

WEED MANAGEMENT IN CONTAINER PLANT PRODUCTION

WESLEY A. HUMPHREY

University of California, Cooperative Extension
Anaheim, California 92805

Production on woody ornamentals in containers, free of weeds, is not a difficult task. Weeds compete with the desired plant and are costly to control when hand-weeding is the primary method used. To develop a weed-free nursery all one needs are: *first*, a desire and *second*, a program. Assuming the first, here is the program that is needed:

- (1) maintaining clean growing grounds;
- (2) producing and/or purchasing liners or transplanting stock, free of weeds and weed seed; and
- (3) maintaining the containers without weeds.

The last item will be focused on here.

The use of pre-emergent herbicides is a major aid in getting the job done. This is indicated by:

- (1) work that has been done on pre-emergent herbicides as an aid in reducing weed populations and competition in containers;
- (2) the increasing availability of registered chemicals for this use;
- (3) the success of several nurserymen in using pre-emergent herbicides as a major part of their program in maintaining a nursery relatively free of weeds; and
- (4) the importance of supplying the customers with a clean, quality product.

Pre-emergent herbicides are not a panacea. However, when coupled with a good program of hand-weeding, they can help get the weeding done quickly, easily and efficiently.

Devrinol[®] and Surflan[®] are the two pre-emergent herbicides registered in California for use in containers at the present. Oxadiazon (Ornamental Herbicide I[®] and Ronstar[®]) and oxyfluorfen (Goal[®]) are two additional chemicals that show considerable promise for container weed control use and much work is being done with them. What about Devrinol[®] and Surflan[®] and their control of some of the major problem weeds and their effects on ornamental plant species?

Bittercress (*Cardamine oligosperma*), a major problem weed, is controlled for a short term (1 to 2 months) with Surflan[®] and considerably reduced with Devrinol[®] at label rates. Spotted spurge (*Euphorbia maculata*) is controlled with Surflan[®], and Devrinol[®] can reduce the stand at label rates. Creeping woodsorrel (*Oxalis corniculata*) is controlled with

Surflan® from seed but Devrinol® is less effective. This weed is often a problem in containers due to its presence in liners. Once established, neither of these two herbicides will control it. Common groundsel (*Senecio vulgaris*), one of the most composite weeds, which is a frequent problem in container-grown plants, is controlled from seed to a reasonable degree with Devrinol® and stunted severely or reduced with Surflan®. Both are highly effective in controlling many annual grasses. As the labels indicate, they do not control all weeds. Those weeds that escape control should be hand-pulled before any seed is produced to minimize their becoming a problem from the standpoint of competition and increase. Even if the weeds are not eradicated, they are usually stunted and much easier to remove by hand weeding.

Neither Surflan® nor Devrinol®, at suggested label rates and use directions, have caused any serious adverse effects on the ornamental species evaluated.

Pre-emergent herbicides, when properly used, are a major aid in maintaining a weed-free nursery. Supplementing them with some hand weeding can accomplish that weed-free nursery at reduced costs and provide a clean product for the customer. The label is an important guide in using pre-emergent herbicides in your program. Read it.

INSECT PEST MANAGEMENT ON NEWLY ESTABLISHED PLANTS

RONALD D. OETTING¹

*Department of Entomology
University of California
Riverside, California 92521*

The management of pest populations on propagation plants is similar to that utilized on all ornamental plants. There are characteristics of newly rooted plants that do isolate them from the control methods which are used on more established plants. One of these characteristics of the newly rooted plant is it has greater sensitivity to some chemicals because of the lack of an established root system. But basically the approach to insect and mite control is the same. The demand for insect-free and damage-free plants has resulted in the utilization of stringent control programs relying primarily on the use of chemicals. An ornamental plant is purchased by the consumer because of its aesthetic qualities and any reduction in that quality results in a

¹ Assistant Professor and Assistant Entomologist.