

TORO EQUIPMENT

New Additions to the TORO Line

Silver Flash Hand Mower



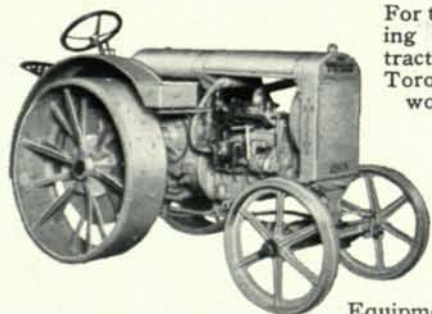
Built like a watch, light running, light weight, clean cutting. The last word in hand mowers, a mechanical work of art and a wonderful mower to handle. Every club should have a full set.



Toro Improved Top Dresser

The 1928 model. The hopper is of greater capacity than former models and can be tilted. A revolving agitator keeps the material loose in the hopper and permits easier flow. The flexible brush works the material into the grass immediately after being dropped. Does better work than the old machine.

Toro Pull-type Tractor



For those clubs wanting a high-grade tractor built up to Toro standards of workmanship, we recommend the Pull-type which has practically the same specifications as on the Toro Standard Machine.

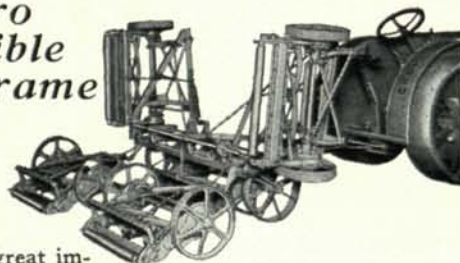
Equipment—Built complete with wide wheels, spikes, crown fenders, high tension magneto, clutch brake, automatic governor, large size automobile steering wheel.

Toro Park Junior



A 22" power mower with same Toro motor as the Park Special 30" machine. For cutting around close places and doing a clean job of cutting once over, Park Junior has no equal. Every 18 hole club should have at least one.

Toro Flexible Pull Frame



For those clubs pulling their mowers behind. The new 1928 model is a great improvement.

Two end sections can be raised for going thru narrow places, or they can be dropped off, instantly converting the frame into a 3-unit outfit for cutting the rough.

Toro Standard Tractor

The 'Old Reliable' that is daily delivering trouble-free service on over 500 clubs. Improved this year by an automatic steering device. Steers by a light touch of the steering lever which every operator will appreciate.



Above are a few of the new additions to the Toro line of golf course machinery. There are a number of other changes, improvements and additions which will be found in the new 1928 catalog just off the press. Write immediately for copy.

Toro Manufacturing Co., 3042-3160 Snelling Avenue, Minneapolis, Minn.

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LOWEST UPKEEP EXPENSE

THE March Convention AND Show Number

*Is the Most Important Golf Publication
of the Year*

The March Convention number of the NATIONAL GREENKEEPER will be the biggest and most widely circulated trade paper ever published in the golf maintenance field. It comes off the press before the Golf Show and National Greenkeepers' Convention opens at Detroit, February 21, and will be the official publication of the convention.

