

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. If your experience leads you to disagree with any answer here given it is your privilege and duty to write to the Green Section. While most of the answers are of general application, it must be borne in mind that each recommendation is intended specifically for the locality designated at the end of the question.

Gauging strength of fertilizer or fungicide solution in barrel cart and power sprayer.—In using a power sprayer, should the amount of fertilizer or fungicide be the same in 50 gallons of water, as in 50 gallons of water in a barrel cart? I would like to cover a whole green, by means of the sprayer, with 100 gallons of water. Our greens average 7,500 square feet in area. The sprayer can cover the ground more quickly than the barrel cart. How can I determine the amount of sulphate of ammonia, nitrate of soda, or corrosive sublimate to use in the power sprayer and in the barrel cart? (Illinois)

ANSWER.—It does not matter how strong a solution of any of these chemicals you apply provided you are able to get the proper amount of the chemical on a certain area of turf. If you could make the solution weak enough by putting sufficient water with it, it would not be necessary to water the turf after the application is made, but usually the chemical is mixed with only sufficient water to permit its being evenly distributed and a man is left on the green to water it after the sprayer wagon or barrel cart has gone on to treat another green. More area can not be covered by the sprayer than by the barrel cart when a solution of the same strength is used, but with the sprayer less water is required to mix with the chemical in order to obtain an even distribution. Thus if you had a green of 5,000 square feet and wished to apply corrosive sublimate at the rate of 2 ounces to 1,000 square feet, it would take 10 ounces of corrosive sublimate to treat the green for disease regardless of whether the chemical was applied mixed with a yard of topsoil, mixed with 50 gallons of water and applied with a power sprayer, or mixed with 150 gallons of water and applied with a barrel cart. Probably this amount could be applied most quickly with a power sprayer. If you found that 50 gallons of water with a power sprayer was sufficient to cover thoroughly 5,000 square feet, and your sprayer was of 250-gallons capacity, you could put 50 ounces of corrosive sublimate in the tank and fill it. Then by watching the gauge you could apply 50 gallons of solution to a 5,000-square-foot green and know that you had applied 10 ounces of corrosive sublimate. You would then have sufficient solution left in the tank to go onto other greens and do four more 5,000-square-foot greens or an equivalent area.

Activated sludge as a substitute for stable manure on fairways.—We wish to fertilize our fairways. They have an even stand of grass but are cuppy. We have demonstrated on our approaches the value of fertilization. We have previously applied a thin covering of stable

manure, thin because scarce and fairly expensive. Can you recommend the use of activated sludge? Such commercial manures as poultry, sheep, and ground bone are very difficult for us to handle on account of our windy location. We understand activated sludge is more granular. Can we afford to use rotted stable manure on our fairways at a cost of \$3 a yard measured after loading? It is composted with seaweed as used in stables, and breaks up very fine in a manure spreader, but a yard of it does not cover much ground. (Massachusetts)

ANSWER.—We do not recommend the use of stable manure for topdressing putting greens and fairways, since it often contains a great quantity of weed and clover seeds and moreover can be used to better advantage in preparing compost. Activated sludge (Milorganite) is usually as much as 5 times as effective as well-rotted stable manure. We have had very good results from its use and do not hesitate to recommend it for use on fairways. It should be applied to fairways at the rate of at least 600 pounds an acre for best results. It is granular and spreads more easily in the wind than finer material. The cost of 600 pounds of activated sludge would be from \$8 to \$9 while it would require about 2 yards of manure to supply the same amount of plant food. The cost of handling the manure would probably be a little greater, but at the price for which you are able to purchase manure it would appear that it is somewhat cheaper, if one does not consider the possible injury to the fairways by the introduction of the large quantities of clover and weed seeds which manure contains. Although 2 tons of manure would supply the same amount of plant food as 600 pounds of activated sludge, we doubt that 2 tons of manure could be spread on an acre of land in a sufficiently thin and uniform layer unless it were mixed with some soil or other inert material, and that of course would bring the cost close to the price of activated sludge. We would recommend that you use your manure in the soil or compost pile for making topdressing material, as manure is an excellent source of organic matter.

Effect of frequent watering and close cutting on prevalence of crabgrass and clover in fairway turf.—The bluegrass in our fairways has thinned out considerably this fall and there is an abundance of clover and foreign grasses in the turf. The growth of crabgrass has been very heavy during the past two summers. In some spots the bluegrass is returning, but where the crabgrass was thickest the bluegrass seems to have been killed. We have watered our fairways twice a week for the past three years during periods of drought, and also have cut them twice a week. Has the constant cutting of the bluegrass contributed to its thinning out? It thrives in the rough, which is not cut. (Indiana)

ANSWER.—During the summer bluegrass will not withstand close cutting; it is therefore advisable to raise the fairway mowers when cutting in the summer, as the longer the blades of bluegrass are permitted to grow the better will the plants withstand summer conditions and the more lateral growth will they make. This will necessarily call for more frequent cutting of the fairways, though not close cutting. The results of fairway watering in so far as the growth of crabgrass and clover is concerned are at present debatable. It is

claimed by some that if a good bluegrass sod can be obtained and is kept well fertilized it will not be injured by crabgrass and clover though watered frequently throughout the summer. Others are finding that in spite of heavy fertilizing the bluegrass will lose out in districts where such vigorous summer plants as crabgrass thrive. Our recommendations at present are that superficial watering of fairways be avoided and that the aim in watering be simply to protect the turf from injury during periods of drought. In districts such as yours it should be possible to maintain good bluegrass turf and not use the fairway watering system more than once a week. When fairways are watered they should be watered sufficiently to create a reserve supply of moisture in the soil. Frequent light surface watering increases the growth of crabgrass rapidly.

What is the correct grade for the surface of a tee? (New York)

ANSWER.—As far as the game is concerned no particular grade has been designated for the surface of a tee. It is customary, however, to grade the tee so that it slopes away from the green. This grade, however, should not be noticeable to the eye. As far as turf maintenance and convenience to players are concerned it is well to have a slight grade on a tee in order that the surface water may drain away quickly. A slope of 2 to 3 per cent is the usual grade on teeing areas and is sufficient to take care of drainage.

Renovating greens of the Virginia strain of creeping bent which has thinned from drought.—Last summer our water supply gave out and the turf on two of our greens is quite thin. Should we reseed or plant with stolons? (Illinois)

ANSWER.—We suggest you try to establish some other strain of grass on your greens that have suffered from lack of water. Ordinarily when turf of the Virginia strain of creeping bent is in a healthy condition it is not easy to introduce other grasses, but when the Virginia bent is in a poor condition there is a fair chance that another strain may become established before the Virginia bent has recovered sufficiently to compete with the new grass. In your section, for spring planting, you are likely to have success with seed of the seaside creeping bent. Our recommendation is that as soon as the frost is out of the ground in the spring you rake all the dead material off the greens, cut them as closely as possible, supply some good organic nitrogen carrier or some complete mixed fertilizer at the rate of 20 to 25 pounds to 1,000 square feet, and seed at the rate of 3 pounds to 1,000 square feet. This should be followed with top-dressing.

Grass mixture for tees.—What grass seed mixture would you recommend for planting our tees, and at what rate should it be sown? (Pennsylvania)

ANSWER.—Our experimental work indicates that for your part of the country the following tee mixture will give good results: 40 per cent of Kentucky bluegrass, 40 per cent of Chewings fescue, 10 per cent of colonial bent, and 10 per cent of redtop. Eight pounds of this mixture to 1,000 square feet should be sufficient.



**Carelessness does more harm than want of
knowledge.**

Benjamin Franklin

