

New Member Clubs of the Green Section

(For Previous Lists See Pages 199, 220, 248, 273, and 294 of This Volume.)

Condukeag Canoe and Country Club, Bangor, Maine.
 Beaver Meadow Golf Club, Concord, New Hampshire.
 East Aurora Country Club, East Aurora, N. Y.
 Jefferson County Golf Club, Watertown, N. Y.
 Inwood Country Club, Inwood, New York.
 Danville Golf Club, Danville, Virginia.
 Americus Golf Club, Americus, Georgia.
 Portsmouth Country Club, Portsmouth, Ohio.
 Broadmoor Country Club, Indianapolis, Ind.
 Hamilton Golf and Country Club, Hamilton, Ontario.

The Green Committee of the U. S. Golf Association is always glad to publish items showing how work around courses can best be done.

Questions and Answers

All questions sent to the Green Committee will be answered as promptly as possible in a letter to the writer. 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. **Composting peat with cow manure.**—We have had two extremely hot and dry summers and our fairways are beginning to show the results of them. We are buying and piling up all the cow manure we can obtain, and as soon as it is sufficiently rotted we plan on putting it through a shredder, with an equal amount of peat, and using it for top-dressing. Will you kindly comment on this plan?—(Minnesota.)

We feel sure very good results would be obtained from this procedure. We would, however, be inclined to favor a rather larger percentage of manure in the compost. On page 167 of the May BULLETIN information is given on the use of nitrate of soda as an addition to the compost pile to assist in breaking down the otherwise inert or slowly decaying vegetable matter, and it might be well for you to try this also.

2. **Yarrow as a golf turf grass.**—A volunteer growth of yarrow has interested us in that plant, but we cannot find anyone familiar with its habits, and we would appreciate receiving from you any information you may have on the subject. We wish to use yarrow with Bermuda grass in fairways. Would you advise our doing this? Will 10 degrees of frost at night make it dormant?—(California.)

There is more or less yarrow on many putting-greens in the East, and we have seen some putting greens that were as much as 60 per cent yarrow. It makes a fairly satisfactory putting turf, but in New Jersey, at least, it is subject to a disease which attacks it usually in October. This yarrow, of which there are two strains, are both American varieties, one of them much better than the other. The only yarrow seed available on the market is European, and this is coarser than either of the American strains. Our experiments with it did not give a very satisfactory turf. We do not find that any American seedsmen are handling this yarrow seed, but it can be secured through English seedsmen. We doubt very much whether

yarrow would be browned considerably by 10 degrees of frost. If so, it would certainly recover quickly by the weather becoming warmer. We doubt, however, if this seed is satisfactory if mixed in Bermuda. The yarrow would make patches by itself and not give a uniform growth with the Bermuda.

3. Mulching of putting-greens in winter as a means of their protection; use of oat or rye straw on putting-greens; weed seeds in well-rotted stable manure; rolling of new greens in fall.—Our club has been constructing new putting-greens this fall, and we have a splendid stand of new grass, which this last rain has brought through the ground. Is it advisable to mulch these greens this winter? If so, with what material? Suggestions have been made that we use oat or rye straw, but the objection has been raised that in case of a cold winter the mice may get into this straw and do considerable damage to the grass. What is your advice with regard to this? We notice in one of the Bulletins the use of well-rotted stable manure is recommended. Objection has been made to use of manure on the ground that it will invariably contain weed seeds which will be detrimental to the green; but it seems to us that if the manure is well rotted (and we have a supply that is well rotted) the weed seeds will have been destroyed. Kindly give us your opinion in regard to this matter. Do you think it will be advisable to roll these greens this fall after the grass is well established? Our impression is that this could wait until spring.—(Virginia.)

It is not necessary to mulch your greens in the winter for the sake of protection, but top-dressing with good compost or with well-rotted barnyard manure is always a desirable practice. We would not advise you to use oat or rye straw this winter as a protection to your greens; first, because we do not believe it is necessary, and, second, because we believe there will be more or less oat and rye seeds, which may make a little trouble in your putting-greens. We doubt if the mice would cause any particular trouble. Well-rotted stable manure contains practically no weed seeds and rarely contains any that will be troublesome on putting-greens. If it is well rotted you should not hesitate to use it. We would not advise rolling your greens this fall. They will need rolling next spring—just enough rolling to make them firm enough so that footprints are not made in the surface.

4. Fertilizing in fall; winter treatment of greens.—Our greens have never had very much done to them, and we would like to have you tell us whether you think it advisable to use fertilizer on them this fall or wait until early spring. We would also like to have your advice about closing the permanent greens for use after the cold weather sets in and going onto the temporary greens. We have tried it both ways in years past and do not observe that it makes much difference. If we close our greens, what would you recommend as a covering in the winter, if any? Some winters they are snow-covered for two months, but not always.—(Massachusetts.)

