Fertilizers for Golf Courses

R. J. H. De Loach

In the development of a golf course the putting-greens, the fair-greens, and indeed the entire grounds, the one great object is to have something desirable as a final result—to grow the right grasses in the best combinations and to keep them healthy and rapidly growing in order to have rich, velvety turf.

Sometimes poor links may be traceable to various causes, such as inferior strains of grass, insufficient watering, poor soils, or a lack of the proper plant food in the soil. It is too often thought that the development of good golf courses, lawns, and polo grounds consists of selecting a piece of land and planting grass seeds. This is a part of the plan, but we must keep in mind the fact that not all grass seeds are good; that the soil is subject to many, many variations and its productive power is influenced by almost every change in the weather; and that the plants are injured by worms and insects and by diseases. Unless all the area to be used in putting-greens is uniform, there are sure to be spots of good grass and spots of poor, and so it is with the fairways.

The nearer we can get the greens on a completely artificial basis, both as to soil and as to the plant foods, the better we shall be able to control all the factors and the surer we are to have successful greens.

Granting that the proper grasses have been planted, soils and fertilizers become the most important items to consider. Many of the grasses respond to lime, but most of the species that have been used in developing golf courses are not benefited very much by lime. Some of them do better even if there is no lime. As a general thing it is best to try the lime treatment on golf courses as a last resort, after all other efforts have failed, and then first on a small experimental area.

As for the plant food to be used, most grasses need large quantities of nitrogen in the most readily available forms. If the grasses used are composed largely of fescue, Rhode Island bent, and other bent grasses, ammonium sulphate will likely prove more satisfactory. If it is desirable to establish a bluegrass and white-clover green or lawn, it would be better to use nitrate of soda as a source of nitrogen. With most other grasses it is immaterial which is used. No formula should be used carrying a high percentage of potash, as this has a tendency to encourage clovers rather than grasses. The formula that would perhaps be best suited to most lawns should carry from 3 to 4 per cent nitrogen, 12 per cent of phosphoric acid, and 2 to 3 per cent of potash. All this should come from mineral sources.

Manure is often considered objectionable on golf courses and lawns because of the offensive odors. It does not afford a desirable mat on which to walk or to recline. Another objection to manures is that they so frequently are the means of spreading weeds and undesirable grasses on the lawns and golf courses.

The most successful method of keeping a lawn or a golf course is to lay a good foundation of fairly good but porous soil, plant only the best selected seed, and apply fertilizers as the exclusive source of plant food. The grasses will remain in better condition and will be practically free from weeds. The grass roots soon become well netted and furnish good

ventilation of the soil. At intervals it may be well to cover the fair-greens with dark, loamy soil, but in any event an application of the above formula two or three times during the season will keep the fair-greens in good condition, if the foundation has been properly laid.

The soil for the putting-green should be composed of lighter loam and a good deal of sand. The object here is to grow grass exclusively, and hence the fertilizer used should be strictly a grass fertilizer. The formula should be high in ammoniates and low in phosphoric acid and in potash—about 6 per cent to 7 per cent of ammonia, from 3 per cent to 5 per cent of phosphoric acid, and from 1 per cent to 2 per cent of potash.

The Most Important Thing On a Golf Course

W. A. ALEXANDER

For thirty years I have repressed myself and kept out of print on the subject of golf courses, but the excess waste has at last forced me to write this article. Millions upon millions are being wasted annually on the upkeep of courses and putting-greens because common sense is not used in taking care of them after construction. The putting-green is the billiard-table of your course. It is constructed with a view of being accurate and true for the purpose of gently driving a small sphere into a small hole from a distance of one foot to fifty feet. How foolish to spend $1,000, $2,000, or $3,000 to have a beautiful putting-green and then immediately proceed to allow it to become fit only to walk upon and not play upon! The answer to it all is, Take everything out of your putting-green that should not be there, and take it out all the time, each day and each hour if necessary.

I know there are not a half-dozen golf courses in the Chicago district, and probably not twenty-five in the Metropolitan district (and the same will apply to all districts), that keep their putting-greens clean from grasses and weeds that do not belong there. The putting-green is a delicate fabric; it is intended for delicate play and accurate play. I have in mind at least one golf course that is some nine years old, whose putting-greens were built scientifically correct at the outset, that are today exactly as they were the first year, and the first year they were as true as a billiard-table, and today they have not a weed of any description or any class that should not be there. It has taken infinite pains to keep them this way, but it has paid one-thousandfold to do so. The work of keeping them clean has been as nothing compared with reconstruction, which would have been necessary had they not been kept clean. The grass roots of these greens are from three and one-half to four inches in depth, and you could cut a slit in the edge of any one of these greens and roll it up, if it were physically possible, as you would a rug on your floor. It required no superlative knowledge; it required no expert advice from anybody to accomplish this; it only required diligence and simply attending to one's own business as you would any other thing of value that you might own.

I am prompted to write thus emphatically upon this subject as this country is building hundreds of golf courses each year, employing ex-