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CHEMICALS INDISPENSABLE
TO INDUSTRY AND AGRICULTURE

Grub Identification Important Factor in Control with DDT

By O. J. NOER

Because of the publicity accorded DDT, one may be inclined to believe it will control white grubs of all kinds. Apparently this is a misconception and should be corrected.

At the Cornell Turf Conference in mid-March, the entomologist of that state recommended DDT, Chlordane, etc., for white grubs of the Japanese, the Asiatic, and other annual life cycle species of white grubs, including the annual type June beetle grub. They supported the contention that 25 lbs. per acre of actual DDT would give control for three years at least, and possibly longer. They stated that these materials were less effective, and possibly not the answer for the May or June beetle grub, two or three year cycle, genus Phyllophaga. This is the grub frequently encountered in the Midwest and in many other parts of the country.

In view of the statements made at Cornell, it was believed advisable to obtain the views of other entomologists. Letters were sent to various federal and state workers. In their replies they supported the stand taken by New York investigators. Their comments are interesting and worthy of repetition to help clarify a confusing situation.

Professor Ray Hutson of Michigan states, "I agree with the Entomology department at Cornell that DDT is not effective against the June beetle grub. I think the confusion in this connection has arisen because of the fact that DDT is effective against Japanese which has a similar grub. However, the information is clear that DDT cannot with the present information be recommended for the control of white grub."

Dr. George C. Decker of the Natural History Survey Division at Urbana, Ill., advised that they did not have first-hand information and suggested contacting Dr. Ritcher of Kentucky and Dr. Packard of the U. S. Department of Agriculture.

Dr. Paul Ritcher of the Department of Entomology and Botany at the University of Kentucky made the following statement: "I have your letter of April 16 in regard to the control of white grubs of the genus Phyllophaga. Last year I compared Chlordane and benzene hexachloride emulsions for the control of grubs in bluegrass sod. Against small grubs (second stage) I got 80 per cent kill with BHC at the rate of 2 lbs. of gamma isomer per acre and chlordane at the rate of 5 lbs. per acre. The materials at these rates were not nearly so effective against large grubs (third stage) giving about 55 per cent kill with BHC and 37 per cent kill with Chlordane. No injurious effects were observed on the bluegrass.

"Such tests as I have made so far are on a very small scale and I should hesitate to go all out in recommending these materials until they are further tested. This season I am planning some large scale tests with larger amounts than those used last year, namely up to 4 lbs. of the gamma isomer of BHC and 10 lbs. of Chlordane. For the present we are still recommending lead arsenate for grub control."

Dr. C. M. Packard, in charge of Cereal and Forage Insect Investigations for the Bureau of Entomology and Plant Quarantine, U.S.D.A., made this statement: "In reply to your letter of April 12 concerning the use of DDT for control of the June beetle grubs in turf, I regret to say that we have very little information on the subject. The results of our very limited small-scale laboratory experiments with DDT for this purpose have been rather unfavorable, but we have not been in a position to conduct any trials under field conditions."

Dr. C. H. Hadley in charge Japanese beetle investigations for the U.S.D.A. at Moorestown, N.J., wrote as follows: "I have your inquiry of the 12th regarding the effectiveness of DDT for controlling white grubs of three-year life cycle species. We have not had any opportunity to work with this type of grub. Our work is primarily with the Japanese beetle, a one-year species, and several other native white grubs available locally as we have opportunity. Those that we have tested among the native species are also one-year species.

