

Tips on Greens Program*

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THERE are standard operating procedures on all courses but there are also special procedures on different courses, and even on different greens of the same course. Some require less water than others, less or more fertilizer, depending on the texture of the soil, etc. Some courses require more cultivation than others, depending upon soil composition and texture.

The successful superintendent is the one who correctly ascertains what his course problems and needs are and then starts a sound maintenance program and follows it until the desired results are attained.

What is a sound program for greens? Naturally, here again, it is difficult for one to be dogmatic about setting down a required program because various courses differ to a considerable extent. In outlining a sound program I refer only to northern golf courses, and the program may not be the same even in the North for those sections in the eastern or western parts of the country, but they do get good results in the Middle West.

1. Starting in the spring, water systems should be turned on as early as possible, especially if there has been a dry winter with little snow cover in which case the chances are that there will have been much desiccation. Water greens and aprons to a depth of 6 in.
2. Fertilize early, the last week in March or the first of April, depending upon the weather. An organic fertilizer should be used at the rate of 1 to 1½ lbs. actual nitrogen per 1000 sq. ft. I, personally, prefer Milorganite, but any other type of organic fertilizer may be used in the early spring and early fall. I like the organic application of nitrogen in the early fall because it does not make the grass become too lush and go into the winter soft.

During the past year I have done some experimenting with Uramite, a fertilizer in which the nitrogen becomes available very slowly and lasts for a long period of time, and it would

appear that the results are going to be good. Since it is a very slowly disintegrating nitrogen, it appears that it will be possible to apply almost an entire season's requirement in one application. Further experimentation with this particular product will be carried forth during the next year or two so that we can get a more accurate picture of the results obtained.

3. Verticut or rake the greens and cut greens to a height of 3/16 of an inch. This will help eliminate mat. Height of cut should rarely, if ever, go above ¼ of an inch. Ease up in hot weather.
4. Immediately after this first raking or verticutting, and cutting of greens, greens should be topdressed rather heavily. Topdressing should contact the soil. I am still a believer in this practice, and do so once every month or 6 weeks. However, I do not topdress very heavily. After topdressing, the material should be well watered in and you will find that it does not interfere with play.
5. A complete fertilizer should be applied fall and spring if soil analyses show that it is necessary. Ordinarily, from 1 to 1½ lbs. per 1000 sq. ft. of a complete fertilizer is all that is required to maintain adequate phosphorous and potash levels.

It is silly to apply phosphorous when, in many instances, the greens are entirely too high in phosphorous already. If they are low on potash only, apply potash only, and forget about the phosphorous.

As for the nitrogen, I find that from 1 to 1½ lbs. per month of actual nitrogen is about right. This means that in the course of the season approximately 8 lbs. of actual nitrogen is needed per 1000 sq. ft. For spring and fall mixtures are from 1 to 1½ lbs. The other applications are lighter and applied from seven to ten day intervals throughout the season beginning in May to the end of August. This does two things. It maintains a constant growth and at the same time discourages, if not eliminates, that

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pesky disease known as dollar spot. Rarely do you find an infestation of dollar spot where you have a vigorous and constant growth of grass.

I like to maintain a Ph between 7 and 7.4. This may sound high to some of you, but so far, I have had no trouble with the Ph in this range.

During hot weather I definitely cut down the amount of nitrogen used in one application, and am inclined to use soluble nitrogen in small amounts when the weather is extremely hot. There is a definite correlation between disease and the amount of fertilizer and water used. This is especially true in the case of brown patch. If grass is lush, brown patch will increase in incidence. I find it helpful to stay just a little bit on the dry side during the hot muggy periods with which we are cursed not too infrequently up in our region.

Cultivation Practice

It has been only in recent years that it was thought possible to really cultivate grass as we used to think of cultivating corn, beans and other farm crops. However, with the advent of the new cultivating tools such as the aerifier, this has become a common practice.

The aerifier can serve two common purposes — first, it can be used to improve the existing soil structure within a given green, or it can be used for renovating turfs, in which case multiple aerifications would be done, the soil removed and a new and better soil put back in the holes. The type would depend, of course, upon local needs. In recent years I have followed a practice of aerifying greens twice a season with the following exceptions:

Aprons are aerified once a month in order that they will hold more water and thus take less water away from the edge of the greens. Troublesome high spots on greens are aerified at six-week intervals for the same reason, because these usually dry out faster and the runoff of water is hence great. By aerifying every six weeks these areas stay approximately the same as the other areas of the greens.

Drainage Factors

Differences in soil structure will have a great effect on the drainage. When I refer to drainage, I refer to two types. First, but not necessarily the most important, is water drainage, and second, air drainage. Greens should be so constructed and so

watered that they will become moist, not soggy, to a depth of 6 in. and still have no water puddling on the greens. Adequate moisture is necessary for the proper activation of soil microorganisms which, in turn, are very beneficial in breaking down such things as leaves, dead roots, etc.

The amount of water to be applied will depend not only upon the soil, but upon weather conditions. For example, if the weather is hot and dry, you have a considerable amount of transpiration, and you will have to water more and also more frequently.

During extremely dry, hot weather with high winds, it will be necessary to sometimes water as many as four times a day by hand just to moisten the leaves in order to prevent wilting. This type of watering is not done with the idea of furnishing adequate water supply to the root system, but merely to freshen the leaves so that they will not wilt and die.

Air drainage is probably neglected more than any other one factor in locating greens. Greens should be so located that a free passage of air is over them at all times. Why? It is important for greens to "dry off" quickly in the morning. Trees should not completely shut off the air, neither should the green be set in a pocket where all air goes over it. Disease will soon attack a green with poor air drainage and the first thing you know there is an expensive rebuilding job to be done.

Set Program, Stick to It

Start early in the spring with a program that has a certain thing that requires doing each day and week, then do it. However, before starting on this program, ascertain whether or not it is the best program for your course. This will naturally entail the taking of soil samples and in some cases where you have especially difficult problems to solve, the calling in of other people and a pooling of ideas before your program is completely outlined.

When you get on a program that is bringing good results, don't change. If you want to experiment, experiment on either your nursery or small experimental plots. Make sure that a change in practice works on these areas before adopting them for the course as a whole.

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