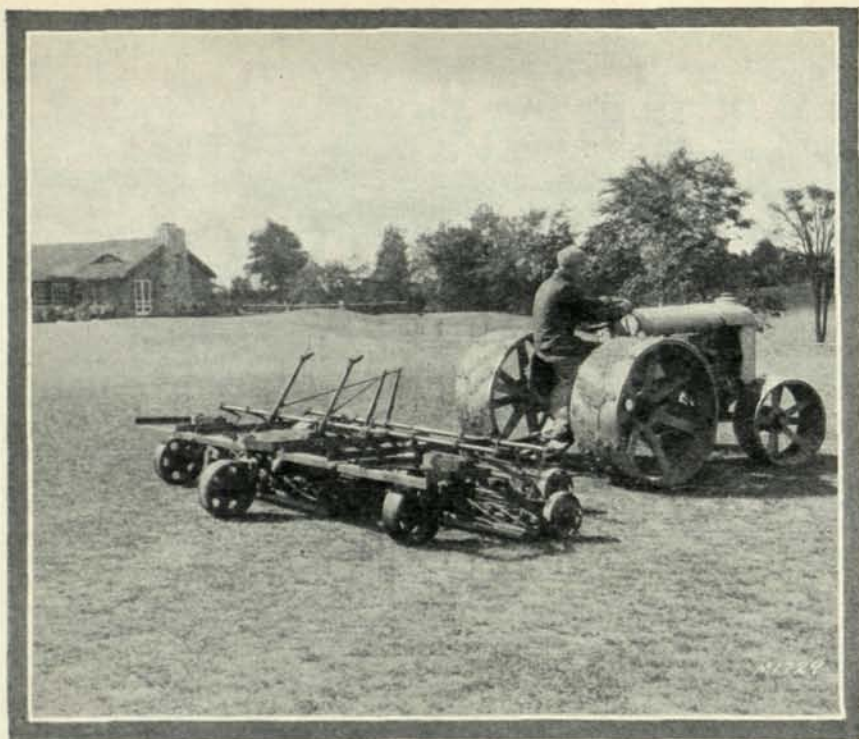
Every worthwhile product in the line of machinery, equipment and supplies used on the golf courses of America will be described in this special Convention and Show Number. It will be a reference volume which every buyer will get and keep.

Make Your Space Reservation Now

Please enter my reservation for _____ page space in the special March Convention issue of the NATIONAL GREENKEEPER. I will send advertising copy and editorial description of my product on or before February 8.

Signed _____

Address _____



You Can Depend Upon These Genuine
IDEAL *Bulldog* MOWERS

Built complete in the Ideal shops, these "Bulldog" Fairway Mowers embody advantages developed through many years experience in producing power driven mowing equipment.

Big capacity—flexibility—sturdiness—simplicity—s p e e d y operation—good work—moderate cost and low upkeep are the factors that combine to make the "Bulldog" gang the best buy on the market today.

Every season hundreds of clubs are replacing their old equipment with these sturdy, long lived, economical mowers, and this includes fine large clubs of tournament calibre as well as the smaller organizations where economy is of vital importance.

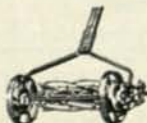
Many clubs have already placed orders for their new "Bulldogs" for early spring delivery. If your club will need new mowers this year, *now* is a good time to get the facts.

In addition to fairway and greens mowers, our new 1928 catalog displays a complete line of maintenance equipment. Write for *your* copy today.



*The
Ideal
Golf
Cart*

*The
Ideal
Greens
Mower*



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IDEAL GOLF COURSE EQUIPMENT

The NATIONAL GREENKEEPER

Official Organ of The National Association of Greenkeepers of America

Published monthly at 405 Caxton Building, Cleveland, Ohio.

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VOLUME II.

No. 2

Let's All Meet in Detroit

By JOHN McNAMARA

First Vice-President National Association of Greenkeepers of America

AS this is the last number of the NATIONAL GREENKEEPER prior to the National meeting and golf show at Detroit, I am making an appeal to all greenkeepers to attend the Convention of the Greenkeeper's Association in Detroit starting on Tuesday, February 22, 1928.

Last March at the meeting in Chicago, I had the pleasure of meeting more greenkeepers in a few days than I had met before in the twenty-five years of my greenkeeping career. At this meeting there were greenkeepers from almost every state in the Union and quite a few from Canada. I found that this meeting was very educational in every way. It does not make any difference how long you have been at this profession or how good you may be at growing turf, you can always learn something at a meeting of this kind or at a local meeting that will be to your advantage in time to come.

Greenkeepers, as a rule, are not made up, as a lot of people think, from the laboring class. In my experience, the ones that I have met had some other profession or trade and then became greenkeepers more or less through favorable circumstances. In discussing this subject with several men at Chicago, I learned that some had been engineers, others timekeepers working under construction experts on golf courses, quite a few were gardeners and farmers, a number were mill foremen, some golf professionals, or club stewards, and a very few were raised from the laboring class. There are of course a few of the younger boys who work as laborers to study the greenkeeping game.

Meeting our fellow greenkeepers has brought about a fine friendship and mutual understanding. I remember, only a few years ago, if one wanted to visit a neighboring golf course he was sort of timid and afraid to do so as he might not know who was employed there and was fearful

of the reception that might be accorded him. But now, knowing personally who is employed here and there, it is with a feeling of pleasure and anticipation that greenkeepers visit other courses and talk over various problems pertaining to our work.

