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Miscellaneous Research Report No. 5  
(Forestry)

RECOMMENDATIONS FOR  
WEED CONTROL IN FOREST PLANTATIONS  
for the  
1963 GROWING SEASON

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WISCONSIN CONSERVATION DEPARTMENT  
Division of Research and Planning

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THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

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Note: The following suggestions are based, in part, on experimental results of tests conducted by the University of Wisconsin and the Wisconsin Conservation Department<sup>1/</sup>, as well as the manufacturer's recommendations. Growers who wish to evaluate these weed control measures under their own local conditions do so at their own risk. Final recommendations must await further research.

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NEW PLANTINGS  
USING A POWER-TYPE SPRAYER

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Treatment 1. Simazine alone (preferably on freshly scalped or prepared planting strips).

- A. Apply 3-6 pounds (active ingredient) of Simazine 80W in 50-100 gallons of water per acre (of acre actually sprayed).

CALCULATING. Simazine is available at most local pesticide dealers such as agricultural supply dealers, seed and fertilizer stores and farm cooperatives as 80W (80% of active ingredient) wettable powder.

In calculating correct amount of material, for example, use 5 pounds of simazine 80W to provide 4 pounds of active ingredient.

MIXING. In using wettable powders it is better to prepare a slurry (a liquid paste) by mixing thoroughly the measured amount of chemical in a small volume of water in a pail or drum. Then add the mixed slurry to the spray tank during or after filling with the required amount of water. Provide agitation during mixing and spraying.

APPLYING. Apply the simazine suspension with coarse, fan-type spray nozzles at low pressure in 24- to 36-inch bands after scalping. Where scalpers are not used the simazine can be applied ahead of the planting shoe or behind the packing wheels as above. Simazine is absorbed mainly through the roots. It does not appear necessary to avoid spraying the tree foliage. Spray with enough water to distribute the simazine uniformly on the soil.

<sup>1/</sup> For further information, contact T. T. Kozlowski and J. F. Kuntz, University of Wisconsin, or H. J. Hovind, A. J. Prey or T. W. Blomquist of the Wisconsin Conservation Department.

Some difficulty can be expected with strainers and nozzles clogging when spraying with wettable powders. It may be necessary to replace strainers and nozzles with others having a larger orifice.

Do not cultivate or otherwise disturb the soil surface following treatment.

The lower rates of application generally will suffice on light, sandy soils, whereas the higher rates will be required on heavy, organic soils. One application usually will control weeds for one season; the higher rates may show some continued control the second year.

Treatment 2. Simazine and dalapon, simazine and amitrole, or amizine alone (where planting strips are not scalped or otherwise prepared and where weeds are well established).

- A. Where grasses predominate, apply a mixture of 3-6 pounds (active ingredient) of simazine and 4 pounds (active ingredient) of dalapon in 50-100 gallons of water per acre (of area actually sprayed).

OR

- B. Where broadleaf weeds predominate, apply a mixture of 3-6 pounds (active ingredient) of simazine and 2 pounds (active ingredient) of amitrole in 50-100 gallons of water per acre (of area actually sprayed).

OR

- C. Amizine at a rate of 6-10 pounds per acre of commercial product applied with a fan-type directional spray avoiding contact with the foliage.

CALCULATING. Simazine is calculated as above.

Dalapon is formulated as a soluble powder containing 85% active ingredient. For example, 5 pounds of material provide about 4 pounds of active ingredient.

Amitrole is formulated as a 50% soluble powder. For example, 4 pounds of material provides 2 pounds of active ingredient.

Amizine is a ready-mixed powder of 45% simazine and 15% amitrole.

All of these materials are available at local pesticide dealers.

MIXING. As above.

APPLYING. As above, except that dalapon, amitrole and amizine should not touch the tree foliage. These chemicals are absorbed mainly through the foliage and may cause severe injury to trees, especially if the trees are actively growing. Therefore, apply ahead of the planting shoe or as a fan-type directional spray - on the weeds but off the trees. Cover weeds

thoroughly and uniformly. (See precautions in use of power-type sprayer, below).

DALAPON, AMITROLE AND AMIZINE ARE MOST EFFECTIVE WHEN WEEDS ARE YOUNG, SUCCULENT AND ACTIVELY GROWING. THEREFORE, AN EARLY SPRING APPLICATION IS DESIRABLE.

