

Black Hawk's Green Making and Maintenance Methods

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ALL persons who are charged with the responsibility of building and maintaining putting greens are constantly on the lookout for helpful suggestions. The writers have secured much help along this line from contributions in *GOLFDOM*. While we do not maintain that our practices are the best, we know that the results secured have been gratifying.

Consequently, at the suggestion of the editor, we are giving below a rather hurriedly composed outline of our methods.

Before starting work of any kind it is absolutely essential to have a labor force that can be relied upon. The more experienced a man is in golf course maintenance work, providing he uses his head, the more valuable he is to the greenkeeper. Without an adequate, well organized force, even the best greenkeeper is incapable of securing the desired results. Competent help is scarce, consequently the greenkeeper endeavors to keep a good man when he finds him.

The procedure we follow in this work is given below, step by step in logical order of sequence and includes (1) grading, (2) surfacing, (3) planting, (4) mowing, (5) top-dressing, (6) watering, and (7) weeding.

Grading

A sketch should be made for use as a guide, keeping in mind the desirability of altering the topography as little as possible. Nothing is more hideous, in our opinion, than elevated greens with steeply sloping sides. They utterly spoil the appearance of the terrain and constitute an unnatural hazard that is not needed. Constructed elevations should be blended into the surroundings by making very gradual slopes, so as to deface nature to the least degree necessary. Grading includes a

Here is a summary of the methods of an ideal team. The green chairman is a practical scientist and the greenkeeper a man with genius for turf culture methods. This association is one rare in golf, but of a type to bring joy to the hearts of the club members.

Note the emphasis they put on the element of labor. No matter how good the technique is, unless the staff is right, the results are disappointing.

careful study of the surroundings to insure necessary surface drainage. It is desirable to allow several weeks to elapse after the grading is finished to permit the ground to settle.

Surfacing

This should take into consideration the soil composition and texture. A heavy clay or other impervious soil must be covered with a soil containing

humus. The addition of a considerable quantity of sand and the incorporation of a fertilizer containing available nitrogen for plant growth to the surface of the green is imperative. The top-soil is put in final shape by hand raking and when finished should be very fine, relatively loose, free of all lumps, roots, etc.

Planting

The bent grass sod is cut into rather small pieces by running it through an ordinary farm root cutter. If any clover or other undesirable plants are present in the sod, these should be sorted out. The stolons should be distributed as evenly as possible and in sufficient quantity to cover the ground well, thus avoiding gaps which are so liable to form tufts later. To keep the roots from drying out, they must be distributed over a small area at a time and covered as soon as possible. Enough top-dressing is applied just to cover the stolons and the surface is rolled at once and sprinkled. Sprinkling should be done by hand, rather than with a sprinkler attachment, to avoid washing the fine top-dressing mixture into ridges. This statement also applies to established greens during the first two or three days after top-dressing.

Mowing

The lawnmowers are put into use as soon as the grass has reached a height of about two inches. The grass is mowed every day thereafter, Sundays excepted, throughout

the season. Preferably the mower should be run one day at an angle to the direction it was run the previous day, keeping in mind the advisability of cutting in rotation in four directions. This tends to keep the grass growing upright and to make the surface uniformly even. The mowers must be kept sharp to avoid tufting the grass—the bane of the golfer.

Top-Dressing

This is done as required to maintain the growth and condition of the grass and is as important as daily mowing. Among the reasons for top-dressing may be mentioned the following: (a) to protect the new stolons that grow laterally from near the base of the parent plant; (b) to furnish nourishment; (c) to fill any unevenness in the surface of the green. The top-dressing mixture which we are using has given splendid results in the past. It is composed of two parts compost, one part sand, with which is mixed for general use one and one-half pounds ammonia sulphate per 1,000 square feet of green. The ammonia sulphate content is varied to suit conditions. It is increased for spring and fall use and reduced for use in the summer and on newly planted greens.

Watering

Water makes available the plant foods in the soil by putting them in solution. The quantity of water needed will depend upon the season of the year, the nature of the soil, and the rainfall. We believe the matter of judicious watering is one of the most essential steps in establishing and maintaining a perfect bent grass green. It requires constant supervision and good judgment to obtain the best results from watering. The surface of a newly planted green should be kept moist at all times. This is accomplished by sprinkling daily until the ground is thoroughly saturated, but never to the extent that streams are formed, as they uncover the stolons and also leave the surface of the green rough. For all sprinkling we believe a nozzle should be used that throws a fine spray, as the surface of a green becomes disfigured by too heavy a stream of water, which beats holes in the top-dressing and is likely to make little ditches.

We have solved the watering problem by employing a night man. He starts work at 7:00 p. m. and finishes at 4 a. m. His last duty is to turn on the sprinklers used to water the tees. These are allowed to run until the day force commences work in

the morning. The statement that water and more water—though not in excess—is the only hope of keeping the grass green and growing is particularly pertinent to this discussion. Next season we plan to water the approaches to the greens.