Your brother greenkeeper will greet you with a hearty welcome and will drop everything to show you around the course. What a wonderful thing this is, and what a change in a couple of years. I do not think the greenkeepers or the golfing world will ever be able to repay our friend John Morley for the good he has done them through his efforts as president of our association.

I can safely say that every man who will attend the meeting in Detroit will be more anxious to attend the next one. Those who were fortunate enough to attend the meeting in Chicago, I know, can hardly wait for the time to come for the next meeting in Detroit.

Aside from the Convention there will also be held a golf show. This show will

be most interesting for the members and golfers in general as there will be on display golf course accessories that have as yet not appeared on the market. It is to every greenkeeper's advantage to be present and talk over the merits or demerits of the various equipment, for there are many good mechanics among the greenkeepers and those who are not mechanically inclined can learn something from the others.

It is a paying proposition for all the golf clubs to send their greenkeepers to Detroit on February 22nd. Greenkeepers who are so unfortunate as to be located at clubs that do not take enough interest to send them to the show, will find it to their profit to pay their own expenses.

Come on, boys, let's all get together at the next meeting and I assure you that you will go home much wiser and more interested in your work.



JOHN McNAMARA

As one of the deans of greenkeeping in the United States, Mr. McNamara sends this important message to every man who is engaged in golf course maintenance

