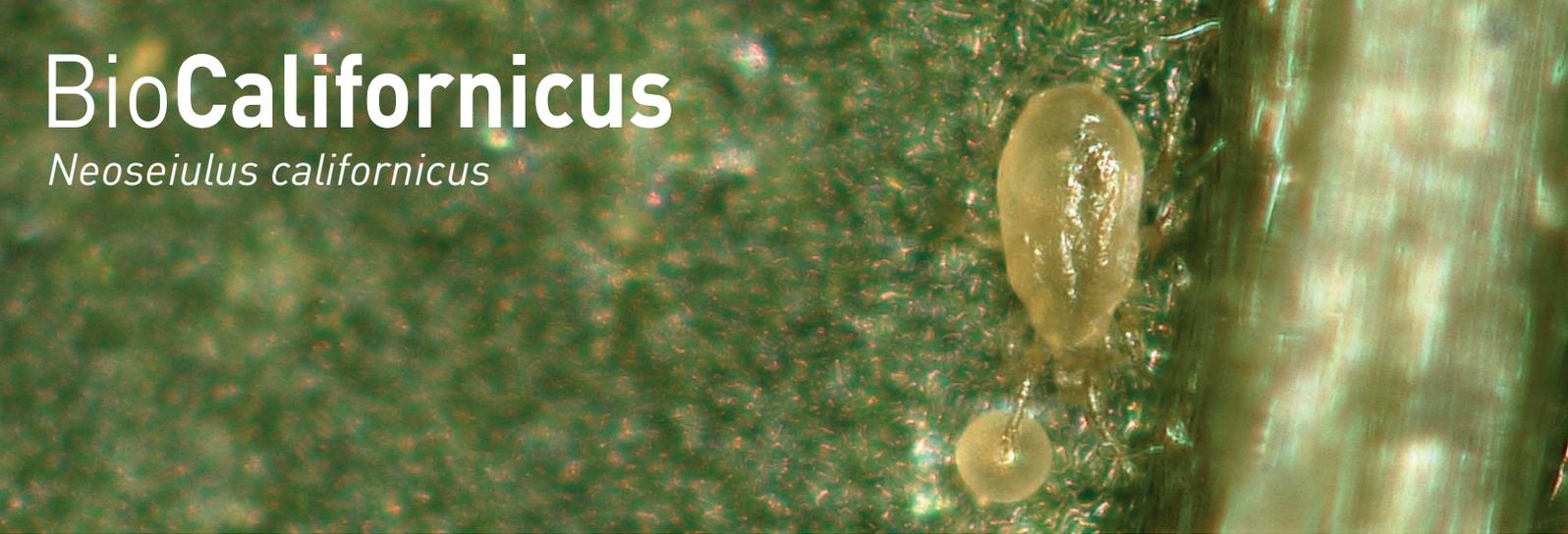


# BioCalifornicus

*Neoseiulus californicus*



*Neoseiulus californicus* is an effective predatory mite of a wide array of pest mites making it an invaluable tool for biological pest control programs.

## TARGET PESTS

BioCalifornicus targets two-spotted spider mite (*Tetranychus urticae*), European red mite (*Panonychus ulmi*), citrus red mite (*Panonychus citri*), begonia mite (*Tarsonemus pallidus*), broad mite (*Polyphagotarsonemus latus*), Cyclamen mite (*Phytonemus pallidus*) and Persea mite (*Oligonychus perseae*) in vegetables, ornamentals, field crops and fruit orchards.

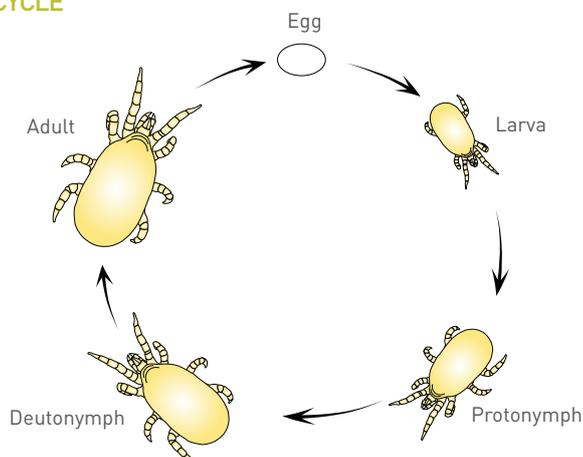


Spider mite damage

## CROPS

Vegetables (e.g. capsicum, eggplant, cucumber), ornamentals such as gerbera, chrysanthemum, rose and herbs. It is often used in greenhouse production, but can also be used in open fields, particularly fruit crops such as melon, watermelon, strawberry, pome, citrus orchards and stone fruit.

