

then cover the sides and top with a 6-inch layer of soil. We leave the pile undisturbed for a year. The pile is built on a concrete floor and covered with a permanent roof. We keep it moist with overhead sprinkler pipes. The second year we turn the pile twice, and the third year it is ripe and ready for use.

Readers will perceive at once that we do not favor any popular short cuts in greenkeeping nor place any dependence on magic brands of fertilizers. Considering the poor character of our soil and the results we have obtained, we believe the course we are pursuing in the use of fertilizers for our putting greens is a logical one. We can not close without giving expression to our appreciation of the unbiased service the Green Section has been to us in connection with our problems and the confidence with which we look forward to its further aid.

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## Experience With Fertilizers at Plainfield Country Club

By F. J. Roth

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The past ten years have witnessed many changes in fertilizing putting greens, and a brief narrative of our own experiences during the period will doubtless reflect the experiences of many other golf clubs. The narrative is of peculiar interest to me, inasmuch as I built the course in 1920 and have accordingly had opportunity to witness the results of different practices under conditions with which I am thoroughly familiar. In the end I feel that we have made some progress, since the results seem to satisfy our club members at an annual expenditure of \$25,500 for our 27-hole course.

Our greens are built on a gravelly clay subsoil. Some are slightly built up and others are on natural contours. We have on an average 6 inches of compost for the top layer. Four of the greens are provided with subdrainage. They were seeded in 1920 with a mixture of 40 per cent German mixed bent, 50 per cent New Zealand red fescue, and 10 per cent redtop. At the present time practically all of the fescue has disappeared except on our No. 1 green, which seems to hold the fescue very well. No reason is apparent for this, as the green was constructed in the same manner as the other greens. It is strange also that with this green we never have any trouble; it requires the least amount of fertilizer to keep it in condition. Annual bluegrass appears in all of our greens in the spring, persisting until the middle of June, when it weakens and is replaced with bent to the extent of 40 to 75 per cent.

In 1921 and 1922 we top-dressed with compost alone, using one yard to a green. In 1923 we began using sulphate of ammonia for the effect it would have in reducing the amount of clover in the turf. In 1924 we discontinued the use of compost, since we found that our compost contained much plantain seed. From that time on we have used nothing but mushroom soil as top-dressing material or as a medium for the distribution of fertilizers, fungicides, or insecticides. During 1925 we top-dressed each green monthly from April until October with  $\frac{1}{2}$  yard of mushroom soil into which 10 pounds of sulphate of ammonia had been mixed. In 1926 and 1927 we cut down the amount of sulphate of ammonia used, making two applications of 20 pounds each, one in April and one in October, and during the intervening period of the season used nothing but mushroom soil at the

rate of  $\frac{1}{2}$  yard to the green. Beginning in 1928 we used 15 pounds of sulphate of ammonia in April and October in 1 yard of mushroom soil. Between these months we used  $\frac{1}{2}$  yard of mushroom soil with 25 pounds of an 8-5-4 fertilizer regularly each month. All told, each green accordingly received for the year 125 pounds of the 8-5-4 fertilizer and 30 pounds of sulphate of ammonia, in addition to the mushroom soil.

In 1929 we changed our program of top-dressing and watched the condition of our greens more closely. In April we applied 10 pounds of sulphate of ammonia with 1 yard of mushroom soil. For the rest of the season we top-dressed only when need seemed to be apparent. In other words, if a green looked "hungry"—and by that I mean very much off color and of stunted growth—we gave it 1 yard of mushroom soil and 25 pounds of the 8-5-4 fertilizer. This practice has done very well with us up to date and it is our plan to continue with it.

My experience seems to indicate that in mushroom soil we have a fertilizer of lasting effect and a resultant steady, uniform growth. We buy our 8-5-4 fertilizer already mixed. The top-dressing is applied by hand, from pails; it is smoothed with a steel mat and lightly watered.

For brown-patch, both small and large, we apply calomel and corrosive sublimate every other Monday during the season when the disease is prevalent, at the rate of 3 ounces to 1,000 square feet. In this way we have escaped all injury from the disease.

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In Farmers' Bulletin 1397-F, issued by the United States Department of Agriculture, methods are described for controlling field mice, including the destruction of mouse shelters, treating trees with repellent washes, inclosing trees with mechanical protectors, trapping, and poisoning. Where field mice are destructive to trees or turf their control should be undertaken at regular intervals. Inspections should be made, especially in fall and early spring, for mouse signs, and protective measures taken if necessary. The bulletin may be obtained free from the United States Department of Agriculture.

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### The Use of Fertilizers on Putting Greens

(Continued from page 109)

for making the putting surface true, and with fertilizers for providing the food necessary for the growth of the grass. For this purpose the greenkeeper has available a large choice of thoroughly tested commercial fertilizers. There has been in the past some prejudice against the use of commercial fertilizers on the part of many who have clung to the preference for so-called natural fertilizers, which were practically the only ones available at the time of our great-grandfathers. The modern farmer and greenkeeper have learned to recognize that plants are not influenced by prejudices and are satisfied to get their food from any source that is available. The important question is the matter of availability, which means, as a rule, whether or not the plant food can become soluble in the soil and thus in condition for the roots to absorb.