

METHYL BROMIDE TO CONTROL WEEDS IN CONIFER SEEDBEDS

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For the past two years the Chittenden Nursery has been conducting some experiments on the control of white grubs and nematodes in the conifer seedbeds. One of the chemicals used in these experiments was the gas, methyl bromide. This partially sterilized the soil, killing most of the seeds in it as well as the other life present. A reduction of weeding, therefore, resulted along with the control of the grubs and nematodes.

The seedbeds are prepared for treatment by rotary tilling which fluffs the soil and permits better penetration of the gas. The beds were then covered with a gas barrier material (plastic sheets or sisalcraft paper). The centers of these sheets were supported on boards at a height of about 12 inches and the edges were covered with soil, thus making a gas-tight chamber. The methyl bromide was injected into a metal trough in this chamber by means of a Jiffy Applicator. One and two pounds per hundred square feet were used. After 24 hours the covers were removed and the soil allowed to air for a few days before sowing.

In all of the experiments, counting plots of two square feet were installed in all (16) replicates and counts were made on the number of seedlings and weeds emerging. The methyl bromide plots were almost free of weeds, averaging from 0 - 2 weeds per square foot as compared with an average of 18 - 20 weeds per square foot in the control plots. Germination of the seedlings in treated plots was as good as in the control plots and in a few cases better. Not only did the methyl bromide kill the weed seeds, but it also killed all the white grubs in the plots at the time of the treatment. Hence it might be capable of eradicating grubs in a heavily infested area before sowing or planting. Methyl bromide gives good control on the root knot nematodes, but its ability to control the meadow nematodes found in the Chittenden Nursery is still being investigated.

Methyl bromide will apparently give excellent control of weeds when used as a pre-sowing treatment, but the cost is very high. Our experiments indicated that treating an acre of nursery seedbeds would cost in excess of \$600. This is costlier than hand weeding except in extreme cases.

Until a method can be worked out whereby the methyl bromide can be injected into the soil without use of a gas-tight cover, it is felt that its use for weed control is not practical in large-scale nursery operations. However, where there are heavy infestations of weeds along with white grubs or other insects, it might be practical to use methyl bromide in limited areas.