

### An Additional List of Books Suitable for the Libraries of Golf Clubs

(ATTENTION IS INVITED TO PREVIOUS LISTS ON PAGES 107 AND 218 OF THE CURRENT VOLUME.)

*The following may be obtained upon application to Department of Agriculture, Washington, D. C.:*

Tractors on Southern Farms. Farmers' Bulletin 1278.

Excavating Machinery Used in Land Drainage. Department Bulletin 300.

Portland Cement Concrete Roads. Department Bulletin 1077.

Plain Concrete for Farm Use. Farmers' Bulletin 1279.

Tree Surgery. Farmers' Bulletin 1178.

Flytraps and Their Operation. Farmers' Bulletin 734.

The Green June Beetle. Department Bulletin 891.

Grasshopper Control. Farmers' Bulletin 747.

*The following may be obtained at a cost of 20 cents from the Superintendent of Documents, Washington, D. C.:*

Leafhoppers Affecting Cereal, Grass and Forage Crops. Bureau of Entomology Bulletin 108.

**Professional golfers' register.** A register of professional golfers is maintained by the Professional Golfers' Association. Clubs desiring the services of a competent professional are invited to make their wants known to the Secretary, Professional Golfers' Association, 366 Fifth Avenue, New York, N. Y.

## 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. Winter treatment of greens; rolling top-dressing, fertilizing.**—Greens upon which we have played during the winter (since Dr. Harban's statement that winter play did not injure them) have done exceptionally well, and considering this we thought that maybe a light rolling, when conditions were right, might help, as we are not going to permit winter play this year, for various reasons. Would an occasional light rolling during the winter, to offset the heaving of the greens, be beneficial? We would also like to know if an occasional light application of sulphate of ammonia during the winter would be beneficial in creating and maintaining a soil condition suitable to the growing of bent grasses. We have been making a very light application about every six weeks during the playing season, and our greens have stayed in good condition.—(Indiana.)

An occasional light rolling of your greens during the winter is all right if you do the rolling when the ground is in good condition—that is, when the frost is not in the ground and the ground is not soggy because of too much water. Rolling at that time can do no harm and will doubtless be beneficial. Certainly it will improve conditions for play greatly. We do not believe you will get any results at all from the use of sulfate of ammonia during the winter. If your soil is at all heavy—that is, inclined to get pretty soggy—when it freezes and thaws the best thing to do will be to give it an occasional light top-dressing of sand. That is the only thing, we think, you can add as a top-dressing during the winter on greens upon which you are playing that will be beneficial.

2. **Winter top-dressing of greens.**—It has been our intention to top-dress all of our putting greens this fall with a mixture of loam, manure, and sand. Owing to the pressure of other work we had contemplated postponing the dressing until later in the season, in all probability after the ground had become frozen. We have, however, been informed that the placing of compost upon a frozen turf will result in the yellowing of the grass during the spring. Kindly advise us on this point.—(Pennsylvania.)

You are perfectly safe in top-dressing your greens as you propose, but the top-dressing should not be over one-eighth of an inch deep. The yellowing of turf from top-dressing results only when the top-dressing is put on so thickly that light can not get to the grass. It is never desirable to top-dress that heavily.

3. **Winter seeding in Ohio.**—We are laying out our golf course and our architect has recommended to our committee that they seed in December. Is it your opinion that this is good policy here in Ohio? With our ground in good condition, when do you consider it desirable to seed in our section, aside from fall seeding?—(Ohio.)

We would regard the seeding of a golf course in December in Ohio as a very dubious proposition indeed. We think it would be much better to have the land well prepared so that it could be seeded just as early in spring as possible. That would certainly be a safer proposition than to risk seeding in December.

4. **Controlling Dallis and Vasey grasses; winter greens for the south.**—Our 9-hole course is located in the hills, and naturally the soil in the valleys is richer than that on the hillsides. Both our fairways and greens are Bermuda turf. During the past year we have been confronted with a growth of a wide-blade, deep-rooted, tough bunch grass. This has spread very rapidly, especially in the valleys, but it has not appeared in the greens. We are sending you a specimen of this grass. Will you kindly identify it for us and advise us as to how we can fight this grass. We have noted that it is a good idea to sow greens with redtop or Italian rye grass for winter purposes. Is it too late to do this at this time (November 21)? What is the best kind of fertilizer to use on the greens?—(Arkansas.)

