

The whole subject of the house fly is concisely but thoroughly treated in Farmer's Bulletin No. 851, U. S. Department of Agriculture, which can be secured free upon application to the Department. From this bulletin the above information is extracted.

### New Member Clubs of the Green Section

(For Previous Lists See Pages 190 and 220 of This Volume)

Hanover Country Club, Hanover, N. H.  
 Jackson Heights Golf Club, Elmhurst, L. I., N. Y.  
 Longue Vue Club, Verona, Pa.  
 Lawrence Park Golf Club, Erie, Pa.  
 Biltmore Forest Country Club, Biltmore, N. C.  
 West End Country Club, New Orleans, La.  
 Cloquet Golf Club, Cloquet, Minn.

### 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. **Inadvisability of mixing redtop with bent seed.**—We have been advised not to mix bent and redtop seed for seeding putting-greens, but inasmuch as we will want to play nine of our greens just as early next season as possible, do you not think that a mixture of bent and redtop seeds would give us quicker and surer results?—(Indiana.)

As for mixing bent and redtop seed for the greens, we advise against this. The bent seed is quick in germinating. It germinates quite as quickly in fact as does the redtop seed, and there is practically no advantage from mixing these from the standpoint of getting turf at an early date.

2. **Planting creeping bent runners in green construction.**—Will you kindly give us information relative to the proper method of planting creeping bent stolons?—(Missouri.)

While the whole process of vegetative planting seems very simple to us, we have found by experience that it is not a safe one for everyone to handle unless directions are followed very carefully. In the first place it must be thoroughly understood that it is living material that is being handled and which must not be allowed to dry out during the planting process. The proper way to go about it is to have the green prepared just as one would if he were going to seed. Then the runners are taken up, chopped into lengths of 2 or 3 inches, and spread out as evenly as possible on the ground, after which they should be covered immediately with a thin layer of top-dressing material, say about one-eighth of an inch. At this point we would advise to just dampen it with a fine spray of water—not enough to make the ground wet but sufficient to allow it to pack when rolled with a light hand roller. After this rolling, about  $\frac{3}{8}$  to  $\frac{1}{2}$  inch layer of top-dressing is applied evenly and rolled again. It is necessary at this stage to keep the ground continually moist for at

least two weeks, and then the watering can be done every second day. The ground should not be too wet after planting the runners, but it must be kept moist. One good drying will kill the runners or reduce their vitality to such an extent that a good stand of grass is not obtained as soon as it should be. The work ought to be organized so that not more than one-half to three-fourths of an hour is allowed to elapse between the time the grass is torn loose from the sod until it is covered with soil on the ground.

3. **Use of tankage as a fertilizer.**—Is there any objection to the use of a tankage fertilizer for putting-greens? If so, state why. If used, how often should applications be made and in what quantity to get the best results?—(Minnesota.)

Tankage is a perfectly good fertilizer to use on putting-greens. The only possible objection to it is that it is usually not quite so nice to handle as bone-meal or even fish-scrap. The amount and frequency of your tankage applications will depend entirely on the richness of your soil. An ordinary application on the putting-green would be 10 to 20 pounds per 1,000 square feet. You could apply this every month if you so desired, but we imagine that twice a season will be ample.

4. **Bent grass for southern California putting-greens.**—Will you kindly inform us as to whether or not in your opinion any of the bent grasses would be suitable for putting-greens in southern California? Our putting-greens are at present sown to redtop, New Zealand fescue, and some white clover; the redtop predominates.—(California.)

We wish first to call your attention to the article by Mr. Norman Macbeth on page 107 of the issue of *The Bulletin* for June 20, 1921, entitled, "Making Putting Greens on a Southern California Golf Course." We see no reason at all why you should not be able to grow bent if redtop grows satisfactorily. The redtop and bents are closely related and require about the same character of soil and culture.

5. **When to roll the fairway.**—How often should a fairway such as ours, with a heavy clay loam on top and a heavy clay sub-soil, be rolled?—(Massachusetts.)

The question of rolling is one in which there is a wide difference of opinion among greenkeepers. Our opinion is that it is a very good thing to roll, and roll heavily. We would not advise doing this, however, when the ground is soggy—that is, immediately after the winter rains and before the ground is dried out; but still it should be done when the ground is moist, in order to get compaction. We have never seen any benefit from rolling during the hot, dry weather of summer on heavy clay soils, and there is a chance, as stated above, of doing injury if the ground is full of water; but if the soil is moist—that is, there is no free water in the soil—we do not believe that any injury can be done by rolling with a roller of ordinary weight.

6. **Humus; its cost-price in relation to its value.**—We are sending you under separate cover a sample of humus for your examination and comment. We would like your opinion as to its adaptability for top-dressing and how it compares with others of like nature that have come under your observation. We can buy this at \$5.00 per ton at the works, with \$1.25 added for freight. How does this price compare with others?—(Pennsylvania.)

The sample of humus sent to us looks like good woods earth, and we believe it would be all right to use as a top-dressing mixed with some

good clay loam top-soil to give a little more body to it, so that it will not dry out and blow away. We would consider the price, \$5.00 plus \$1.25 freight plus the hauling, as more than it is really worth. These materials are often inert and do not give the results that are expected of them. We would much prefer a compost made of ordinary top-soil and stable manure which has had a few months' time to rot and the weed seeds in it allowed to germinate, to these peaty materials. You can probably get spent mushroom soil about as cheap as this, and we would much prefer to have it than this so-called humus.