We do not think it would pay to put fertilizers on your greens this late in the season (October 3). We have been fertilizing every month this summer, but the greatest benefit was noticed from the first application, which was made on April 25th. We do not favor covering greens in winter. All of our good turf grasses are hardy as far north as New England, and the only winter-killing which we have noticed has always been in water-logged places. Of course, the grass would die under such conditions whether there was any covering on the greens or not. As to the matter of winter play, we can not find that there is any injury done, provided the players will keep off the greens when there is danger of trampling them when muddy. It would probably be well to provide temporary greens to be used immediately after heavy rains or when freezing and thawing. Ordinarily winter play does no harm whatever.

5. **Saturating compost pile with water.**—We are considering the construction of a concrete manure pit about 50 feet wide by 150 feet long by 18 feet deep. The bottom of this pit will slope so that the water applied through the manure will not seep into the ground, thereby losing most of the valuable chemical elements contained in the pile. We will collect this seepage water and pump it back through the pile. We believe we can get much more valuable results from our composting in this way. This fall we want to have available at least 3,500 yards of well-rotted manure, which should be sufficient for our course. We would, however, like to have your comments before proceeding.—(Colorado.)

Your suggestion for handling your manure pile is excellent. We do not see how it could be improved upon. The liquid manure helps greatly in breaking down the coarse material in the manure, which will rot much faster than dry straw without the liquid.

6. **River-bottom soil as a top-dressing.**—We are sending you some dirt dredged from the Schuylkill River. We can have all we want for the hauling. Do you think it will do for top-dressing on our fairways?—(Pennsylvania.)

The sample of soil from the bottom of the Schuylkill River which you send is a fine silt containing a little clay. These river-bottom soils as they are washed on the banks of the river are fairly rich soils, as shown by the large growth of vegetation. We do not think, however, they are good material for top-dressing, as they puddle and bake readily—very undesirable characteristics in connection with any top-dressing. We would imagine the topsoil on your course—as is most of that around Philadelphia—is of a much more desirable character than this river silt.

7. **Eradication of plantain from putting-greens.**—I am sending you a sample of weed we call "plant weed" with which we are troubled in some of our greens. Can you advise the best method for its eradication?—(Michigan.)

The plant which you send us is one of the plantains. These plants will sprout up from the roots if they are simply cut off just below the crown. One of the best means of fighting this pest is to apply the sulphuric acid treatment. Some use an ice pick, which they dip into the acid and then stab into the top of the crown of the plant. This can be done more quickly than weeding. The acid penetrates the roots of the plants and frequently kills the entire plant. Some use a sharpened stick instead of an ice pick, as a piece of wood will carry a little more of the acid than will a metal instrument. Of course you know that sulphuric acid is very corrosive and must be handled with care, as it is deadly to all kinds of vegetation if it comes in contact with the plant. It is a good plan to carry the bottle of sulphuric acid on a wooden tray so that no drippings will fall on the green.

8. **Fertilizer for bent nursery.**—We have started a greens nursery to plant with stolons of creeping bent our permanent greens next fall. The nursery ground has not been fertilized. It is already planted. What fertilizer, if any, should be used, and how?—(Ohio.)

Well-rotted barnyard manure is all in all the best fertilizer for greens. If you can not get this, use bone-meal, cottonseed meal, or some other organic, nitrogenous fertilizer. As a matter of fact, stolons grow surprisingly well in relatively poor soil.

9. **Chemical fertilizer for fairways.**—Shall we use a chemical fertilizer on our fairway sod, which is of only fair quality? We must keep expenses down.—(Ohio.)

Use the fertilizer on your fairway that is the cheapest with reference to its nitrogen content, since this is more important than phosphorus and potash.

10. *Desmodium triflorum* as a southern turf grass.—Under separate cover we are sending you a box of clover which is growing in considerable quantity on our property. It seems to thrive especially well on the golf course, making almost a solid mat in spots here and there. Kindly identify this clover for us. Can we procure the seed of this variety so as to plant it more extensively?—(Florida.)

The plant enclosed is *Desmodium triflorum* (or *Meibomia triflora*)—a native of India and very abundantly introduced throughout Florida. It grows very commonly in patches on lawns and on golf courses and indeed on land which is neither lawn nor golf course. It makes a nice turf, but of course a thin one, but we would regard it as an asset where it occurs. Gathering the seed of this plant would be extremely expensive, as you will note the pods are very close to the ground. However, probably a good deal could be done by raking it up and planting the trash, which will contain a good many seeds, on ground where it is desired to plant it.

