

Municipal Golf.—City officials and individuals interested in the promotion of municipal golf will be interested in a recent pamphlet entitled *Municipal Golf*, which discusses the construction and administration of municipal golf courses and contains a number of tables giving facts about the cost of operation and dues and charges. This 48-page pamphlet may be secured from the Playground and Recreation Association of America, 315 Fourth Avenue, New York City.

The Service Bureau of the Metropolitan Golf Association, co-operating with the New Jersey State Golf Association, will hold an exhibition and demonstration of golf course equipment on October 27 at the Shackamaxon Country Club, Westfield, N. J. The demonstration of equipment will include tractors and fairway units, compost machines, power mowers, hand mowers, greens mowers, greens topdressers, greens sweepers, sprinklers, and worm eradicators. This should prove a most instructive meeting, and will doubtless be largely attended by greens chairmen and greenkeepers of the Metropolitan District.

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. How best to utilize manure.—We are able to obtain manure in considerable quantity from a neighboring riding club and are anxious to have advice as to the best method of utilizing it. There is considerable bedding straw in the manure, and we are considering the construction of pits, to be covered with latticework, on which the manure may be dumped and sifted through into the pit so that the straw will be removed. (Connecticut.)

ANSWER.—Manure may be best utilized by a golf club either as an ingredient of topdressing or a source of liquid manure. The expense involved in the making and application of liquid manure is perhaps greater than in composting the manure and applying the compost; the use of liquid manure, however, gives excellent results. Liquid manure pits and the use of the material have been discussed in *THE BULLETIN* on the following pages: Page 327, December, 1922; page 147, May, 1923; page 278, November, 1923. In using manure in topdressing, it should first be composted until it is well rotted. This will require about a year's time. The rotted manure may then be used as an ingredient of your topdressing material. Not more than one-fourth of the topdressing material should consist of composted manure, the balance being preferably a clay or sandy loam, as the nature of your soil may require. As your topdressing material should be sifted before being used, it is not necessary to remove the straw from the manure when composting it.

2. Value, use, and testing of swamp muck.—Part of our course is a reclaimed swamp with very rich black dirt on the surface and swamp muck underneath; it is very low and poorly drained. We presume this swamp muck will prove to be rather sour. How much other material should we mix into this swamp muck to be on the safe side? We have great quantities of peat on our course and are thinking of mixing it heavily with manure and chopping the whole thing up and mixing it thoroughly with the soil by means of constant disking, the idea being to increase the spring of the soil. (Connecticut.)

ANSWER.—Some swamp mucks and peat are bad, being toxic; others are good. You can readily test muck or peat by putting some of the material in a box and seeding it to redtop or other grass seed, and then keeping it well watered and in a warm place. If the seedlings develop and have a good color, the material is all right; if, however, the seedlings quickly turn yellow, the material is toxic. We would suggest that you use your muck or peat only in compost heaps, which should consist of about six parts good top soil, one part manure, and one part peat. You should not allow the percentage of muck or peat in your compost heap to exceed 25.

3. Alfalfa eradication from the rough.—We have a considerable quantity of alfalfa which grows in what will be our rough, and we desire to exterminate it. What is the best method of killing alfalfa? (New York.)

ANSWER.—With regard to killing alfalfa in your rough, it is rather difficult to do this, especially if you have a thick stand of it. To get rid of an alfalfa plant you must cut it off to about 6 inches underneath the surface of the ground. If you have scattered plants this can be done very readily by the use of a mattock, cutting off each individual plant and removing the top that is cut off. If the stand of alfalfa is so thick that this would be rather expensive as regards the labor cost, your only other recourse would be to plow up the rough and rake the alfalfa plants out with a spike-tooth harrow, removing the plants—root and all—and hauling them away.

4. Plugging greens with creeping bent sod.—We are putting in 3-inch plugs of creeping bent into a green 18 inches apart. Do you think this will eventually spread over the whole green? (Michigan.)

ANSWER.—In this manner the creeping bent will eventually, though slowly, cover the entire green. Much more rapid results have been obtained by simply scattering stolons of creeping bent over a green, and then topdressing.

5. Prevention of Bermuda and wild grass growth in sand bunkers.—What can we use to keep Bermuda and wild grass from growing in sand bunkers? Is there a solution we can use for this? (Tennessee.)

ANSWER.—The cheapest weed killer of all is common salt, and this applied liberally will kill Bermuda or any other grass. Other substitutes used are mineral oils of various kinds, but these are highly undesirable in bunkers, as they will cake the sand. Another very common weed killer is sodium arsenite—probably the most effective of all but more expensive than common salt, which should prove entirely satisfactory.

Don't raise the tee above the ground level, unless necessary to secure visibility or drainage. It's easier to grow and maintain turf on the ground level.

The first essential of a putting green is good drainage. Very often it can be improved later by more drainage. Now and then still more drainage is advisable.

It is money well spent to send your greenkeeper to see other courses and talk with other greenkeepers.

When your fairways begin to look weak, get busy with fertilizers. Top-dressing weak places is always good practice.

Too much manure can be as unsatisfactory as none at all.

The greenkeeper can not change his crops as does the farmer, so he should change the soil by topdressing his turf with compost.

The problem of weed seed in compost is best solved by making the compost a year in advance.

Starving the turf to make it tough is the most hopeless of all theories of greenkeeping.

If you have a new idea about greenkeeping, test it out by all means. But test it first on a very small scale.

Progress in better greenkeeping can be gained only by experimental research. It can't be done by theorizing.

An important consideration is to avoid any kind of topdressing that will make a compact surface layer. Too much manure or clay or sand on clay will each tend to make a bad surface layer under certain conditions.

Golf playing, golf architecture, golf course construction, and greenkeeping or turf culture are four widely different subjects. It is a rare man indeed who is expert in more than one of them.

There is one test that always gives a clue to the carefulness of the greenkeeper. It's the replaced plug after a hole is moved. If the plug is nice and green, no one notices it at all; if it is brown or dead or does not completely fill the old hole, someone has probably been in too great a hurry. Recently we saw nine dead plugs in one green.

On rich soil sheep's fescue will sometimes make a solid turf; on poor soil, scattered bunches of grass ideal for the rough. Skin the turf for compost and then seed sheep's fescue if you want an ideal rough.

Watch your putting greens on a very rainy day; then you can tell which ones need better surface drainage.

Good turf can not be maintained on a putting green unless both the surface drainage and the under drainage are good. It seems very hard for some people to appreciate the importance of good drainage, although probably 50 percent of putting green troubles are due to lack of it.

The first essential and the greatest need of a putting green is ample drainage.

The secret of good landscaping is to avoid straight lines.