7. **Chicken manure as a fertilizer.**—We have available a supply of chicken manure for fertilization of a golf course, and the question in our minds is, would this particular brand of fertilizer be satisfactory if mixed in a compost, using sod, leaves, and other fertilizers, or would it be inadvisable to use this in the mixture?—(Ohio.)

Chicken manure is an excellent fertilizer, but it is better if mixed in a compost as you suggest, or mixed with rich soil. Used alone, it is apt to do some burning.

8. **When to cut and roll new greens.**—With regard to new grass, how soon should it be cut and rolled, and how often?—(Massachusetts.)

Our advice would be to cut the young grass just as soon as it can be done without tearing up the soil by the mower. It is much easier to keep young grass down low than it is to form good turf out of grass that has been allowed to grow 4 or 5 inches tall. Cutting off the tops of the leaves tends to make the grass spread into a turf close to the ground, and that is what you want. We do not believe it is advisable to roll new seedings in the fall. The rolling obtained from the mower would probably be sufficient, but it would be best to roll next spring as soon as the soil has had a chance to dry for a few days.

9. **Removing clippings from putting-greens.**—With regard to the matter of removing clippings from putting-greens, should a catcher always be used? It is our understanding that some greenkeepers contend that it is better to use a machine without a catcher during the warm summer months, as it has a tendency to protect the green. We would appreciate your advice in reference to this matter.—(Maine.)

Where putting greens are cut every day, as we believe to be the best policy, it is not at all necessary to remove the clippings. Where, however, the grass is allowed to become long, so that the clippings make an appreciable amount of material on the surface of the putting greens, it is best to use a catcher or to sweep the green afterwards.

10. **Grasses for northern fairways; rate of seeding.**—What seeds should be used on our fairways and in what rate per acre? Two of our fairways are bottom land (clay). The rest are good gravel loam and will be dressed with about six tons of manure per acre.—(Ohio.)

Under your conditions we should certainly recommend that you seed your fairways to a mixture of bluegrass and redtop, in the proportions of approximately 4 pounds of bluegrass to 1 pound of redtop. Heavy seeding on golf courses is desirable. We advise that on rich soils 100 pounds of seed of the above mixture to the acre be used, and on poor soils 150 pounds. We think you would be safe on your bottom clay loams to use 100 pounds to the acre, and on your gravelly loams preferably 150 pounds. In place of the bluegrass-redtop mixture you could use red

fescue, but this is much more expensive, and in our opinion the difference in quality of the turf does not justify the additional expense of the seed. In both cases more or less white clover will come into your fairways, but this cannot be prevented.

11. **Use of artesian well water for irrigation of greens.**—Running through our property there is a wonderful brook which, for an expenditure of fifteen thousand dollars, we can convert into a reservoir with a capacity of three million gallons of water. In addition we would be obliged to build a tank and all other requirements for a water system. This water would not be used in the clubhouse, nor showers, because no way has been considered to filter it. Therefore, we would be obliged to bore an artesian well for club and drinking purposes. Would artesian well water give us satisfactory results on our greens?—(New Jersey.)

Unless the artesian water you secure contains an unusually high mineral content we see no reason why it would not be entirely satisfactory for watering the greens. We would call your attention, however, to the fact that unless you have a very large artesian well of high flowing capacity it would not be likely to furnish you sufficient water for irrigating the course during periods of drought. If your brook water can be made available for watering your greens at anything like a comparable cost to the artesian well water it would in our judgment be much the better plan to utilize this, as you would be perfectly sure of a continuous supply.

12. **Killing dandelions with sulfuric acid.**—In removing the dandelions from our greens we are using a scheme borrowed from one of our neighboring clubs. The workman dips the end of an ice pick, of the awl type, into sulfuric acid, and punctures the crown of the dandelion. If he reaches the top of the root, the plant seems to shivel up and disappear, and there is no scar left from the operation other than the hole formerly occupied by the root. This hole is filled from the first top-dressing the green received and the grass soon covers the scar up. Some of our committee were afraid that a continuous use of this acid would poison our soil, but so far appearances do not indicate that this is so. Have you information on this point?—(Minnesota.)

The method you describe of killing dandelions has been very generally used. Some object to it on the grounds that unless the acid is handled with care it is likely to injure the grass. If the bottle or container in which the acid is held is placed on a wooden tray to avoid accidental spilling we think you will have no trouble from this source. There is no evidence that the small amount of acid used on the dandelions would produce a poisonous effect in the soil.

13. **Chewings fescue and its vegetative propagation.**—We are planning to start a turf garden, mainly of Chewings fescue to re-turf some of our greens. Will you kindly give us information with reference to the manner of preparing the soil for it, the rate at which to seed, and length of time that should elapse before any of the turf is used.—(Ohio.)

We presume you have in mind sowing or planting the Chewings fescue in a plot and treating the plot as you would a putting-green so that you might have first-class sod for use in repairing your greens later. Chewings fescue does not lend itself well to the vegetative method of propagation. It can be propagated vegetative but requires much more care than do the bents. If you are committed to the use of Chewings fescue for use on your greens, we think the best way to obtain good sod will be to sow the seed.