

# "The Virginia Weeder"

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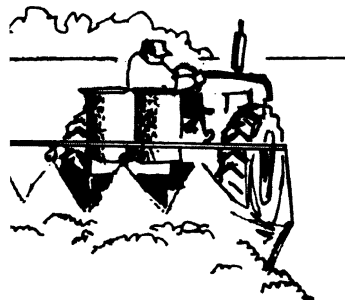
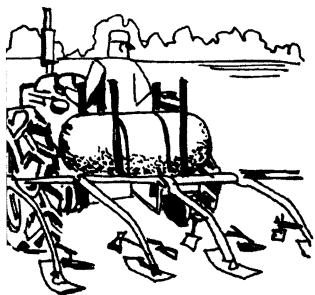
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## FALL APPLICATIONS OF PRE-EMERGENCE HERBICIDES FOR WOODY ORNAMENTALS

J. S. Coartney and S. W. Bingham  
Department of Plant Pathology and Physiology

Fall is a very important time to consider weed control in the ornamental nursery. Rising labor costs and lack of competent personnel renders hand removal of weeds impractical. Thus, in the nursery, as in all other areas of agriculture, it becomes necessary to reduce costs in order to maintain a competitive operation. Studies conducted at V.P.I. and at other universities have shown that weeds can be controlled for nearly an entire growing season by a single, properly timed application of herbicide. The most effective time to apply these chemicals is in the late fall or early winter (October through January). A wide variety of herbicides have been tested at V.P.I. for use in ornamentals, and fall applications of simazine, dichlobenil, and diphenamid (Dymid, Enide) have given the best results. These materials are all of a pre-emergence nature which means that their action is, for the most part, confined to germinating seedlings. This explains why fall applications to freshly cultivated soil before the winter weeds germinate have given the best results.

Selection of the proper material for use should be based on cost of material, weed control efficiency, ornamental and weed species involved, and method of application. Many individuals make the mistake of selecting strictly on the basis of cost of material per acre and do not consider the other equally important factors. Information which should be used in treatment selection is summarized in the following table.



Factors to Consider in Selecting a Herbicide for Fall Application  
to Woody Nursery Stock

Herbicide	Rate ai lb/A*	Formulation lb/A	Chemical Cost/A**	Weed Control Rating	Comments	
Simazine 80W	2	2-1/2	\$ 7.25	fair	Cannot be applied to azalea, Japanese hollies or rhododendrons. Not safe to apply to newly lined stock.	
	3	3-3/4	\$10.87	good		
Simazine 4G	2	50	\$17.50	good		
	3	75	\$26.25	excellent		
Casoron 4G	4	100	\$50.00	good		Safe on certain azaleas or Japanese hollies (see label for sensitive species). Gives control of wild chrysanthemum when applied in the winter at the 6 lb. rate.
	6	150	\$75.00	excellent		
Diphenamid					Safe on Japanese hollies and azaleas. Does not control a variety of broadleaved weeds (see discussion under diphenamid).	
Enide 50W	4	8	\$20.00	fair		
Dymid D	4	2 qt.	\$21.50	fair		
Dymid 5G	4	80	\$24.00	good		

\* active ingredient in lbs per acre.

\*\* based on broadcast application at current retail cost. For band applications, the cost is reduced in proportion of the percentage of the area treated.

CHEMICAL INFORMATION

SIMAZINE is the WSSA (Weed Society of America) accepted common name for 2-chloro-4,6-bis (ethylamino)-s-triazine. It is a member of Geigy's triazine herbicide family, to which atrazine also belongs. The manner in which atrazine and simazine kill plants seems to be identical. The primary difference in the two compounds is their solubility. Simazine is only soluble to the extent of 4 ppm in water, while atrazine is soluble to 70 ppm (70 ppm is still quite insoluble in relation to many of our other herbicides). The lower solubility of simazine provides for longer weed control than atrazine which makes it ideal for use in woody nursery stock. It also allows simazine to remain much closer to the soil surface than atrazine. This aids in ornamental selectivity as most ornamentals are sensitive to both atrazine and simazine if they penetrate the root area of the plant. Thus, under a field situation simazine can be used because of depth protection rather than because of true chemical selectivity. By the same token, atrazine is not recommended because it would leach into the root zone of the ornamental and cause injury.

The excellent results obtained with simazine in the field have led some individuals to want to use it in plant beds or in container grown stock. However, the excessive amount of water used in these situations carries the simazine into the root zone of the ornamentals and causes injury or death.

CASORON is Thompson-Hayward's trade name for 2,6-dichlorobenzonitrile. The WSSA accepted common name for this chemical is dichlobenil. The material gives good pre-emergence control of a variety of common weeds. It also gives satisfactory control of Mugwort (Artemisia vulgaris) under most conditions. For Mugwort control a higher rate of application is required (150 lb. of granules per acre), and application should be made in the winter well before growth of the Mugwort resumes in the spring. Casoron is volatile, and activity will be lost when it is allowed to remain on the soil surface under warm conditions. The main disadvantage of this material is its relative high cost. However, it should be noted that this cost is still well below most of the estimates for conventional weed control practices.

DYMID and ENIDE are Elanco Products Company and Upjohn Chemical Company's respective names for N,N-dimethyl-2,2-diphenylacetamide. The WSSA accepted common name for this material is diphenamid. This material has the advantage of more ornamental tolerance than simazine or Casoron. Its disadvantages are that it does not give control of certain broadleaved weeds, and that it is presently difficult to obtain as a granular formulation. Some of the annual weeds which are not controlled are Venice mallow, prickly sida, velvet leaf, jimsonweed, cocklebur, ragweed, and fleabane (Erigeron sp.).

*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.**