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By G. A. FARLEY

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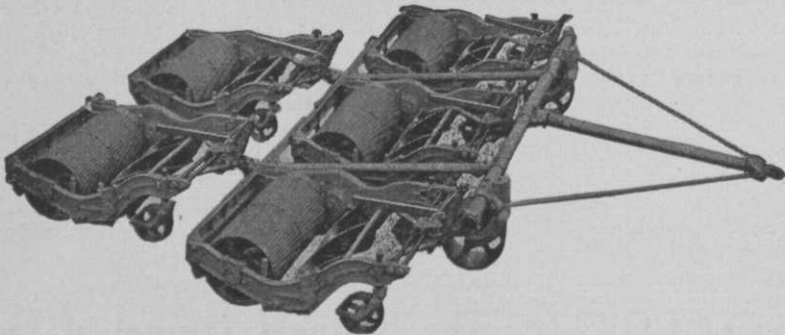
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NO. 4

Course Superintendents Lead in Modernizing Golf Glossary

TO describe more clearly the work of their members, the Minnesota and Western Pennsylvania associations of greenkeepers have changed the organizations' names to the district associations of Golf Course Superintendents. The term *golf course superintendent* is getting wider circulation, and to GOLFDOM'S way of thinking is doing some valuable propaganda work for today's greenkeepers. The Philadelphia Association of Golf Course Superintendents gave the term official status when the men in the Brotherly Love belt organized. At that time there was some criticism of the Philadelphians throwing on the ritz, but the more the objectors considered the matter, the more convinced they were that the Philadelphia association was starting off right. Golf course superintendent does a good job of selling the greenkeeper's functions and responsibilities to club officials and members. The term identifies the head of golf course maintenance work as a man who is a plant operating chief, and this is as it should be, with golf playing plants having capital investments of \$50,000 to \$1,000,000.

The Midwest Association of Greenkeepers also is considering changing its name so it will take advantage of the superintendent implications.

Some greenkeepers point out that *grounds superintendent* would be more completely and properly descriptive, as the greenkeeper usually has charge of landscaping and additional areas other than the course.

Undoubtedly one of the handicaps to fuller recognition of the greenkeepers' advance is that he is casually considered by many of his members about in the class of a sublimated plow jockey. It is forgotten that the greenkeeper today must be an agricultural expert, a scientist, a landscape artist, a labor management authority, a hydraulic engineer, a drainage expert, a civil engineer, and heaven knows what all else.

To get this idea of the scope and importance of the work done by the man who is held accountable for course maintenance is a real selling job, so the right sort of a label on the product being sold—a man's service—is the real beginning of effective selling.

There are a number of foresighted men in the course maintenance field who are willing to forecast, for the near future, changes in names for several more of the greenkeepers' organizations in order that the correct idea of the greenkeepers' work be given wide circulation.

Pros Have Name Problem

At the 1930 P. G. A. convention there was some talk about getting a title that would plainly mark the good professionals. *Pro*, many of the boys conceded, was an all-embracing term that the public used in tagging the just and unjust alike. *Class-A pro* is not a phrase that is designed to pierce the public consciousness quickly. Some of the fellows suggested *master pro*, and the term has much to recommend it

as a popular label of the Class-A member of the P. G. A. As it is today, about everyone who doesn't come under the U. S. G. A. definition of an amateur falls into the class for which the P. G. A. is responsible. It's too much territory for the P. G. A. to cover and for that reason quite a few of the P. G. A. members are looking for a term that will place them rightly in the public mind. The pros note that the vast expansion of professional duties in the last decade make the man who bears the title *pro*, not only one who makes his living out of the game, but in closer analysis, an instructor, merchant, club-maker, player, club "public relations" representative and frequently, official host for the club.

It is rumored that the U. S. G. A. is thinking about some further and drastic work on that perplexing matter of handling today's so-called amateurs who use their golf as a masquerade for commercial work. If this policy gets into full swing there are going to be many of the sharpshooters in purgatory, and the P. G. A. will have still more of a problem in acquainting the public with the brand mark of a sure-enough *pro*.

