

APHID

SOLUTIONS GUIDE

Aphids are soft-bodied insects with long legs and antennae belonging to the family *Aphididae* within the *Homoptera* insect order, which also includes cicadas, hoppers, psyllids, scales and whiteflies. Aphids range in color from greenish-yellow to dark green, dark brown and black. They have tube-like structures called cornicles that protrude from the back of their bodies, differentiating them from other insects.



The most common aphid species found in the greenhouse are:

- Green peach (*Myzus persicae*)
- Melon (*Aphis gossypii*)
- Foxglove (*Aulacorthum solani*)
- Root (*Pemphigus spp.*)

SUSCEPTIBLE CROPS

Many plants and herbs are prone to aphids, including:

- Alyssum
- Calibrachoa
- Celosia
- Chrysanthemum
- Dahlia
- Gerbera
- Impatiens
- Pansy
- Salvia
- Verbena
- Zinnia

LIFECYCLE

Aphids have many generations each year. Asexual reproduction is most common in greenhouses and other enclosed areas. Outside, aphids will typically overwinter in the egg stage. In mild climates or warm greenhouses, female aphids can produce up to 12 nymphs each day, which then become adults in 7-10 days.

Most adult aphids are wingless, but they do have the ability to produce winged forms if a new food source is needed or the colony becomes too large. Winged aphids are weak flyers and wind/air flow is a major dispersal factor.



Green peach aphids are one of the most common vectors of plant viruses on ornamental crops

DAMAGE

The fast development time from young nymph to adult, especially in warmer conditions, means populations can build quickly. Aphids are often found feeding in groups on new growth, but can also be found on stems, buds and lower leaves.

Aphids use their piercing mouthparts to extract fluids from stems, leaves and other plant parts, which leads to distorted growth. Aphids most commonly cause damage to crops by:

- Removing phloem sap during feeding
- Excreting honeydew (a shiny, sticky substance) as they feed, which often results in the growth of sooty mold fungus on leaf surfaces
- Transmitting plant viruses

CULTURAL PRACTICES

Frequent, regular scouting is important because aphid populations can build quickly.

- Inspect new plants for aphids before introducing them into production areas
- Examine under leaf surfaces as well as any new growth on plants
- Hold white paper under plants and shake or tap the foliage to dislodge pests or whitish cast skins. This will help reveal aphid colonies that might be hidden in the foliage
- Use yellow sticky traps near doors and vents to monitor winged adults
- Group susceptible plants together to minimize aphid spread
- Avoid over-fertilizing with nitrogen-based fertilizers as this can increase aphid reproduction

Beneficial insects such as parasitoid wasps (*Aphidius spp.*), predatory midges (*Aphidoletes aphidimyza*) and lacewing larva (*Chrysoperla carnea*) work well but require early and frequent releases for adequate control.

CHEMICAL CONTROL OPTIONS

Syngenta offers several products for aphid control with different modes of action to minimize the onset of insect resistance. Apply products with systemic activity early in the crop cycle to keep populations from establishing.

Aphids on the upper canopy are easier to control with foliar sprays, but systemic insecticides are most effective against aphids feeding on new growth, the undersides of leaves or lower in the plant canopy.



Mainspring® GNL is a systemic insecticide from the diamide class of chemistry (IRAC group 28). It provides extended protection as a drench through systemic movement into the canopy or as a foliar spray applied on a 14-day interval.

- Quickly paralyzes insects so they stop feeding, limiting disease transmission and unsightly damage to foliage and flowers
- Provides over **10 weeks of protection** when applied as a drench prior to pest build up
- Compatible with many beneficial insects
- Labeled with a four-hour restricted-entry interval (REI) and no signal word
- Use rates: 4–8 fl. oz./100 gal. for foliar sprays and 8–12 fl. oz. for drench



Endeavor® insecticide (IRAC group 9B) is effective against a variety of aphid species, including those that are resistant to other classes of chemistry.

- Unique mode of action blocks ingestion and provides up to three weeks of residual protection
- Safe to apply over the top of blooming crops
- Controls all feeding stages
- Compatible with beneficial insects
- Labeled with a 12-hour REI
- Use rates: 2.5–5 oz./100 gal.



Flagship® 25WG insecticide (IRAC group 4A) is systemic and provides the residual protection you need—from two to eight weeks depending on application method.

