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Records Warn Mild Winters Mean Summer Turf Woes

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T IS ALWAYS wise for the greenkeeper to anticipate probable emergencies and prepare as much as possible to cope with them when they arrive. It is better still to prevent their arrival if you can. The sincere opinion of the writer is that we are facing at this time an exceptionally important need for such foresight and preparedness.

It is not the object of this article to encourage pessimism or to discourage green-keepers. To the contrary, it is intended as a warning suggestion. One can make a forecast based on facts known to precede serious golf course troubles—winter conditions preceding our most troublesome summers. I submit suggestions for artificially counteracting in part the effects of those conditions in order to avoid as many as possible of the usually resultant troubles.

Every greenkeeper who has experienced an unusually trying summer remembers similar summers in the past and the troubles most prevalent during those seasons, but I wonder how many have remembered or kept records of the outstanding peculiarities of weather or seasonal conditions preceding the development of these troubles. Those who have kept such records or have referred to the records of the weather bureau are probably aware of the tendency of serious golf course

troubles to follow unseasonable weather conditions.

Mild Winter Is Warning

Our most troublesome summers usually follow mild winter. No better example of this could be referred to than the record-breaking trouble producing summer of 1931 which followed the exceptionally mild winter of 1930-31.

Another instance that will doubtless be remembered by followers of golf was that of 1921 when the now well-known pest, brown-patch, was making its first very serious inroads on fine turf. Those who saw the Columbia C. C. course during the National Open championship tournament in 1921 saw the effects of one of the most severe attacks of brown-patch that has ever invaded the Middle Atlantic district. This exceptionally trying summer followed an abnormal winter. It has been the observation of the writer that such troubles as brown-patch, so-called "scald," insect pests, and stubborn reaction of turf to usually prescribed treatments are more in evidence, in the mid-Atlantic section at least, during summers preceded by mild winters than when the seasonal conditions are normal.

These observations lead us to the consideration of the lack of any real winter weather in many parts of the United States dur-



For aerating soil Fitts used this device at Columbia.

ing the months just past, and to anticipate a repetition of the troubles of last summer. We are confronted at this time with golf courses that are in practically the same condition they were the end of last summer. They have been played rather heavily during the winter and there has not been sufficient frost in the ground to break up the compacted mass of soil which resulted from traffic during the summer and which has been packed more severely this winter. Neither has the winter been severe enough to effect any appreciable kill of the insects which infest golf course turf. Where such conditions have prevailed during the winter, the resultant present conditions are bound to be troublesome if allowed to exist until summer arrives. Those greenkeepers whose courses have had the advantage of a normal winter and the usual winter's rest from play are to be envied for they have a much brighter outlook for the approaching summer than those of us who have had practically no winter at all.

These facts and predictions may seem discouraging, but they are nevertheless well founded and their consideration should help to convince us of the importance of early effort to forestall as many as possible of the probable impending troubles and to be prepared to combat those which we cannot prevent.

Now, how are we to overcome the unfavorable conditions resulting, both directly and indirectly, from the abnormal winter? An accurate and complete answer to this question is difficult, but it can be answered in part. Greenkeepers often find it necessary to employ some artificial means of aiding nature in her various functions pertaining to plant life. In many instances this necessity is brought about by the fact that in greenkeeping we often rob nature of many of her functions in our effort to produce something that is entirely outside of her local province. And we do this frequently by the use of methods contrary to her tendencies. In this particular instance, however, we are confronted with the problem of correcting a condition brought about by the lack of natural functions, and the most effective available means known at this time for correcting such a condition is that of tillage. That is: we must, by means of tillage, break up the packed and practically impervious mass of soil which the winter frost has failed to do in many sections of the country.

Aiding Nature

The tillage job may be accomplished in various ways, depending on the extent of necessity. For instance, in cases where the greens have not had heavy play this winter or where they have had sufficient frost to break up the surface mass, or in the case of comparatively new greens which have not as yet become severely packed, thorough spiking with a suitable spiked roller may serve the purpose. More severely packed greens require for satisfactory results, deeper and more thorough tillage than can be accomplished with the ordinary spiked roller or such implements as are commonly used for this purpose. implement should be used in such cases that is capable of penetrating several inches into the soil, and when the penetrative instruments have been forced to their full depth in the soil a horizontal lever action should be imparted in order to break up the soil underneath the sod. An ordinary spading fork or similar tined implement may be used for this purpose if nothing better is available. This is a rather slow and laborious procedure when such tools are used. The job can be more speedily and satisfactorily executed with an implement similar to that illustrated in the accompanying photographs.

This type of cultivator will be used by several of the greenkeepers in the mid-Atlantic district this spring in an effort to prepare their greens for the rigors of what is expected to be a very busy summer for both golf course and greenkeeper. Whatever the implement used and regardless of time and labor, the object should be to perforate the surface of the green thoroughly and break up the entire area of soil underneath the sod to a depth of 4 or 5 inches. Such perforation and cultivation prepares the soil for the reception of plant food, air, and water for the proper circulation of these elements through the area of soil inhabited by the grass roots. The importance of this action of these vital elements has often been stressed by leading authorities in turf culture and it is the opinion of the writer that every greenkeeper should give it liberal consideration.

Perforate the Soil

This treatment should be administered early in the spring, preferably just before the first spring topdressing and fertilization. It should always be followed by a liberal topdressing with a material of light loam texture to which has been added the allotted application of fertilizer. The green should then be brushed thoroughly in order to work as much of the material as possible down into the apertures left in the soil. Following this the green should be rolled just sufficiently to smooth Over-rolling should be surface. strictly guarded against at this time, otherwise the object of the treatment may be This spring treatment should be followed by an occasional spiking of the greens during the summer in order to keep the turf and soil aerated. This is very essential to the health and durability of the putting green turf.

Stock Supplies Early

So much for the troubles which we may be able to prevent in a measure. Now let us consider the matter of insect pests which we must be prepared to combat when they make their appearance. We will probably have our full quota of earthworms to contend with this spring and it will be well to lay in an adequate supply of our favorite worm eradicator. There are a number of effective worm killers on the market and any one who has had the experience of eliminating worms from putting greens will know where to secure an effective eradicator and how to apply it. Therefore, it is believed that the mat-



Close-packed soil responds quickly to the leverage action possible with this aerator.

ter of recommending any particular product or suggesting methods may well be dispensed with here, but regardless of materials or methods used, early preparation is strongly advised.

Web worm, army worm, and numerous other insect pests are predicted in increased numbers for the coming summer. Therefore it will be wise for us to dig into our last summer's files and refresh our minds in the matter of effective means of eradicating these pests. Reference to previous articles on the subject of insect pests and their eradication will serve to refresh our minds as to what we should use and how it should be used. No comment will be attempted concerning materials or methods, but again the suggestion to "lay in a supply of the necessary materials" and be prepared to use them at the proper time, and thereby avoid a lot of worrying during the busy spring and summer months. "BE PREPARED."

Note: Since writing the above we have experienced a post season flurry of real winter weather which is calculated to have some favorable counteracting effect on the conditions discussed in this article but we hardly dare be optimistic enough to hope that such a short period of winter weather will suffice to produce the results of a normal winter. So we should be encouraged, but not to the extent that may lead to neglect.