The specimen of grass you send us is Dallis grass (*Paspalum dilatatum*)—a very valuable hay and pasture grass in the south. You will find it mentioned in *Farmers' Bulletin No. 1125*, issued by the Department of Agriculture. This grass has great ability to spread in lawns and pasture lands, and both this species and the one related to it, namely, Vasey grass, have been more or less troublesome on golf courses around New Orleans. The Vasey grass, however, is much more troublesome than the Dallis grass, making larger, coarser bunches. If it is a serious detriment on your fairways there is only one way to fight it, and that is to grub out each plant, and then to take precautions that the grass does not go to seed in the rough or nearby so that the seed is blown over the fairway. This is rather an expensive proposition, but we can make no other suggestion.

It is not too late to sow your Bermuda greens to redtop or Italian rye-grass for winter purposes. We would advise doing this just as quickly as you can. For winter greens the plan is to cut your Bermuda as closely as possible about the first of October and then to seed heavily to redtop or Italian rye-grass. The redtop will produce the finer turf. The new seeding will remain green all winter. The best fertilizer for your putting greens is top-dressing, using good compost. In the absence of this, bone meal is satisfactory.

5. **Use of lime in compost; undesirability of use of phosphatic fertilizer.**—I note that in some of your BULLETINS you suggest the use of lime in building up composts of muck soil. I have various other sources of information which advise that it is not wise to use lime with muck soil to make compost on account of the fact that lime will set the ammonia free which is in the muck and thus render the muck of much less value. I have been advised, however, to use acid phosphate or soft phosphate rock to compost with muck in order to render it suitable for top-dressing on greens. I further beg to advise that the muck we have available becomes hard on exposure to the air, and needs something mixed or composted with it which will do away with its tendency to harden and put it in good mechanical condition. I would like to obtain further information on this subject if there is any available.—(Florida.)

We regret that there are very few definite data on the effect of lime on muck in compost beds, but it seems to be the consensus of opinion that lime is very helpful in rendering muck more useful as a constituent of compost. Some mucks or peats give a decided acid reaction while some give a neutral or alkaline reaction. We think without a question lime should be used where the muck is acid and probably also where it is neutral or alkaline. Most mucks are slow in decaying, and compost of these used as a fertilizer should decay with reasonable rapidity. Lime hastens decay somewhat. As for its ammonia-liberating action, there is not enough of this to consider seriously when lime is used at the rate suggested in THE BULLETIN to which you refer. We are quite strongly of the opinion that lime in compost, especially where muck is an important constituent, is very helpful and a useful ingredient. Acid phosphate is also a very useful constituent of compost where the compost is to be used on certain crops, but it is not apparently desirable where turf grasses are concerned, since it is inclined to encourage the growth of white clover and other less desirable plants. We have no doubt that ground rock phosphate would be as useful as acid phosphate in a compost bed; but that neither will take the place of lime. The phosphates are sometimes used as absorbents in stables where free ammonia gas is being liberated. There is no evidence that any ammonia gas is lost from a compost pile.

6. **Golf turf for sand dunes.**—We have an 18-hole golf course laid out over the sand dunes of this island. Originally the dunes were clear sand, then they were covered by the beach grass, etc., and now they are covered with a dry moss and tufted grass. Our method of treatment has been to lightly disk-harrow, loam, seed, and roll. We have had good results, but the grass is fine and light and does not stand hard usage. Would the creeping bent do well under the outlined conditions?—(Massachusetts.)

It is practically impossible to grow turf on dune sand for improving the soil. The grasses that do best on dune sand are red fescue and Rhode Island bent for the fairways, and sheep's fescue for the rough. On the putting greens, of course, you can grow any kind of grass you want if you can make the soil conditions proper, and creeping bent is the best of all grasses for this purpose. In order to get your fairways established even with red fescue or any other grass and make good turf, you will have to add clay or clay loam or some such material to bind the sand into something resembling an ordinary soil. The method used at Pine Valley (New Jersey) on some of their very sandy fairways was to top-dress them with a light clay which they were able to get out of pits, and using manure as a fertilizer. In following this method it is best to do it continuously until your soil conditions are right. Employ an economical treatment and avoid trying to effect an immediate remedy but keep improving conditions gradually.