QUESTIONS AND ANSWERS

All questions sent to the Green Committee will be answered 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. Converting redtop and fescue greens into bent greens.—Redtop seems to thrive here better than any grass we have sown. Would it be advisable to sow in redtop and next spring or fall sow bluegrass? Our greens are fescue and redtop. The grass is very thick, and we keep it short. We top-dress the grass with good rich soil two or three times during May and June and two or three times again in September and October, and seed each time we apply top-dressing. We understand that bent grasses are better and so have started a nursery. Is it advisable on our old greens that are not to be changed as the new course is laid out, to sow Rhode Island bent? Can we do better than continue seeding with fescue and redtop? (Indiana.)

In regard to your putting greens, we would have to see them to determine just what you have on the greens. Redtop is useful as an emergency grass. It usually does not live over two or three years on the putting green, and by the second year it becomes coarse. It is very rare indeed that you can maintain fescue on a green where it is mixed with redtop or any other grass, as the other grasses crowd out the fescue. Certainly there can be no doubt that the bents make the best of all greens. On your fescue and redtop greens it is useless, in our opinion, to put on additional fescue seed, as we have never succeeded in getting fescue to grow on top of old turf. While you are maintaining these as redtop and perhaps fescue greens, restrict your seeding to redtop. As a matter of fact, ordinarily you can get much better results with fertilizer than with reseeding. Redtop is probably an exception to this, as it is short-lived on putting greens. You can, however, gradually change your redtop and fescue greens to bent greens by seeding in the early fall—say September first—with bent seed, either Rhode Island bent, or preferably German mixed bent, and top-dressing after you seed. The bents will catch in the turf of all other grasses, and any other kind of a green can be changed to a bent green by this method. Bent seed, however, is scarce and expensive, and we would not advise you to plant it on your putting greens as late as the latter half of September.

2. Preservation of hose.—We have in use on our golf course about 2,000 feet of hose for watering greens. What is the best way of preserving such hose? Should it be kept on rollers or hung up near the greens on trees? (Ontario.)

It has been our observation that the most rapid deterioration of watering hose comes through getting sharp bends in the hose which break the outside coating of rubber, which is usually of very low grade, lacking elasticity and resilience. If in using, rolling, and unrolling the hose, no sharp bends or kinks are permitted to occur, the life of the hose should be greatly extended. For this reason it is believed such hose is best kept on

large rollers and when in use kept in straight lines or on wide, gradual curves and never bent at sharp angles. Furthermore, the hose when not in use is best kept in a shady, cool, and rather damp place. It is best, however, to empty it thoroughly before rolling up. Of course, none of these procedures will do anything to prevent the destruction of the fabric of the hose by mold growing in the interior, and to prevent this we have no suggestion other than the effort on the part of the manufacturer to so treat the fabric as to render it mildew-resistant. While wire-wrapped hose is of course less liable to sharp breaking bends than is plain hose, it is considerably more costly.

3. Bee hills in turf.—We are mailing you several specimens of bees which have made a habitation of our club-house lawns. These bees burrow under the ground and leave large piles of sand, much higher than the small piles of sand left by the red ant. They have so infested the lawns that it is impossible to step on the grass in some places without tramping on several of these bee hills. How can we exterminate these pests? (Pennsylvania.)

