OUR LETTER BOX

The Green Section receives numerous inquiries concerning local turf problems and is always glad to reply to them. With the hope that some of these questions and answers may be helpful to others besides the original correspondent, a few of them will be published. While most of the answers will have a general application, it should be remembered that each recommendation is intended for the locality designated at the end of the question.

Control of fungus diseases on lawns.—The past summer my lawn has been damaged by a web formation which killed the grass beneath it. I was told this was a fungus growth and that it could be controlled by raking and thereby breaking the web each morning. What is the cause of this condition? Can you suggest any other control? (New York.)

ANSWER.—The damage to which you refer was no doubt due to one of the diseases which we commonly know as brownpatch or dollarspot. These diseases are caused by a fungus growth and, due to the abundance of moisture, were unusually prevalent in your district the past summer.

Diseases caused by fungi can be reduced by avoiding excessive watering and also by avoiding excessive fertilizing, especially during the summer months. If you wish to go to the added expense of making chemical treatments to prevent these diseases you may control them very effectively by the application of corrosive sublimate or calomel, applied at rates of from 1 to 3 ounces to 1,000 square feet.

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Bermuda grass in Maryland.—We have been experimenting with Bermuda grass with considerable success. Our soil is quite sandy with some clay mixed with it. Do you believe Bermuda grass satisfactory for turf purposes in this section? In planting Bermuda grass is it necessary to plant grass that has roots formed or will the "knuckles" or "joints" of the stalk take root? Can you suggest a better grass for this type of soil? (Maryland.)

ANSWER.—Bermuda grass may do well in Maryland in certain areas that have a southern exposure. For general planting, however, it is likely

to be unsuccessful due to the fact that it may partly winterkill. In planting Bermuda grass it is not necessary to have roots on the stolons for new roots will be produced at each of the "joints." Ordinarily Kentucky bluegrass will give best results for turf in your section. It may be mixed with 20 percent redtop for general seeding purposes.

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Establishing Bermuda grass on alkaline soil.—On a golf course which we are building we find that tests of surface soil show an alkaline reaction of pH 8.5 and an average salt content on a moisture free basis of approximately 0.24. What procedure would you recommend in bringing this soil to a neutral condition suitable for the development of Bermuda grass? (Florida.)

ANSWER.—The best way to do this would be to apply finely divided sulfur. However, this would probably not be worthwhile. Good Bermuda grass is grown on soil with a pH of 8.5. Also, you may find that as the salt leaches out the pH will be lowered. Most likely if you feed the Bermuda grass well it will thrive in spite of the alkalinity. It would be important, however, to get a good cover of grass on this soil as rapidly as possible. This would prevent an excessive concentration of salt on the surface in hot dry weather.

Liberal applications of sulfate of ammonia would no doubt give you more for the money than any other material you could apply under these conditions. It would not only have the effect of stimulating the grass to give a good protective covering to the surface soil but it would also ultimately neutralize some of the alkalies in the soil.

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Watering turf.—It has been my understanding that proper watering is fundamentally deep watering, and that the guide as to the quantity of water needed to be supplied is the degree to which the rainfall varies from normal. Should an attempt be made through irrigation to supply the soil with the exact deficiency from normal? Any information on the subject of watering will be appreciated. (Pennsylvania.)

ANSWER. — Your statement about the desirability of deep watering in preference to shallow watering is correct. In a general way, in your district normal rainfall will keep turf in reasonably good condition. Heavy showers with excessive run-off or extreme drought will, however, modify these requirements.

If on the first of April you have a deficiency of 2 inches and the early part of April continues dry, we would add no water until the grass shows definitely that it is suffering from lack of water. This will be expressed in the wilting and gradual browning of the turf, particularly in rather limited spots. Then use water to wet the soil down to a depth of at least 4 or 5 inches.

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Use of mercurials in the control of turf diseases.—In connection with the use of bichloride of mercury and calomel for combating dollarspot and brownpatch, we would like to inquire whether it is possible to use mercury without discoloration of the grass. We would like to have your advice also as to the amount of water to be used with the powdered mercury and calomel and whether or not these chemicals deteriorate when mixed with water and allowed to stand in open glass jars before using the material. (Michigan.)