DR. C. V. PIPER

*"In storm and in sunshine
he was the greenkeepers' friend."*

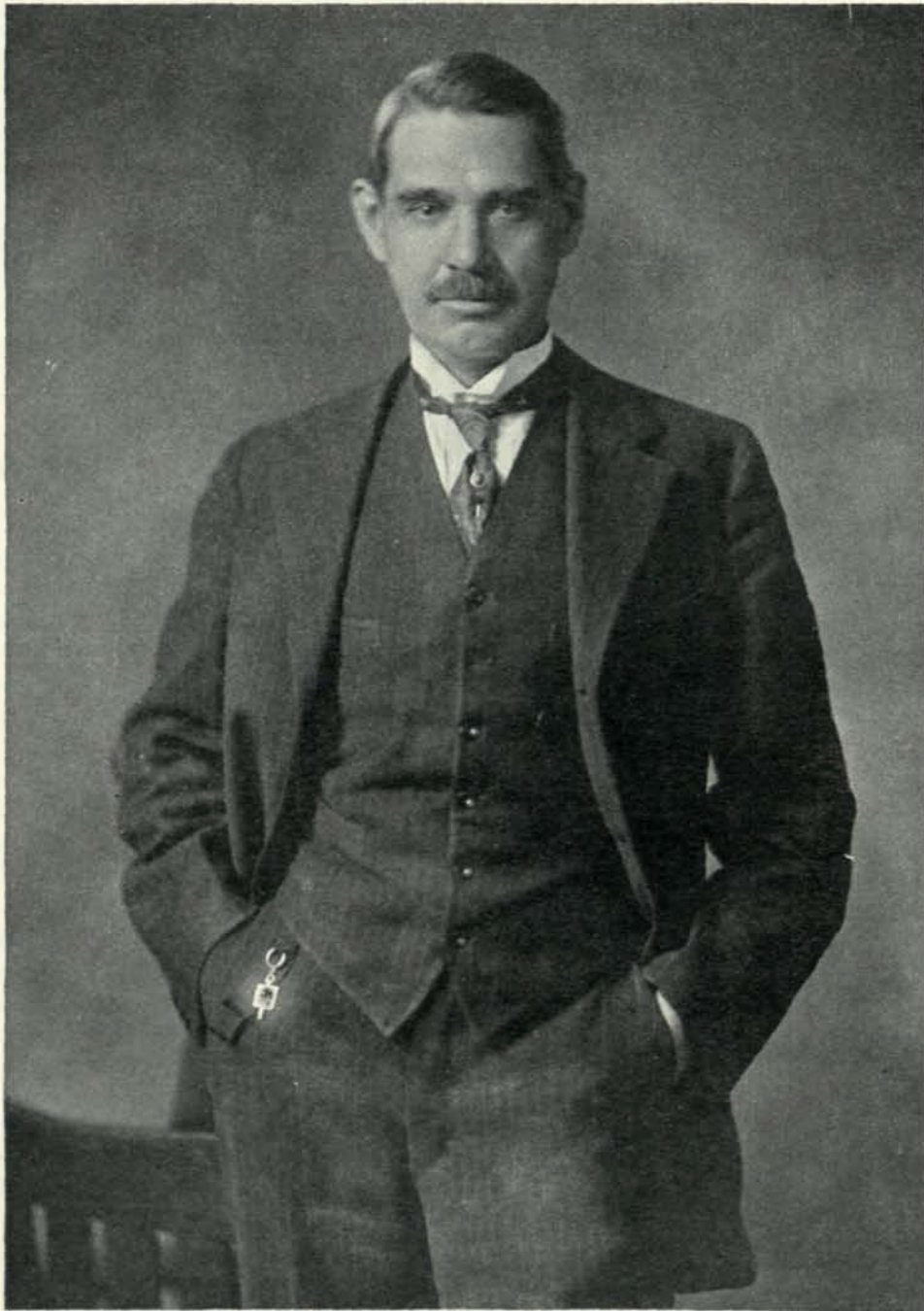


Photo by Harris and Ewing, Washington, D. C.

An Anniversary Tribute to Dr. Piper

This hitherto unpublished memorial was written at the time of the death of this country's most famous turf expert

By JOHN MORLEY

FEBRUARY 11th, 1926, a shadow cloaked from head to foot fell across the threshold of many golf courses when the pulsing wires flashed the sad tidings that Doctor C. V. Piper was dead.

While we recognize the wisdom of the Supreme Power who moves in a mysterious way His wonders to perform, yet we cannot help feeling that the death of Doctor Piper was indeed a mournful visitation. In his death we lost a gallant friend. He loved those who love God best. Indeed it may be said of him that his love of God and his love of man were alike.

He always fought for truth and justice. In his veins the stream of life coursed full warm and red. Fear of criticism never sealed his lips. He denounced wrong and always applauded good. He was the friend of all whom he knew to be honest. He was sincere as sunlight. The greatest thoughts in his mind were devoted to the interest of others.

The shock to us was sudden and unexpected. Surely this great king of terror, this grim reaper, loves a shining mark. To express our grief and sorrow words are unavailing. Nor does the reflection that as he fell asleep here and awoke in the glory of that light that never was on sea or land, wholly relieve our sense of pain and loss.

As the lark at daybreak rising on the wings of the morning turns its glad song to the listening sky; as the fainting traveler casting himself beside the roadside spring turns his parched and burning lips in joy to its cooling water, so turned the heart of the greenkeeper to Doctor Piper. In storm and in sunshine he was the greenkeepers' friend. There was malice toward none;

there was kindness and courage for all in the right, as God gave him to see the right. In the pure gold of his heart there was no dross. In him there was strength without weakness.

Doctor Piper knew himself and knew his fellow-men. He knew the world was more good than bad and growing better every day. He knew that there was less vice than virtue, less selfishness than charity, more love than hate. He knew that he who loveth most is most beloved. This virtue we call love is the greatest thing in the world. Without it life were not worth living; without it death would close the chapter of our hope. Love is the key to immortality. It is the last stronghold of our faith.

We pray that time may pour its healing ointment into the wound so freshly made, and that years may bring with them the consolation we should find in dwelling on the memory of one we loved.

Let us then dedicate the memory of Doctor Piper to the Supreme Being and by this we should be reminded that we should dedicate our spiritual actions to the same Supreme Being. Although we know that in the process of

time even at the best, our magnificent structure will crumble and decay, let us take care that we so labor here that after we leave for that far distant country from whence we will never return, we may there receive the reward of a well spent life.

*Green be the sod above thee,
Friend of our better days;
None knew thee but to love thee,
None named thee but to praise.*

Fifty-nine years of life was a short span to be allowed so well-loved a man as Dr. Charles Vancouver Piper. His was a forceful, distinctive character, quick to see the right and diligent in correcting a wrong.