"I would be inclined to accept the opinion of Professor Hutson of Michigan and the Cornell people. I know that the Cornell people have worked with native species having two and three-year life

(Continued on page 95)

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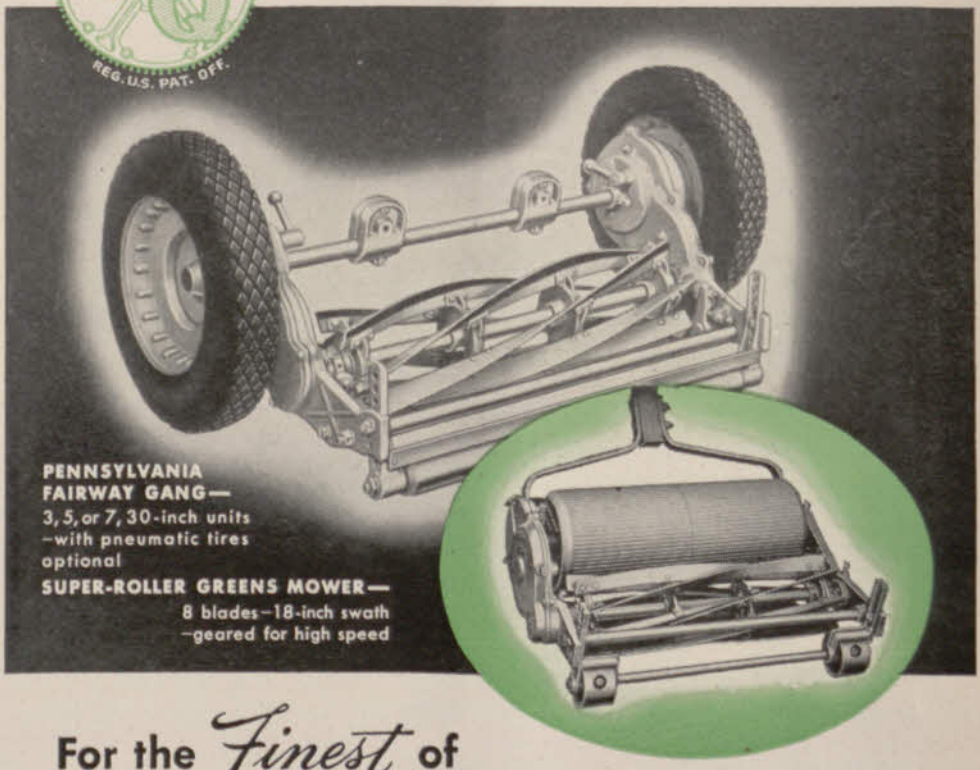

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Caddymaster is Mainspring of Caddy Management Plan

By JOHN G. HUBBELL

Bob Urista, caddymaster at Superior CC (Minneapolis dist.), feels that too many kids look upon the golf course as a place where drudgery is expected of them. Since their youth does not permit them to seek employment elsewhere, they carry a heavy bag in the hot sun for three and a half or four hours. The only things too many of them know about the game are a few vague caddying rules, which start out with such phrases as "Don't do this" and "Never do that." Urista points out that the success which attends a caddy's job is greatly dependent upon the caddy master. A number of clubs badly underpay their caddy master. As a result, the caliber of man who takes the job at those clubs is often low. He frequently devises ways and means of exploiting the caddies.

Facilities offered caddies by many clubs are often of such character that they tend to lower morale. Urista can cite certain editions of caddy rule books wherein it is suggested to clubs that they build "pens" —steel fences with barbed wire around the top—from which caddies should come one at a time as their numbers are called.

"Why treat the kids like animals?" asks Urista. Why not treat them like the individuals that they are? Why herd them into a pen together, where young kids can read dirty books, listen to older guys cuss, and maybe show off by having a cigarette or two?"

Most clubs employ the "A" and "B" caddy system. The older, or "A" caddy, gets a higher rate of pay than his younger colleague. Usually he gets the club's best tippers. The "B" caddy gets less pay for the same amount of work, frequently for the worst tippers and crabbiest members of the club.

Those are the indictments against today's caddying system by Bob Urisa. Their psychological effect on youngsters of caddying age are obviously bad.

Caddy Morale Lowered

Where dictatorially worded rules are involved, a cynical "to-hell-with-it" attitude is aroused. Where exploiting caddy masters are involved, a deep-grained distrust of human nature is planted. Where the "A" and "B" system, crabby golfers, and tipping are involved, dissension is created among the kids. When you put it all together, it adds up to nothing good for the game or the kids.

