

QUESTIONS AND ANSWERS

All questions sent to the Green Committee will be answered in a letter to the writer as promptly as possible. The more interesting of these questions, with concise answers, will appear in this column each month. If your experience leads you to disagree with any answer given in this column, it is your privilege and duty to write to the Green Committee.

While most of the answers are of general application, please bear in mind that each recommendation is intended specifically for the locality designated at the end of the question.

1. Adverse effects from the lime contained in Bordeaux mixture. Our greenkeeper tells me that Bordeaux mixture contains a large percentage of lime and says he has heard that if it is used regularly for three years the effect upon the greens will be decidedly adverse because of the lime content, in the encouragement of weed growth. Is there any danger of Bordeaux encouraging the growth of weeds? (Nebraska.)

ANSWER.—It is true that Bordeaux mixture contains lime, and it should therefore not be used in such quantities that the lime can exert any particular effect. As a matter of fact, all that is required in the treatment for brown-patch is the lightest possible spraying or dusting when Bordeaux mixture is used.

2. Creeping bent greens that are too slow.—Some of our greens, which were planted with creeping bent stolons, certainly look beautiful, having a very vigorous, dense turf, but they are too heavy and offer too much resistance to the ball. Is there any way in which this turf can be made faster? (Pennsylvania.)

ANSWER.—Whether a creeping bent green is slow or fast is simply a matter of cutting. They can be made as slow as desirable or as fast as desirable according to the frequency and closeness of mowing. The general tendency in the care of vegetative putting greens seems to be not to cut them close enough. We would suggest that you try cutting your greens closer.

3. Buffalo grass for fairways and rough without irrigation.—The typical western short grass, commonly called buffalo grass, seems to make an ideal sod for our rough. Do you think it would be possible to transplant sod of this buffalo grass to our rough? Is it possible to purchase seed of such grasses? (Colorado.)

ANSWER.—We think it would be quite possible to transplant buffalo sod, if done at times when rain may be expected. Seed of none of these native short grasses is available. You could, however, gather the seed yourselves and scatter it over the fairways and rough, and this would probably help considerably. If your fairways are not irrigated, the different short grasses would probably be the best you could use on them. Bluegrass and redbud are excellent for fairways where there is moisture enough for them to grow, and bluegrass will grow in any place in Colorado where there is a little seepage water or where the land is irrigated. If you sow bluegrass and redbud on your fairways we would recommend a mixture of 4 pounds of the former and 1 pound of the latter, sown at the rate of 150 pounds to the acre.

4. Changing fescue greens to bent by broadcasting stolons; using creeping bent sod produced in the nursery.—Our greens, which are three years old, have fescue as their base. Last year they were in good condition, although they contained considerable clover. This year they deteriorated badly and are most unsightly, notwithstanding we seeded them several times during the year. In fact, there is little left but clover and dandelions, with the latter predominating. Five of the greens have been taken up, about one-half a carload of sand disked into the soil of each green, some drainage defects remedied, and creeping bent stolons broadcast. We also have a creeping bent nursery which we planted as a putting green which will give us turf for sodding two more greens next spring. This will make a total of seven greens in creeping bent. We are proposing to plant about two acres of putting green surface in the spring, maintaining it as such and transferring the sod to the balance of the eleven greens next fall. Do you think well of this idea, or would you recommend that next fall we broadcast stolons rather than transfer the actual turf? (Illinois.)

ANSWER.—Three methods have been used with very considerable success in converting mixed turf or turf of any other grass into creeping bent turf by the vegetative method. These are as follows: (1) Cutting gashes into the turf and putting in each gash a piece of bent stolon three or four inches long. The objection to this method is that it is very laborious and costly. (2) Plugging. This method is all right, but the plugs spread slowly. (3) Broadcasting cut stolons. This method has proved to be a great success and has been employed on a number of golf courses. The turf on the green is first cut short, preferably after having raked it both ways so as to cut off as much of the old turf as possible. Cut stolons are then broadcast, topdressed, and rolled. It is best to leave the green out of play for two or three weeks, although play can be allowed to proceed right on if there is serious objection to leaving the green out of play. Creeping bent will entirely replace any other grass on a green when treated in this manner. Best results are obtained when the work is done in late summer, although it is practicable at any time of the season. Do not forget the benefit that will be derived from light and relatively frequent topdressings of the stolons after they are planted; this practice, together with relatively close cutting, helps materially in hastening the development of good bent turf.

5. Use of seed and fertilizer in improving fescue fairways.—Our course was built four years ago on light sandy soil. The soil was completely run down, all its vegetation being ferns, running brier, and a little bunch grass. In the construction, about 30 carloads of horse manure were applied to the soil. The greens are in very good condition, but the fairways, which were seeded with creeping fescue, are in bad shape. The fescue is inclined to bunch, and was such a bad catch that there are hollows between the tufts of grass where nothing is growing. Last fall we put 200 tons of good, well-seasoned cow manure on 75 acres of fairway. Notwithstanding this, due to the unfavorable season the results are disappointing, especially so as hard winds have blown the sand from the holes, leaving the fairways rougher than before. Our people want to cart muck from a swamp and spread it on the fairways in October and November, as a top-

dressing after sowing a mixture of timothy, redtop, white clover, and Kentucky bluegrass. I am of the opinion, however, that this will be very costly. We should appreciate your opinion as to the best course to pursue to improve our fairways. (New York.)