His achievements were many, among them the discovery of Sudan grass, a forage crop which has since added millions of dollars to the wealth of agricultural America.

His interest in the improvement of turf led to the establishment of the Green Section of the United States Golf Association in 1921, of which he was Chairman until his death. His unusual knowledge, strength of purpose and high intelligence compelled the admiration of the entire golf world, and his love for his fellowmen embraced those in every walk of life.

Few men have lived so usefully, so richly endowed in friendship, and so tenderly held in the memory of all who knew him.

GOLF CLUB OFFICIALS!

If You Are Looking For

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407 Caxton Building, Cleveland, Ohio

Clean Seeds and Fewer Weeds

By E. E. PATTISON, Director

International Seed Testing Laboratories, No. 11 Park Place, New York City
Formerly Seed Analyst U. S. Department of Agriculture, Washington, D. C.

Editor's Note:

Considering the original cost of grass seed, the expense involved in seeding a golf course, and the possibility of infesting turf with obnoxious weeds, quality in seed sown is of tremendous importance. Mrs. Pattison is one of the outstanding authorities on seed analysis in the United States.

THIS series of articles is not intended to be technical. Its purpose is to present for practical use such information as will be of help to those interested in the great industry of golf.

A large amount of this information was obtained during a period of twenty years working in and in contact with the Seed Testing Laboratory of the U. S. Department of Agriculture. For this reason the writer wishes the reader to know something about this branch of the federal service which has been the principal factor in obtaining better seeds, not only for the farmer but for the golf course.

This laboratory has grown under the direction of Mr. E. Brown, Botanist in charge, from a small division to a very important division of the Bureau of Plant Industry. Besides the "mother" laboratory in Washington, D. C. there are branch laboratories under direction of federal analysts at several of the State Experiment Stations in the middle and far west.

Only a part of the work of the Seed Testing Laboratory is the testing of seed for purity and germination.

Beside the corps of analysts who take care of the analytical work there is a staff of scientists who give their undivided attention to many research problems.

Federal and State Seed Laws

When this branch of the service was established there were no state or federal seed laws in existence. Now almost every state has its own law regulating the sale of seed and there is also the Federal Import Act regulating the importation of grass seeds used by golf courses. It is hoped by those vitally interested in these seeds that some amendment to the Act will be passed in the immediate future which will prevent the importation of low grade parcels, such as Chewings fescue which has lost its vitality either through disease, transportation through tropical waters, or from improper harvesting, curing or storage.

Federal Laboratory Secret Service

The laboratory also has charge of the Adulterated Seed Investigation which is in the nature of pure detective work. Every year the government, through outside secret agents, obtains samples and buys merchan-

dise which is tested and the result, together with the name of the dealer, is published if adulteration is found.

Even with seed laws, state inspection, federal regulation of imports, adulterated investigation, poor seed is sold, and usually sold by misrepresentation. So buying seed is still a case of "Buyer Beware."

Buy Seed Early and Have Tested

The Federal Laboratory will test without charge a certain number of samples per month for purity and germination. The service, due to the large amount of samples received from many sources, is not rapid enough, so those interested in seeds usually have their samples tested at some outside laboratory and use the government laboratory only in case of dispute and differences.

Every golf club that wishes to protect itself should buy its seed early enough to have the deliveries tested before planting. Even though the merchandise comes from a reliable source, tagged with full analysis, deliveries should be tested before planting.

(To be continued)

Note: The next article will be devoted to the Species Agrostis in which is found that very interesting group of Bents.

Creeping Bent in Tennessee

A Letter from C. E. DAVIS, Professional

Shelby Park Golf Club, Nashville, Tennessee

I started a nursery two years ago with five different strains of bent. I found some of them no good for this climate but managed to get two good strains. I have four new greens planted and they are doing fine. They were planted in September. I used plenty of topdressing, plenty of water and sulfate of ammonia, and used the clippings to plant bare spots, with a light topdressing.

I planted fourteen hundred feet in my nursery this year of the two good strains, watered and kept the weeds out.

I had some experience with bent while in Pekin, Illinois. We were successful with it there, and I honestly believe some of the bents will grow in the South if one finds the right strain. I believe I have found one, and will be glad to send in a report on my greens during the summer. There are a number of greenkeepers and pros who are trying bent down south. Someone is going to put it over.

