Unprecedented Leafminer Control, Indoors and Out

Defense Against 3 Dipterous Pests
Citation® is highly effective against three important dipterous pests of ornamentals: leafminers, fungus gnats, and shore flies. Leafminer and fungus gnat larvae damage ornamental plants, while the adult shore flies and fungus gnats are nuisance pests. For leafminer and fungus gnat control, Citation may be used in both indoor and outdoor nursery settings.

Unique Mode of Action
As an insect growth regulator (IGR), Citation prevents normal larval development of these pests by interfering with the formation and release of essential insect molting hormones. Affected fly larvae are unable to advance to the next stage of development and usually die during molting, breaking the life cycle of these important pests. An added benefit to integrated pest management (IPM) growers is that Citation is compatible with beneficial insects.

Citation Controls:

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<td>(greenhouses only)</td>
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Note: Citation is labeled for greenhouse, lath- and shadehouse use only in the state of California.

Key Citation Benefits
As an IGR, Citation is particularly compatible with the IPM programs used by many greenhouse and nursery managers, and offers the following benefits:

- Offers excellent shore fly control in greenhouse settings
- The best choice as a rotation partner with Avid® to help manage leafminer resistance
- Does not harm beneficial insects
- Available in “closed system” packaging that reduces the potential for user and environmental exposure during mixing
- Can be applied with low-volume application systems such as electrostatic sprayers and thermal foggers
- Provides a 12-hour re-entry interval (REI)

Directions for Use Recommendations
Rate: Mix 1 (2.66 oz) water soluble pouch per 100 gallons of water.

For dipterous leafminer control: Spray foliage to runoff when stippling first appears. Repeat application at a minimum of a 7-day interval or as necessary to maintain control. Do not make more than a total of 6 applications per crop.

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Key Citation Benefits
As an IGR, Citation is particularly compatible with the IPM programs used by many greenhouse and nursery managers, and offers the following benefits:

- Offers excellent control of leafminers, infesting ornamental crops including chrysanthemums, gerbera, and gypsophylla
- Dramatically reduces the number of fungus gnat larvae and adults within 1 to 2 weeks after treatment

*Number of mines per leaf 4 days after 8 weekly applications of Citation at 2.66 oz and Avid at 8.0 oz per 100 gallons; L. trifolii is the pest species.

Trial conducted by Dr. J.F. Price at Agric. Res. & Ed. Bradenton, Fl.
For fungus gnat and shore fly control: Apply as a spray or drench to all surfaces where insects may breed. This includes the potting media surfaces, bench tops, undersides of benches, and the areas under benches that may be contaminated with potting media or algae. Repeat applications on a 7- to 14-day schedule to minimize reinfection.

Citation Is a Larvicide and Will Not Control the Adult Stages of These Pests.
For control of adults, tank mix Citation with a labeled adulticide. Citation is compatible with most commonly used insecticides used in the production of bedding plants, ornamentals, and other crops grown in nurseries. When using Citation in tank mixture with other pesticides, observe all directions for use and precautions on the respective tank mix labels.

Minimize Leafminer Resistance
Resistance management is part of a sound integrated pest management (IPM) program that integrates a number of factors to control pest populations below economically damaging levels and minimizes the reliance upon a single factor. Historically, leafminers have proven their ability to develop resistance to chemicals, especially when used alone. Rotation of products has been proven to successfully manage resistance in leafminers.

Rotate Avid and Citation for Leafminer Control
■ Determine the number of days to complete a generation of leafminers (an average is 21 days but ranges from 14 to 30+ days depending on temperature and host plant) at your use site.

Safety to Beneficials
■ Both Citation and Avid are compatible with beneficial arthropods and can be used in rotation or in combination with beneficials to control leafminers or other pests.
■ Avid is toxic to some beneficials upon contact; however, because of its rapid photo-degradation on the leaf surface, exposure to beneficials is short-lived.
■ If augmentative releases of beneficials are planned, as a general rule release them at three or more days after an Avid treatment.

Tolerant Plant Species
Citation has been evaluated for safety to many greenhouse and ornamental plants as a foliar spray and a soil drench. No phytotoxicity has been observed at the rates recommended on the species listed on the label. Please consult the Citation specimen label for specific genera and species.

Note: While many plant species and cultivars have been evaluated, each species and/or cultivar should be evaluated for phytotoxicity prior to making applications to the entire crop. To evaluate possible phytotoxic effects before treating crops not listed above, the grower should test Citation on a small group of plants under the same conditions in which they will be grown for at least two weeks.

Unprecedented Leafminer Control
■ IGR for dipterous leafminers, fungus gnats, and shore flies
■ Effective, economical control
■ Unique mode of action
■ Compatible with beneficial insects
■ For use in indoor and outdoor nursery settings

Call 1-800-395-8873 to contact your local Syngenta turf and ornamental sales representative and learn more about Citation.