Urista has organized the "Tiny Karpets," a boys golf club on Minneapolis' northeast side. The club is made up of kids 10 to 15 years old, and its purpose is to provide Northeast's Edison high school with golfing enthusiasts.

For the past two winters Urista has schooled the "Tiny Karpets" in the fine points of caddying and golfing. He spent an hour each Saturday morning teaching the kids golf etiquette. When that hour was over, another was spent teaching them how to play the game.

"The kids were carrying bags through the snow when it was 15 below zero," says Urista.

"A member," he explains, "spends more time with a caddy than with any other employee on a golf course. Yet, the least amount of time is spent teaching the caddy to do his job better."

Eight Basic Requirements

Urista has written a caddy's manual in a language the kids don't mind listening to. It consists of eight different sets of lesson:

1. The caddy's duties toward golf equipment.
2. The caddy's conduct while on the course.
3. The caddy's duties on the tee.
4. The caddy's duties on the fairway.
5. The caddy's duties in rough and hazards.
6. The caddy's duties on the green.
7. A study of the rules of golf.
8. Caddy requirements: What the caddy must know before active employment.

He has done an admirable job of writing these lessons. There is nary a "Don't" or a "Never" in the eight sets. They are set forth thusly:

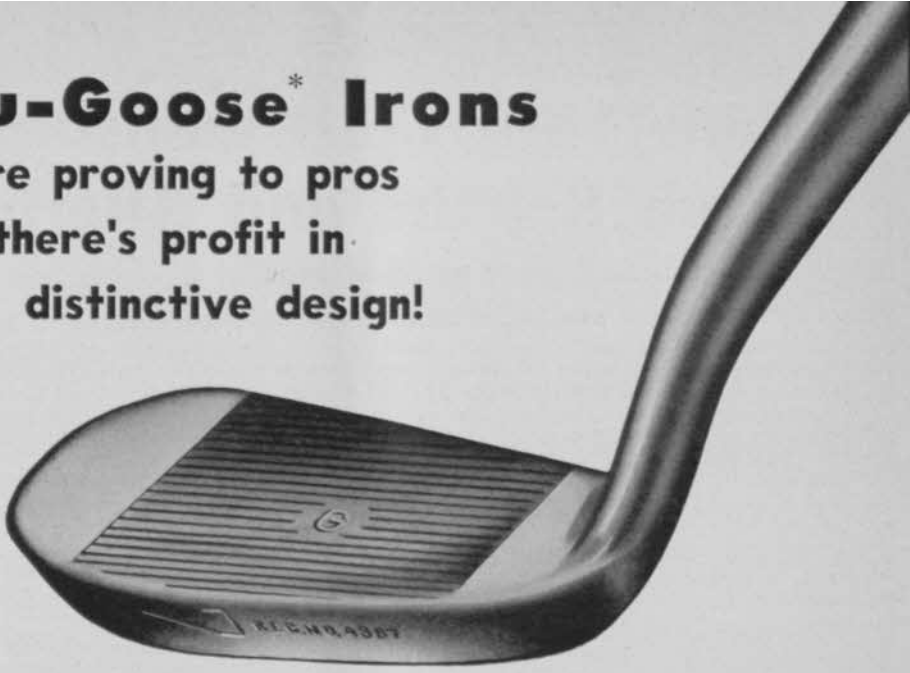
"A good caddy keeps his player's ball washed. By doing this, he lessens the chances of losing the ball, and builds up his player's confidence in him."

"A good caddy learns the make of his player's ball and its identifying marks.

(Continued on page 96)

Tru-Goose* Irons

are proving to pros there's profit in distinctive design!



The golf professional has a difficult selling job.
He stocks several excellent lines of clubs which, to the prospective buyer, look quite alike.

What he needs, to put more life and power into his shop sales appeal, is a top grade line of irons so strikingly different and logical in its design that it is bound to catch and hold the interest of the players.

