

# Some Hints on Maintaining TRAPS and ROUGH

By G. A. FARLEY

THIS article is an excerpt from Mrs. Farley's forthcoming book on greenkeeping. The author has been associated with greenkeeping work since 1922 when she started with the Cleveland District Green Section as secretary.

In this capacity she compiled the popular greenkeepers' correspondence course which was given further circulation when she became associated with the National Association of Greenkeepers.

Mrs. Farley is a versatile and successful business woman and has applied her lively industry and talents to a noteworthy job of gathering the ideas and methods of leading greenkeepers for the manual of greenkeeping which will appear in book form in February.

WHEREVER the type of hole and surrounding slopes allow, the faces of modern traps show a gentle slope from the fairway edge up to the cop. Such traps are natural in appearance, and keeping sand on the surface is an ordinary job for the greenkeeper, not a real problem.

The "cop" or side and back of a trap is that portion which extends from the rough and sometimes from parts of the fairway to the top edge of the face, which face fronts on the fairway. The cop should be gently sloping down to the rough or fairway, not only because they are more beautiful built that way, but because such cops may be easily and smoothly cut with power mowers.



Dr. Willing plays from a tough, natural trap at Pebble Beach. Natural details reduce maintenance.

Traps which are set into a high bank present two particular problems to the greenkeeper; the first, that of keeping the edge over the face from breaking down under the weight of the mowers, and the second, that of keeping the upper surface of the face covered with sand.

Sometimes the face of such a trap is so nearly perpendicular for a foot or so down from the top that sand will not stick. In such cases turving the upper surface down to where a sanding surface can be held is recommended. It should be understood by the greenkeeper that the entire face of any trap should be free from pits and any unusually long growth of grass, as either may prevent a ball from rolling back into a position from which it can be played.

Keeping the top edge of the face from breaking down is best assured by "revetted" with strips of sod. This consists in placing one strip on top of another all around the edge to a depth of about a foot, with the top sod cut double the width of the sods placed under it. This extra width of the sod which forms the top edge of the cop surface is allowed because of the strength it lends to the entire job, by knitting into and becoming a part of the surrounding turf surface well back of the revetted edge. The quick knitting of the top or finishing sod to the surrounding turf and the sods and soil below is assured, providing it is cut not more than an inch thick, fertilized, topdressed and kept watered until new root growth is established.



Tight trapping on a one shot hole. This is No. 12 at Fresh Meadow. You're either on or else.... Costs money to maintain these frequently used traps properly.

The ruling in favor of the golfer as to "casual water" on a golf course *does not apply to that found at any time in a sand trap*. The golfer is forced to make his shot from whatever spot his ball lands in a trap, whether in water or not. Wet traps cause a lot of complaints, which may be avoided only by particular attention to their drainage problems and by preventing water from higher slopes flooding the trap surface.

### Drainage of Sand Traps.

Leading surface water away from its natural course down a slope, at the bottom of which lies a sand trap, is the only way to prevent flooding the trap during a severe rain. This can be done by establishing grassy hollows, (or in extreme cases, open ditches) so laid out that flood waters are distributed over a larger area where they are absorbed out of the line of play.

After even a hard rain, a sand trap should drain so efficiently that water disappears almost immediately from the surface.

Sometimes traps are so placed that they present problems which can be solved only by a competent golf drainage engineer. Particularly so when it is desired to carry the excess water from the trap through tile connected with the main lines of the course drainage system.

A method of special drainage followed by the greenkeeper on what is called a "hard clay" course, has served his pur-

pose in keeping the traps dry, as well as distributing the excess water underground where it is eventually taken care of by the lines of tile in the fairways. He lays tile six inches in diameter lengthwise of the low area of the trap, at a depth of two feet, carefully sloping the sub-soil down on each side of the trench to the tile line. The trench is then filled with slag or pea gravel to within four inches of the surface which will later form the bottom of the sand coat to be applied. This final four inches is filled with strips of sod cut from an area of well-rooted grass, placed upside down along the trench. Through such a sod the water filters down to be carried away by the coarser material and the tile, without loss of "facing" sand. The sod remains as an active and effective filter for a period of some years, and also prevents the coarse material from working up into the sand coating which is spread to face the trap.

