for the turf. If the filler in this fertilizer is organic matter, we have 84 pounds which the plant cannot consume. During hot, humid weather this organic matter commences to ferment, creating gases in the soil, that often becomes poisonous. This latter becomes united with the soil water, and later conveyed by the hair-roots to the grass plant.

Yesterday with the old time sprinkling system, we did not create a hard pan, and the poisonous material that accumulated in the soil and was held by humid conditions, got away in ex-

cess soil water through the drain tiles of the putting greens. I believe it is better to water heavy and seldom rather than light and often. For when you have abundance of water in the subsoil, you can allow, without evil effects, the surface to become dry, thus helping to draw more air into the soil and at the same time permit the energy from the sun rays to draw the water in the form of a vapor to the hair-roots of the grass plant.

#### Fertilizers Used in Early Days

**I**N THE early days of greenkeeping, there were very little chemical fertilizers used on a golf course. We were using nitrates of soda, cottonseed meal, bonemeal, sheep manure, and a few others. We believed it was necessary to have alkaline soils, especially for putting greens. We did not as a rule have the fine grasses like we have today, although we were able to obtain the finest of bent grass seeds. Nearly every time we topdressed our putting greens, which was mostly with humus which we had to buy, we generally gave each putting green about fifteen pounds of grass seeds. With a few exceptions most putting greens were a mixture of creeping bent, fescue, poa trivialis, poa annua, and often lots of clover.

Today the conditions of our soils for putting greens are reversed. Instead of being al-

kaline, they are slightly acid from using chemical fertilizers containing acidity. There is an honest difference of opinion among greenkeepers and others, whether we are just in using an acid fertilizer. While I did not discover sulphate of ammonia as a fertilizer, it having been previously used in England and America, and practically discarded, Prof. R. A. Oakley can inform you that in the early history of the Green Section I advocated acid soils for bent and fescue grasses.

I have probably used it more than any greenkeeper in this country, and I have never found any reason to discontinue the use of it. In having nine putting greens from various parts of the course of the Youngstown Country Club analyzed by a competent chemist, his report was that four were sub-acid, three were minimum acid and two were neutral. This demonstrates that you cannot by the continual use of sulphate of ammonia get too much acidity by its use in the soil. This also shows that when the soils obtain a certain degree of acidity, an acid reaction takes place in the soil, and gradually brings the soils back to neutral, its former condition. There are some who believe that this fertilizer is the cause of the brown patch and other diseases which affect our turf. Before we were using sulphate of ammonia we had the brown patch disease. For instance, I may refer to Columbia Country Club, Washington, D. C., where they had brown patch during the National open several years ago. They were not using this fertilizer at that time.

One of the greatest troubles we may have by its use is, that at times we use too much of it, and create too much forcing of the grass plant, besides making the grass too tender. During brown patch weather we should only create enough nitrogen to keep the grass healthy and alive.

#### Greenkeeper Must Have Technical Information

**Y**ESTERDAY chemicals on a golf course were limited; today with all the big array of chemicals being advertised for, fertilizers, fungicides, insecticides, or what not, the greenkeepers of today must have some technical in-

formation himself, or to have some source to which he can turn for that information, unless he is to become a victim of the salesman with the best "line" of talk.

This is exactly the same situation which is found in modern farming as compared with farming of some years ago. The more progressive farmer years ago learned that they could not become expert in raising all crops, expert chemists, expert disease men, expert mechanics all in a lifetime. They, therefore, have demanded help from the Federal Government and the state governments in providing the highly specialized advice, which they themselves have not time to get. There are various farmers' organizations which have served to tie technical and practical parts together, as well as to help each other out.

Greenkeeping as I see it, is now reaching a point that farmers were forced to reach several years ago. In other words, I think you will readily agree with me that the demands of the golfers have become more exacting and the problems of the greenkeeper have increased tremendously during the past few years. This calls for better trained greenkeepers and for men who are willing to keep abreast with developments. The day for the greenkeeper with an unwillingness to learn from others, as well as to help others, is fast coming to a close.

#### Greenkeeper is Backbone of Golf

**T**HE greenkeeper of today has begun to realize that he is not only the backbone of successful golf, but also a leading auxiliary of big business. We have been too modest all along and for that reason golfers have blamed the greenkeeper for everything from an incurable slice to a lost ball. The greenkeeper at least realizes that he holds a key position in world affairs. The big business of the country look to golf for their recreation. If the greens are in good order, the business man is happy, and his state of mind is reflected in his work. If the greens are not kept up, the business man loses his temper, goes home cross and his business suffers. By perfecting our profession, we expect to tone up business.

