Winter Treatment of Bermuda Greens

By C. G. Holland, Danville (Virginia) Golf Club

In the fall of 1924, by reason of the difference of opinion existing as to the advisability of sowing Italian ryegrass on Bermuda greens for winter play, we decided to test the problem out experimentally on our golf course. On our three best greens we sowed Italian ryegrass and played on them all winter. The other six greens, after the Bermuda grass became dormant, we covered, two of them with rotten cotton and four of them with sand. The covering of these six greens was suggested to us by the fact that the winter before on one of the greens we left two piles of topdressing and on another we left two piles of sand all winter and observed the following spring that where these piles had been the Bermuda grass came out earlier and thicker than it did on any other places on the greens.

We left the six greens covered until the grass began to come through in the spring. Some of these greens had a good stand of *Poa annua,* which would come up in the fall but, although serving as a fairly good winter grass, delayed the spread of the Bermuda in the spring, and to such extent that it would be the middle of summer before these greens would be in first-class shape. One object in covering these greens accordingly was to get rid of the *Poa annua,* which was accomplished.

In the spring when the Bermuda grass began to show signs of life, we raked off the covering, which was from 1 to 2 inches thick, smoothed up the surface with a steel mat, and with hardly a sprig of grass showing they looked like newly seeded areas. However, the Bermuda came through quickly and spread rapidly due to stimulation from ammonium sulfate, and by the first of May the greens were in as good shape as that in which during previous years they had been by the middle of July. Not having much rain, we could not use as much ammonium sulfate as otherwise we should have used.

This being our first experience in using ammonium sulfate, we burned several spots in two of the greens, but these were soon covered over again, and in spite of the fact that we have no means of watering our greens and we did not have an inch of rainfall from the middle of May until the first of September, our greens were above the average in quality in our section and not surpassed by any.

With regard to the three greens on which we sowed Italian ryegrass and on which we played all winter, although they were our three best greens the year before, they were our poorest greens this year, due to the fact that the Italian ryegrass and the *Poa annua* prevented early spreading of the Bermuda. When the drought came in the middle of May the Italian ryegrass and *Poa annua* died out, leaving the Bermuda very thin and the greens entirely bare in spots. As we have no water on our greens, this condition remained until about the first of October, and with the October rains they still have not become as good as they were the year before.

Our plans now are to cover our greens every year after Christmas with sand from 1 to 2 inches deep, and uncover them about the first of the following April.

When we covered our six greens our players protested vigorously, wanting to play on all nine of the greens throughout the winter.

After seeing the results of covering the greens last winter, however, they have surrendered to the idea and want all the greens covered this winter.

Another result of covering the greens was that we practically eliminated all weed trouble, as the covering kept the weeds in check until the growing season for the Bermuda grass. Heretofore every spring we have had to hire extra help to weed the greens; but this year such was not necessary, and our greens have been practically free from crab grass, which has given us considerable trouble during previous seasons.

This fall we have topdressed and sown spots on the fairways to Italian ryegrass for use as winter greens during January, February, March, and part of April.

We therefore feel that any club having Bermuda greens and lying in the northern part of the Bermuda belt will find it advisable not to sow any winter grass on the greens, but to smother out all the other grasses by covering the greens with sand about the first of January and uncovering them when the Bermuda shows signs of growth about the first of April. The players will probably kick the first year; but when they will see the results in the spring and summer following they will be more than satisfied.

Ammonium sulfate and compost.—Through error the proportioning of compost and ammonium sulfate was given on page 213 of the September, 1925, BULLETIN in the answer to question 5 as "15 to 25 pounds of the former to 1 cubic yard of the latter." This should have read, "15 to 25 pounds of ammonium sulfate to 1 cubic yard of compost."

Fertilizing Bermuda Grass With Ammonium Sulfate

By Thomas P. Hinman, Druid Hills Golf Club, Atlanta, Ga.

In the early spring of 1925 we began to use ammonium sulfate exclusively as the fertilizer for our greens of Bermuda grass at the Druid Hills Golf Club. The past summer has been unusually dry with us, and at the present time (October, 1925), we are about 20 inches short of normal rainfall for the year; as a consequence, the conditions have not been really favorable for our fairways during the entire summer, and we have had to use winter rules. In the whole history of Atlanta we have not had such unfavorable weather conditions to contend with. In spite of this, however, we have had the most beautiful greens in the history of the Club. This has been due entirely, I believe, to the use of ammonium sulfate.

In using ammonium sulfate we mix it carefully with the topdressing, thus obtaining a rather even spread of the fertilizer and preventing burning. The fertilizer has been applied at the rate of about 8 pounds to each green, about every 5 weeks, mixed with the topdressing. The greens have been constantly watered, and always watered immediately after the application of the topdressing and fertilizer. Heretofore we have used the "starvation" method in handling our Bermuda greens (that is, no watering other than that obtained from the natural rainfall, and very little fertilizing); but