ANSWER.—It is possible to use these mercury compounds on turf without any discoloration. In hot humid weather, however, there is more apt to be injury than in cooler or dryer weather. Therefore, it is necessary to use much lower rates on such occasions. Ordinarily we recommend the application of 3 ounces of these materials alone or in combination, to 1,000 square feet. In especially hot humid weather, however, we advise that the rates be cut to 1 ounce and in some cases even to one-half ounce to 1,000 square feet.

These chemicals do not deteriorate when standing in water. It is well to water the grass lightly after an application of mercury compounds. If you are applying them by the spray method the amount of water required will vary somewhat with the type of spray equipment you are using—the size of nozzles, etc. Ordinarily 10 or 15 gallons to 5,000 square feet will be sufficient to give a good coverage.

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Control of mouse-ear chickweed.—Under separate cover I am sending a sample of a weed for identification. I would greatly appreciate any additional information you could give me as to its habits and eradication. (Pennsylvania.)

ANSWER.—The weed specimen you sent to us is mouse-ear chickweed. If this weed is too well distributed to justify hand weeding it may be checked with sulfate of

ammonia or other chemicals. This species, like other chickweeds, is likely to be very sensitive to arsenical poisoning and may often be checked by applications of arsenate of lead. A more certain method is to spray with sodium arsenite or arsenic acid using 3 to 4 ounces dissolved in 2 to 5 gallons of water to 1,000 square feet.

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Algae on greens.—I would like to know what treatment you would recommend for algae in turf. (Ohio.)

ANSWER. — Algae are minute green plants that form a scum on turf wherever there is sufficient moisture and where the grass has been injured by disease or other causes. Scums of algae are usually troublesome in low, heavily watered areas. Thick growths should be raked with an iron rake or spiked to break up the scum. The affected areas should then be treated with corrosive sublimate (mercuric chloride) and topdressed. Also, it would be well to curtail the watering decidedly.

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Grass for shady areas.—I would appreciate very much some information from your office regarding suitable grasses for shady and semi-shady spots. (Virginia.)

ANSWER.—For your shaded areas where the soil tends to remain moist or which can be watered regularly, we think you will find that *Poa trivialis* can be expected to give the best results. It will have, however, a weak period during the summer months. For the areas that are well drained and tend to be rather dry the best grass for shade is Chewings fescue. Kentucky bluegrass should do well in partial shade and out in the open. It will, however, die during the summer months in most heavily shaded places.

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Night or day watering.—Our watering system is of the hose and sprinkler type and in order to make the necessary coverage we are often compelled to water our turf in the daytime. Criticism has been expressed of our day watering in that it results in heavy losses of water. I would like to have your opinion on day watering as opposed to night watering. (New York.)

ANSWER.—All of the tests that have been made with watering seem to indicate that from the standpoint of grass there is little difference

whether the water is applied during the night or during the day. There is no doubt a little more loss of water during the day than during the night applications. On the other hand, where the hose and sprinkler system is used, there is a distinct advantage in watering in the daytime, since the men operating the sprinklers can see in the daytime where the sprinklers should be placed to get the most water on the driest areas.

On turfed areas, such as golf fairways or sportsfields where there may be heavy play in the daytime, another question arises. In such cases the question of day as against night watering may be decided on the basis of convenience from the standpoint of play as well as convenience in handling the labor and equipment. Grass seems to be well satisfied with an adequate supply of water either in daylight or dark.

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Planting Washington bent.—We have in mind planting Washington bent stolons, and would like to know how late in the season this can be done. What is the rate at which stolons should be planted? (Minnesota.)

ANSWER.—You can plant stolons successfully up until the end of September. Earlier plantings, however, are to be preferred. If it is impossible to make the plantings in the fall, you can do so to good advantage in the early spring.

We ordinarily recommend that the stolons be planted at the rate of 1 square foot of nursery stock to 10 square feet of turfed area. Lighter plantings are practical but come along more slowly.

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Turfing daisy too expensive.—Can the turfing daisy (*Matricaria tchihatchewi*) be used as a substitute for grass on an acre lawn? (Connecticut.)

ANSWER. — The turfing daisy has a place on small areas where grass does not do well, but it would cost too much to use it on an acre basis. Seed is scarce and nurserymen charge $1.00 for 15 plants. Set 15 inches apart each way, about 30,000 plants would be needed for an acre planting. At present prices this would amount to $2,000. If set closer for quicker results the cost would be still higher.


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