

## WATER SEALING OF VAPAM FOR NURSERY FUMIGATION

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During tests of rate of application of Vapam in the LSU School of Forestry nursery in 1955-56<sup>1/</sup>, it was noted that although both applications of the Chemical were sealed by 0.33 inches of water, the autumn treatments were much more effective than the spring treatments at all levels. The most obvious difference in treatments was that a heavy rain had fallen the night following the autumn treatment. Therefore, tests were run in the spring of 1957 to explore the results of varying the amount of water sealer.

The tests were run in the LSU School of Forestry nursery, on a silt loam soil. Vapam<sup>2/</sup> was mixed with water and applied to the beds at the rate of two quarts of Vapam in 12 gallons of water per 100 square feet of bed surface. Following application, the chemical was sealed in by varied amounts of water.

On March 15, Vapam was applied to one-half of sixteen 12 x 4 nursery beds; the other half of each bed was left untreated as a control. Four amounts of sealer were used, each replicated four times: no sealer, one-half inch, one inch, and two inches. Unfortunately several beds were severely disturbed three weeks after treatment and subsequent weed tallies had to be disregarded; this may have contributed to the lack of significant difference between the one-inch and the two-inch sealer.

<sup>1/</sup> Briscoe, C. B., and F. R. Strickland. 1956. Vapam shows promise as a forest nursery herbicide. *Tree Planters' Notes* 26:3: 3-4

<sup>2/</sup> Vapam used was supplied through the courtesy of the manufacturer, Stauffer Chemical Company.

The results in the graph are shown as the cumulative number of weeds in the treated area expressed as a percentage of the weeds in the untreated area.

There was no significant difference in number of weeds following treatment with no sealer and treatment with 1/2-inch sealer, nor between treatment with 1-inch of sealer and 2-inches of sealer.

In a relatively heavy soil such as is found in the LSU nursery, increasing the sealer coat to at least one inch greatly increased the period of complete control of weeds and improved subsequent control for at least 61 days following treatment. Control of nutgrass was not as complete nor for as long a period as control of the forbs; however, increased sealer had a similarly beneficial effect.

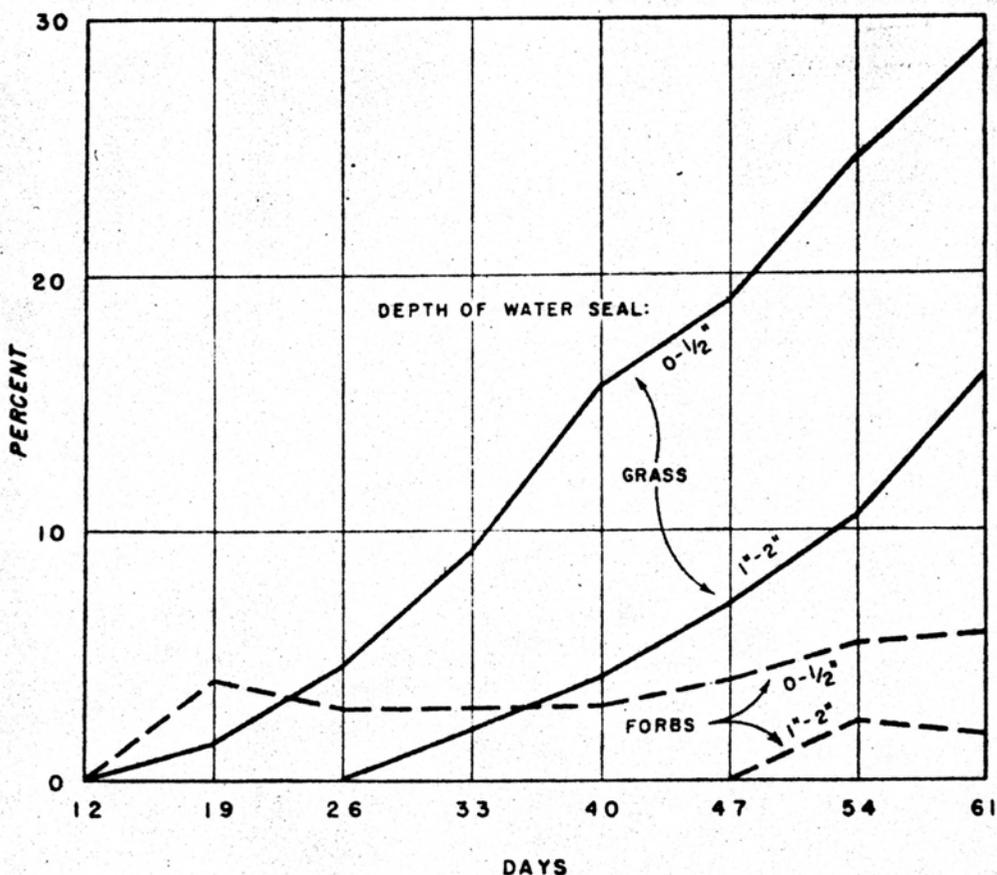


Figure 1. The effect of Vapam sealed with varying amounts of water on germination of weeds in the nursery. The number of weeds which germinated on the treated area is expressed as a percentage of the number of weeds which germinated on the corresponding untreated area.