Change in golf nomenclature has plenty of precedent. A book on golf, written by John Doyle in 1893, refers to the *play club*, the *grassed driver*, the *bafling spoon*, the *wooden niblick*, the *brassie niblick* and the *driving putter*. These names have vanished into limbo and the terms *greenkeeper* and *pro* may follow them, although today's volume of golf publicity has rather firmly set the names.

However, there are signs that an effort is being made. A recent Associated Press story quoted Ernest Ryall, professional at Forest Hills-Ricker course at Augusta, Ga., suggesting *golfologist* as the suitable title. Ernie came to the front with the criticism that "the golf instructor of today is every bit as much of a technical expert in his line as a lawyer in his, or a doctor, engineer or college professor. Why then," queried Ryall, "should he be referred to by the undignified title of *pro* or even the complete word, *professional*?"

What Change in "Daily Fee"?

J. Franklin Meehan of Philadelphia, course builder, is the source of the pertinent suggestion that commercial golf courses would benefit from a change in name from *daily fee*, *semi-public* or *pay-as-you-play*. Meehan's notion is that these terms have outgrown their primary pur-

pose of putting across the message of cheap price for play. The development of these courses is such that they are attracting a class of people who want better playing facilities than the usual public course but want to buy their entertainment on the same dignified proportionate charge basis as they buy theater tickets.

One interesting slant on these commercial courses is the title hung on the 20-acre illuminated West Wilmette (Ill.) course having holes from 95 yards to 200 yards long and regular grass greens. Instead of calling this by the trite title of *pitch-and-putt*, Bob Cunningham and Joe Roseman, owners of the establishment, have called it a *matched iron* course.

How About Manager?

The house department is not immune from this need of a change in nomenclature. The term *manager* has rather generally replaced *steward* as the title of the man in charge of house operations, but with the trend toward general management of golf clubs it is not remotely possible that today's use of *manager* will become confusing.

A number of close observers of the golf field's change during the past decade see in this tendency to revise the titles of department heads so that the terms will be accurately descriptive, one of the sure signs of golf's continual advance toward a satisfactory basis of business operation.

Shakespeare may minimize "what's in a name" but the greenkeepers, managers and professionals are inclined to take issue with the Bard before outgrown nomenclature of the golf business becomes incorrectly set by usage.

Dealers' Golf Week Scheduled for May 4 to 11

National Golf Week, a spring sales drive inaugurated by *Sporting Goods Dealer*, is scheduled for this year May 4-11. The event is popular with dealers and results in a concerted opening push for golf business on the part of many of the liveliest sporting goods dealers.

Pros who are planning vigorous sales efforts to initiate their 1931 seasons might well bear this date in mind and see that they are prepared to get their due share of business during this week.

What Fertilizer Study Is Doing to Improve Course Standards

By O. B. FITTS

Golf Course Superintendent, Columbia C. C., Chevy Chase, Md.

THE importance of commercial fertilizers as an aid to plant growth has been recognized by agricultural authorities for many generations, but only during the past decade or so has any serious thought been given to the actual fertilizer requirements of the fine turf grasses under the artificial conditions prevailing on the golf course. Authorities long have agreed that nitrogen, phosphorus, and potash are the principal plant food elements required for the development of plants and that each of these elements has a different function in this work. Consequently the use of fertilizers containing varying proportions of each of these elements has been in general practice for many years. In the matter of grass fertilization these fertilizers were originally used with the object of producing increased yields of hay or forage crops, and this practice was pressed into service in the pioneer days of greenkeeping without regard for the different purposes for which grass was grown or the different conditions to which it was subjected. These methods have fallen by the wayside during the past few years, however, to make way for the modern methods of today.