Pros everywhere are finding real selling power in the distinctive, commonsense design of the new Tru-Goose irons.

Their players can plainly see how the Tru-Goose design makes it easier to line up their shots . . . . see why Tru-Goose design makes it easier to play shots off the left foot and get the ball-turf contact that crisply gets the ball away. And the word fast gets around that you hit through the ball better with Tru-Goose irons.

Tru-Goose irons are so distinctive they stand out from all other irons in the pro shops. Their distinctive design helps you make sales . . . and improve your players' scoring.

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Tru-Goose design was extensively tested in use, before final approval of design and application for patents, by tournament experts and average golfers. Tests were made under supervision of Golfcraft advisory staff including Ralph Guldahl, Fred Haas, Jr., Joe Kirkwood, Bob MacDonald and Mike Brady.

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TRU-GOOSE IRONS and WOODS are precision-made by GOLFCRAFT in the World's Largest, Most Modern Plant Devoted Exclusively to Golf Club Manufacture.

Show Your Craftsmanship in Club Repairs and Altering

By JOHN BUDD

Professional, En-Joie Country club, Binghampton, N. Y.

Professionals know how slow and costly it is to get club repairs made at factories. We know too that the repair business is something on which the manufacturer does not make money and which requires the services of good men who are needed in manufacturing operations. The repair business is a headache all around.

There is one way to cure the trouble and to make an asset of what now is a liability, or at least, a nuisance.

We can be top workmen in our own shops. That's the answer.

I know what the conditions are governing assistants and that when a pro can get ambitious and otherwise desirable assistants the lads usually have to be trained from the beginning on club repairs. That's one of the important phases of their training. By knowing club design and construction they become better salesmen and users of clubs.

However there has been a tendency to completely disregard this phase of work and education in the pro shop.

Who will quarrel with George Sayers' methods or products, or those of Chuck Tanis, or Charley Smith or any one of a dozen more? These fellows know golf clubs and club-making. We hear some hot arguments about what defines club-making. Well, that should be easy. If we are properly trained to do top drawer repairs, we could assemble a set of clubs that would be more than passable. That sure holds true for my two assistants. Maybe not so fancy, but the clubs would be playable. Since I trained them; I know I can also make clubs. There's more profit in factory-made clubs, so I wouldn't be interested in making clubs in my shop. Repairing or altering is different.

Good repair is an outstanding service to members and to all customers. A player walked from my shop today as happy as a lark. He is 5 ft. 2 in. in height and needed a flat lie in his set of clubs. The clubs did not necessarily have to be short; but flatness was his need. He waited in my shop while I adjusted a new set of high priced irons to his individual need with my Ellingham bending fixture. He was overjoyed and his results on the course proved better than he ever dreamed of. Philip Zeilic is now a happy and satisfied golfer and a good customer and booster for me.

Distinguished By Experience

Experience in our shop qualifies us to stand head and shoulders above any store you can name. We can back up what we say and adjust clubs and make minor repairs in a way that will win us friends and save us customers too.

Our club champion came in the shop a few nights ago and wanted his clubs adjusted for loft. He was not quite satisfied with the distance of some of his irons. Again the bending fixture gave his irons that new "goose" look and at the same time saved him time. He did not have to wait for his set to go to the factory. Many times I have bent putters for this same Phil Di Orio, who holds our workers' and club championship.

Some small gripping jobs save a world of our players' time. We keep plenty of gripping supplies on hand and can do most of the average jobs. We have benefited greatly from Kenneth Smith's new stuff and use it extensively.

At our golf course where 40,000 rounds of golf are played a season, the repair work leads to many prospects for new club sets. The player comes in and talks over his problem with us and sometimes it develops that he is interested in new equipment but has been hesitant in asking about it. So, our repair service acts as a prospect gatherer.

