



Amblyseius (Neoseiulus) cucumeris

Thrips Predator

DESCRIPTION:

A. cucumeris is a species of predatory mite that feeds on immature stages of thrips. It also feeds on pollen, broad mites and cyclamen mites. *A. cucumeris* adults are pear-shaped, tan colored mites, less than 1/50-inch (0.5 mm) long. Eggs are oval, transparent and 0.01-inch (0.14 mm) in diameter.

TARGET PEST:

Western flower thrips (*Frankliniella occidentalis*); Onion thrips (*Thrips tabaci*); also, cyclamen, bamboo and broad mites.



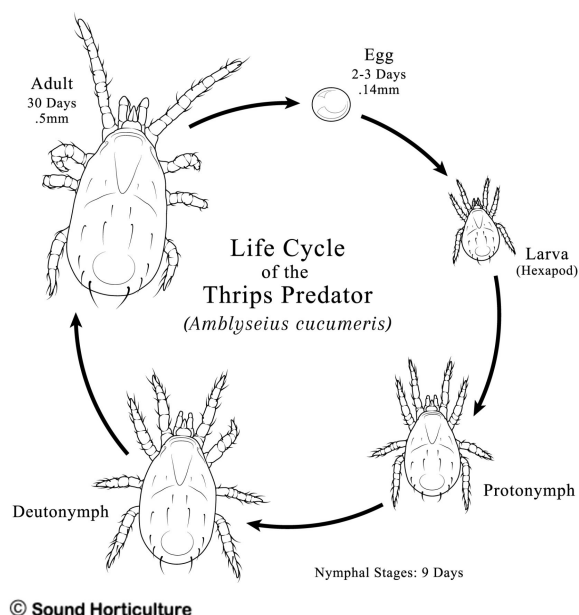
Amblyseius cucumeris

LIFE CYCLE:

A complete life cycle takes 10-12 days at 68°F (20°C). *A. cucumeris* populations have somewhat more females than males (64% females).

Females lay 1-3 eggs per day for an average of 35 eggs over their lifetime. Eggs are laid on leaf hairs along the veins on the lower surface of leaves, and hatch in about 3 days. Newly hatched larvae do not feed until they molt at 2 days old. They feed for another 7 days before becoming adults. Adults live for up to 30 days and eat an average of 1 thrips/day.

Outdoor populations of *A. cucumeris* diapause in response to short days. The *A. cucumeris* now sold for greenhouse use are non-diapausing strains and may be used year-round.



USE IN BIOLOGICAL CONTROL:

A. cucumeris is mainly used to control western flower thrips in greenhouse vegetable and flower crops. (For more information, see Thrips.) Optimum conditions are 68-77°F (20-25°C) with relative humidity 66-70%.

MONITORING TIPS:

Use a 10-15 X hand lens to inspect for mites, which are most often found along veins on the underside of leaves or inside mature flowers.

PRODUCT INFORMATION:

A. cucumeris adults and immatures are shipped mixed with a bran carrier. They are available in two types of packaging:

- Bulk cartons, containing 10,000 - 50,000 predators. The contents are gently shaken onto leaves throughout the greenhouse or placed on the rock wool block or growing media in contact with the plant stem. Upon receipt active predators should be visible at the top of containers at room temperature.
- Slow release sachets, containing approximately 1/8 cup (30 ml) of carrier with predators and a food source. The bags act as miniature breeding units and are hung on plants throughout the greenhouse. Over four weeks, each bag can produce over 1000 predators under good conditions.

INTRODUCTION RATES:

Relatively high introduction rates are required because thrips can reproduce nearly twice as fast as *A. cucumeris*, and *A. cucumeris* only feeds on immature thrips, not adults.

General Introduction Rates:

- 10-100 *A. cucumeris*/plant, weekly, as needed.

Using the Bulk Product:

- Greenhouse peppers – 10 *A. cucumeris*/plant. One introduction is sufficient early in the growing season if pollen is available as an alternate food source.
- Greenhouse cucumbers - 25 *A. cucumeris*/plant by placing a small pile of media touching the base of the stem as soon as they are planted in the greenhouse. On larger plants use 50-100 *A. cucumeris*/plant, weekly, until the percentage of leaves with predators is greater than that with thrips.
- Greenhouse tomatoes – 25 *A. cucumeris*/plant, weekly, for two weeks, when thrips are detected.

Using Slow Release Bags:

- Greenhouse cucumbers – 1 sachet/plant in infested areas
- Interior plantscapes – 1 sachet/large plant

Hang bags within 10 inches (25 cm) of the growing point on greenhouse crops, ensuring good contact with the stem and leaves. Bags should not be exposed to direct sunlight or overhead watering. Do not tear open pre-punched bags as they will become too dry.

Establishment of *A. cucumeris* requires 4-8 weeks, so it should be applied before thrips problems develop. Because *A. cucumeris* feed only on immature thrips stages, a decrease in future adult thrips populations will not occur for about 3 weeks. Adult thrips have a long life cycle (+30 days) so adults will continue to cause damage and adults should be controlled by releases of *Orius* or by using sticky traps.

FOR BEST RESULTS:

Where *P. persimilis* is being used for control of spider mite, avoid heavy applications of *A. cucumeris*. *A. cucumeris* feed on spider mite eggs, which may limit the food supply for immature *P. persimilis* and reduce their effectiveness.

Use *A. cucumeris* along with other thrips predators such as *Orius spp.* (see *Orius*) on flowering plants and *Stratiolaelaps* (formerly called *Hypoaspis miles*) to control thrips pupae in the growth media (see *Stratiolaelaps*).

USING CHEMICALS:

Some insecticides and fungicides can be used with *A. cucumeris*. Contact Sound Horticulture for more information.

Use of any water-based sprays with spreader stickers will kill some predators and wash them off the leaves.

There are no selective pesticides that will kill thrips and not harm *A. cucumeris*, however, insecticidal soap sprays may be used in hot spots and will not leave harmful residues.

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