

Cucumeris tech sheet



Cucumeris (*Neoseiulus cucumeris*) predatory mites are primarily used for thrips management. They feed on the juvenile stages of thrips, with adults consuming an average of 6 thrips larvae per day. They also offer secondary suppression of spider mites and have proven useful in the management of broad mite. They survive well at low prey densities due to their ability to use alternate prey and pollen as a food source.

Cucumeris are small (<1 mm), pale, pear-shaped mites. The eggs are clear and oval. They are laid on the underside of leaves (often on hairs), under the calyx of fruit and sepals of flowers and in other protected areas. At 25°C Cucumeris take about 8 days to complete their lifecycle. Individuals can live for over a month and females lay an average of 35 eggs.

When to release

Cucumeris should be introduced preventatively from the onset of flowering or at the first sign of pest activity. Use sticky traps and inspect crops regularly to detect the presence of thrips.

Complementary IPM tools for thrips management include Orius predatory bugs (which feed on all stages of thrips including adults), Hypoaspis predatory mites (which feed on thrips pupae) and sticky traps and rolls that can be used to mass trap adult thrips.

How to release

Before release, check prior history of chemical applications to ensure toxic residues are no longer present. See notes on chemical use below.

Roll the tubes gently before release to distribute mites evenly. Distribute the contents of each tube over foliage (ideally near flowers). During release keep an eye out for pest hotspots and place additional mites in these areas.

Storage and handling

Cucumeris are mixed with vermiculite and packed in cardboard tubes. They should be released as soon as possible after delivery. If necessary, tubes can be stored (on their side) for up to 3 days at 10-18°C. After cool storage mites will initially be slow moving and hard to detect.

Monitoring after release

Cucumeris will be difficult to find for at least a week after introduction. They disperse quickly in search of food and shelter. Mark a few places where Cucumeris were released (preferably pest hotspots) and check these sites regularly to assess pest numbers and establishment of predatory mites.

Look for Cucumeris eggs, as this is a good early sign of predator establishment. Once establishment is underway, adults should be visible on the underside of leaves (often at the juncture of the midrib and the veins). Adults may also be found in flowers, feeding on pollen and thrips larvae.

Continue to monitor adult thrips levels using sticky traps and regular crop inspections. A reduction in the adult thrips population may not be noticeable for 2-4 weeks because Cucumeris only feed on immature stages. Establishment will be faster in pollen bearing crops and those with sufficient levels of prey. Effective establishment should result in a reduced pest population and healthy new damage-free growth.

A predatory mite for control of thrips

Key target pests

- Western flower thrips
- Onion thrips

Suppression of

- Spider mites
- Broad mite

Advantages

- Excellent persistence in outdoor berry crops
- Survive at low prey densities
- Can be introduced preventatively

Pack size

100,000 mites

Suitable crop environments

Cucumeris have been used successfully in many protected crops including capsicums, eggplants, cucumbers, strawberries, cut-flowers, nurseries and medicinal cannabis.

They can also be used in outdoor crops, as long as temperatures exceed 20°C for at least some hours each day to give the mites an opportunity to warm up and feed.

Cucumeris have proven particularly useful in outdoor strawberry production.

Cucumeris can also be used in stored onions to target onion thrips.

Cucumeris is not suitable for use in tomatoes or geraniums because the leaf structure and toxic leaf exudates prevent establishment in these crops.

Recommended release rates

Unlike chemicals, when it comes to beneficials, more is always better. However, they are costly to produce and our goal is to achieve the best results at minimal expense. There are many factors to consider, including the value of the crop, the severity of the pest outbreak and the activity (or otherwise) of naturally occurring beneficial species.

As a general rule, 2-3 releases of modest numbers is better than a single large release.

This reduces risk, improves establishment and accelerates the development of multiple overlapping generations. In most cases our releases are inoculative and we anticipate that our beneficials will establish and breed up within the crop to give long term control.

An ongoing regular release program may be warranted in dynamic environments where plants are moved regularly or other influences (e.g. fungicides) adversely impact predators.

Release rates will vary depending on the crop and level of infestation. The table below is only a guide – contact us for specific recommendations.

Situation	Release rate (per release)	No. of releases	Interval between releases
Preventative	50 mites/m ²	3	2 weeks
Curative	50-100 mites/m ²	as required	1-2 weeks
Hotspot treatment	100-250 mites/m ²	as required	1-2 weeks
Onions in storage	20,000 mites/tonne of onions; make a single application; sprinkle mites on top of onions once sorted into bins prior to storage		

Cultural practices to aid establishment

- Minimise dust and ensure plants are well watered and in good health to provide optimal conditions at the plant surface where the mites are active
- Relative humidity of 65% or more is optimal – in crops with a full canopy this is not a problem, but if plants are small or conditions are exceptionally dry, misting or watering down paths and under benches will improve establishment
- Use companion plants that increase availability of pollen to improve establishment and sustain populations of Cucumberis
- Use flowering trap crops (e.g. alyssum) to attract thrips and support Cucumberis
- Avoid application of pesticides for at least three days after release if possible
- Weed management and screening (in protected crops) should be used to reduce the number of adult thrips entering the crop

Chemical use

While some pesticides are not harmful to predatory mites, many are directly toxic or have sublethal effects. These can prevent predators from establishing and/or reduce their efficacy. Some insecticides (e.g. synthetic pyrethroids, organophosphates and neonicotinoids) can have residual toxicity that affects Cucumberis for many weeks. Fungicides generally have low toxicity to predatory mites, however some (e.g. mancozeb and chlorothalonil) are highly disruptive.

If pesticides are required, always check for side-effects and select products that are least harmful to Cucumberis and other key beneficials in your IPM program. Consult the [Biobest side-effects manual](#) online or via the app.

