VAPAM SHOWS PROMISE AS A FOREST NURSERY HERBICIDE

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The use of chemicals to control weeds in forest tree nurseries has become standard practice. Mineral spirits (Varsol, Stanisol, Sohio Weed Killer, etc.) have performed satisfactorily as post-emergence sprays. Allyl alcohol has given some good results as a pre-emergence treatment, but it is dangerous to handle. During the winter of 1955-56 tests were run to evaluate Vapam? (sodium N-methyl dithiocarbamate dihydrate) as a pre-emergence drench.

The tests were performed in the LSU School of Forestry nursery. The soil is a silt loam. Vapam was applied by mixing the quantity required for treatment with 12 gallons of water and applying the appropriate amount of the mixture from a sprinkling can. Following application of the chemical the beds were watered with approximately 21 gallons of water per 100 square feet (0.33 inches).

The study was carried out in two parts. On November 5 Vapam was applied to one-half of sixteen 48 square foot nursery beds; the other half of each bed was left untreated as a control. Four intensities of application were used, each replicated four times. The final tally of weeds was made on December 8, just before the end of the growing season. The results are summarized in table 1.

Vapam per 100 sq. ft. Quarts	Weeds per sq. ft. (av. of 8 sq. ft.) Treated	Untreated
One-half	0.4	59.3
One	0.5	46.6
Two	0.0	88.7
Four	3.0	80.6

A second group of beds was treated in the same manner on February 25. The results shown in the following figure are expressed as the percentage of the

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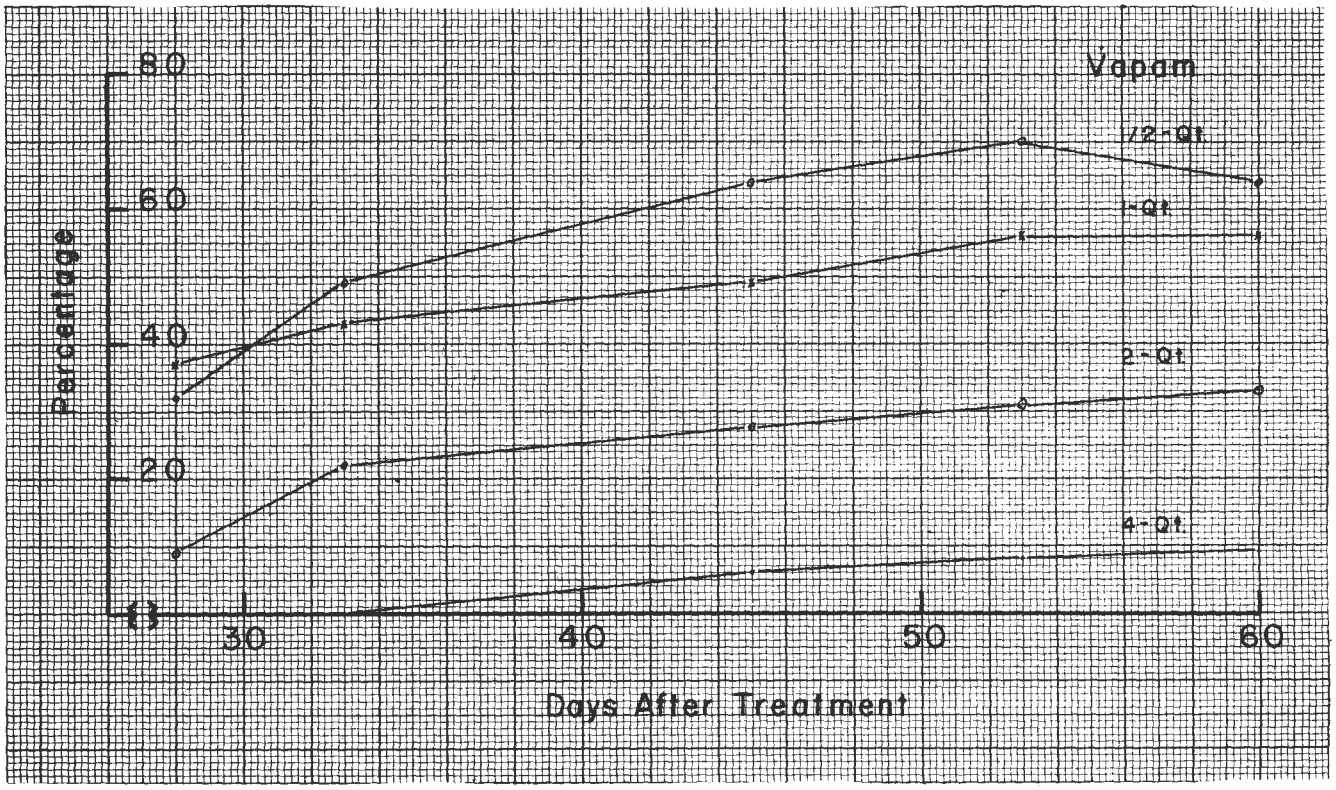
2/ Vapam used was supplied through the courtesy of the manufacturer, Stauffer Chemical Company, Box 7222, Houston 8, Texas.

cumulative number of weeds per square foot in the treated area compared to the cumulative number of weeds per square foot in the untreated area.



Cumulative number of weeds on the treated area expressed as a percentage of the cumulative number of weeds on the untreated area. Treatment is in quarts of Vapam per 100 square feet of bed area.

The heaviest treatment tested, four quarts of Vapam per 100 square feet of bed area, gave the best results: complete control for 35 days and 91 percent control for 60 days.

Germination, survival, and growth of spruce pine (Pinus glabra), loblolly pine (P. taeda), slash pine (P. elliottii elliottii), and longleaf pine (P. palustris) were apparently not affected when seed were sown twelve days after bed treatment. Of several hardwoods sown after the same lapse, only sweetgum (Liquidambar styraciflua) showed some chlorosis and reduction in height growth immediately following germination, but color was normal and cumulative height growth equaled that of the control seedlings by 90 days after sowing. There was no significant difference in germination or survival of longleaf pine sown three, six, and twelve days after treatment.

Although the details of optimum treatment remain to be worked out, Vapam shows definite promise as a forest nursery herbicide.