ANSWER.—The only seeds that will catch satisfactorily in established turf are redtop, white clover, and South German mixed bent. The redtop is comparatively short-lived, largely disappearing in two or three years, but the seed is cheap and it is a good filler in the meantime. Assuming that you have about two-thirds of a stand on your fairways, we would suggest that you seed the following mixture: 6 pounds redtop, 1 pound white clover, and 1 pound South German mixed bent. The white clover may be left out if you object to it, but in general it is considered all right on fairways. This mixture should be seeded at about the rate of 30 pounds per acre. It would be useless to seed timothy and bluegrass, as these grasses will not catch on old turf. In regard to fertilizers, barnyard manure, considering its cost, is the best material for you to use. The muck from your swamp will probably prove useless. Most mucks, after they once get dry (as will be the case when used as topdressing), become waterproofed and will not again absorb moisture. Consequently most of the muck would blow away. It has practically no fertilizer value and is often positively harmful. We advise against the use of muck of any kind except in small proportion in compost heaps. If you cannot get barnyard manure, then we would recommend topdressing with the best soil you can get, reinforced with tankage, bone meal, or a similar fertilizer. Our advice would be for you to put most of your money into manure if it can be obtained at a reasonable price.

6. Correcting tendency of bent to grow coarse.—I am sending you a box of the sod of our bent greens, in which you will notice that the texture of the grass is very coarse. When we planted this bent on the green we did so with the understanding that it was a strain of creeping bent of the finest texture. Do you think it possible in any way to treat this bent so that it will produce a fine turf, or would you consider that it will always be this coarse no matter what treatment is given? (West Virginia.)

ANSWER.—One thing is very evident about the sample of bent sod you send, and that is the large percentage of organic matter in the soil, possibly rotted manure or leaf mold. It is soil of this character which makes bent grass become coarse in texture. We would recommend that when you topdress this green you employ a compost containing a relatively small percentage of rotted manure or other organic matter, certainly not over 15 percent, and that the bulk of your compost topdressing consist of sand. Another factor which induces bent grass to become coarse is lack of sufficient cutting. Keep your turf cut very close, and continually so during the growing season.

7. Bare spots in the fairway.—Two of our fairways are located on a hillside where there is considerable grade. The ground is very hard, being mostly clay, and although the turf is fairly good in places there are a large number of bare patches upon which so far we have been unable to get the grass to grow. It is impossible for us to water these fairways, and they dry up seriously in July and August. Of course this condition is more or less to be expected in midsummer, but never-

theless during the remainder of the year the bare spots are certainly unsightly. (New Jersey.)

ANSWER.—Probably the best means of correcting your trouble is to scratch up the bare spots about the middle of August, sow seed, and cover with a light topdressing of good loam. This should at least give you a good turf until the next summer, and probably throughout the summer, since grass sown in August should be well established by the following spring. Of course, if heavy rains come, the seed may be washed away, and in that case the spots should be reseeded at once. During early winter it would help also to topdress thin and bare spots on your fairways with manure, if it is obtainable, and in the absence of manure, good top soil may be used to advantage as a dressing. When you once get these bare spots well covered with grass it is almost certain to endure.

8. Comparative costs of producing creeping bent turf from seed and from stolons.—From time to time the question arises as to the relative practicability of planting greens from creeping bent stolons or from German mixed bent seed, viewed from the standpoint of the course with limited means. Which, in your judgment, is the cheaper and more satisfactory method, when bent seed of about 50 percent purity may be obtained for \$1.00 or \$1.25 a pound? What also is the length of time that will be required to get the turf fairly well established? (Oregon.)

ANSWER.—Ordinarily bent turf can be produced more cheaply from seed. If, however, a club has its own nursery of creeping bent the additional cost of planting stolons is not great, and the quality of turf produced by the stolon method is much better, particularly as regards uniformity. If you use seed, your turf will be mostly Rhode Island bent, some velvet bent, and a little creeping bent. It is the common experience that the expense of upkeep for a creeping bent green planted vegetatively is less than for a green grown from mixed bent seed. If seed or stolons are planted in September the turf should be perfect by the following May, and sometimes it will be in good condition even the same fall.

9. Rye and vetch as soil-improving crops.—We are preparing to build a new fairway on some very poor land which is quite gravelly in places and which is now covered with weeds, wild grass, bushes, and scrub trees. In your opinion would it pay us to plow this land and seed it to rye and vetch this fall, turning these crops under next spring, rather than to prepare the land for seeding to permanent grass, and seeding this fall to grass? (Michigan.)

ANSWER.—We believe it will be much better for you to grow rye and vetch on your land this fall, and turn the crop under next spring. This will improve the soil greatly and will give you an opportunity to get a fine seed bed prepared next summer for seeding in the fall to grass. To do well, grass seed needs a well prepared seed bed. We would advise you to plow the rye and vetch under in the spring as early as possible, so that it will rot thoroughly before the grass seed is sown in the fall.