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.

1. *I would like to have your opinion as to the best methods of getting rid of crab-grass. Would you recommend cutting it out early in the season or raking down later? Also, what fertilizer would you recommend for use on a green which has been troubled previous seasons with crab-grass? E. H. B., Massachusetts.*

We regret to say that we have found no easy method of eradicating crab-grass from turf. In fact, about the only method that has proved successful is hand-weeding, and where this method is followed and the greens are protected from overwash from the rough and fairway, the crab-grass problem usually lessens in importance from year to year. We have tried a great many experiments with the hope of finding some treatment that would obviate the necessity of so much hand work, but our results so far have been almost entirely negative. The reaction of crab-grass to fertilizers is such that there appears to be no fertilizer that will give the desirable turf grasses material advantage over crab-grass. There is an advantage, however, in fertilizing the greens properly. The advantage lies in the fact that if this is done it is possible to keep the desirable turf grasses in vigorous condition, and by a few years' careful pulling out of crab-grass very little of it appears in the greens thereafter, provided, of course, good treatment is given the greens.

2. *We have been troubled with crab-grass, which is a pest on our greens, propagating only from the seed. In other words, all roots are entirely winter-killed, and the grass only comes next year from the seeds remaining in the greens. The article in the May 28* BULLETIN *neither confirms nor contradicts this fact. Can you give us definite information on the subject, as such information would have a bearing on our treatment of the greens and would seem to the writer to simplify the problem considerably? A. T. S., Maryland.*

Both of the crab-grasses in northern latitudes are purely summer annuals, being killed by the first frost, a statement which you will find at the end of the first paragraph in the article on crab-grass on page 88 of THE BULLETIN. In the tropics the plants live more or less indefinitely, as the decumbent stems root at the nodes and really make new plants. In this latitude all of the plants that appear each year come from seed in the soil or which has blown there or been carried there. We have recommended that putting greens, in general, be so constructed that crab-grass seed can not wash or blow on the green, and that building with attention to this matter reduces the amount of crab-grass seed which reaches the putting green very materially. In addition, in late summer and fall all of the crab-grass in the immediate vicinity of the green should be kept closely mowed so that it does not make ripe seed, which is readily blown on the putting

greens. Attention to these two things we believe does materially reduce the amount of crab-grass, but even in spite of such precaution enough of it reaches putting greens so as to cause a great deal of weeding every year. On the fairways, in the latitude of Washington at least, crab-grass we regard as a distinct asset. During hot, dry weather in midsummer bluegrass and most other fine grasses suffer severely, but the crab-grass enjoys such weather and thrives. If you could see the fairways of the Columbia Country Club at the present time (July), for example, you would realize how much the crab-grass helps the fairways and how much poorer they would be if it were not for the crab-grass.

3. *We are bothered with grasshoppers eating our greens and doing serious damage on many of them. We have not been successful with the various poisoning methods and are now looking around for some sort of a grasshopper catcher. Do you know of any? G. M. M., Michigan.*

We do not know of any grasshopper trap which could be operated effectively on golf links without the use of horses, and doubt very much if a trap of this kind has as yet been proposed which could be used effectively for this purpose; they are, however, fairly effective when used on smooth, level ground, such as occurs in the western prairies. The experience with the standard poison bait for grasshoppers has been so uniformly favorable that we are led to guess that if you have applied this bait without success it has not been properly prepared and applied. This bait is generally regarded as the ideal remedy for grasshoppers on golf courses and it should be given a thorough trial before any other method is considered. The formula as generally used is as follows: Wheat bran, 25 pounds; Paris green or white arsenic, 1 pound; lemons or oranges, 6 finely chopped fruits; low-grade molasses, such as refuse from sugar factories, or cattle molasses, known as "black-strap" molasses, 2 quarts; water, 2 to 4 gallons, according to meteorological conditions. The poison and bran should be thoroughly mixed while dry, the fruits finely chopped and added to the same, and lastly the diluted molasses is poured over the bait, and the whole thoroughly mixed. When ready, the bait should be moist, but not sloppy in consistency. The amount of poison bait mentioned is sufficient to treat about three acres when the grasshoppers are young; later on, when they are larger, the amount will suffice for about five acres sown broadcast in strips about a rod apart. The ordinary amount usually applied broadcast uniformly is from five to ten pounds per acre. In many cases the addition of the fruit has been found to be unnecessary, especially where a strong-smelling molasses can be obtained.

4. *Can you recommend a good sprinkler for watering greens and give the name of a dealer? The greens in respect which I ask this information are watered from a tank about 30 feet high. H. F. M., New York.*

As stated in No. 4 of THE BULLETIN, there are a large number of different sprinklers on the market, but at present we have not the data to enable us to express an opinion as to which is the best. In the near future we hope to assemble and compile the experiences of many clubs and also to test out by accurate experiments the efficiency of a large number of sprinklers. There are several which are regarded as being satisfactory (names and dealers given in personal letter).

