WHAT OTHERS WRITE ON TURF

In this department will be given the substance of research in the various fields of scientific investigation which seems to have a definite bearing on turf improvement. The articles will summarize results of recent investigations made in various parts of the world. They are not published here as recommendations but simply as information for our readers and as suggestions which may have practical applications in many situations. Where the Green Section's tests or the information it has obtained from other reliable sources in this country substantiates or contradicts the results obtained by other investigators, comments to that effect may be included as a guide for our readers. In all other cases the reader will receive in brief the results and conclusions as given in the original papers.

WEED CONTROL IN TURF

During the year 1941 several of the experiment stations have issued publications on the control of weeds in lawns. Of these, the Ohio Agricultural Experiment Station Bulletin No. 619 is probably the most complete. In it F. A. Welton and J. C. Carroll summarized their weed control experiments conducted from 1928 to 1940 on 26 different species of weeds, most of which are generally recognized as turf weeds. A great deal of attention is given to the control of dandelion, broadleaf and buckhorn plantains, and crabgrass. It is true that some of the weeds discussed, such as burdock, pokeweed, wild carrot, sour dock and poison ivy, are not usually considered a problem in well-maintained lawns. The bulletin is beautifully illustrated with excellent photographs of the weeds as they appear in turf as well as of single isolated plants, showing the habit of growth of roots, stems, and leaves. In addition to a discussion of the control of each of the 26 species of weeds in turf there is a section devoted to the killing of weed seeds in compost piles with chloropicrin, cyanamid, and Sinox.

A circular from the Utah Agricultural Experiment Station prepared by D. C. Tingey and B. Maguire gives a general discussion of weed control methods in lawns and then includes carefully prepared drawings of the principal lawn weeds of that section—dandelion, mouse-ear chickweed, broadleaf and buckhorn plantains, smooth crabgrass, annual bluegrass, and Bermuda grass.

These drawings illustrate in detail the flowers and fruits as well as roots, stems, and leaves of the weeds. A list of lawn weeds of secondary importance is also included. It comprises 10 annuals and 8 biennials or perennials.

WATER REQUIREMENT OF KENTUCKY BLUEGRASS

All plants require water for growth but they vary in the quantity of water used to produce a pound of dry matter. This quantity is spoken of as the water requirement of plants. The water requirement of a plant may vary with conditions and with the treatment to which it is subjected while growing.

V. G. Sprague and L. F. Graber in Wisconsin studied the variation in the water requirement of Kentucky bluegrass under several different cultural conditions throughout the season, and a report of their work appeared in the Journal of the American Society of Agronomy.

The plants were grown in a greenhouse in the fall in such a way that the water used in growth could be measured. On April 9 all plants were cut to one-half inch. Half of the plants were given nitrogen whereas the others were not. One-half of both the fertilized and the unfertilized plants were cut to one-half inch each week whereas the remainder were permitted to grow undisturbed until June 13, at which time all of the plants were given a final cut to one-half inch. The material produced was weighed and by comparing the production of dry matter with the quantity of water used the water requirement was determined.

The water requirement (the ratio between the water used and the dry matter produced) was with one exception higher for the plants which were cut each week to one-half inch than for those plants which were permitted to grow at hay height. In all cases the water requirement during the period following June 14 was materially greater than during the spring, being two to three times as great in the cut plants, but only one to one and a half times as great in the plants allowed to grow at hay height. This residual effect of the cutting prior to June 14 is striking. The water requirement during the summer period was decidedly higher for the cut than for the tall plants—2.75 times as high in the fertilized plants, but only 1.15 times as high in the unfertilized plants.

In all cases except one, the water requirements of the plants which had received the nitrogen were less than the unfertilized plants. This was