I am a strong believer in THE NATIONAL GREEN-KEEPER and enjoy reading it every month.

When the Dub Golfer Asks Questions

By ROBERT E. POWER, Chairman
Cleveland District Green Section

WHAT greenkeeper has not been cross-examined by the dub golfer?

Why is the rough so long?

Can't you run your wagons around the course without making ruts?

Haven't you any drains in your traps?

What is the use of having long grass around the greens?

Why do you topdress the greens about every week?

Why doesn't your tractor stop when I'm making a shot?

Those boys who foot the bills take their golf seriously.

If they make the hole in seven they may win a quarter, and if they don't it may be the greenkeeper's fault.

Patience with these new golfers who take up the game in middle life is a virtue that will earn the diplomatic greenkeeper a halo in the hereafter. It's like having three hundred employees and trying to please them all—even when orders are contradictory.

Not being a greenkeeper I can speak from the player's standpoint. Having been a Green committee chairman off and on for fifteen years I appreciate the position

of the greenkeeper, and the extraordinary tact and diplomacy he must exercise in keeping his golfing family happy.

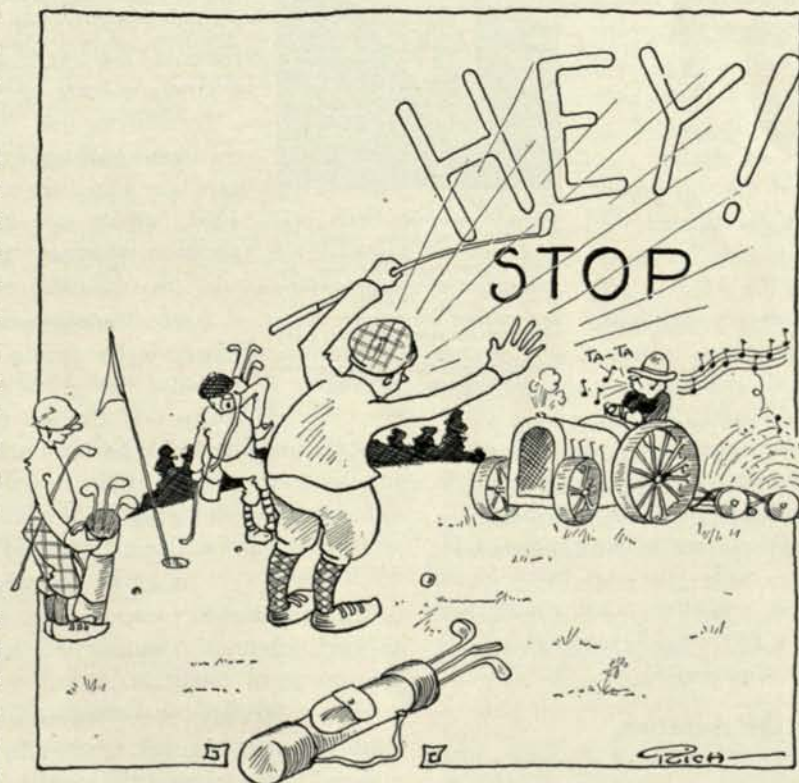
We have a foursome playing at the Westwood Country Club where Fred Burkhardt is greenkeeper and where I was Green committee chairman for seven years. They play every day—their average game is around one hundred, and if Fred was an athlete training for the Olympic games he couldn't have more intensive coaching than this quartet gives him. Yet in club meetings and locker room discussions they fight for him, and woe

betide the member who dares to criticize the golf course in any particular.

Fred has learned to be patient with them and courteous at all times and I bring this example to the attention of other greenkeepers who may be sensitive and brood over criticisms and suggestions on the course.

The policy to pursue is one of frankness and honesty. If the greenkeeper is at fault he should admit it and correct his mistake or oversight at the first opportunity. If the player is at fault he should be told why as courteously as possible, and if he declines to see it, he should be referred to the chairman of the Green committee for further explanation.