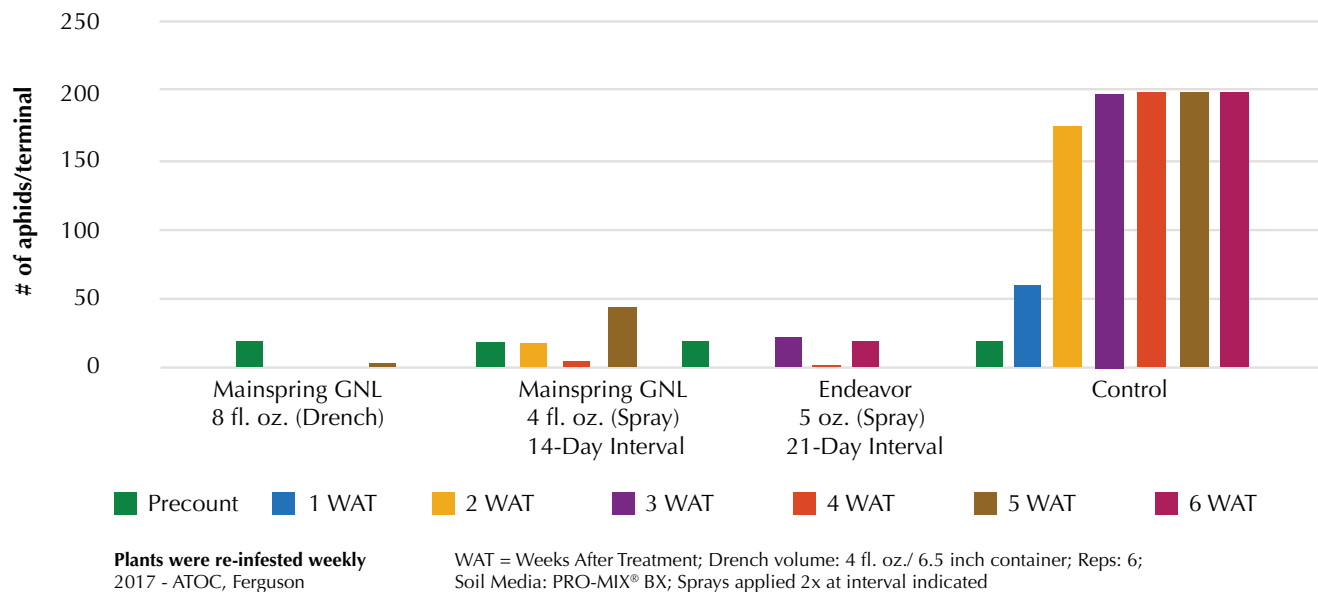
- Label allows for application via soil drench or foliar spray
- Absorbed by foliage quickly and stored within the leaves for longer control
- Labeled with a 12-hour REI
- Use rates: 2–8 oz./100 gal.



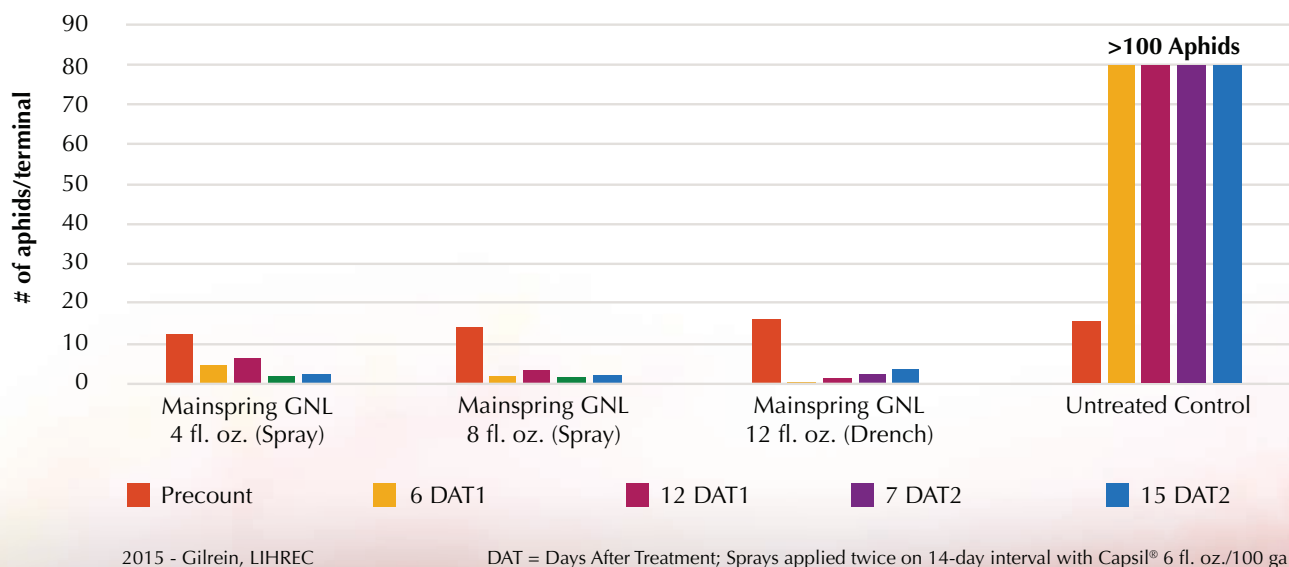
Scimitar® GC insecticide (IRAC group 3) has a unique, proprietary formulation that works within minutes.

- Provides quick, long-term control of aphids and whiteflies
- Microencapsulated water-based formulation for extended protection and plant safety
- Labeled with a 24-hour REI
- Use rates: 1.5–5 oz./100 gal.

CONTROL OF GREEN PEACH APHID ON CALIBRACHOA



CONTROL OF FOXGLOVE APHID ON SALVIA



Learn more about the Syngenta portfolio of products for aphid control at www.GreenCastOnline.com/Ornamentals

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