

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. 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.

Determining the value of commercial fertilizers.—How does the * * * Company's Fairway Fertilizer compare in value with cottonseed meal? (Delaware.)

ANSWER.—Commercial fertilizers should be judged chiefly by their guaranteed analysis, allowance being made for the difference in price of the nitrogen, phosphoric acid, and potash. We believe the information you desire can be obtained from the June, 1928, number of the Bulletin, notwithstanding the particular brand of fertilizer to which you refer was not directly referred to in that issue of the Bulletin.

Destruction of birds by house cats.—A number of our birds, robins and cowbirds in particular, are being destroyed every day. The destruction takes place at twilight or early morning. It is due to some kind of animal, the whole body of the bird being eaten, feathers and legs only being left, as evidence. We have thought it might be weasels, rats, or hawks. Had it been only one or two birds killed, we would not bother you, as small birds are prey to animals at any time, but we have had so many destroyed each day that in our helplessness we thought you might give us an expression of opinion and suggest a possible correction. (Pennsylvania.)

ANSWER.—We suggest that you be on the lookout for cats prowling about your course. In cases such as yours it seems to be the usual thing to direct all suspicion toward some of the wild animals, whereas our old friend the house cat is granted all the privileges of the outdoors and is usually regarded as "too quiet and gentle" to arouse even the slightest suspicion. A weasel ordinarily does not consume the body of its prey; rats would probably not be operating out on your course during the early morning and early evening; and hawks would no doubt fly away with their victims as soon as possible. Of course there may be other wild animals killing the birds, but before you hunt for wild animals you had better check up on your cat population. Birds and cats apparently do not flourish together. Since a choice must be made and birds are useful as well as interesting about a golf course, we advise you to add a shotgun to your golf course equipment and to stage a few cat hunts early in the morning when the cats are likely to be prowling about and when players are few.

Injury from shallow surface soil on hard clay or silt.—We are sending you three pieces of sod from three different greens on our course. During the past season each of these greens suffered several attacks of what appeared to be brown-patch. These greens have not received any lime. Several other greens on our course were treated with lime in April, and they have suffered less from brown-patch. We should be glad to have your advice as to whether or not these greens could be expected to improve with applications of lime. We are using a 7-9-2 fertilizer on our greens in spring and fall. Is this a well balanced fertilizer? (Missouri.)

ANSWER.—We have tested the soil of the samples of sod which you have sent us and find the soil in all three of the samples to be neutral in reaction, all testing around pH 7. With this condition we should not expect that lime would be of any particular benefit to these particular greens. The soil of your No. 1 and No. 2 greens is a clay loam, and we find that the soil immediately below the turf is packed or puddled. This condition has greatly restricted the root development of the grass, the turf lying on top of the hard clay like a thin blanket. The separation is further accentuated by a thin layer of peat which lies just below the turf. The condition of your No. 3 green is similar except that the surface soil is a silt and not a clay. We feel that the correct treatment for these greens is to remove the sod, put on a layer of coarse sand, then a layer of well rotted manure or other organic material, then plow these into the soil, and follow with a thorough disking. This treatment would give you a bed of good, friable soil to a depth of 6 or 8 inches. The mixing of sand and manure into the soil would put it in good physical condition. The area could then be rolled and hand-raked and the sod replaced. While this work is being done such tile drainage as might be found necessary should be installed.

The 7-9-2 fertilizer which you are using is what would be called a complete fertilizer in general agricultural practices. For turf growing purposes however a fertilizer higher in nitrogen than either phosphorus or potash is to be preferred. The use of a complete fertilizer on putting greens in early spring and fall is desirable, but during late spring and summer we advise the use of fertilizers of high nitrogen content and containing little or no phosphorus or potash.

Results of mixing strains of bent in putting greens.—We have both Columbia bent and Washington bent stolons in our nursery. Would there be any harm in mixing the two strains in planting them on our greens? (Kentucky.)

ANSWER.—The treatment you suggest would prove very unsatisfactory. The Columbia strain of creeping bent is not sufficiently resistant to disease to give satisfaction in putting greens; moreover, it forms a rather stringy, light turf which is not conducive to good putting. The Washington strain is so superior that in all likelihood it would eventually crowd out the Columbia strain, but while this is taking place you would have patchy greens, as the Columbia would become thin and diseased at times when the Washington would be in good condition. Furthermore, when the Columbia remains thin from one cause or another white clover and weeds are certain to gain a foothold before the Washington strain has a chance to occupy the thin spots.

Value and use of commercial humus.—We are sending you a sample of some humus which we can buy for \$7.50 a ton delivered. We are also sending you a printed circular giving its analysis. We should appreciate your advice as to the value of this material for use as a top-dressing on our greens. We seem to be unable to procure any other good top-dressing material, finding that the preparation of compost is a rather irregular and uncertain proposition. (Missouri.)

ANSWER.—The types of peat or humus of which you send us a sample are valuable chiefly for their content of organic matter and possess practically no fertilizing value, since the nitrogen, phosphorus, and potash which they contain are in a very insoluble or inactive form and could not be rendered available to the plant except under special treatment. The price of your material is therefore, in our opinion, out of proportion to its value. Good garden loam may be procured much more cheaply; and by mixing 100 pounds of sulphate of ammonia, 100 pounds of acid phosphate, and 25 pounds of muriate of potash with 4 or 5 tons of garden loam, a very good top-dressing material would be obtained, provided of course the material were comparatively free from weed seeds and of a good physical structure. Good loam could probably be obtained by you for from \$2 to \$3 a ton. Also strawy manure of any kind is far more valuable than peat or commercial humus. The plant food in the manure is not only more readily available, but the manure aids bacterial action in rendering soil constituents available as plant food, and also is practically 100 per cent organic matter. Peat has nevertheless a place on the golf course when good loamy soil can not be procured and when sufficient manure is not obtainable. In the construction of compost piles or soil beds, peat may largely replace manure, which is generally used. It is, however, well to use some fresh manure in the compost pile or soil bed along with the peat in order to stimulate bacterial action. Frequent cultivation of such a mixture of peat, soil, and manure renders the peat more available and develops a fair soil structure by thoroughly mixing the constituents. Often natural beds of peat can be located nearby a golf course.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, OF THE BULLETIN OF THE UNITED STATES GOLF ASSOCIATION GREEN SECTION, PUBLISHED MONTHLY AT WASHINGTON, D. C., FOR OCTOBER 1, 1929.

District of Columbia, ss:

Before me, a notary public, in and for the District of Columbia, personally appeared Kenneth Welton, who having been duly sworn according to law, deposes and says that he is the associate editor, managing editor, and business manager of The Bulletin of the United States Golf Association Green Section, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 411, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editors, managing editors, and business managers are: Publisher, United States Golf Association, 110 East Forty-second Street, New York, N. Y.; editors, managing editors, and business managers, John Monteith, Jr., and Kenneth Welton, Washington, D. C.
2. That the owner is the United States Golf Association, a corporation organized and existing under the law not for profit and having no capital stock.
3. That there are no outstanding bonds, mortgages, or other securities.

(Signed) KENNETH WELTON, *Associate Editor*.

Sworn to and subscribed before me this 1st day of October, 1929.

(Signed) F. E. SINGLETON.

(My commission expires May 4, 1933)