11. Grasses for tees; shading to restrain the growth of crab grass.—We have about as much trouble in maintaining our tees as we do the greens. It takes a very short time for the players to cut the grass away from the tees, though we change the position from day to day. What grass do you consider most suitable for tees? They require constant resodding, but I would like to plant out a garden of this grass for the tees similar to what we are doing for the greens. Your advice in this matter will be greatly appreciated.—(Maryland.)

In regard to your tees, bluegrass and redtop mixed is as satisfactory as anything. We would strongly urge that you plant trees on the southern borders of your tees, the idea being to keep the tees half-shaded. If you can do this, no crab grass will invade the tees, and you will have good bluegrass and redtop throughout the summer. Shading tees in your latitude is the best proposition we know of at present to keep permanent grass on tees in good condition. Where you have a long tee extending north and south the trees will not shade the whole tee. For this reason wherever it is possible we would urge that the tee be laid in the other direction, namely, east and west, as your trees will then shade the tee satisfactorily. If you do not shade your tees you are going to have a lot of trouble with them.

12. Soil inoculating preparations.—I am sending you a sample of a material being used in this vicinity by the ——— Company as a medium for inoculating soil with nitrogenous soil bacteria. The company has approached us in an effort to inoculate the bare places on our fairways, and our entire greens, with this material. They state that through the action of the bacteria on the organic matter in the soil a condition will be maintained for the satisfactory growing of our turf and the results will be sustained if a limited amount of organic matter is added once a year, such as by proper top-dressing with well-rotted compost. We are very anxious to obtain your opinion as to the advisability of the use of the material on our greens and the bad places in our fairways. The application of the material on our course will cost approximately \$2,000 and will consume about as much time in its application, or slightly more time, as required for the ordinary top-dressing of the greens. The results which we have noticed locally on some greens and on lawns and flowers in this vicinity have been quite astounding and apparently very beneficial. The material has been used locally for the last three years, and we are informed that so far no bad effects have been noticed.—(California.)

We have already tested a material apparently similar to the sample you send, but have failed to find in it anything which would warrant the claims made for it. We would advise the use of this mixture on an experimental basis only and in a definitely controlled manner. We are inclined to think that the results due to the bacterial preparation will not be in proportion to the cost, but we do not believe that any detrimental effects would be caused by its application. The fact, as you state, that quite

astounding and apparently very beneficial results have been obtained from the use of the material in your vicinity would indicate to us that the material has been reinforced by some nitrogenous fertilizer, as rapid results from pure inoculating material can not be expected.

13. Rolling putting-greens.—I would like to ask your opinion as to the kind of roller best used for the ordinary rolling on putting-greens, greens that have been properly constructed and sown to fescue or bent grasses, and to what extent you would use the roller. Our greens man wants a double-section water-weight roller, which we are unable to buy at this place. Is there any advantage in a two-section roller? I would also like to ask if you think it necessary to use spiked rollers at any time upon putting-greens that have been properly constructed and carry a reasonable turf.—(Pennsylvania.)

We doubt if there is any particular advantage in any special kind of roller. The water-filled roller, however, has the advantage that its weight can be changed as may seem desirable. The one principle that we regard as sound in reference to rolling putting-greens is that the rolling should be no heavier than sufficient to prevent footprints being made in the putting-green. However, the weight of the roller is not the only thing to consider, as the condition of the soil at the time of rolling is also an important factor. Generally speaking, the green should not be rolled when wet, as rolling a green when wet tends to make a crust; in other words, causes puddling and baking. With regard to spiked rollers, our experience has not been satisfactory. We can well understand that where the soil is a heavy clay which puddles and bakes, the use of a spiked roller to keep this crust broken will be beneficial. Where, however, the soil is of reasonably good texture we do not see how the spiked roller can be of any advantage. As a matter of fact, even on heavy clay soil the bad conditions are better remedied by continually top-dressing with sand so as eventually to get a surface which does not puddle and bake.

14. Getting rid of land crabs.—We are much bothered by land crabs. Have you any data that you can give us in regard to destroying them?—(Bermuda.)

We have found that the most practical means of destroying this crab is by means of carbon bisulphide in fumigating the burrows. The most successful method of handling the carbon bisulphide is by means of a long-nozzled oil can or a small kerosene can with a short nozzle. The hole in the nozzle in either case should be partially closed so as to allow the liquid to drop out slowly. Five or six drops of the carbon bisulphide should be dropped directly into the burrow of the crab and the entrance immediately closed by stepping on it with the heel. A number of the tomato growers in Florida who have used this method have claimed that it is too expensive, but we find that their difficulty has been in using perhaps fifty times too much carbon bisulphide.