QUESTIONS AND ANSWERS

All questions sent to the Green Section 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 Section.

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. Controlling ants and eradicating plantain.—We have been greatly bothered lately with ants appearing on the greens and do not know the best method to pursue to exterminate them. We should therefore be pleased to have your recommendations in the matter. We should also like to know what you would recommend to get rid of plantain weeds which are growing in one or two of the fairways and seem to be gaining on us very much. (Pennsylvania.)

ANSWER.—We have been unsuccessful in finding anything which could be relied upon to rid putting greens of ants on a wholesale scale. In fact, the only means of getting rid of them that we have observed up to this year is to treat each individual nest with some substance such as carbon disulfid or paradichlorbenzine. This material should be injected into the nest and then the hole stopped up. We have this year however noticed on our brown-patch experimental plots at the Arlington Turf Garden that where we apply corrosive sublimate the ants are either killed or driven away, and while this is not sufficient evidence of the efficacy of bichlorid in this respect to justify a positive recommendation we feel that it is worth experimenting with further. We would suggest that you mix 2 pounds of corrosive sublimate with a cubic yard of compost, topdress 5,000 square feet of your green most seriously infested with these pests, and follow the topdressing immediately with a thorough watering. Corrosive sublimate has shown indication of being a very effective remedy for the brown-patch disease and is also one of the best known remedies for earthworms.

With regard to the plantain in your fairways, we know of no means of getting rid of it other than digging it out or treating it with chemical weed-killers, which are likely to burn your grass to a considerable extent. Of course, in case of there being only a few plants scattered sparsely over the fairway, it might be found practicable to take a can of sulfuric acid and use some instrument similar to an ice pick, dipping this into the acid and piercing the crown of each plant. If the plants occur thickly in small areas, probably the best method would be either to plow the areas up or spray them with an iron sulfate solution consisting of 1½ pounds to 1 gallon of water. This treatment may have to be repeated three or four times during the season to get the desired results.

2. Preparing compost in the open.—We are considering the old method of putting humus and manure on the ground and turning it over with a plow possibly two or three times and then using it when

it is two years old, and not incorporating ammonium sulfate in the compost but applying it to the greens at the time they are topdressed. Do you think this would be an improvement over the method of putting the ammonium sulfate in the compost pile when it is first made? (Kentucky.)

ANSWER.—The method you propose should be entirely satisfactory. There are some objections to preparing compost in the open, and there are some advantages in the practice. The objections are that the natural fertilizing elements in the manure leach to some extent into the underlying soil through the action of rains, work on the compost can not be performed during rainy spells when as a rule the men on the course can not be employed in their customary duties, and additional labor is required in applying ammonium sulfate to the greens when the chemical is not worked into the compost at the time the compost is worked over. The advantages are that the expense of the erection of a compost shed is avoided, the compost can be turned more economically with a plow when it is spread out and not piled up, and decomposition is hastened in the compost through the heat of the sun and the moisture from rains and dew. We note you speak of using "humus" in your compost. If by this you mean "commercial humus," which is in the form of peat, we would advise you not to use it, as it is a form of humus not available for grass food. If however by "humus" you mean fresh vegetable matter, such as leaves or grass clippings, it will be excellent material to use, with manure, in your compost.

3. Treatment of land for coastal fairways at sea level; grass for locations where salty water collects.—Our fairways on made land slightly above sea level are giving us trouble, while those on natural land are satisfactory. On the former fairways the grass is either very cuppy or thin. Some of this land appears to be too heavy, and some is sandy and does not retain moisture. This land was made largely by sucking in mud and sand from the harbor. In low spots where salty water collects it seems impossible to grow any grass. Can you offer any helpful suggestions for correcting these conditions? (Connecticut.)

