

APHIDS!¹

For the past few years, aphids of various species have been causing ever increasing numbers of problems on greenhouse crops. Difficulty of detection, high reproductive capacity, rapid life cycle, and pesticide resistance all contribute to control problems with this insect group.

There are more than 4,000 species of aphids, but only a few cause problems on greenhouse ornamentals. The most common species include the green peach aphid, *Myzus persicae*, melon/cotton aphid, *Aphis gossypii*, chrysanthemum aphid, *Macrosiphoniella sanbomi*, rose aphid, *Macrosiphum rosae*, potato aphid, *M. euphorbiae*, and the leaf-curling plum aphid, *Brachycaudus helichrysi*. Most current problems seem to be caused by the green peach aphid and melon/cotton aphid.

In protected crops and in tropical areas outdoors, aphids are generally all females that produce live young (nymphs). Each adult female can produce 50 to 250 nymphs during its lifetime, depending upon the host plant and its nutritional status. The nymphs can mature and begin reproducing in 7 to 10 days. Adult aphids may develop wings under certain conditions, and these winged forms are able to fly within greenhouses, or move into the greenhouse from outdoor plants.

Aphids can be found nearly everywhere on a plant, from roots, to the lower surface of the lowest leaves, to flowers. At least part of the difficulty in controlling these insects is detecting them before they reach epidemic proportions. Aphids tend to be small and many are about the same color as plants. Many aphids can be found on the underside of the lowest leaves. These can easily move up the plants and repopulate buds and flowers. Thus, thorough plant inspection is very important for detection. Yellow sticky traps will be effective in detecting winged aphids as they move into or around the greenhouse, but will not detect the non-winged individuals already present. Pay particular attention to plants when received, before planting and placing them in the main production areas.

Pesticide resistance is a problem among many aphid species.

Resistance can be quite localized and may even vary within the same greenhouse. Therefore, the following insecticide suggestions may or may not be effective. All of the materials listed are registered on at least some greenhouse crops. Check the label for specifics.

**When using any of the materials,
always remember that species vary
greatly in their susceptibility to
these materials.**

In a comparison of several pesticides against the green peach aphid and cotton/melon aphid conducted at Yoder Brothers, Inc., in Florida, Avid sprays were very effective against the green peach aphid, but not the cotton aphid. In general, pyrethroid insecticides are not effective against the green peach aphid. Sometimes, a mixture of a pyrethroid and an organophosphate or carbamate will increase control. Aphid management is not easy, and requires a combination of detection, proper identification of the aphid species, pesticide selection, and efficient application. Probably, three weekly applications will be necessary to bring a population under control. Be especially alert late in the crop production cycle.

**PESTICIDES REGISTERED FOR APHID CONTROL ON
GREENHOUSE ORNAMENTALS.**

Brand Name	Category
Talstar 10 WP (Watch for 2EC formulation to appear)	Pyrethroid
Tempo 2	Pyrethroid
Mavrik Aquaflo	Pyrethroid
Thiodan	Chlorinated Hydrocarbon
Lindane	Chlorinated Hydrocarbon
Orthene 75SP. PT1300 Aerosol	Organophosphate
Dursban 50WP	Organophosphate
Diazinon. microencapsulated (PT 265 Knox-Out)	Organophosphate
Dibrom	Organophosphate
Vabona	Organophosphate
Sulfotepp Smoke Generator	Organophosphate
Oxamyl10G -	Carbamate
Vddate L	Carbamate
Dycarb 76WP	Carbamate
Avid.15EC	Natural Product
Nicotine	Natural Product
Insecticidal Soap	Soap

What about new pesticides and alternatives? There are 1 or 2 new insecticides that are under development that show promise, but these will not be on the market in the near future. Several experiments with horticultural oils, alone or combined with insecticidal soaps have been promising. The aphid-infesting fungus, *Verticillium lecanii*, is expected to reappear on some markets. Research is proceeding with parasites and predators, in an effort to adapt results obtained on vegetable crops to ornamentals.

¹ from: *Ohio State Flower Grower's Hotline, March, 1989 No. 5*

Pesticide Use - Due to constantly changing laws and regulations, no liability for the suggested use of chemicals in this Newsletter is assumed by the ONW Newsletter. Pesticides should be applied according to label directions on the pesticide container.

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