My greenkeeper always reported to me any discussions of importance with members, and if at all serious I straightened them out in a way to please and satisfy the member. I felt I owed it to the greenkeeper to stand between him and unjust criticism, but I would not permit him to have any altercation on the course. The chairman should fight all battles and it is his job to keep harmony among the members and to insist upon the greenkeeping crew being allowed to do their prescribed work without interference.



I cannot close without mentioning John Morley, your president, and to comment on the real affection and regard in which he is held by the members of the Youngstown Country Club. Every member is his friend and his modest conscientious manner and unfailing courtesy has won a place in their hearts that nothing can duplicate.

Which brings me to the point—a greenkeeper's value to his club is not only his knowledge of greenkeeping but his ability to co-operate with the officers in making the club a smooth running, efficient organization.

Golf Course Drainage

A series of articles written exclusively for The National Greenkeeper
by America's foremost golf course drainage engineer

WENDELL P. MILLER

HERE are a number of reasons why underdrainage benefits growing turf. In taking some of the important reasons up, one by one, it is well to study them carefully, in order to determine exactly why proper drainage has so direct a beneficial effect upon the healthy growth of grass.

Improves the Physical Character of the Soil

Underdrainage aids greatly in the formation of soil granules. The granular structure is particularly desirable in fine grained soils, as they then have the desirable properties of coarser grained soil in permitting the rapid passage of moisture and air. One of the important factors in soil granulation is alternate wetting and drying.

When a soil is saturated the soil grains are held apart, and partially floated, by the water. In addition to this, the water acts as a lubricant so that the soil will not support the weights necessary in maintenance and play. When the soil is saturated continually the soil granules are broken down and the smaller grains move into the spaces between the larger ones. In this condition the soil becomes almost a compact mass and is termed puddle. Underdrainage prevents puddling.

These actions and conditions are often expressed by saying that underdrainage makes the soil more loose, more open, or more mellow, and that standing water, or saturation, packs it. These are but different methods of expressing the conditions discussed above.

Improves the Aeration

Many authorities hold that the physical changes which cause a more rapid and greater passage of air through the soil are the largest single benefit of underdrainage, in that thorough aeration is one of the most important factors in turf production. Underdrainage improves the aeration in two ways; it removes the surplus, or gravitational moisture, thus leaving the soil pores open for the passage of air; and promotes soil granulation, thus providing larger channels for the circulation of air.

Increases the Supply of Available Plant Food and Moisture

This is probably the most important effect of underdrainage upon the soil, but it was not taken up till now



Editor's note: Mr. Miller was formerly Extension specialist in Agricultural Engineering at Ohio State University, and his background of training includes several years of study in soil physics and chemistry. Since 1920 his unusual abilities have been devoted to solving the drainage and soil improvement problems on golf courses

because of its dependence upon (1) and (2). This effect is due to several actions, all resulting from the drainage, the most important of which will be mentioned.

Plant roots take up food that is in solution in soil moisture; they can take up this moisture only when it occurs in the soil as capillary moisture; and the capillary moisture is present only after the surplus, or gravitational moisture has been removed. This chain of facts makes it at once apparent how underdrainage may increase the available supply of plant food. Underdrainage lowers the plane of saturation, thus making available the food supply of a larger volume of soil.

By causing the formation of granules, the underdrainage increases the amount of capillary moisture and thus increases the food supply. Underdrainage improves aeration which in turn causes the formation of additional plant food in the soil.

Underdrainage promotes the growth of the desirable forms of soil organisms and retards the growth of the undesirable forms. If the soil is saturated, the prod-

ucts of the undesirable bacteria are held in the soil causing the destruction of all organisms. The desirable organisms increase the amount of plant food in the soil by converting unavailable elements in the soil into available plant foods.

Underdrainage increases the supply of plant food through chemical changes which are dependent upon this moisture condition.

It has already been explained that underdrainage causes certain changes in the physical character of the soil and thus increases the maximum content of available or capillary moisture. This explains why grasses in a thoroughly drained area withstand drought better than those in a similar undrained area. Underdrainage increases the supply of available plant moisture by removing the injurious surplus gravitational moisture from a wet soil and by causing physical changes in the soil that result in the storage of an increased supply of available moisture in the soil after this surplus has been removed. The benefits of underdrainage in increasing the supply of plant food and moisture are well illustrated by the deeper green color and more luxuriant growth over tile line.