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ESTABLISHED PLANTINGS  
USING A POWER-TYPE SPRAYER

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Treatment 1. Simazine alone.

- A. Apply 4-6 pounds (active ingredient) of simazine in at least 100 gallons of water per acre (of area actually sprayed).

For directions as to mixing and applying, see Treatment 1-A, above.

Treatment 2. Simazine and dalapon, simazine and amitrole, or amizine alone.

Apply a mixture of 4-6 pounds (active ingredient) of simazine with either 4 pounds (active ingredient) of dalapon or 2 pounds (active ingredient) of amitrole.

Apply 6-10 pounds per acre of amizine (commercial product).

For directions as to mixing and applying, see Treatment 2, above.

KEEP SPRAY OFF TREE FOLIAGE

Precautions in Use of Power-Type Sprayer

1. Read and follow carefully directions on label.
2. Clean sprayer and put in good working condition well in advance of treatment.
3. Calibrate your sprayer accurately so that the correct amount of herbicide will be applied to a known sprayed area. One method is to spray with water a known area (convenient length x known width of sprayed strip). Use a standard pressure and speed. Then measure the volume of water used. Next, calculate this rate of application on a per acre basis

(1 acre = 43,560 sq. ft.). If this trial rate is not satisfactory, changes in the rate of application can be made by changing the pressure, nozzle size, or speed. Recalibrate once more and recalculate the rate of application. Repeat this procedure until the correct rate of application is attained.

4. Wash sprayer thoroughly with clean water after each use.

5. Store herbicides in a clean, dry place away from fertilizers, feeds, seeds, and plant materials. Keep labels intact so as not to confuse with other pesticides

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NEW PLANTINGS  
USING A KNAPSACK SPRAYER

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Treatment 1. Simazine alone.

Some points to remember when applying simazine with a knapsack sprayer are:

1. Simazine is a pre-emergence herbicide; therefore, it must be applied before weeds emerge or grass becomes green.

2. Simazine needs water to become activated. Spring rains usually provide the moisture needed. Therefore, the earlier the application the better the chance for effective weed control.

3. Trees sprayed directly with simazine will not be injured. The herbicide is not taken in through the needles, but is assimilated by the shallow roots of weeds and grasses. Simazine does not generally leach beyond the first inch of soil.

4. Planting stock will be killed if simazine comes in direct contact with the roots. Therefore, when applying simazine, be sure the planted trees are well packed. If not, the simazine could flow down the trench and kill the tree.

5. The removal of dry, matted grasses by a light burn prior to planting is effective if done early in the season so new grass can start to grow prior to spraying. Use caution in any burning carried out.

The following table may be used when applying simazine 80W to a number of trees with a knapsack sprayer or back-pack can.

APPLICATION OF SIMAZINE 80W WITH A KNAPSACK SPRAYER

| Active Ingredient<br>Pounds/Acre | Simazine 80W in<br>2 Gallons of Water*<br>to Spray 200 Trees |        | Simazine 80W Required<br>to Treat 2-Foot Circles<br>Around 1,000 Trees<br>(Pounds) |
|----------------------------------|--|--------|--|
|                                  | (Tablespoons)  | (Cups) |  |
| 2                                | 3  |        | .18  |
| 2½                               | 4  | 1/4    | .22  |
| 3                                | 5  |        | .27  |
| 3½                               | 6  | 3/8    | .32  |
| 4                                | 6½   |        | .36  |
| 4½                               | 7  |        | .40  |
| 5                                | 8  | 1/2    | .45  |
| 5½                               | 9  |        | .50  |
| 6                                | 9½   |        | .54  |
| 6½                               | 10½  |        | .58  |
| 7                                | 11   |        | .63  |
| 7½                               | 12   | 3/4    | .68  |
| 8                                | 13   |        | .72  |
| 8½                               | 13½  |        | .76  |
| 9                                | 14½  |        | .81  |
| 9½                               | 15½  |        | .86  |
| 10                               | 16   | 1      | .90  |

\* Spray a 2-foot-diameter circle around each tree. Apply the 2 gallons to 200 spots. If a 3-foot-diameter circle is needed, apply the 2 gallons to only 90 spots. Shake container frequently to keep material in suspension.