Why quibble about nickles and dimes on windings? Doing these simple jobs can be the greatest of all interest builders and good will gestures. The player is waved on his way when he offers to pay for a small grip winding in our shop. We think this is good business and a very useful service. It is one way we use to advertise our shop.

Craftsmanship As Advertising

Most Americans admire skill in work or play. This holds true in the golf shop. Most golfers are like fishermen and hunters; they love their gear and trappings. They like to fiddle around with golf and they love to watch the other fellow do a

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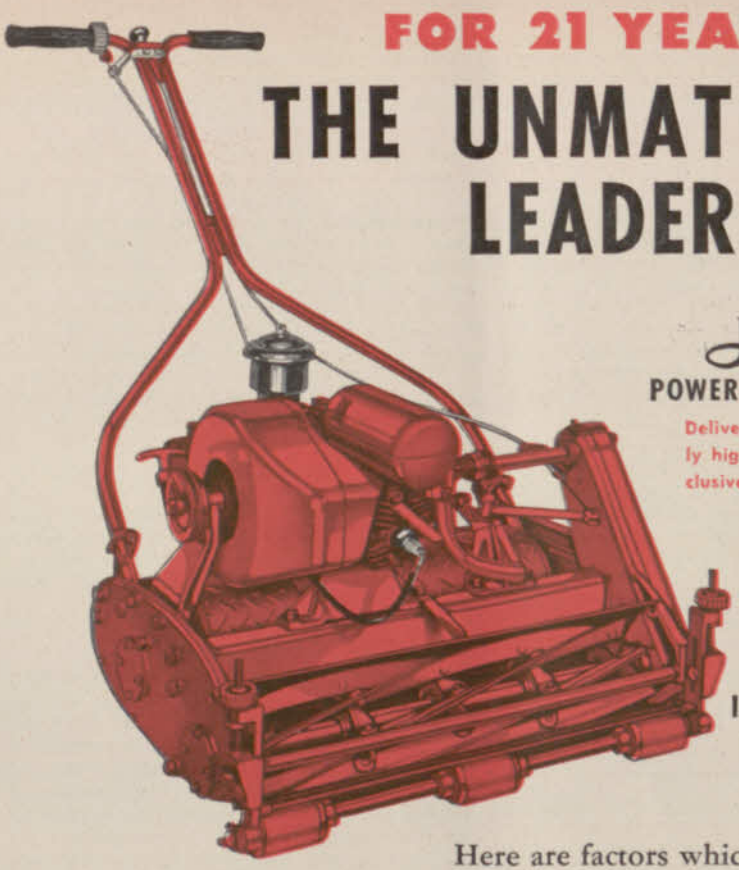

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- Jacobsen Power Greens Mowers cut bent greens finer and more perfectly than any other type of equipment — hand or power driven.
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- Three Jacobsen Power Greens Mowers can cut 18 average greens in 3 hours.
- Golf courses using Jacobsen Greens Mowers have saved as much as $1600 *in a single season.*

Combine exceptional economy with top-notch greens maintenance — equip with Jacobsen Power Greens Mowers now. See your Jacobsen distributor or write direct.

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job on a club. We gather a good gallery any time we have a delicate piece of shop work to do. Many of our players think Bill Dennis, my expert shop assistant on repair, is a wizard when he finishes a particularly exacting repair job and the work turns out good. These fellows are skilled workmen themselves and admire skilled work on their golf equipment.

I train one of my men as a specialist on repair and clubmaking. The other one, Joe Zeilic, must also keep right up to the mark on his repairing. After all, some of these days he may step out on a job of his own. Then he will bear my stamp of training and I want that stamp to be complete. He must be a capable repair man and he is.

Through the years, many professionals have added to my knowledge of club making and repair. Fred Haskin, amiable and successful mentor at Country Club of Columbus, Ga., took me into his shop for several days of instruction. Fred was a master at this part of his trade. His work was admired throughout our country and overseas as well. Fred was probably the last man to drop hickory shaft work on iron clubs. He trained Carey Ritch as his specialist on clubmaking and happy little Carey could do a real job. I still look back to the days with Fred and know that much of which I know today came from that tutoring.

