SODIUM TCA FOR CONTROL OF GRASSES

James B. Augenstein

Savenac Nursery 1951

Undoubtedly quack grass, Bermuda grass and Johnson grass are some of the most unwelcome weeds around a conifer nursery. deep heavy roots and are almost impossible to eradicate either by previously known chemicals, by machinery, or by hand. Any small portion of the root that breaks off and remains in contact with the soil will start growing again even during dry weather.

A fairly new chemical, known as Sodium TCA (sodium trichloroacetate), introduced a few years ago by the Dow Chemical Company has given promising results for the control of these grasses. Sodium TCA does not sterilize the soil as will other herbicides previously used on the control of grasses, such as ammonium sulfamate or atlicide. The chemical is a powder readily soluble in water and is applied as a soil and plant drench. It can be applied any time from early summer to late fall prior to heavy frosts.

Tests were started at the Savenac Nursery in 1949 with Sodium TCA 60% which the company produced that year. The tests were made on a heavy quack grass sod and application was made in late July. The grass was full grown and was cut prior to the application. The TCA was applied at the rate of 80 pounds dissolved in 80 gallons of water per acre. The summer was quite dry and the test plots were not watered after application, so the test was not a fair test. The result was about a 70% kill.

Two plots of quack grass were treated with the same TCA 60% in June of 1950. The quack grass in both of these plots was a medium stand that had not yet formed a heavy sod. One plot was treated with 80 pounds per acre and the other plot with 100 pounds per acre. The 80 pound treatment killed about 80% of the grass and the 100 pound treatment killed 95% of the grass. The plots were wet down occasionally during the summer.

The company replaced the Sodium TCA 60% with Sodium TCA 90% in 1950. Tests were started at Savenac with the TCA 90% in July 1950. The tests were made on moderately heavy stands of quack grass. The application was at the rate of 120 pounds per acre as recommended by the manufacturer. The TCA was dissolved in water at the rate of 1 pound per gallon. The results by late September were a 100% kill.

Apparently the best time for applying TCA depends on the climatic condition. Since TCA works almost entirely on the roots, considerable moisture is needed to carry the chemical down through the soil

to the roots. Tests will be necessary in each locality to set up standards.

The cost of Sodium TCA 90% is 40¢ per pound. At the rate of 120 pounds per acre the cost of treatment would be $448.00 per acre plus cost of application. This cost is very cheap compared with hand digging.

The chemical can be applied with a power sprayer, gravity sprayer, or sprinkling can.

USE CF DOWFUEE MC-2 AS INSECT AND WEED KILLING AGENT IN A FOREST TREE NURSERY IN MAINE

Roger F. Taylor

AssIt. Supervisor, Maine Forest Nursery, Orono, Maine

The poson gas used in this instance was Dowfume MC-2, a product of the Dow Chemical Co., Midland, Mich. No conclusive results were obtained because of insufficient data. This experiment was suggested and materials obtained through cooperation with Dr. Alton Prince, Plant Physiologist of the Maine Agricultural Experiment Station staff, who left to accept another position before the test was completed. It is to be noted that Dr. Prince very carefully screened many types of "cover" materials for this bed treatment. He selected "Scutan" NO. 1241-L, which has a 170 lb. ream weight, 57 lbs. per M sq. ft. - 84 inches width of roll. This product is manufactured by Union Bag and Paper Corporation of Hudson Falls 3, New York.

Two 4 by 12 ft. prepared seedbeds were treated in the spring of 1949 prior to seeding. These beds were adjacent to each other and a metal tray was placed in the space between them. A gasproof paper (mentioned above) was used to cover both beds and. all edges were covered completely with soil to make an airtight seal. A plastic tube ran from the tray on the ground between the beds to the outside of the sealed area. The liquid gas, which is in specially designed pint size cans of one pound under pressure, was released by means of a special circular band attached to the tube, which when clamped on to the can, punctures it and discharges the liquid gas through the tube into the tray. The fumes then spread throughout the seed-beds. These gas fumes are very injurious to all animal life.

The beds were left undisturbed. for 24 hours and then the gasproof paper was removed. The beds were left to aerate for 48 hours more