

MERCURATED-ETHYL-STEARATE IN
KEROSENE FOR KILLING WEEDS

Ralston, Christenson, and Josh published a paper in the periodical *Oil and Soap* in which they gave the results of their investigations on the effect of mercurated-ethyl-stearate on weeds. They found it to be specific in its attack on weeds having latex-containing roots, such as dandelions, sunflowers, and milkweeds.

Following this work, Hanley and Weinard in Illinois studied the effect of a solution of this chemical in kerosene on turf weeds. In the Proceedings of the American Horticultural Society they published their results, which indicate that they obtained better control of weeds with the kerosene solution of the mercurated-ethyl-stearate than with kerosene alone. According to the authors, this chemical is a complex organic compound of which only small amounts are necessary to kill not only dandelions but also broad-leaf plantain, buckhorn, crabgrass, sheep sorrel, milk purslane, and dock.

In their experiments, test plots were treated with .1, .2, .3, .5, and 1.0 per cent solution of mercurated-ethyl-stearate in kerosene. The resulting weed control was compared with that obtained on plots treated with kerosene alone, iron sulphate, copper nitrate, and Ammo-phos.

They obtained the best coverage with 1 liter of the kerosene solution for each 50 square feet (the equivalent of $5\frac{1}{4}$ gallons to 1,000 square feet). Best control was obtained with .2 to .5 per cent solutions ($\frac{2}{3}$ fluid ounce in 5 gallons makes a .1 per cent solution).

With the kerosene solution, the tips of the bluegrass were burned, but this injury was temporary. The dandelions were said to be killed easily. The plantains were also controlled if the spraying was done not later than July 15. With reference to crabgrass, they state that it "can be effectively controlled if the spraying is done in late June or July."

Penetration is best during dry weather, so mid-June to late July is the best time to spray. Late afternoon and evening sprayings were most effective. The writers conclude that the action is not wholly due to the stearate "but rather to the combined effect of the kerosene plus the mercury compound."

They recommend for the average lawn the use of 3 cubic centimeters to 1 liter of solution. This figures out to about $\frac{2}{5}$ fluid ounce to each gallon of kerosene or a .3 per cent solution. Best results were obtained with the use of $5\frac{1}{4}$ gallons to 1,000 square feet.

It will be noted that the amount of kerosene recommended by these investigators is slightly greater than that used by Loomis in Iowa when using kerosene alone for dandelion control. The addition of the mercurated-ethyl-stearate materially increased the cost of the treatment. However, the solution has been recommended for the control of various weeds, whereas the kerosene is said to be specific for dandelions.

Preliminary experiments with this substance at the Arlington Turf Garden have not given any too promising results. However, further work will be necessary before definite conclusions can be drawn. Our tests have shown that while it controls the dandelions somewhat more effectively than does kerosene alone, it causes a marked increase in the injury to the turf grasses with a resultant increase in crabgrass later in the season.

CONTROL OF TURF WEEDS IN GREAT BRITAIN

At a symposium on the chemical control of weeds held in Great Britain the past season most of the papers dealt with the control of weeds in cultivated fields. R. B. Dawson, Director of the St. Ives Research Station, however described the English method of controlling weeds in

lawns and fine turf. This and the other papers given at the symposium were published in the *Annals of Applied Biology*. Apparently in England they continue to get good results from a combination of three parts of sulphate of ammonia and one part of calcined sulphate of iron. The calcined sulphate of iron is our copperas or green vitriol with the water of crystallization driven off. These substances are mixed with 20 parts of soil, compost or other carrier, and applied six times a year at the rate of 4 ounces to the square yard (28 pounds to 1,000 square feet) for the more easily controlled weeds. This is similar to the remedy for turf weeds that has been used in South Africa for many years under climatic conditions widely different from those in England.

For weeds such as dandelion, plantain and cat's ear that are harder to control, a stronger preparation of three parts of sulphate of ammonia to two parts of calcined sulphate of iron is mixed with five parts of carrier and applied at the rate of 3 to 4 ounces to the square yard (21 to 28 pounds to 1,000 square feet).

Sulphate of iron alone or mixed with ammonium sulphate has been used in the United States for a great many years. Under certain conditions it gives satisfactory control of