

Best Management Practice

Aphids

Background:

Aphids are the most common pest in greenhouses, nurseries and ornamental settings. A number of different species of aphids can occur in greenhouses, and one or more of them attacks almost every species of ornamental plant grown. The aphids differ somewhat in size, appearance, and the color of their bodies. Some are green, others brown, reddish or black in color. But they all have basically the same biology and behaviors.

Description/Biology:

Aphids are soft-bodied, pear-shaped, homopteran insects less than 1/10 inch long. They may be winged or wingless. Winged forms are more common when aphid population density is high. Under greenhouse, southern nursery, and temperate zone summer conditions, the life histories of Aphids are similar, although the length of time to develop varies from species to species. Most species reproduce by parthenogenesis, which involves only females that give birth to live young (rather than laying eggs). Under these conditions all aphids are female and will continue to produce females. These environmental conditions are similar to those in tropical and subtropical regions; thus, the true sexes do not appear nor does reproduction occur through eggs until temperatures drop in the fall. In temperate areas, eggs are the overwintering stage, hatching into nymphs the following spring.

Plant Damage:

Aphids feed by sucking the sap from tender plants, often causing plant deformation. The leaves curl or shrivel and in some cases, galls are formed on the leaves. Aphids further injure plants by vectoring diseases, especially viruses, and can transmit them from plant to plant. They also produce a sweetish "honeydew" which is attractive to ants and on which a sooty appearing fungi or mold grows. Ants will often defend their "farms" of aphids from predatory beneficial insects and move them to new plants when necessary.

There are many aphids which can attack greenhouse and nursery crops including:

Chrysanthemum aphid (*Macrosiphoniella sanborni*)

Pea aphid (*Acythosiphon pisi*)

Rose aphid (*Macrosiphoniella rosae*)

Spirea Aphid (*Aphis citricola*)

Green peach aphid (*Myzus persicae*)

Mellon aphid (*Aphis gossypii*)



FMC Professional Solutions

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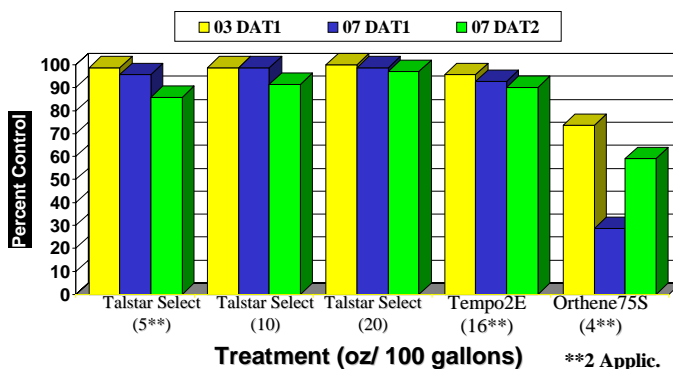
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Control Measures:

Rotation of pesticides is critical for control of aphid infestations in greenhouses due to their ability to develop resistance to several types of insecticides. It is advisable to rotate modes of action between organo-phosphates, pyrethroids and other modes of action on a regular basis. Applications should be made on a 7 to 14 day schedule depending on the level of infestation and the nature of the crop.

For control of aphids apply Talstar® Select insecticide at 5 to 10 ounces per acre (5-10 ounces/100 gallons), or Aria® insecticide, which is a non-pyrethroid, at the rate of (1-3 packets/100gallons). Aria insecticide is a great choice for a rotational insecticide.

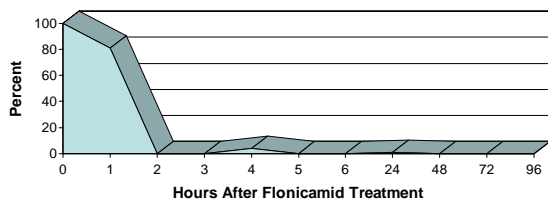
Talstar Select Data Summary Spirea Aphid Control in Ohio



Trial conducted by: Dr. Dave Nielsen; Ohio State University; 1995 (PD950832) **FMC**

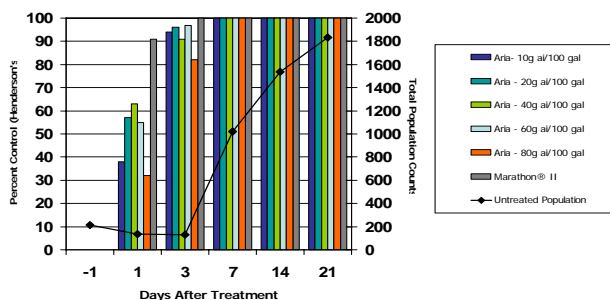
Aria Feeding is Inhibited Within 1-2 Hours

Green Peach Aphid Honeydew Production per Hour
(Percent of Pre-treatment Production)



ISK lab study

Cotton Aphid Control on Marigold Aria 50WG Rate Range (2002GJC040)



Trial conducted by: Dr. Lance Osborne, University of FL, 2002

Single application made on Day 0

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