THE EFFECT OF NITROGENOUS FERTILIZERS ON THE GROWTH OF LAWN GRASSES

J. W. Zahnley AND F. L. Duley

Until very recent years but little attention has been given to the use of commercial fertilizers for grass in Kansas or regions of similar climatic conditions. There has developed, however, an increasing interest in the use of these materials for treating lawns. A considerable number of people are using them and the tests so far have indicated that they can be substituted for manure. Commercial fertilizers are popular because they do not introduce weed seed or make the lawn unattractive with litter as is often the case with manure. In 1925 a series of tests was begun at the Kansas Experiment Station in cooperation with the United States Golf Association Green Section in which studies were made on the adaptation of different grasses as well as the effect of nitrogenous fertilizers in improving the turf produced by each.

METHODS

The soil was Wabash silt loam, a bottom soil at the foot of a slope on the college campus. The fertilizer treatments were applied across parallel strips of Kentucky bluegrass, Washington bent, and German mixed bent grasses. The plats thus formed were 10 x 10 feet in size. The amount of fertilizer used for each application per plat was adjusted to the equivalent of the nitrogen contained in 10 ounces of ammonium sulfate. This provided for an application of 4.4 ounces of urea and 13.2 ounces of sodium nitrate, or approximately 272 pounds of ammonium sulfate, 120 pounds of urea, and 359 pounds of sodium nitrate per acre at each application. The fertilizer was dissolved in water and applied with a sprinkling can. Six applications were made each season at intervals of 4 to 5 weeks beginning in the latter half of March. The total fertilizer applied per acre throughout the season, therefore, amounted to 1,633 pounds of ammonium sul-

1 Contribution No. 223, Department of Agronomy, Kansas Agricultural Experiment Station, Manhattan, Kan. Received for publication April 17, 1933.
2 Associate Professor of Farm Crops and Professor of Soils, respectively.