### General Maintenance of Traps.

The rough contour of the trap should be raked after such drainage has been installed, and left to settle before applying the sand coat. Scanty coverings of sand on the face of a trap are difficult to keep in order, and quickly become mixed with any loam which may wash down from a somewhat perpendicular surface above.

From four to six inches of medium coarse washed lake or sea sand spread over the face gives a surface that can be

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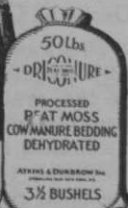
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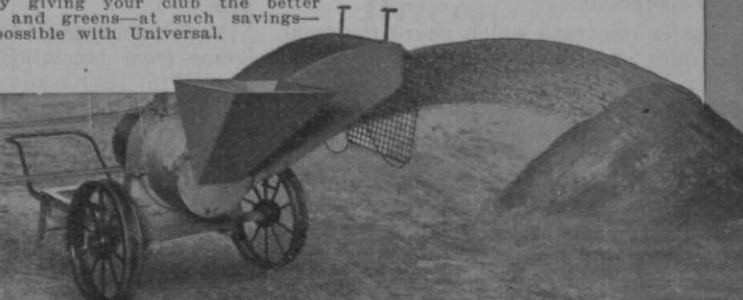
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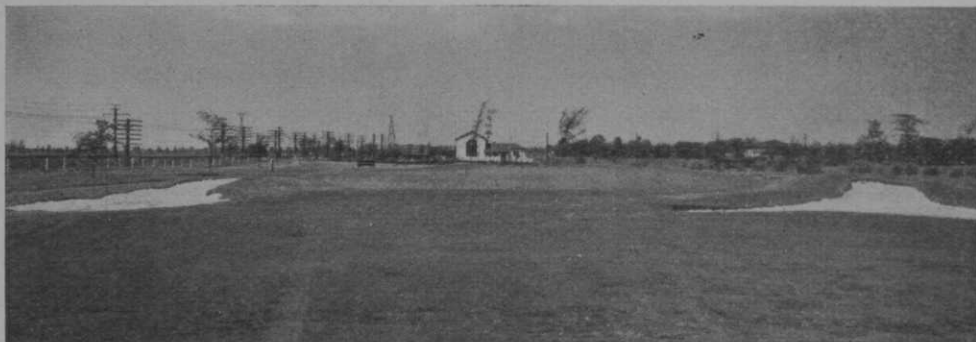
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No. 1 green on Fourth Course at Olympia Fields. A par 5 hole with fairly wide entrance. Note how trap at right calls for daring shot if player shies from out of bounds at left.

maintained with the least amount of labor. Sand that is so fine that it is easily blown about by the wind should not be used and neither should ordinary bank sand which contains loam and crusts over when dried out after a rain. Sand of a quality which is ideal for traps is sometimes hard to get, but a greenkeeper is amply repaid for his trouble in seeking out a satisfactory source of supply, and particularly if his course is what is termed "well-trapped."

Special rakes and drags, all designed to keep the sand surface broken up and ridged for fair play, are still another example of the forethought and service with which the manufacturer has anticipated and filled the requirements of the greenkeeper. Sand traps kept with these special tools present a handsome appearance, which is to be desired at all times, and which make efficient the work of obliterating footprints.

Besides the traps which guard the front and sides of greens, sometimes there are grassy hollows and mounds placed back of the green to catch a ball which is over-shot on the hole. These should be cut as the rough, of which they are a part.

Sand on the faces of traps should be kept renewed as well as constantly raked, and this should be done whenever the surface shows a tendency to cake and crust over after drying out. Usually it is only necessary to add two or three inches of fresh sand to the surface, except where severe washing has brought down a large quantity of loam which has mixed with the old sand and filled in the surface to too high a level. At such times, it is sometimes necessary to re-establish the contour by removing or distributing the

soil and sand, upon which a fresh supply can be applied.

### General Care of the Rough.

The rough on a golf course has often been likened to pasture areas, but if ideal in the eye of the average golfer, a cow would require considerable "hand-feeding" if confined in such a pasture.

