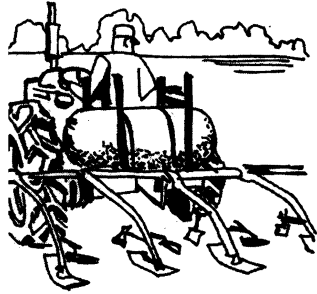


"The Virginia Weeder"

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COSTS OF NURSERY WEED CONTROL

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Weed control in nurseries has long been recognized as one of the most costly operations in growing what is called a long-term crop. In addition, the major cleanup of weeds should be accomplished at a time when labor must be used for other operations, such as spring planting, digging plants for sale and the myriad of other details which occur between early spring and July.

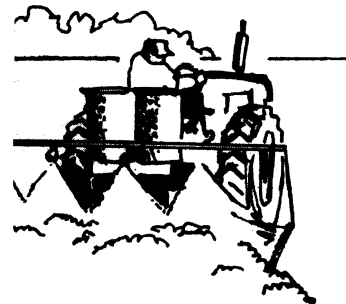


Since herbicides were introduced in nursery culture and have become fairly well accepted by growers, the question of comparative costs of the two commonest systems of weed control has often arisen. It is assumed that chemical weed control is much less expensive than mechanical methods, but actual costs of mechanical methods are not readily available.

It was the purpose of this survey study to determine the weed control costs of several nurserymen who use only mechanical methods. If a grower was using any herbicides in nursery weed control, his cost estimates were also tabulated.

NO TWO THE SAME

In the course of the survey, it became apparent that no two growers would have the same costs, since there are so many variables in nursery crop production.



Growers differ in the degree of weed freeness desired; the population of weeds differs with the amount of rainfall or irrigation; some growers have a particularly troublesome weed, while others have a small number of many different types, or the nursery may not have much of a weed problem; some growers are using herbicides on a part of the nursery; most have not kept records on the costs of various operations and can only guess at the time involved in any one operation; soil types have some effect on weed population; some growers keep horses or mules just for cultivation, so that the whole costs of maintaining the animals must be charged off to weed control; others have cultivators or tillers used only for weed control, while most have tractors which are used for many purposes outside cultivating; hourly wages vary with the type of labor available (itinerants,



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local men or youths or the owner himself), and some nurseries use mulch. The survey information, however, indicates the range of costs per acre from highest to lowest, regardless of conditions.

Table 1 outlines weed control costs per acre of established stock figured from information supplied by seven nurserymen. This information was given as the number of laborers used, the number of days per season, length of day or workweek, type of cultivating equipment, cost of labor, number of cultivations or hoeings, the size of areas involved, etc. Only one nursery had accurate records showing exact costs of annual manual weed control. All others estimated time spent in each operation.

Table 2 shows the costs involved in three nurseries that used seedling or transplant beds. Table 3 gives the costs of weed control for nurseries in which herbicides were used in conjunction with some cultivation.

Table 4 shows an estimate of the costs of application of herbicide granules and sprays.

Table 5 lists the costs of various herbicides at the rates generally recommended at this time. This is only the costs of the herbicides.

Table 1. Costs of mechanical weed control in fields of established stock.

	Area	Costs per acre	Remarks
Nursery A	32 Acres	\$242.80	Horse and tractor cultivation, hoeing. Very clean nursery. Excellent records.
Nursery B	60 Acres	213.84	No horses, hoeing. Average clean.
Nursery C	105 Acres	600.00	Cost before herbicides. Pays highest wages. Now using herbicides.
Nursery D	25 Acres	123.00	Good records of expenses
Nursery E	15 Acres	200.00	
Nursery F		153.00	
Nursery G	30 Acres	233.00	Mostly fruit trees

Table 2. Costs of mechanical weed control in seedling or transplant beds.

	Area	Costs per acre	Remarks
Nursery B	1 Acre	\$2,916.00	All handwork
Nursery C	1/4 Acre	5,756.00	If youths do weeding
		6,256.00	If men do weeding
	400 sq.ft.	2,958.00	All handwork
Nursery F		320.00	Set up so machinery can be used between beds. Beds are mulched.

Table 3. Costs per year of chemical plus some mechanical weed control.

