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.

Control of Dandelions in Lawns

Dandelions are perennial pests on lawns, fairways, and other turf. Cutting them out may be feasible on a small area but even then the exposed soil makes a place for new dandelion seedlings or other weeds to get a start. Iron sulphate has been used with some measure of success, especially when at the same time the grass was heavily fertilized to stimulate growth.

Loomis and his associates in Iowa have shown that a certain grade of kerosene can be used effectively to kill dandelions. They studied the food reserves in the plant and the influence of different temperature, moisture, and sunlight conditions upon the killing effect of the kerosene and the damage done to grass. While sunlight appeared to have no direct effect, the high temperatures usually experienced on a sunny summer day decreased the effectiveness of kerosene on dandelions but increased its injury to grass. The best results "were obtained at temperatures up to 72° F. by spraying in the evening or on cloudy days."

In articles in Science and in the Journal of Agricultural Research they recommended spraying at the rate of 5 gallons to 1,000 square feet during cool, cloudy weather. Their best results were obtained from early fall treatments made six to eight weeks before the first grass-killing freezes or heavy snows. They also advised heavy applications of ammonium sulphate and ferrous sulphate spray for a year preceding the kerosene treatment. This was to encourage the growth of grass among the dandelions so that when they were killed the vacant spaces would

be quickly filled with grass rather than with weeds. The kerosene spray had no effect on other lawn weeds.

The grade of kerosene used apparently determines in a large measure the success of the treatment. The use of impure distillates showing a yellow coloration resulted in a complete kill of bluegrass and white clover sod. Consequently, only the clear or so-called water white products can be used and even among these some appear to be more toxic to bluegrass and less harmful to weeds than others.

These workers found that the per cent of unsaturated hydrocarbons determines the toxicity of the product to bluegrass and its efficacy in weed control. They consider that for the best weed control with the least injury to grass the product should contain 2.5 to 4 per cent of unsaturated hydrocarbons and should have a boiling point of 180° to 250° C. (356° to 482° F.).

Experiments conducted by the Green Section with kerosenes from several sources so far have given inconsistent results. In some cases good control of dandelions was effected. However, this was accompanied by an increase in the amount of crabgrass. In other cases, although very little control of dandelions was secured, the amount of crabgrass was still greatly increased.

Lead Arsenate Not Injurious to Grass Seed

In connection with the use of arsenic compounds as described in this issue, and especially with reference to the work of Welton and Carrol as reported here, it is of interest to note from the Journal of the Board of Greenkeeping Research that Dawson and Ferguson at Bingley, England, found that lead arsenate applied with the seed did not prevent germination. They mixed 2 ounces of the chemical to the square yard with the surface 1-inch of soil and seeded fescues, bents, Poas, perennial ryegrass, and crested dogtail. This rate equals 14 pounds to 1,000 square feet. No significant differences were noted between the germination of seed in the control pots and that of seed in the treated pots. With the exception of crested dogtail, there was no material effect on the subsequent growth of the grass.

The rate of application was lower than the rate used by Welton and Carrol (20 to 25 pounds to 1,000 square feet). The germination of the seed was complete in 30 days after the application of the arsenate, while in the Ohio work several weeks or months elapsed between the appli-