George Norrie, Idle Hour Club, Macon, Ga., showed me a great deal about finishing wood heads. He was a stickler for fine preparation of the surface before lacquering. This idea was confirmed during my many long talks with that great Jersey pro, Jack Beckett, formerly of Yountakah CC, Nutley. Jack was precise in his methods and always admired the deep lasting finish on the woods.

Along the way I learned that a bit of pitch under the winding on wood head necks would insure a close holding whipping. An easy way to reinforce a softening wood face is to drive many, many grip tacks right into the face. We have some rent woods with this treatment that have seen years of service after the surface started to give away.

Repair Tips

Cork listing has proven best for under gripping. For a good holding grip, firm black pitch is good or the Kenneth Smith grip adhesive is also used; beware of using too much of the adhesive under your grips. Spalding rubbing compound does a neat job on cleaning sheath shafts. We use a heavy needle to clean the cross slots in Phillip's screws so that we can remove them from old woods. We immediately replace a screw if the shaft is slightly loose. We discourage our players from using hand force to test the head and shaft connection; usually they can work this into a good loud click in a few tries.

Wood heads are dipped in a pail of lacquer and we learned from a furniture manufacturer that a good brush to sweep off the excess gave a dandy job. Good old shellac seems to hold longest on whippings, but lacquer does a good job and looks slicker. We keep the Ellingham repair kit handy and find many uses for these tools. If a player has trouble with the sole plate of his woods we find that good steel screws, slightly oversized, will hold well and do the job. We have wondered why there aren't more and better screws in the faces of some woods. Many give way because there are three instead of four.

The trick weighting under some wood club plates give us a headache. This work is tedious but pays off when completed. Usually such a club is a favorite that has been given plenty of use, and when it goes bad on a July afternoon the player is frantic to get it in order before his next game.

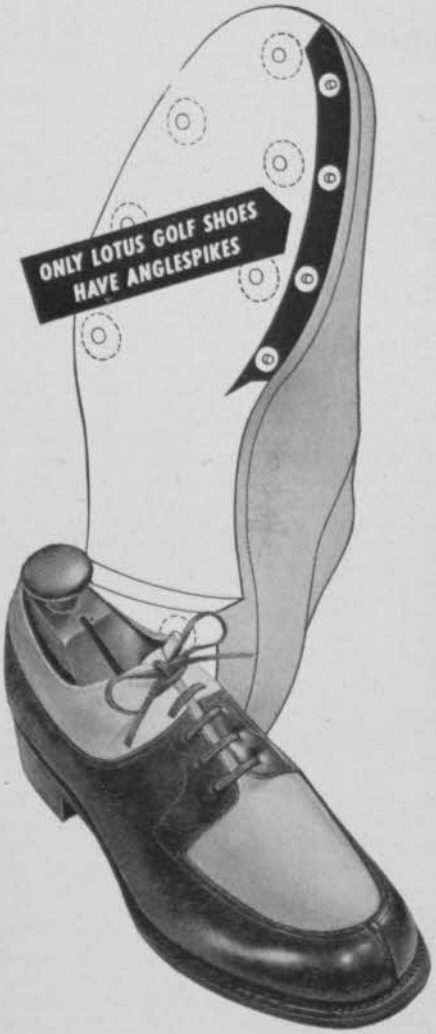
We use the Lorythmic scale and find it very handy. In matching clubs, we use flattened buck shot to match the clubs on the scale, making sure that screws and plates are attached so that complete weight is taken. Then if four buckshot are needed, we bore a hole in the bottom of the clubhead and drive in four buck shot. We bore a hole just large enough to take the shot and drive them in with a very blunt punch. It is necessary to pad the head so that no damage is done to the finish. If more weight is needed we bore a larger hole, set a small screw in the bottom to anchor the lead in place and melt the lead into the head. For melting we use a regular lead ladle that is rather small and a GI type of gasoline stove as made by Coleman. If you have regular gas in your clubhouse you can go to the kitchen and melt lead, or have a simple burner placed in your shop.