(Concluded on page 42)

# Greenkeepers' Golf Show

(Concluded from page 38)

**NOTICE**  
All greenkeepers who cannot attend the Golf Show are requested to drop a postcard to the exhibitors at their factory address and new catalogs describing their products will be mailed free of charge.

Mr. A. H. Roper, and if possible, the following representatives of this company will also be in attendance: Mr. John B. Pol from the factory and Mr. Louis Bailly-Blanchard from the New York office.

J. OLIVER JOHNSON, INC.  
Chicago, Illinois

BOOTH NO. 11—BALL ROOM  
J. OLIVER Johnson, Inc., will not attempt to exhibit their entire line of golf equipment but will have an attractive booth and will distribute to greenkeepers, chairmen, golf club officials and others interested a copy of their new catalogue, entitled, "Seeds of Success." This new 1929 catalogue illustrates and describes about everything needed in the equipment of a golf course and will be of great interest to those who have maintenance problems to solve.

The exhibit will be in charge of Mr. H. S. Bailey, manager of the golf department, who is very well known and very well liked in the golf field.

## TORO ASSOCIATES

BOOTH NO. 4—BALL ROOM  
TORO Associates, as the name applies, will exhibit Toro mowing machinery and a large line of accessories and golf course equipment which they handle in various parts of the country. Following is the personnel of Toro dealers who will be at the Golf Show.

From Cleveland there will be: Mr. A. E. Flack, Mr. H. J. Streich, and Mr. John Alves.

From the Friend Mfg. Company: Mr. W. C. Tyson.

From Indianapolis: Mr. B. K. Cohee.

From Detroit: Mr. F. J. Feldman and Mr. W. E. Blankinship.

From Rochester: Mr. O. W. Bentley and Mr. E. T. Leake.

From Philadelphia: Mr. L. T. Gustin.

From New York Toro Co.: Mr. W. E. Lafkin.

From New England Toro Co.: Mr. O. O. Clapper.

Messrs. Flack & Streich will introduce at the show, a Dunham Turf-AIR-ator, their Cleveline Sprinkler barrel, Steel Flag Pole, Putter Hole Cup and Hole Cutter. In addition to their line, a Golf Wheelbarrow.

Mr. Gustin will display the full Economy sprinkler line, a champion Sod Cutter, Fletcher Steel Products and an Invisible Hose Reel.

Mr. Tyson will exhibit a Friend Model K Golf Spray.

## GREENKEEPING YESTERDAY AND TODAY

(Concluded from page 12)

I have endeavored to lay before you our methods of the past and present regarding greenkeeping. What the future has in store for us, I do not know.

But I am inclined to believe, with so many new courses being constructed with the intention of further progress, the greenkeeper, who is aiming to give the services that will be demanded, will be compelled to be well versed in botany, and plant pathology. While we all realize that the best education he may get is from practical knowledge, yet I am of the opinion that knowledge along theoretical lines helps.

In the many callings of life, there are many vocations where one can, by perseverance, industry and skill, reach the top of the ladder of fame, but greenkeeping is one a few where it is impossible to reach it, for nature, Mother Earth, will not let him. She will only allow him to go so far and no further.

She is looking forward to the protection of future generations, and when we endeavor to try and get ahead of Nature, she penalizes us by producing insects, bugs and various fungus diseases in order to check us.

Greenkeeping really belongs to the Arts and Sciences; for Art creates what Science discovers.

## FAIRWAY WATERING

(Concluded from page 15)  
400 g. p. m. and has not been lowered an inch so the capacity is ample.

The vertical lift centrifugal pump is noiseless, a valuable feature in installations near club houses, and has practically no vibration. The pump is direct connected to a pressure storage tank and with flap valves, automatic pressure regulators and various safety devices, it makes a fairly fool-proof installation.

## Radwaner Guarantees Seed

All the grass seeds which sell for golf courses are sold by the I. L. Radwaner Seed Co., seed merchants, 115 Broad St., New York, under the guarantee that after the merchandise is received by the ultimate user, he is to sample each lot of seed they send and mail a 4 oz. package to the U. S. Dept. of Agriculture at Washington, D. C., for testing purposes. Within a few days the department will notify the sender of the sample what the exact purity and true variety of the article is. If the goods they ship out are not in everyway as represented, they are at once to be returned at their expense before they are being used.

Through this method this company wants to assure the public that they will buy their Bent Grasses, their Fescues, and their ingredients with a positive guarantee by a test of the official Government agency, which is made free of charge, that the seed which will be planted on the golf course is absolutely as required by the party ordering same.

Of course the Radwaner Co. would be willing to furnish private laboratory tests with each lot of seed they ship, but advise their buyers to mail their samples to Government or State Agricultural stations in order to be quite sure that what they intended planting is the article bargained for.