Weeding

While it is possible to control weeds to some extent by applying an acid-reacting top-dressing, every putting green requires hand-weeding at least once a season. Messrs. Oakley and Fitts, in the *Green Section Bulletin* for July, 1927, state that the chief weed to fight in the latitude of Washington, D. C., is crab grass. This is also true in Wisconsin. The time to eradicate crab grass is when it first becomes evident. One man can then remove more crab grass plants than can three men after the plants have started to branch. Crab grass is the greenkeeper's worst enemy and does more damage to greens than all other weeds combined.

Sand Must Contain No Lime

The sand which we have been using in our top-dressing mixture has recently been analyzed and found to contain nearly 18 per cent carbonates. This surprised and disconcerted us, as we were working under the impression that our sand carried little or no lime. It is a well established fact that lime is contra-indicated on the golf course, as it facilitates the growth of clover and weeds, both of which the greenkeeper is continually fighting. On the other hand, an acid-reacting top-dressing mixture inhibits the growth of these plants, yet stimulates the growth of bent grasses. A supply of quartz sand containing practically no carbonates has now been secured, so we anticipate better results in the future.

Acid-Reacting Top-Soil Important

The black top-soil used for composting purposes is also subjected to chemical tests to determine its inorganic and organic composition. By this method we have been able to secure a soil high in organic matter (humus) yet carrying no carbonates (lime). With this information to guide us and a contract for a load of horse manure every day of the year for composting, we feel that the putting and fairway greens at the Black Hawk Country club should soon be as good as any in the country, as nature has provided a wonderfully fertile, well drained soil which only needs intelligent management to produce an ideal stand of the desirable grasses.

So far we have been fortunate in experiencing no damage from brown patch or other fungus diseases. Earthworms are a pest at times, but an application of corrosive sublimate (mercuric bichlorid) in solution has been an effective means of controlling them.

Planting Greens in Spring

We are convinced that the best time of the year to start work is in the late summer and early fall, the idea, of course, being to secure a good stand of bent before winter sets in. However, as every green chairman and greenkeeper knows, it is usually impossible to accomplish before snow flies all the work planned, so some of it must of necessity be postponed until spring. In southern Wisconsin excellent

results have been secured with bent grass stolons planted in the spring. We tried this method on one green last season and another one this season. The 1926 work resulted in a green that was suitable for use just sixty days after the stolons were planted. This green now probably has the best putting surface and the most ideal stand of fine bent grass in this section. The green that was planted this spring was ready for play in practically the same length of time.

One of the big problems in connection with spring planted greens is fighting the weeds of all kinds which grow so rapidly under the ideal conditions for plant growth which must be maintained for the grass. This necessitates several hand weedings, but final results amply justify the expense.

Youngsters' Golf Classes Bring Good Profit

By J. W. FULTON, JR.

"THE golf professional who overlooks the income possibilities of the sons and daughters of members is overlooking a big bet," said a well known pro the other day.

"I'll show you what I mean. When I'd been at this club about six years, I had built my income about as high as it was possible. I'd educated the members to want lessons—I gave about four or five a day—and to buy most of their golf equipment from me. My shop was always busy.

"But like everybody else, I wanted to earn more money, and I saw I had to start something new to do it. One day I saw two of our member's kids—they were about fourteen years old, too young for junior memberships—batting some balls around the practice field, and I noticed that neither of them was swinging right. If they weren't straightened out pretty soon they would develop some bad golf habits. One of them was overswinging and the other held his club all wrong!

"They gave me my idea. That night I made a list of all the members who had kids old enough to play golf, and sent each of them this letter:

"Dear Mr. _____:

"If you're like most golfers, one of your chief regrets is that you didn't take up the game early in life. It would have been

much easier to learn the finer points, wouldn't it?

"Your son, Jerry, is just the right age to take up the game. His muscles are limber and he'll learn quickly. Why not let me start him off right?

"I am organizing a junior golf class to be held from four to five o'clock every Friday afternoon for the next ten weeks. Only sons and daughters under sixteen will be taken. They will receive my personal attention and instruction and will be taught the game from the wood clubs down to the putter. Before the ten weeks are up, Jerry will play the eighteen in less than 120 strokes; how much less I can't say.

"The cost of the entire course is only \$10.00. I don't know of a better investment or anything you can give Jerry that will mean so much to him when he is grown up and becomes a member himself.

"The first class will be held Friday, July 16th. I hope Jerry will be there.

Cordially,

"You'd be surprised how the parents fell for the idea! Nearly all of them wanted their kid in the class, and when the first day came, eleven of them showed up.

"I started the first lesson with a little speech about golf being a lot of fun, especially if you can play better than the other fellow, and how you couldn't play