ANSWER.—From the conditions as you state them we are much inclined to the opinion that your principal trouble is insufficient drainage. We realize that it is very hard properly to drain flat land which is scarcely above water level. We would suggest that if possible you have your land diked against high water and have the water drained into a basin from which it can be pumped either continuously or whenever necessary. This method of drainage has been much used for agricultural land not above sea level. The heavy and light condition of the soil of your fairways can be much helped by frequently topdressing the heavy portions with sand and the sandy portions with clay. As for a grass to grow in locations where salty water collects, the only grass we know of suitable for the purpose is the common salt-grass, which occurs frequently along the seashore and which possibly may be near your own course. It has an abundance of underground creeping stems; and it is necessary only to take up the sod of this grass, chop it up, scatter the chopped stolons on the ground, and roll them in or cover them lightly. This grass will make splendid turf even where it is covered by salty water or high tide.

4. Fescue and Poa trivialis in seed mixture for putting greens.—A seed mixture of 60 percent fescue and 40 percent German mixed bent and *Poa trivialis* has been strongly recommended to us for our putting greens. Previously we had a very unfavorable experience with a mixture containing 80 percent fescue. The grass germinated luxuriantly, but failed to stand up under close cutting. Could it be that the fescue is included in the mixture as a protective growth to shield the other grasses, which are intended to be permanent? (Nebraska.)

ANSWER.—Fescue has not proved to be a satisfactory grass in the Middle West, and *Poa trivialis* would certainly not survive except in shady spots. There are very few places in the United States where fescue gives any satisfaction at all. We would advise you to use either straight German mixed bent for your greens, or else bluegrass and white clover. With the bent you must expect considerable trouble from brown-patch from the middle of July until the middle of September, whereas bluegrass and white clover are not attacked by this disease and furnish a passable putting green turf, though not of the highest type.

5. Fertilizing value of furnace dust and soot.—I am sending you a sample of dust that collects back of the combustion chamber under the boilers of a local steam plant which burns sawdust. What value has it as a fertilizer? I would also like to know the value of soot and the method of applying it. (Oregon.)

ANSWER.—Furnace dust and soot have very little fertilizing value. Indeed, the fertilizing value of each is so low that we do not believe one is justified in using it even if the material costs nothing, as it is not considered that it will pay for the labor necessary to apply it.

6. Moss or green scum on fairways.—Can you advise what the cause may be and what remedy is suggested for the occurrence of moss or a green scum on fairway soil? (New York.)

ANSWER.—Two common causes for this condition are, insufficient drainage and poverty of soil. At times also when manure is used to excess, a green scum will appear. We would suggest that you improve the drainage in case you find it defective, or else fertilize these spots with a chemical fertilizer, such as nitrate of soda or ammonium sulfate.

7. Underground watering systems.—We are building two new greens and wish to know if it is practicable to install an underground watering system to render it unnecessary to make use of sprinklers. (New York.)

ANSWER.—The experience has been that surface sprinkling is more desirable. With greens properly constructed as to drainage, it is a simple matter to regulate the amount of water needed to keep the turf in good condition, by the use of surface sprinklers, while with underground irrigation it is difficult to control the applications of water in such a way as to insure good results at all times.

MR. GREEN-COMMITTEE CHAIRMAN:

Much of the progress the Green Section has made has been due to cooperative efforts on the part of green-committeemen. Further progress will depend largely on the loyalty and enthusiasm of these men.

As announced in the July issue of The Bulletin, the Executive Committee of the Green Section has recently sent a letter to the president of every golf club in the United States outlining plans for raising an endowment fund to put the Green Section on a sure foundation.

An appeal is now made to you to aid your club president in this work.

If every golfer in the United States contributes one dollar to this fund the Green Section can not only carry on as heretofore but can widen its field of usefulness.

Many calls for personal service have to be refused because of a lack of trained men.

Much needed experimental work in the North, South, East, and West can not be undertaken because of a lack of funds.

Your earnest efforts will help to remedy this situation.

That the Green Section is of real value to golf is proved by its growth in five and a half years to a membership of 925 clubs.

Great Britain and Canada have followed the lead of the United States Golf Association and now have well organized Green Sections of their own. Their problems are more localized than ours.

A house is no more stable than its foundation. Shall the United States Golf Association Green Section have a firm one?

THE GREEN SECTION.