Began Fertilizing Experiments

Along about 1905 or 1906 the Rhode Island Experiment station started a series of experiments with fertilizers on bent and fescue grasses. The primary object of these tests was to determine the effect of acid-reacting and alkaline-reacting fertilizers on the growth of these grasses. These plots were not kept as closely clipped as our modern putting greens but they were kept so as to fairly approximate modern fairway turf. These experiments, so far as available records show, were the first steps taken in this country toward the solution of the problem of grass fertilization. The striking results of these pioneer experiments attracted the attention of some of the officials of the United States Department of Agriculture and led to the

establishment in 1921 of a series of experiments at the Arlington Experimental farm where various fertilizers were to be tested on different grasses kept in putting green condition. This project was really the beginning of actually serious investigation of turf fertilization.

The knowledge gained through these pioneer undertakings served as a stimulus for further and more thorough investigation in this field, which has resulted in the establishment of numerous experimental projects in various parts of the country which are being conducted under the supervision of scientists and trained investigators. It also fostered the development of a widespread interest in the importance of proper fertilizers and fertilizing methods for the golf course among progressive greenkeepers, green-committeemen and fertilizer manufacturers. Progress achieved during the few years' duration of this campaign, to date, has been such as to merit much satisfaction and a great improvement in results obtained from the employment of its achievements.

It would be a difficult assignment to apportion credit where it justly belongs in the origin and progress of this educational campaign, but this observer feels justified in apportioning the major share equally among the trained investigator, the fertilizer manufacturer and the greenkeeper. The trained investigator (which includes many of our progressive greenkeepers) began his contribution to this work by "putting the bug in our ear," as it were, that is by conceiving the idea and putting it into action, and he followed it up by being instrumental in the enlistment of the fertilizer manufacturers' interest, and by engineering the gradual demise of the fake fertilizer trade.

The fertilizer manufacturer contributed greatly to its progress by his cooperation with the investigator and greenkeeper in an effort to determine the materials best suited to golf course purposes and to fur-

nish the greenkeeper the material required for his particular course. The greenkeeper, last but by no means least, has made his valuable contribution by relentless co-operation in the matter of investigation and open demonstration on the golf course of the results of the combined efforts of all three parties, or by actually presenting the finished article to the consumer.

What Has Been Learned?

So much for HOW we have learned, but, WHAT have we learned? First we have learned that for turf fertilization we need turf fertilizers. There was a time when a man with a good line of sales talk could catch an unwary green-chairman or greenkeeper napping and sell him most anything that had a high sounding name and was recommended as the ideal fertilizer for the golf course, lawn, shrubs, flowers and truck garden. This time is fast passing; the wide awake greenkeeper of today has learned that when he is purchasing fertilizer for turf he does not want a fruit or flower producing material. He knows that what he needs is something capable of developing a dense and vigorous growth of foliage and roots, inasmuch as these two parts of the grass plant form the turf. He knows that the principal element needed for foliage production is nitrogen and that since the foliage must be clipped closely, and often in order to facilitate a dense covering and a firm and true surface, it requires an abundance of its favorite food. Consequently he buys a fertilizer with a predominating nitrogen content. During the past few years ammonium sulfate, a purely nitrogenous fertilizer, has been used almost exclusively by many clubs, chiefly because it produced the desired foliage growth and fairly weed-free turf, but as we progress and learn more about the importance of root development the progressive greenkeeper finds a need for phosphorus. This does not mean that there is no longer a place in the turf fertilization program for ammonium sulfate. It is recommended as an ingredient of the complete fertilizer, or as an occasional alternate application. The general trend is toward the use of a complete fertilizer with a high nitrogen content, and a liberal phosphorus content.