		Costs per acre
Nursery C	\$10.00/A and Simazine (Gran.)	\$27.50
Nursery H	74.70/A and Simazine (Gran.)	92.20
Nursery F	22.00/A incl. Simazine	22.00
Nursery E	25.00/A incl. Simazine	25.00

Table 4. Application costs vary with equipment and chemical form used.

Granules:		Costs per acre
Cyclone Seeder	3/4 hr. labor @ \$4/hr.	\$ 3.00
Tractor Distribution	1/2 hr. labor @ \$4/hr. (\$2.00) equip. @ \$5/hr. (\$2.50)	4.50
Wettable Powder or Liquid:		
Tractor & Sprayer	1/2 hr. operator @ \$2/hr. (\$1.00) foreman @ \$4/hr. (\$2.00) equip. @ \$5/hr. (\$2.50)	5.50
3-Gallon Sprayer	16 hrs. (estimated) labor @ \$4/hr.	64.00

Table 5. Costs of herbicides in amounts now recommended for nursery weed control (application costs not included).

Herbicide	Form	Retail Cost	%	Quantity needed	Cost per acre
Simazine	WP	\$ 2.90 lb.	80%	2 lbs. actual	\$ 7.25
	Gran.	.35 lb.	4%	2 lbs. actual	17.50
Casoron	Gran.	.50 lb.	4%	6 lbs. actual	75.00
Diphenamid	WP	4.00 lb.	80%	4 lbs. actual	20.00
	Gran.	.30 lb.	5%	4 lbs. actual	24.00
	Liquid	10.75 1/2 gal.	4 lbs./gal.	4 lbs. actual	21.50
Dacthal	WP	2.10 lb.	75%	10 lbs. actual	28.00
	Gran.	.17 lb.	2.5%	10 lbs. actual	68.00
	Gran.	.23 lb.	5.0 %	10 lbs. actual	46.00
CIPC	Gran.	.44 lb.	20%	8 lbs. actual	17.60
	Liquid	8.45 gal.	4 lbs./gal.	8 lbs. actual	16.90
Paraquat		31.00 gal.	2 lbs./gal.	1 lb. actual	15.50
Treflan	Liquid	8.50 qt.	1 lb./qt.	2 lbs. actual	17.00
	Gran.	.48 lb.	2.5%	2 lbs. actual	19.00
Amizine	WP	2.95 lb.	60%	7 lbs. product	20.65

SUMMARY

The survey information collected indicates that the cost of conventional weed control in the nursery planted to established stock is approximately \$195 per acre per year. This includes all labor and machinery or animal cost. The figure will vary from nursery to nursery depending upon existing conditions.

Weed control in seedling or transplant beds, which involves practically all handwork, costs approximately \$3,000 per acre per year.

Growers report that weed control involving Simazine granules and one or more cultivations per year averages from about \$25 per acre for Simazine wettable powder to \$75 per acre for Casoron granules. This is based on the amount of active ingredients per acre now being recommended for commercial control. In general, granules are more expensive than wettable powders or liquids, but this should not be the criterion upon which to choose the form used; under varying conditions, one form may be more effective than another.

Costs of application of herbicides also vary with the form of the chemical and equipment used. Granules, in general, are cheaper to apply, regardless of the equipment used.

Trade and brand names are used only for the purpose of information and the Virginia Cooperative Extension Service does not guarantee nor warrant the standard of the product, nor does it imply approval of the product to the exclusion of others which may also be suitable.

Keys to Proper Use of Pesticides

1. Read the label on each pesticide container before each use. Follow instructions to the letter; heed all cautions and warnings, and note precautions about residues.
2. Keep pesticides in the containers in which you bought them. Put them where children or animals cannot get to them, preferably under lock and away from food, feed, seed, or other material that may become harmful if contaminated.
3. Dispose of empty containers in the manner specified on the label. If disposal instructions are not printed on the label, burn the containers where smoke will not be a hazard, or bury them at least 18" deep in a place where water supplies will not be contaminated.

SEE YOUR DOCTOR IF SYMPTOMS OF ILLNESS OCCUR DURING OR AFTER USE OF PESTICIDES.