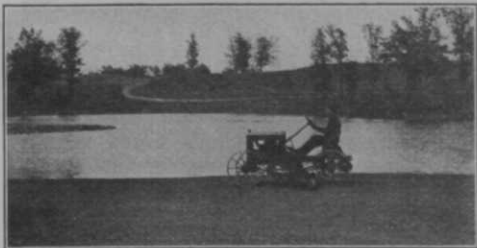
Sparse, tufty growth is encouraged in the ideal rough, and more frequently than not this area is left to the attention of the greenkeeper in exactly the same condition as when found by the contractor who built the course. While the builder may have taken out some roots and stones, it is quite likely that these attentions were devoted to a very narrow strip around the fairway.

The impression that a rough can't be too rough is a bad one, and one which is not entertained by experienced greenkeepers.

Regular mowing is necessary to keep the grass from becoming a hayfield, and to cut off the seed heads of the coarse grasses and weeds that would be otherwise blown onto fairways, greens and tees by every passing wind.

A bumpy condition of the rough is hard on the mowers, and creates too unfair a hazard for the golfer.

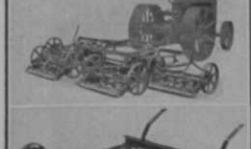
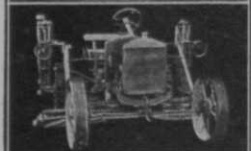
Where the land devoted to rough on a new course is uneven and full of hillocks, peppered with stray bushes and gouged with wagon ruts, weeds are apt to be the main crop, and it is an ideal rough to burn over, turn over, and plant with sheep's fescue or a mixture of sheep's fescue and Canada bluegrass. A few pounds of sweet vernal added to any mixture of seed intended for the rough adds a note



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of interest whenever the rough is cut, as the perfume from this type of grass is enjoyed by both players and workers on the course. It is, like fescue, a tufty grower. If it seems unnecessary to plant the entire area of rough, that which lies within 30 to 35 yards of the fairway should receive the attention of the greenkeeper, and soon.

The usual procedure of plowing, harrowing and smoothing, after large rocks and roots have been removed, is followed by seeding at the rate of approximately 150 pounds of seed per acre. No fertilization is required prior to seeding ground for the rough, as a sparse growth is to be encouraged.

The length at which the grass of an established rough should be cut depends upon conditions of weather, thickness of growth, and whether or not there is a preponderance of fast-maturing weeds growing thereon. Specific directions for keeping the rough at the proper height are impossible to give, but it is safe to say that whenever it gets too high the greenkeeper hears about it. If it is unfair in any way for play, such criticisms soon reach his ears, and allowing the grass in the rough to mature and spread seeds of

coarse and weedy growth over his greens, tees and fairways is a gross neglect of duty.

Sometimes fairway mowers set to make a high cut are used for the rough. Special equipment of various kinds for cutting this surface is now on the market and available to most greenkeepers.

Roadways over which the equipment for maintaining the course is moved occasionally become deeply gouged and rutted. Such roads and paths in and around the rough should have the attention necessary to keep them within reasonable level of the surrounding area. A ball landing in a deep wheel rut is many times practically unplayable. Some bare spots are unavoidable, but holes and deep ruts should be kept filled up.

Burning the rough over in the fall is a good practice, as it is an economical method of killing out weeds, and does no harm to the grass. Weed seeds in tremendous numbers are scattered all over the course by winter winds, and where there is heavy weed growth in the rough, such burning cuts down to an appreciable degree the time and money spent on weeding the playing surfaces after growth starts in the spring.