Functions of Roots

An idea of the importance of a strong healthy mass of roots in turf may be given by a brief description of the two major functions of grass roots under turf condi-

tions. First, they are the foraging organs of the grass. They serve, not only as mouths for the grass, but they go out and search for the food which they transport to the digestive system of the plant. To use the vernacular, "they bring home the bacon." Second, the roots have an important part in the formation of turf. The tangled mass of roots serve to bind the turf together and make it more resistant to wear, while at the same time they aid in the provision of that all-important resiliency so required of putting green turf. In order to maintain a dense root system a liberal supply of phosphorus is needed. The results of investigation and general observation indicate that nitrogen should predominate and phosphorus should have next consideration. Potassium has only minor functions in the development of the plant other than in the production of flowers and fruit, consequently a much lower percentage is required than of the other two. It has been the writer's observation that a fertilizer containing 10% to 12% nitrogen, 6% to 8% phosphorus, and 4% to 6% potash is a very satisfactory mixture for average turf fertilization. This may be partially organic or entirely inorganic without appreciable difference in value; however, as the inorganic form is more readily soluble, it is preferable when quick results are desired. Fertilizers bearing analyses in this proportionate range have, in fairly general practice given excellent results, and the apparent tendency of this formula to produce disease-resistant and drouth-resistant as well as a comparatively weed-free turf has greatly influenced its gain in favor with many of the observant greenkeepers.

Rate of Application

The rate of application must be governed by local conditions, and the observing greenkeeper is the best judge of the rate and frequency of application required to keep his turf in good condition. As a general rule it is better to fertilize lightly and frequently than heavily and at longer intervals. Such treatment furnishes the grass with a more continuous supply of food which in turn insures regularity in the health and vigor of the grass and the resultant uniform color and texture of turf. Putting greens should be fertilized at intervals varying from two weeks to a month during the growing season and the rate per application of the complete fertilizer mentioned above should vary from 4 to 6 pounds per 1000 sq. ft., depending on the

conditions obtaining locally. Fairways and tees should be fertilized once or twice a year and in the case of one application it should be done in the early spring. If two applications are to be made the second should be in the late summer. The rate of application should range from 300 to 500 pounds per acre annually.

The methods of applying fertilizer have a very important bearing on the results obtained, especially in the case of putting greens.

Much has been written in recent years about various methods of applying fertilizer but little has been said about the importance of where it should be applied. Naturally, broadcasting over the surface is the method generally used. In some instances the fertilizer is mixed with compost, in others it is applied alone either in a dry state or in solution. Either of these methods is satisfactory provided the treatment does not stop here.

Correct Placement of Fertilizer

In the writer's estimation, the most important factor in the matter of fertilizer application is to get the fertilizer where it is needed before leaving it, and by this I mean, get it down in the soil where the roots can make use of the plant food without having to come to the surface for it. We are aware of the necessity of a mass of roots near the surface which form an important part of the turf, but, we are also aware of the need for deep root growth to aid the grass to withstand the hardships to which it is subjected under golf turf conditions. Therefore it is good practice to provide a feeding ground for the roots, not only near the surface but ranging downward to a depth of several inches.

As stated above, the roots of grass are foragers and naturally their tendency is to grow in the direction best supplied with the food for which they are searching; hence the importance of getting the fertilizer well distributed through several inches of the top soil. The question arises as to how this may be accomplished. On light sandy soil or on the average lawn where trampling is prohibited the problem is simple. The fertilizer should be applied when the ground is fairly dry. It should be distributed as evenly as possible and immediately watered in thoroughly. If the fertilizer is of a readily soluble nature it is taken up by the water and the open pores of the soil readily receive the solution and allow it to pass freely down

through the surface layer and be distributed within convenient range of the feeding roots of the grass. The plant food is deposited in the form of a film over the particles of the soil and is taken up by the plant as needed.

