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Time to Think About Aphids - Again

They're There. You Know It.

Bedding plant season is upon us. Southern growers are well into it, northern growers are gearing up. Aphids are ready to seize the opportunity. Common spring pests, they may be present on overwintered plants (like container-grown perennials), weeds in seasonal hoop houses, or cuttings brought in from elsewhere. In warmer climates or times of year they can migrate into the greenhouse from outdoors. They easily escape detection early in the season when numbers are low. A few years ago a grower brought in samples of lettuce heavily infested with foxglove aphids, from an early spring mesclun crop on high tunnel beds. These aphids had obviously overwintered on the weeds growing alongside, moving onto the lettuce as the crop developed. Another case involved melon

aphids unseen on thyme stock plants kept in an unheated range. We discovered them after shaking foliage over a paper; their dark green color was good camouflage. On other occasions tulip bulb or crescentmarked lily aphids arrived, Trojan horse-like on bulbs or iris rhizomes, mov-

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Alstroemeria with discoloration and distortion (L) due to foxglove aphid.

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Potato aphids on alstroemeria flower. Don't forget to scan behind flowers where aphids often like to hide.

ing later onto new growth. Now is a good time to review the control options and put a control strategy in place.

First, it helps to understand there are many kinds of aphids and they're certainly not created equal. Green peach and melon aphids are generally the most common in greenhouse production and, not surprisingly, can be the a bit more challenging to control. They may be tolerant or resistant to some insecticides, and melon aphids often have a kind of waxy 'bloom' that resists wetting. Foxglove aphid is somewhat larger, also very common in greenhouses and it thrives in cool conditions. It has been noteworthy as a pest of zonal and ivy geraniums, though also seen on many other crops and is generally much easier to control. Besides these, cabbage aphid on ornamental cabbage and kale, cowpea aphid on gerbera, onion aphid on chives, rice root aphid on dieffenbachia, root aphids on various perennials, chrysanthemum and leaf curl plum aphid on mums, rose aphid on mini-rose, and potato and tobacco aphids on calibrachoa and petunia are others I have seen. Cabbage and tulip bulb aphids can be very waxy and also live on waxy plants, making spray coverage a challenge especially on vertical iris or tulip foliage. Foxglove and cabbage aphids sometimes cause host foliage to contort, protecting aphids enclosed within. Root aphids spend much or all of their lives below ground, but fortunately are not too common.

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Fortunately we have an array of responses. Biological control is used very early in the crop but should be matched to the kind of aphid and the environmental conditions. *Aphidius colemani*, for example, is a parasitoid best for small aphids like green peach, melon or tobacco. *Aphidius ervi* and *Aphelinus abdominalis* are parasitoids used for larger aphids like foxglove and potato. *Aphidoletes* predatory midges are generalists but may be better in combination with a parasitoid, like *A. colemani* for melon aphid. Contact your supplier or Extension Specialist for more information on identifying aphids and ‘matching’ them to an appropriate biological control and your particular situation. Some growers are even keeping ‘banker plants’ with non-pest aphids (they won’t bother the bedding plants) to keep the biocontrols around and maintained in the crop.

Sometimes a simple blast of water is good enough to remove aphids from an individual plant or two, but for larger jobs, including those beyond where biocontrols can work, an effective insecticide will be needed. M-Pede or horticultural oil work only on contact and have no residual activity but can be used in organic production. Plant sensitivity should also be considered and they won’t work well if plant canopies



Crescentmarked lily aphid (L) and green peach aphid (R) under Easter lily leaf. The crescentmarked lily aphids can be transported on bulbs; the green peach aphids came from another source in the greenhouse.

are very dense and coverage is poor. BotaniGard and Preferal, are formulations of insect-killing fungal spores that benefit from long periods of high humidity (e.g. 2 - 3 days over 90%) to encourage aphid infections. Be sure plant diseases like Botrytis, also favored by high humidity, aren't an issue. Other foliar spray products include Endeavor, Aria (not for viola or pansy), Kontos (note sensitive plants), neonicotinoids (Marathon, Discus and generics; Safari; Flagship; TriStar - some verbena cultivars are sensitive to TriStar), pyrethroids (Tame, Talstar, Decathlon, Mavrik, Scimitar and generics), Avid and generics (high label rate for aphids but not for fern or Shasta daisy), Acephate/Orthene (certain crops), DuraGuard, and the insect growth regula-



Lysimachia nummularia roots with root aphids. The white, waxy material helps in detecting some kinds of root aphids.

tors Enstar AQ, azadirachtin (Molt-X, Azatin O, Aza-Direct, Ornazin, etc.), and Distance/Fulcrum. Systemics for soil/media application include the neonicotinoids (except

TriStar, which is only for spray application for aphids), Kontos, and now Mainspring, a new product labeled for control of aphids when applied to media or in irrigation. Deciding among these will depend upon the crops grown, other pests present, compatibility with biocontrols, personal preferences, production issues or priorities, efficacy, expectations, and cost.



Two foxglove aphids. The darker green blotch at the base of the cornicles ('tailpipes') help identify this as foxglove aphid.

Watch for early signs of aphids - shiny flecks of honeydew, typical cast 'skins', the aphids themselves. Turn over foliage, scan buds and terminal growth. Rice root and bulb aphids are spotted on stems near the soil line; other root aphids show as

white, waxy flecks on roots. Get rid of weeds before heating the house up. Watch vegetatively propagated plants closely. Yellow sticky cards won't be a reliable indicator where aphid levels are low (there may be few or no winged aphids that get trapped until populations build), but they shouldn't be completely ignored either. An ounce of prevention goes far to keep aphids from being part of our destiny!



Foxglove aphids on foxglove killed by a natural fungal infection. The plants were growing under high humidity in an interiorscape.



Zonal geranium with aphid 'cast skins' and sooty mold, helpful evidence for detecting aphid infestations. (Photo: Nora Catlin)