We use Form-A-Coat to cap the grips and use the regular kit of cellulose tape to replace the fancy factory-like covering on lower grip whippings. These things dress up your work and surprise your customers and members.

Most of our club cleaning has gravitated to club washing with a bucket of water and some good detergent cleaner. Be sure the cleaner is not harmful to the hands. A quick trip into the water is ample for the woods and they will then wipe clean and bright. The irons can stay in the bath longer and then be wiped dry and into the bag.

ANGLESPIKE GOLF SHOES

by LOTUS



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Cadmium is Base of New Method of Dollar Spot Control

By H. W. THURSTON, JR.

In theory there are three possible ways by which diseases of fine turf may be controlled.

1. By growing disease-resistant strains of grass.

2. By regulating environmental factors, such as moisture, acidity, fertility and vigor of the grass in such a way that these factors favor the grass, and are unfavorable for the disease producing fungi.

3. By the use of fungicides, i.e., chemicals designed to kill or inhibit the disease producing fungi without injury to the grass.

In actual practice on the green, the greenkeeper is seldom able to rely on either of the first two methods. His choice of varieties and strains of grass is usually dictated by considerations other than disease resistance alone. Even if he attempts to take disease resistance into account, he finds no grass that is resistant to all of the common diseases. If he chooses a strain for resistance to dollar-spot, he will probably find it susceptible to large brownpatch, or vice versa and thus he is forced to consider other methods of control.

The regulation of environmental factors can frequently be of great help and value in reducing the severity of attack or warding off an attack of disease. For example, where some simple factors such as soil acidity can readily be changed by the judicious application of a little lime, we may discourage a fungus such as the one responsible for large brownpatch which prefers an acid soil. The temperature factor, which is an important one so far as fungus diseases are concerned, is usually beyond control, and moisture, especially the humidity of the air, is more dependent on the weather than on artificial watering. All of this amounts to saying that in spite of everything else he may do the greenkeeper is usually confronted with the necessity of using fungicides to keep grass diseases under control.

No Control Yet for Some Diseases

Disease control thus becomes a problem of what chemical fungicide to use and how to use it. Unfortunately there is no single chemical which may be applied to fine turf that will prevent or control all or even a majority of the known disease producing fungi. In some instances several chemicals are known which will more or less satisfactorily control certain diseases. For other diseases chemical control is indifferent at best and for a few diseases such as the Helminthosporium leaf spots and "melting out" disease, no chemical so far tried offers much hope of success.

Prior to the war, mercury in some of its forms was almost the only chemical fungicide used on turf. In the familiar calomel-bichloride mixture, and less frequently in some of its organic combinations, it was for many years relied upon for the control of such diseases as dollar-spot, large brownpatch and snow mold. Against these diseases it was and is quite effective, but has always been somewhat tricky to use especially in hot weather, since it frequently retards growth of the grass, and produces an undesirable yellow color, from which the grass is slow to recover. When improperly used, its effects may be almost as bad as those of the diseases it is designed to control.

The war brought about shortages of mercury, which together with high prices threatened to leave the greenkeeper helpless. The chemical industry, however, came up with tetramethyl thiuram disulphide which came into widespread use during the war years. Experience has since shown this chemical to be less effective than mercury for the control of dollar-spot, although it is considerably safer so far as injury is concerned. For the control of large brownpatch, however, it is probably the most widely used chemical today, and has the added advantage that it can be used to fortify reduced dosages of mercury, and thus eliminate some of the danger of injury.

When weather conditions are highly favorable for large brownpatch as they were in 1947 throughout the Eastern United States, the inadequacy of mercury fungicides and of the improved material for the control of this disease became noticeable.

For the past two years the fungicide testing programs of the Pennsylvania and Rhode Island Agricultural Experiment stations have focused attention on two