

Weed Management In and Around Greenhouses

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Weed management is of concern to growers

both inside and outside their greenhouses. Some common problem weeds include Creeping Oxalis or woodsorrel (*Oxalis corniculata*), hairy bittercress (*Cardamine hirsuta*) and prostrate spurge (*Euphorbia humistrata*). Other weeds that I have seen include common chickweed (*Stellaria media*), galinsoga (*Galinsoga parviflora*), ragweed (*Ambrosia artemisiifolia*) and dandelion (*Taraxacum officinale*). Annual and perennial grasses can also be a concern.

Weeds harbor insects such as whiteflies, aphids, thrips and fungus gnat larvae. Weed management is an important part of a grower's total insect management program.

Wind-blown seed, such as oxalis, can be blown into pots in the greenhouse causing a nuisance weed problem. Weeds also detract from the appearance of your establishment.

Management Options

Outside the Greenhouse

Ideally, growers should maintain a ten- to twenty-foot weed-free barrier outside the greenhouse. It is especially important to eliminate weeds near the vents. Growers may consider screening the vents to limit the introduction of wind-blown seed. Mowing may drive insects, such as thrips, inside through the vents.

Inside the Greenhouse

A grower's first line of defense is sanitation. Introducing only clean plant material and using sterile media will help prevent the accidental introduction of weed seeds into the cropping area. Using porous concrete walkways and geotextile fiber mats under the benches help to prevent the estab-

ishment of weeds. Regularly spot checking and hand pulling weeds will help manage any "escaped" weeds.

Growers who have a break in their production cycle can empty their range and then allow weeds to desiccate. The debris should be removed well before another cropping cycle.

Chemical options

Growers may consider supplementing these measures with herbicide treatments. Before applying any herbicide, consult the most current herbicide label. There are many restrictions on the use of herbicides both in and around the greenhouse. When applying herbicides, the greenhouse should be well ventilated or completely empty of plant material.

Sharpshooter (potassium salts of saturated fatty acids) may be used for broad spectrum nonselective weed control in greenhouses. It is a general contact herbicide that is most effective at warm temperatures (80°F). Weeds can be controlled under benches, along walkways, around plant containers or beds and under woody stemmed plants, but any plant foliage contacted by the spray may be damaged.

Roundup (glyphosate) is a systemic, nonselective herbicide that is effective against both annual and perennial weeds. Roundup should only be used in empty greenhouses with the fans off and all the plants removed. Small amounts of herbicide drift can injure greenhouse crops. If drift does occur, wash the sides of the greenhouse within six hours of treatment to prevent condensation containing Roundup from dripping on desirable plant species.

Surflan (oryzalin), may be used in drainage areas under greenhouse benches in open greenhouse-type structures. It should not be applied in enclosed greenhouses or within three weeks before enclosure in greenhouse-type structures. Surflan may be used outside the greenhouse for residual weed control.

Growers should avoid using phenoxy-type herbicides near greenhouses because these materials are likely to drift and cause injury. The herbicides 2,4D, 2,4-DB, 2,4-DP, MCPA, MCPB, 2,4,5-T and Silvex are examples of phenoxy acid herbicides. (Note: All registrations for 2,4,5-T and Silvex were cancelled by the EPA in 1985.)

References

Maisano, J, Jr. 1990. Greenhouse Weed Control. *Connecticut Greenhouse Newsletter*. 156:15.

Neal, J.C. and A. F. Senesac. 1993. Greenhouse Weed Control. *Hudson Valley Horticulture*. 3(12)1-2.

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EPA Worker Protection Guides available at your local extension office.