



CHEMICAL WEED CONTROL

In Non-Bearing Apple Orchards

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There have been many apple plantings established in Virginia within the last few years. For greatest efficiency these plantings must be brought into profitable production as quickly as possible. They must receive careful attention and weed competition must be kept to a minimum. This may be accomplished through frequent cultivation. However, this is costly and often results in damage to young apple feeder roots. Weed control chemicals have been shown to have considerable promise for use in non-bearing apple orchards. At the present time weed control chemicals are not recommended for use in peach orchards.

CHEMICALS AND WHEN TO SPRAY

Pre-emergence

Apply diuron or simazine before weed growth starts in the spring or after weeds have been killed by cultivation. Neither of these chemicals will kill weeds that are already up. They kill weed seed as they start to germinate.

<i>Chemical</i>	<i>Amount Per</i>	<i>50 gal.</i>
	<i>5.0 gal.</i>	
Diuron (80% W.P.) -----	1/5 lb. (13 tsp.)	2 lbs.
OR		
Simazine (80% W.P.) ---	1/5 lb. (13 tsp.)	2 lbs.

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Post-emergence

Apply amizine in non-bearing orchards during May when the weeds are small and actively growing. Amizine is a commercial mixture of amitrol and simazine. Amitrol acts on the existing weeds and the simazine kills the seed as they start to germinate.

<i>Chemical</i>	<i>Amount Per</i>	<i>50 gal.</i>
	<i>5.0 gal.</i>	
Amizine -----	1/2 lb. (32 tsp.)	5 lbs.

When properly used, any one of these treatments should give adequate weed control for the season. In general, weed growth that develops after August 15 is not harmful and may even be beneficial. Weed competition would reduce late season tree growth, thereby reducing the hazard of early fall cold injury.

WHERE TO SPRAY

The principal objective is to eliminate weed competition from the rooting zone of the young trees. For trees 1-2 years old, spray an area 4' wide by 8' long on each side of the trunk. Some growers may prefer to spray a continuous strip 4' wide down each side of the tree row, but on some sites strip spraying may result in severe erosion. Care should be taken to prevent the spray from getting on the trunk or foliage of the young trees since it may be absorbed and cause injury.

HOW TO SPRAY

In general, a knapsack hand-sprayer equipped with a nozzle that delivers a flat spray, such as that produced by Teejet nozzle No. $\frac{1}{4}$ 2TOCO4, will be adequate, Figures 1 and 2. In applying the spray, hold the nozzle 18"-20" above the ground. Most knapsack sprayers will hold nearly 5 gallons of spray. If 1 pint of material is applied to each under-tree area, from 35 to 40 trees can be treated with each filling of the sprayer.

Since this will probably be a "once-a-year" operation, a tractor mounted weed control sprayer would not be justified except in larger plantings or where the equipment could be used elsewhere on other weed problems. If a tractor mounted sprayer is used, the spray can be applied from a short boom for strip treatment, or by a hand-gun equipped with the above mentioned nozzle. Use about 40 lbs. pressure. Direct the spray downward and away from the trunk at all times.

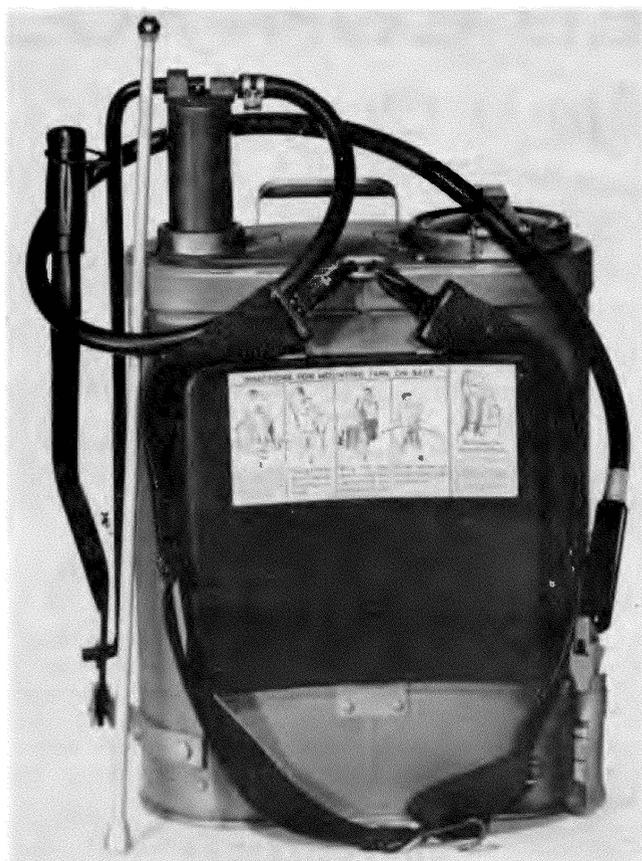


Fig. 1—Typical knapsack hand-sprayer.

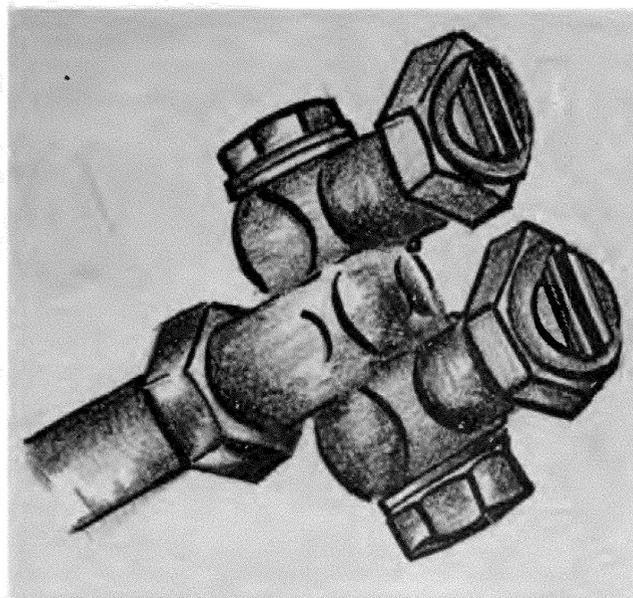


Fig. 2—Flat spray producing Teejet nozzle No. $\frac{1}{4}$ 2TOCO4.

RATE OF APPLICATION

In applying herbicides, the objective is to wet the weed foliage. This will usually be accomplished by applying approximately 1 pint of spray per 64 square feet. Calibrate and calculate the rate carefully if larger or smaller areas are sprayed.

REMARKS AND CAUTIONS

- 1) Slight marginal burning has been observed on tender Golden Delicious foliage following the use of simazine.
- 2) Avoid spray drift, since this may cause injury to trees in the area.
- 3) Keep sprayer for use in weed control work only.
- 4) Be sure to keep all spray off trunks and leaves of young trees.
- 5) Do not cultivate the under-tree area after the weed control chemicals have been applied.
- 6) Flush sprayer with clean water 2 or 3 times after using.
- 7) Read and follow the directions on the container in which the herbicide is purchased.