

APHIDS BASF Insect Management Guide

Take an Integrated Approach to Aphids

Adopt an Integrated Pest Management (IPM) program that includes:

- Scouting: visual inspection
- · Positive identification of pests and their signs
- Record keeping
- Decision making based on historical information
- Use of different control practices: chemical, biological, cultural, and mechanical

Typical Aphid Life Cycle 4th Instar (Male and Female) Fall Sexual Reproductive (Female) 3rd Instar Summer Cycle (Many Generations) Winter Cycle Asexual Reproduction Egg 0 (One Generation) Live 2nd Insta 1st Instar **Crop Host Colonizer** Alate

Chemical Control

| Option | Rotation 1 | Rotation 2 | Rotation 3 | IRAC Mode of Action Groups |
|--------|--|--|---|-------------------------------|
| 1 | Ventigra [®] insecticide | Velifer[®] bioinsecticide/ miticide | Velifer bioinsecticide/ miticide | 9D, UN |
| 2 | Ventigra insecticide | Mainspring [®] GNL insecticide | Ventigra insecticide | 9D, 28 |
| 3 | Altus [®] insecticide | Ventigra insecticide | Ventigra insecticide | 4D, 9D |
| 4 | Ventigra insecticide | Aria [®] insecticide | Kontos [®] insecticide/ miticide | 9D, 29, 23 |
| 5 | Safari® insecticide | Ventigra insecticide | Ventigra insecticide | 4A, 9D |
| 6 | Marathon [®] insecticide + IGR | Ventigra insecticide | Ventigra insecticide | 4A+7, 9D |
| 7 | Ventigra insecticide | Azatin [®] O biological insecticide | Ultra-Pure[®] Oil horticultural fungicide, insecticide and miticide | 9D, UN, NC |

- Apply Ventigra insecticide at 1.4 fl oz/100 and Velifer bioinsecticide/miticide at 3-13 fl oz/100; apply all others at standard local rate (SLR)
- Refer to product labels and recommendations for additional instructions
- Choose an IGR (Insect Growth Regulator) by use site and rate: Enstar[®] AQ insect growth regulator, Fulcrum[®] insect growth regulator
- Begin applications at the onset of infestation; include adjuvant as needed
- For additional MOA groups, include a pyrethroid (Group 3) or abamectin (Group 6)
 Make no more than two (2) sequential applications of any group before rotating to another MOA

Biological Control

Commonly used biological control agents (BCAs) for aphids

Consult with your BCA supplier for availability, rates, timing, and compatibility

Natural Enemy Aphidius spp. – parasitoid Aphelinus abdominalis – parasitoid Aphidoletes aphidimyza- predator Hippodamia convergens – predator Orius spp.- predator

Chrysoperla spp. - predator

Beauveria bassiana - beneficial fungus



- Check the compatibility of BCAs with your chemical applications prior to releases
- Control ants as they work against BCAs by protecting aphids from natural enemies
- There are a number of naturally occurring beneficial organisms that may predate or parasitize aphids. When possible, avoid using broad spectrum insecticides to preserve these natural enemies.

Always read and follow label directions.

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Cultural Control

- Avoid overfertilizing, particularly with nitrogen, which increases aphid populations
- In addition to monitoring aphid population counts, watch for the presence of ants and honeydew
- Space plants to prevent aphid colonies from moving between canopies
- Manage weeds in landscapes, nurseries and production area they may harbor aphids
- Scout the landscape plantings around the nursery for potential reservoirs of aphids

Mechanical Control

- Where practical, overhead watering will dislodge aphids from plant canopies
- Include mechanical insecticides in your program, like oils (see rotations for recommendation)
- Screening enclosures such a hoop houses, high tunnels and Cravo houses can help exclude aphids from entering production areas

Best Management Practices for Aphids

- Scout known host plants in spring
- In addition to monitoring aphid populations, **watch** for the presence of ants on honeydew
- Heavy honeydew may require **fungicide** applications for sooty mold
- Treat affected plants at the onset of infestation
- Always read and follow label instructions
- Use all four approaches for an **integrated** program: chemical, biological, cultural and mechanical