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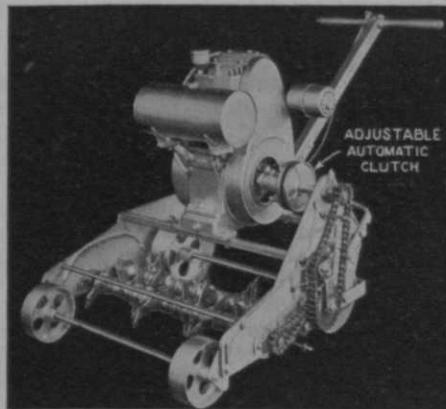
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# ANTS and WEEDS as Next Greens Research Topics

**M**ANY letters are received by GOLF-DOM in a year's time from greenkeepers and green-chairmen asking for assistance in solving innumerable problems connected with the growth and maintenance of fine turf. Discarding all other factors in connection with this correspondence, the fact remains that these letters are a pretty sound basis upon which to make a statement of the turf troubles besetting the greenkeeping fraternity during any given period.

During the past twelve months the bulk of these letters have asked for information with regard to two subjects, ant control and weed control. Needless to say there isn't much satisfaction in answering letters dealing with these two phases of turf maintenance for the simple reason that there is a dearth of practical information and control measures in each instance.

As a matter of fact, the control of ants and the great bulk of weed growth in fine turf are today the two outstanding, unsolved problems in greenkeeping practice. Ten years ago we had plenty of harassing, unsolved problems in the turf business including brown-patch and grubs of various sorts, to say nothing of the many uncertainties in connection with soil texture and fertility.

## Battle with Killers First

It is an axiom of industry that its research brains shall give priority to the most deadly and threatening of the industry's problems, with the less annoying puzzles being sidetracked for the time being.

It is fairly obvious why the Green Section concentrated on brown-patch research and poured a large portion of its funds

into this special project. Brown-patch is a *killer* of fine turf. It simply had to be conquered. There was no object in building and maintaining fine greens with this disease on the rampage, undoing in one night the patient work of months. Research on brown-patch control was consequently pushed vigorously by the Green Section. As a result of several years' expensive and intensive investigation the brown-patch problem was brought under control, thanks to Monteith and his co-workers on the one hand and the manufacturers of organic mercury compounds on the other.

In the same way the Green Section lent its aid to an intensive study of grub control problem in fine turf. Our native white grubs, such as the May beetle and June beetle grub have intermittently taken their toll on the fine turf of American golf courses. The advent of the Japanese beetle increased the white grub problem many, many times. It also gave rise to adequate government funds with which to conduct serious research of white grub control. The problem was ultimately solved by the use of arsenate of lead. Seven years of research were carried out on this grub problem and I estimate that the cost of this research ran somewhere between \$50,000 and \$100,000.

Nowadays we think of brown-patch and grub control as more or less routine jobs. In plain words, they are old stuff. I have no means of knowing how many pounds of mercury compounds were applied to fine turf during 1930, but the total undoubtedly runs high. A dealer told me a few days ago that he sold 200 *tons* of lead arsenate



in the Philadelphia district in 1930 for use on lawns and golf courses.

### Research Money Well Spent

Estimating that the total cost of the brown-patch and grub control research amounted to \$100,000 or \$150,000 it may be fairly said that the money was well spent. If you don't agree with me, quit using mercury compounds or lead arsenate for a year or two and then come to a decision.

Having laid these two primary *killers* of fine turf by the heels, we find that the various turf-research organizations have, during the past several years, more or less gravitated into casual experimentation dealing with comparative tests of various fertilizers and strains of grasses.

Maybe I'm wrong. If so, sue me. But if I'm right, then it won't be amiss to gently hint to the Thomas Edisons and Doctor Einsteins of the turf research racket that the ant problem and the weed problem are still with us and both going strong.

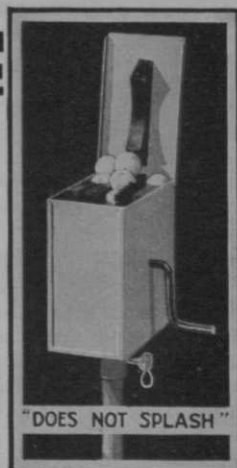
Of course ants and weeds are not what you would call turf *killers*. The green-keeper can live with both of them after a fashion but nevertheless they are both damnably annoying in the day of high pressure demands for de luxe greens and fairways.