On the average putting green, however, the surface becomes so closely packed as a result of constant trampling that it is practically impervious to both air and water and in such cases it becomes necessary to employ some artificial means of opening the soil so as to provide for the reception of water, air and plant food. To do this job successfully the surface layer should be closely perforated and the perforating instruments should penetrate entirely through the compact layer which usually ranges from one and a half to two and a half inches depending on the type of soil and the amount and character of usage. Regardless of the effort necessary to open up the soil it will pay in the long run for it serves other purposes of importance than that of receiving fertilizer, one of which is the aeration of the soil. Provision for air circulation through the portion of the soil containing the grass roots is very essential to the health of the plant; first, because a certain amount of oxygen is taken in through the roots, and second, because it carries off the toxic gases thrown off by the roots which if confined in the soil will ultimately result in a toxic soil condition that is extremely detrimental to turf.

To sum up the matter of successful turf fertilization one must first know what is best suited to the requirements of turf grass. When in doubt get the information from some recognized authority on plant food requirements. Familiarize yourself with the best practice in the matter of rate and frequency of application for your local conditions and then be sure to put the fertilizer where the grass can make the best use of it.

U. S. G. A. Rules on Sand-Wedge Types

THE following rule recently adopted by the Executive committee of the U. S. G. A. clears up questions of legality of niblicks intended for the "sand-wedge" class:

"Club faces shall not embody any degree of concavity, or more than one angle of loft."

Winter School Alliance Pushing Advance of

With the annual exhibit and conference on golf course maintenance at Massachusetts Agricultural college, Amherst, March 13-15, the winter schedule of greenkeeping schools came to an end.

Massachusetts, Pennsylvania, New Jersey, Wisconsin and Michigan state

agricultural institutions have contributed greatly to the advance of course maintenance with programs plainly of practical value. In promoting a mutually helpful alliance between the scientists and practical men concerned with course construction and operation the winter schools undoubtedly have been responsible for a

Initial Michigan Course Draws Eighty Students

SOME 80 students attended the first greenkeepers short course offered by the Michigan State College, Lansing, held from Feb. 16 to 19. This course was held at the request of the Western Michigan Greenkeepers association and received the hearty cooperation of not only this association but of the Eastern Michigan Greenkeepers association and of the U. S. G. A. greens section, which was represented by John Montieth, Jr., and Kenneth Welton. The meetings also had the support of some of the leading specialists of the state in associated lines.

All of the men in attendance at these meetings were experienced in greenkeeping work and the round table discussions following the lectures proved very valuable to all of those present.

Wednesday afternoon the members of the short course inspected the factory of the Ideal Power Lawn Mower company. Following this inspection the entire group were guests of the company at a banquet.

Prof. Charles Halligan, landscape architectural member of the faculty, who organized the course, says:

"It is expected that this course will be repeated another year and many in attendance this time are planning to return when the course is given again. It was most satisfying to the authorities of the college to note the interest and enthusiasm that was shown and in the cooperation received

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Wisconsin Course Emphasizes Greens Maintenance

THE short course for greenkeepers, given by the Wisconsin College of Agriculture at Madison, held its second annual session February 9 to 13. Sixty-two greenkeepers from five states were registered for the course. There were many new members in addition to those who returned for their second year.

While the 1930 program dealt with the care and management of golf grounds in a general way, this year the various phases of the subject of greens were covered in detail, and all instruction was made as practical as possible. The aim was a better understanding of the fundamentals underlying the work on golf greens.

Grasses for greens and the care of the turf received a great deal of attention each day of the course. This was ably handled by John Monteith, Jr., of the Green section. He discussed in particular the advantages of using certain kinds of grasses for fairways, tees, and rough, and he emphasized especially the proper mowing of greens, its importance in maintaining a well-kept course, and its relation to the game. This phase of the work was supplemented by G. W. Mortimer of the Agricultural College's agronomy department who explained the principles of grass development and factors that affect the character of turf. L. A. Graber of the same department spoke on how proper and improper cutting affects the health of grass. To

(Continued on page 124.)

of Science and Practice Maintenance Methods

1931 season saving of hundreds of thousands of dollars in golf course budgets. These school sessions are proving a big factor in ironing out a number of conflicting opinions in the fields of turf culture and maintenance methods, and by facilitating the exchange and appraisal of information between studious green-

keepers, in assisting in the identification and elimination of unsound practices.