## LIFE CYCLE



## DESCRIPTION

*Neoseiulus californicus* is <1mm long, pear-shaped and buff to tan colored. Males are much smaller and darker brown than females, with females generally more numerous. The female lays oval, clear whitish eggs singly or in small clusters on leaf undersides, often on leaf hairs or at the vein junctions. The life-cycle from egg to adult is temperature dependent but in greenhouse conditions it ranges from 4-10 days. The adult female lives approximately 20 days and lays around 3 eggs per day, two to three days after application.

## TEMPERATURE & DEVELOPMENT

Temperature (°C)	Development time (days)
15	14.1
20	7.7
25	7.2
30	3.0
31	3.8

Lower Threshold= 10.3°C



Gotoh et al. 2004

## THE PRODUCT

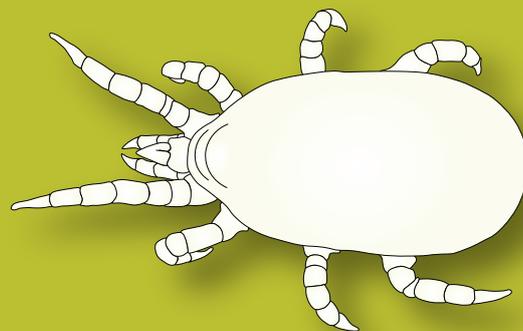
- 100 ml/500 ml plastic bottles, which contain 5,000 / 25,000 mites mixed with vermiculite.



- Slow-release sachets, hung on plants and do not come into direct contact with the foliage or the fruit, allowing a prolonged release of the BioCalifornicus mites.



# BioCalifornicus



## ADVANTAGES

- Establishes well even when pest numbers are scarce.
- Able to feed on various species of prey and on alternative feed such as pollen and BioArtFeed (*Artemia* cysts).
- Establishes well on trees and woody plants.
- Highly tolerant to a wide range of temperatures both high and low.
- Highly tolerant to low humidity and dry conditions.
- Tolerant to chemical residue on crops.

## APPLICATION

- BioCalifornicus is shipped in insulated, chilled Styro-foam boxes. Packaging must be kept intact until placed in the field.
- Keep in a cool location 16°C until release; do not put bottles in a refrigerator.
- The predatory mites should be released within 24 hours of receipt.
- Release BioCalifornicus in the early morning or late afternoon, when the temperature is milder.
- Remove the product containers from the box, one at a time and empty their content as quickly as possible.
- Before use, roll the bottle back and forth gently, to mix BioCalifornicus with the vermiculite.
- The predators are released by opening the lid and sprinkling the contents of the bottle on the leaves of the host plants, preferably in a shady area.
- The predators should be distributed evenly through the crop, on the foliage, with additional material at the end of the rows and in hotter areas, prone to spider mites.
- DO NOT EXPOSE TO DIRECT SUNLIGHT

## STORAGE

- BioCalifornicus can be stored for 1-2 days if necessary, under recommended conditions.
- If the mites cannot be immediately released, the containers must be stored in their original packaging, in a cool dark, place, at temperatures between 4°C-8°C.
- Store horizontally.

## RELEASE RATES AND TIMING

First application is between 50,000 to 100,000 mites per Hectare. Additional quantities might be needed according to the infestation level and scouting information.

Scouting and monitoring is crucial.



## BIOLOGICAL PEST CONTROL

The effectiveness of BioCalifornicus can be assessed two weeks after the release (depending on weather conditions). Biological pest control continues throughout the growing season, as successive generations of *Neoseiulus californicus* continue to control the spider mites, providing a long-term solution. BioCalifornicus can be combined with BioPersi+ (*Phytoseiulus persimilis*). These two natural enemies complement each other in controlling spider mite infestations and can coexist in the same environment.

## GENERAL COMMENTS

Before combining BioCalifornicus with any chemical pesticide in the crop, please consult your BioBee Technical Representative.