I know of no method of actually controlling or cleaning up the ants which infest practically every golf green in the country and undoubtedly the solving of the ant problem presents many difficulties. It can be safely described as a tough nut to crack and naturally the research lads, handicapped by restrictions of time and appropriations, lay off it in favor of some easier job upon which they can base their annual report to the big boss.

### Ants of Two Groups

In the first place the various species of ants infesting putting greens are not all alike in their feeding habits. They may be roughly divided into two groups in this respect. One group feeds on animal matter such as worms, grubs and the immature and mature stages of the innumerable insect forms that hang around fine turf. The second group feeds on the honey-dew secreted by aphids.

Possibly it has never occurred to the average greenkeeper that aphids, commonly known as plant lice, are to be found in the fine turf of his greens, but it's a fact nevertheless. If you get down on your



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tummy with your eyes about six inches from the turf and examine same closely you will find all kinds of small, inconspicuous weeds growing in among the grass blades. If you carefully pick out these weeds and carefully examine them with a magnifying glass you will find aphids aplenty. These aphids secrete the honey-dew upon which the sweet-loving types of ants feed. Consequently there is sufficient honey-dew supply on almost every green to support plenty of this type of ant.

I have spent many an hour reclining on the turf of a green watching the ant population's activities and experimenting and observing its reaction to various sorts of food. Place a little dab of hog lard at one spot on the turf and a little dab of honey or syrup at another spot 3 inches away. Now lay back a little and watch closely. An ant comes along. Within about a quarter of an inch of the lard or honey, as the case may be, he stops dead in his tracks and elevates his feelers. If it doesn't smell good to him, he pulls away and goes on about his business. If the odor of the dab of food intrigues him he drifts closer to it and gingerly samples it. If it hits the spot, the ant stays right there and gorges on the food until he is full to his necktie and collar. Then he backs off and makes tracks for home. No doubt he tells the boys at home all about it, for pretty soon three or four more are on hand filling up on that particular dab of honey, or lard as the case may be and in a very short time there is a steady stream of ants coming to the dab of food and another steady stream heading for home.

In the meantime the same thing is happening in connection with the other dab of food so that in a reasonable length of time you can easily observe that both the lard and the honey are respectively at-

tracting the two types of ants and that both kinds of food are slowly being carried away to the ants' nests.

### Ants Are Fussy Feeders

After watching awhile you can spot an ant two feet away and by his appearance tell with pretty fair accuracy whether he will go to the honey or the lard. In other words ants are pretty fussy as to what they will and will not eat, and it is fairly obvious that this partiality as regards food renders ant control that much more difficult. I have heard men say that they cleaned up the ants in a green by feeding them poisoned syrup or poisoned honey, but this statement is open to question. They might possibly have cleaned up the sweet-loving ant species present but not those species preferring animal matter, for the simple reason that the latter will not go near the syrup.

Now if you go a step further in your ant research and place a little dab of honey and lard on the turf, said honey or lard containing a little arsenic or other poison you will note another peculiar reaction on the part of the ant visitors. Right away they become suspicious. They sample the poisoned food but they don't go at it with any enthusiasm, and pretty soon the poisoned honey or lard is virtually deserted as far as the ants are concerned. Anything more than the merest trace of poison in the bait repels the ant population automatically. In other words, ants are no dummies. They know their onions and you can't fool them.

Under the circumstances the mixing up of a batch of poisoned food for ant control is no job for the local groceryman, and I seriously doubt if the mixture concocted by the amateur experimenter ever decimates the ant population to any great extent. At most they have a tendency to re-

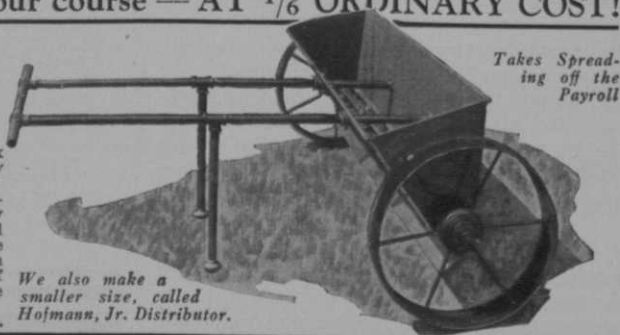
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