In almost every case the short courses were attended so well that the matter of restricting attendance is one of the problems confronting those who will conduct the schools next winter.

Fine Varied Program Given at Penn State

EIGHTY-FOUR men interested in fertility problems of fine turf grass management gathered at the Pennsylvania State college for the third annual Greenkeepers' conference February 25 to 27. More than 60 clubs were represented. Last year there were 55 representatives of 42 clubs in attendance at the conference.

The conference opened February 25 with an address of welcome by Dean R. L. Watts, of the School of Agriculture. Joseph Valentine, of the Merion Cricket Club, then gave the report of the Pennsylvania Fine Turf Research committee. This was followed by a progress report on research projects at State college, presented by Professors C. O. Cromer, J. W. White, and H. B. Musser, of the department of agronomy.

Relation of soil types to management was the topic Thursday morning. Professor A. L. Patrick, of the department of agronomy, chairman of the conference, talked on soil types. He discussed the outstanding physical and chemical characteristics of the important soil groups in the state. Professor F. G. Merkle, of the department of agronomy, told of the importance, functions, sources and maintenance of organic matter. He was followed by Wendell P. Miller, Chicago, who discussed drainage and irrigation. Professor Merkle and County Agent C. K. Hallowell, Philadelphia, next told of the nature, cause, effect, and extent of soil acidity.

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Massachusetts Conference Has Attendance of 200

AT THE closing session of the M. A. C. conference, Francis Ouimet, former national open and amateur golf champion, characterized the low handicapped golfer as temperamental as a prima donna. "Unless the golfer gets away to a good start, his whole round for the morning is spoiled," says Ouimet, "and he has to blame somebody or something and generally picks on the condition of the green."

Approximately 200 golf course managers, greenkeepers, and golf enthusiasts were registered for the conference which was prepared by members of the winter school for greenkeepers at the college. All members of the school, with the exception of five students from the two-year course of the college, were greenkeepers or golf course managers. Connecticut, Illinois, New York, Minnesota, and Iowa are states outside of Massachusetts which were represented in the school. When the school started five years ago it was the first one of its kind in the country and due to lack of laboratory facilities and other factors it is necessary to limit enrollment.

Exhibits and Speakers at M. A. C.

Numerous exhibits in regard to golf maintenance and golf course machinery were prepared by members of the class. The speaking program included "Testing of Seeds and the State Seed Law" by F. A. McLaughlin of the control service at the

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Treating Decay Is Job That Highest Talent

By MARTIN

This stately red maple started to decay. A limb, sawed off years ago, was improperly treated. Nature struggled valiantly to heal the wound, as shown by the callous growth, but red fungi attacked the heartwood and decay started.

ON ALMOST every golf course there are some trees which are particularly valuable, either because they beautify the clubhouse or because they are growing at strategic points. Such trees deserve the most careful attention and good business demands that they get it. They should not only be pruned, fed, and kept free from pests but they should also be examined for cavities caused by decay. If the tree surgeon is called in time, the cavities can be treated and the tree saved; otherwise, the decay will spread and ultimately the tree will be destroyed.

Some persons believe that decay in trees is caused by the wood ants, grubs and beetles which crowd and squirm when the cavity is opened and they are exposed to the light of day. This, of course, is not the case. These dwellers in the decayed wood are classed as scavengers and they merely live on the wood which already has been partially broken down and destroyed by rot fungi, a low form of vegetable life which tears down and consumes other forms of vegetable life.

Cause of Decay.

As I explained in a former article, the fungous growths at a certain time of the year produce fruiting bodies resembling toad-stools. These fruiting bodies, in turn, produce a multitude of tiny microscopic seeds called spores. The spores float through the air and many of them fall to the ground and perish. But some find lodgment in open wounds in trees and start their work of destruction.

Once established in a tree, the fungi send

**President, The Davey Tree Expert Co.*