The specimens are one of the common species of short-tongued bees. Among the more common short-tongued bees are some that make their nests in the ground, and on this account are termed mining bees. The nest of a mining bee's house consists of a tunnel more or less branched, each branch leading to a single cell. The walls of these cells are glazed, appearing like the surface of earthenware. In each cell there is stored a quantity of pollen and nectar paste. An egg is laid with this food and the cell is then closed up. Still other species of these bees build their nests in grassy fields, sinking a perpendicular shaft with branches leading sidewise to the cells. The main shaft sometimes extends to a depth of more than one foot. These bees frequently build their nests near together, forming a large village. Sometimes a village of this kind, covering only one square-rod of ground, will include several thousand nests. We are rather surprised that these insects have become present in your lawns in such numbers as to become a nuisance. In the event, however, that they have become a real nuisance in the lawns, it would be quite easy to get rid of them by drenching the nests with boiling water or injecting a small quantity of kerosene or coal oil, and a similar treatment will apply to nests between or beneath paving stones. Another simple means of destroying bees in lawns of small extent is to spray the lawns with kerosene emulsion, or with a very strong soap wash, prepared by dissolving any common laundry soap in water at the rate of from half a pound to a pound of soap to the gallon of water. An effective control method for larger colonies is to inject into the nest a quantity of carbon disulfid. This substance can be placed in the nest with an oil can or small syringe, the quantity varying from half an ounce for a very tiny nest to 2 or 3 ounces or more, depending on the size of the nest. An oil can or syringe with a long spout is convenient for this purpose, as this can be inserted into the nests and the liquid injected without its being too near the operator's nose. To facilitate entrance of the chemical, the hole can be enlarged with a sharp stick or iron rod. The depth of the injection will depend on the size of the nest—from an inch or two to greater depths. After injection of the carbon disulfid the entrance opening should be closed by pressure of the foot to retain the disulfid, which will then penetrate slowly throughout the underground channels of the nest and kill the inmates. The efficiency of this remedy is increased by covering the nest immediately after the injection with a wet blanket or other heavy cloth, to better retain the fumes of the chemical. Carbon disulfid has a very disagreeable odor, but its fumes are not poisonous to higher animals.

It should be kept away from fire, as its fumes are inflammable and may explode if ignited, much like gasoline vapor.

4. Refrigeration as a means of killing crab grass.—Do you know of any experiments having been made at any time to bring about an artificial result similar to frost with a view to killing crab grass? It seems to us that while it might be rather expensive, such a condition could be created and the crab grass killed off before it had a chance to seed. (Ohio.)

As for the killing of crab grass by refrigeration means, we have tried the effect of low temperatures, but unfortunately it is exceedingly difficult to get a sufficiently low temperature on the surface of the soil materially to affect the crab grass. In a preliminary way we tried galvanized iron boxes packed with an ice and salt mixture. It is an easy matter to get a very low temperature within the box, but an insulation of ice forms on the outside of the box and makes it impossible to get a really low temperature on the surface of the grass itself. Mechanical refrigeration devices, we understand, have been used, but so far with very poor results. Theoretically the idea is a good one and possibly some time some one will bring it to a successful conclusion. The only practicable means of keeping crab grass in check, so far as we know, is to pull out the young plants as soon as they are visible.

5. Peat, humus, and other materials as soil moisture retainers.—During our long dry seasons our soil bakes badly and it is evident that there is need of adding to the soil something in the way of a water retainer in order to produce satisfactory greens. Is there anything quite equal to peat for this purpose? We are aware that it is generally conceded that peat has no fertilizer value, but would it not help materially in holding the moisture if added to our sandy soil? Our sandy soils get extremely hard at times and almost impervious to moisture. (California.)

In our judgment peat is of very low value for any purpose in the soil, except possibly for lightening a stiff clay. Dry peat is worse than useless, for when peat is once dried it becomes very impervious to moisture. Furthermore, some peats are toxic to grass, and when used are necessarily injurious to the turf. In this connection we would invite your attention to the last paragraph on page 149 of the May, 1923, and to the note on page 243 of the September, 1923, numbers of THE BULLETIN. The results of the investigations conducted by the California Agricultural Experiment Station uphold the views regarding peat which have been presented in THE BULLETIN. The best water retainer we can recommend for your soil is humus, and well-rotted barnyard manure is the best form of humus to use. Leaf-mold is next best. If you use peat at all we believe it would be best to use it for composting with stable manure and sand or sandy top soil for a period of several months before using.

6. Trees to plant along fairways.—What would be your idea of quickly growing trees to plant as a dividing line between fairways? (New York.)

In regard to quickly growing trees, you would have the choice of the following: Any of the poplars, soft maple, and tulip tree. We would suggest in planting trees for the purpose you mention, that you also plant with them slower-growing, longer-lived trees, so that eventually as the short-lived, quickly growing trees die out you can cut them out and leave the longer-lived trees standing. Trees or larger shrubs that produce fruit for the winter birds are also very desirable; among such are hollies, mountain ash or rowan tree, wild hawthorns, junipers, hackberry, sumach, and bayberry.