5. *Information has reached us that watering greens every night to a certain extent, or every other day, is not as beneficial as giving them a thorough soaking once every five days or every week. The top layer of soil in the greens is composed of six inches of csreened top-soil (which is a very white clay), humus, and sand, used in equal parts. Below that there is a layer of well-rotted stable manure, then cinders, and the greens are tiled. What is your advice as to watering? N. A. Y., Indiana.*

The consensus of opinion seems to favor infrequent heavy watering rather than light watering every day or every other day. From the manner in which your greens are constructed, however, we do not think it would be advisable to delay watering more than three or four days at a time, especially during hot, dry weather.

6. *We are quoted fancy recleaned redtop seed showing a purity of 98 per cent and germination of 98 per cent at $25.00 per 100 pounds and some showing a purity of 94 1/2 per cent and germination of 96 per cent at $22.00 per 100 pounds. We would like to know which of the above lots it would be advisable to purchase. R. A. Y., Indiana.*

We would advise the lot showing a purity of 98 per cent. The difference in price is small, and doubtless there are appreciably fewer weed seeds in the first lot than in the second.

7. *Can you advise us as to a particular kind of seed for use on fairways which will survive the combat between the native prairie grass and the grass resulting from such seed? We desire to repair our fairways, which consist of prairie turf, by seeding down in some of the thinner spots and bare patches with seed that will do well along with the native grass. Is there any such seed as desired? I might add that the prairie soil here is slightly alkaline. D. C., Alberta.*

We fear you will have considerable difficulty in getting satisfactory results unless you are able to irrigate your fairways. If this can be done we are quite sure you will have little difficulty in getting bluegrass established. Bluegrass does well on soils such as yours provided moisture is reasonably abundant. Efforts, however, to improve native sod where moisture is not reasonably abundant have not been very successful. Practically all of the available grasses have been tried and none give good results. Generally speaking, the best fairway mixture for Canada is bluegrass and redtop. The redtop makes quick growth and the bluegrass comes on later.

8. *What seed is best for a new green, to be made this fall, on clay land, to be used only for the coming season? A. F. H., Ohio.*

Since seed of the bent grasses and red fescue is expensive and difficult to procure at this time we are inclined to advise the use of redtop. Redtop makes a good putting surface when the plants are in the seedling stage, and if seeded this fall your greens should be in good condition for play next spring. It has been suggested that a succession of redtop seedlings can be maintained on greens by reseeding spring and fall. After the redtop has passed the seedling stage it is too coarse for putting greens, but we

think you will be able to maintain very good greens of redtop from the spring of 1922 until August or the first of September of that year. Seed should be sown some time during the month of September, preferably by the middle of September in your locality. Please bear in mind that we do not ordinarily advise redtop as a putting green grass, but under the conditions you mention and with bent seed not easily available we think redtop will probably serve your purpose very well.

9. *As the fescues and bents are not so likely to be attacked by the brown-patch disease when sowed with other grasses, would not a mixture of New Zealand fescue, creeping bent, redtop, and bluegrass make up a very fair putting green? F. P. Q., Nebraska.*

While it appears to be true that the disease does not injure mixed cultures quite as badly as pure strains, the advantage of pure strains in putting greens is such as to justify a considerable effort to establish them. We would not advise you to sow the mixture suggested in your letter. Redtop and bluegrass are not nearly as desirable turf grasses as Chewings fescue or the fine bents, and we are convinced that the bents will prove superior to either of the commercial red fescues for your conditions. Redtop and bluegrass make a good combination for the fairway, but it is only when the seed of other grasses cannot be procured that we advise their use on putting greens.

10. *Our greens were planted with a mixture of red fescue and redtop. We now have almost a pure strain of red fescue. In the last six months clover has been creeping into the fescue. We have been letting our greens grow quite long but would like to cut them short in order to kill off the clover. Whenever we have tried to cut the fescue short we have gotten into trouble, requiring two to three months' time to get them growing well again. Our greens are of a very sandy texture and undoubtedly low in growing elements. Is it the fault of our greens or is it characteristic of fescue that it will not stand short cutting? J. W. H., Ohio.*

It has not been our experience that red fescue is troublesome to keep cut short. Your difficulty is probably due to letting the grass get too long before the short cutting commences. We find that it pays to start in as soon as growth begins in the spring, keeping the grass down to the proper height. When once the grass gets above good putting height it takes considerable time to produce the right condition. It is not advisable to cut it short all at once; but by gradually lowering the cutting knives, in a week or ten days it should be down to the proper height without injury to the stand of grass.

11. *Have you any information available concerning the so-called "bacterized humus" which is being offered for sale by a concern in ——? J. B. S., Michigan.*

The best opinions we have obtained tend to show that this material falls far short of the claims that are ordinarily made for it. Our views on humus and its use were fully discussed in the article entitled "Humus-Producing Materials and the Making and Use of Compost," on page 51 of this volume of THE BULLETIN.