Melon Aphids

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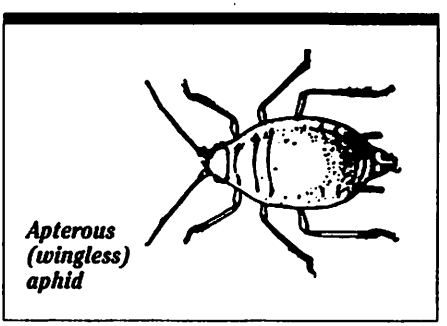
Last season, many growers had difficulty managing "black flies" on their chrysanthemums and other crops. Upon closer inspection, growers found the melon or cotton aphid, *Aphis gossypii* to be the culprit.

The melon aphid has a wide host range including chrysanthemums, Easter lilies, cineraria and begonias. Vegetables such as tomatoes, potatoes, cucumbers and melons as well as herbaceous perennials including hollyhock, european columbine, dahlia, poppy, beebalm, gooseneck loosestrife, penstemon and forget-me-not and others may become infested.

Different biotypes of the melon aphid may occur that will vary in their host preference and degree of insecticide resistance. In Japan, researchers have found melon aphids collected from chrysanthemum which showed a higher level of resistance than melon aphids collected from potato and eggplant. In this study, insecticide resistance was not always correlated with the frequency of insecticide application.

The melon aphid is small (less than 1/16 of an inch in length) with distinctive white patches on it's abdomen. Color is variable, from yellow and green to purplish-grey and black even within the same aphid colony. Another distinctive feature is the melon aphid's cornicles or "tailpipes" which are at the rear of the abdomen and tend to be darker than it's body.



Apterous (wingless) aphid

The green peach aphid, *Myzus persicae*, may be seen on chrysanthemums, too,

but the green peach aphid is a larger aphid with less color variation and is approximately 1/14 of an inch long. Green peach aphids tend to be light green to pinkish red. They have only dark tipped "cornicles" which are not darker than the rest of their body.

Plant Damage

Direct feeding damage results in wilting and leaf distortion. The presence of honeydew, sooty mold and shed aphid skins reduces the crop's aesthetic appearance.

Life Cycle of the Melon Aphid

In the Northeast, melon aphids will overwinter outdoors as eggs. Some possible overwintering hosts include sedum, catalpa and Rose of Sharon. Several generations may occur during a growing season.

Females can produce young when they are only five days old. Each female can produce from 20 to 140 young during her lifetime. In the spring and fall, winged adults with dark red or black eyes and dark antennae may invade greenhouses.

Management

Weed control is a vital first step. Winged aphids will frequently migrate from colonized weeds to crops within and near greenhouses.

Table 1. Some weed hosts of the melon aphid(found in New York State) from W. Tingey, Cornell University.

Latin Name	*Common Name*
Amaranthus deflexus	Amaranth
Ambrosia sp	Ragweed
Anthemis cotula	Stinking Chamomile
Anthemis tinctoria	Yellow Chamomile
Asclepias syriaca	Milkweed
Capsella bursa-pastoris	Shepherd's Purse
Chenopodium album	Lamb's Quarters
Erigeron canadensis	Horseweed
Galium aparine	Goosegrass
Galium circaezana	Wild Licorice
Impatiens balsamina	Balsam
Portulaca oleracea	Purslane
Senecio aureus	Groundsel
Valeriana officinalis	Heliotrope

Yellow sticky cards can be placed near vents and doors and outside greenhouses to catch the winged adults, but melon aphids are less likely to form winged adults than green peach aphids.

Close monitoring, especially before flowering, is needed to detect melon aphid colonies. Melon aphids may be less likely to move upwards toward the tender young growth than green peach aphids on certain crops such as chrysanthemum. On mums, they are more evenly distributed along the plant stem and stay on the lower leaves. In general, infestations will be more localized in "hot spots" when fewer winged adults are present. Growers may also look for honeydew, small white shed aphid skins and the presence of ants guarding the aphids to detect an infestation.

Treatment Options

Biological Control

Aphidiletes aphidimyza, a predatory midge, is commercially available and may be released as pupae near "hot spots" of melon aphid activity.

Chemical Management

Table 2: Insecticides Registered for Aphid Control, Listed by Chemical class. From New England Recommends.

Chemical Class	*Insecticides*
Organophosphate	Acephate, Chlorpyrifos, Diazinon, Dichlorvos, Malathion, Naled, Sulfotepp
Carbamate	Methiocarb, Oxamyl
Botanical	Azadirachtin, Pyrethrum, Pyrethrum and Rotenone
Chlorinated Hydrocarbon	Endosulfan
Pyrethroid	Bifenthrin, Cyfluthrin, d-phenothrin, Fenpropathin,
Insect Growth Regulator	Kinoprene
Other	Horticultural Oil, Insecticidal Soap Nicotine

In one study, good results were reported with two applications of Orthene and insecticidal soap, or Mavrik and soap. Growers have also mentioned good results with nicotine (black Flag). Thorough coverage is vital due to the melon aphid's tendency to stay on the lower leaves. Growers can spot treat when localized outbreaks occur.

References

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