Grau's Answers

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A. Clover in bent greens may be due to several causes. First, the bent that you have may not be well adapted to your soils or climate. If you have Seaside Bent I would expect clover as one of the natural consequences because Seaside Bent has a number of weak strains in it that permit clover to invade. Also, some of the strains in Seaside are very susceptible to disease and it is, first, the disease that weakens the grass and allows clover to invade.

The trouble may be in your soil conditions. If the soil is tight and dense and drains with difficulty it is possible that excess water that must be applied to keep the greens playable favors the clover rather than the bent. Clover is notoriously shallow rooted and can survive in a very shallow layer of soil if adequately supplied with nutrients and moisture. Getting rid of the clover can be done with chemicals but I wouldn't advise it until the causes for clover invading have been discovered and corrected.

One of the best ways to discourage clover is to "just grow grass." This is done by observing all basic principles of bentgrass management from the ground up and that begins with good drainage, good aeration, the adapted strain of bentgrass suited to the area, excellent management practices and adequate fertilization. Clover makes its own nitrogen and it can be discouraged by repeated applications of nitrogen fertilizers. In fact, this is one of the best ways to get rid of clover if all the other factors are favorable.

If you have a weak strain of bent it would be inadvisable to use chemicals for the control of clover because they could also discourage the bent.

Before I go further in making suggestions, I think it would be most helpful if you would sit down at your earliest convenience and give me an outline of everything we have discussed here in relation to what you are doing on your course — the kind of grass, management, type of soil, topdressing practices, watering, and everything else that you can think of. Then I think we can develop a good, sound clover control program for your conditions.

Disappointing Mixture

Q. I am the supt. at a club in Pennsylvania, at an 18-hole public course. I am very much disappointed with the bent mixture I have been using: ⅓ Seaside Creeping Bent, ⅓ Astoria and ⅓ Colonial Bent. Would you please inform me what kind of grass to use on a 6,000 sq. ft. putting green, which has a base of crushed sand rock, 3 ins. of topsoil and 10 ins. prepared soil of 1-sand, 1-humus and 1-topsoil. (Pa.)

A. The bentgrass mixture which you have been using is not designed to give the highest quality putting greens. I strongly urge, if you

intend to continue using seed, to get Penncross Creping Bent seed and sow this at the rate of one pound to 1,000 sq. ft. This is plenty of seed and, even though the price is high, $10-$12 per lb., you will find it economical in the long run.

If you decide to go to stolons, I suggest Pennlu creeping bent which is available from several nurseries not far from you. This is a vigorous creping bent that produces an excellent putting surface. But being vigorous it tends to become matted and will require more frequent and vigorous brushing, raking and combing to keep the putting surface free of fluffiness.

I am not quite sure, from your description, where the 3-ins. of topsoil fits into the picture. The 3-ins. of topsoil ought to be incorporated into your entire depth of prepared soil which, as you say is a 1-1-1 mixture. The trend today in the building of greens is to increase coarse sand content to provide more perfect internal drainage and to develop a deeper root system. I suggest that you increase the proportion of coarse sand to at least 2 parts so that you will have a 2 part sand, 1 part humus and 1 part topsoil.

Naturally, one of the most important factors in the development of a putting green where you are using a good bentgrass like Penncross or Pennlu stolons is fertilization. By amply fertilizing the seed bed before planting you will develop a putting surface much more rapidly and one that will beat out the weeds before they have a chance to get started. I particularly suggest the use of a complete fertilizer containing Urea-form. It will give you a more long-lasting effect and bring the grass to maturity without need for additional surface applications of fertilizer on young, tender developing turf.

Where Was The Mistake

Q. Our soil mixture for the putting green is two parts peat, 2 parts black dirt and one part fine sand. This mixture is 8 ins. thick over a gravel base. Drainage is good. On Apr. 26, 1956 we used 12-12-12 fertilizer at 50 lbs. per 1,000. Watered thoroughly. On Apr. 29 we planted C-19 stolons at 10 bu. per 1,000. Rolled stolons and spread topdressing about ⅛ in. to 3/16 in. deep. Topdressing was 1 part peat, 1 part black dirt, 2 parts fine sand. Watered green often the first two weeks, after which we watered every night about sundown.

A natural organic was used every two to three weeks at 20 lbs per 1,000 and topdressing applied after each application of fertilizer. Grass grew well until the first of July, then slowed up. By early Aug. the green was very poor. Aug. 13 the green was sprayed with fungicide and a repeat spray seven days later. We also started removing the dew early in the morning. The green soon showed signs of improvement and by mid-Sept. was doing satisfactorily. As we intend to plant nine greens soon, the question arises: what mistakes did we make? Was the green diseased — if so, what caused it? With the slow seepage of water through the fine sand, did we water too much? We would appreciate your expert advice as to what caused our trouble. (Minn.)

A. In the planting of your new greens, I make these suggestions for changes. First the soil mixture 8-10 ins. deep over a gravel base would be better if it were composed of 3 parts coarse sand, 1 part black dirt and 1 part peat. This will give you much improved drainage through the soil into the gravel base. It will give better aeration and actually the green will not have to be watered any more often. In fact, it may not have to be watered nearly as often.

I find no fault with the 12-12-12 in the seedbed — the rate is all right, and the stolons you used are all right. I sometimes feel that 10 bu. to 1,000 is a little too heavy, but I won't quarrel about that. Your topdressing should be precisely the same as the soil in the green. There should be no change here.

I believe your major difficulty was caused —