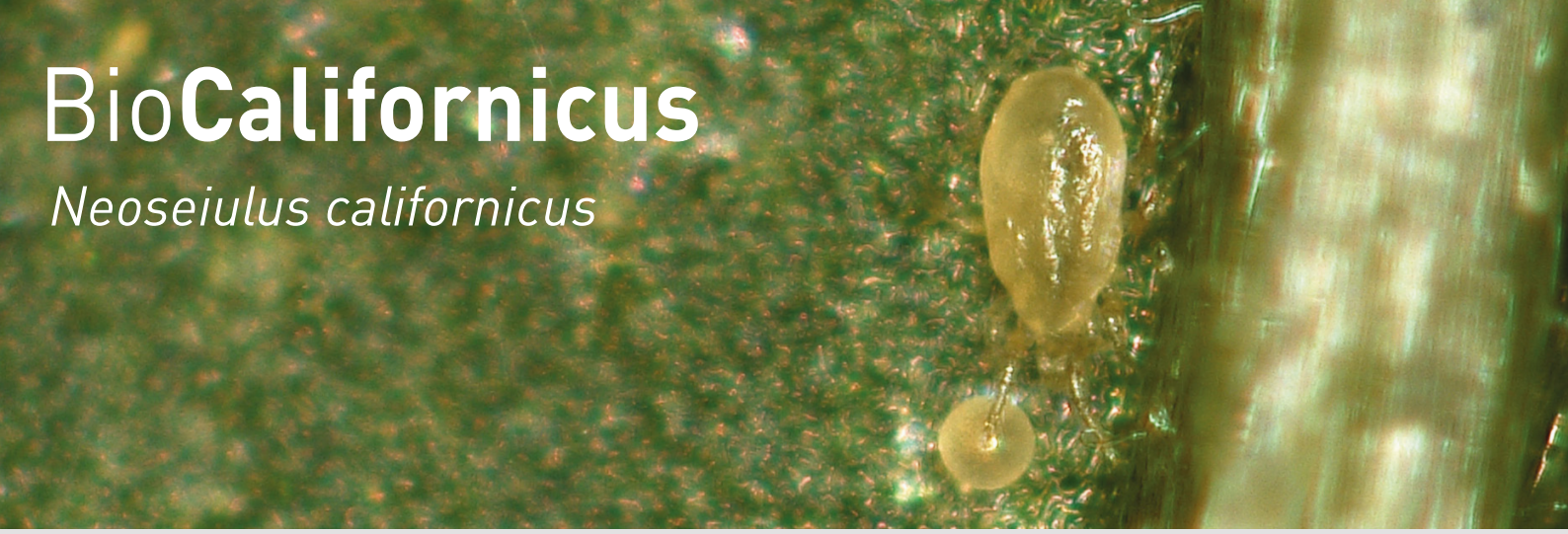
Bio**Californicus**

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 (*T*etranychus urticae), Red spider mite (*T. cinnabarinus*), European red mite (*Panonychus ulmi*), citrus red mite (*Panonynchus citri*), begonia mite (*Tarsonemus pallidus*), broad mite (*Polyphagotarsonemus latus*), Cyclamen mite (*Phytonemus pallidus*) and Persea mite (*Oligonychus perseae*).

Spider mite damage

DESCRIPTION

N. 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 rate of development from egg to adult is temperature dependent under 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

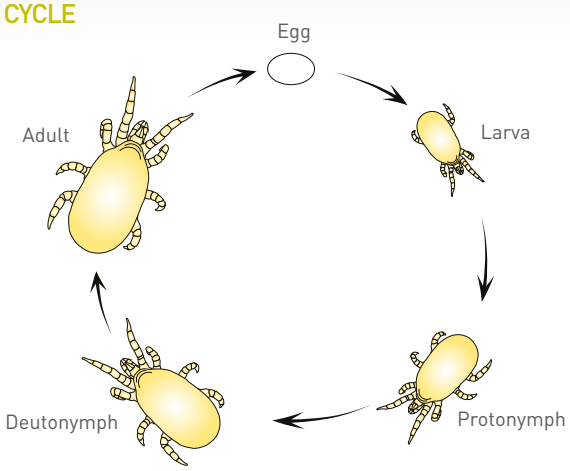
TEMPERATURE & DEVELOPMENT

Temperature (°C)	Development time egg to adult (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

LIFE CYCLE

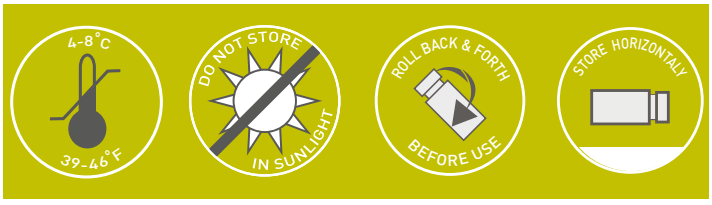


CROPS

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

ADVANTAGES

- Establishes well even when pest numbers are scarce
- Able to feed on various species of prey and on alternative feed such as pollen.
- 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.
- Higher tolerance to chemical residue on crops.
- Suitable for mechanized application.



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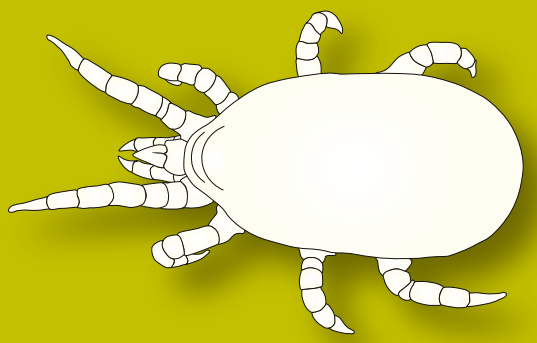

THE PRODUCT

- 500 ml cylinder 25K/50K mites mixed with an inert carrier.
- 1 liter cylinder,25K/50K mites mixed with an inert carrier.

- Box of 250/500 Slow-release sachets with hooks, containing 250 mite each.
- Bulk bag 500k/1M ml mites mixed with an inert carrier.

APPLICATION & HANDLING

- BioCalifornicus is shipped in insulated, chilled boxes. Packaging must be kept intact until placed in the field.
- Keep in a cool location 4°C-8°C until release; do not put the bottles in a refrigerator.
- The predatory mites should be released within 24 hours of receipt.
- Release BioCalifornicus early morning or late afternoon, when the temperature is milder.
- Before use and after the application of every 1/4 bottle, roll he bottle back and forth gently, to mix BioCalifornicus with the carrier.
- Release the predators by opening the lid of the bottle or by twisting the cylinder cap to the correct opening hole and sprinkling the contents on the leaves of the plants, in a shaded area.
- Sachets should be hung within the foliage, in shaded areas.
- The predators should be distributed evenly through the crop, on the foliage, with additional material at the end of the rows and in hotter/dryier areas, prone to spider mites.
- **Do not expose the product 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.

MONITORING

Scouting and monitoring is crucial.

DOSAGE

The amount and frequency of predatory mite release is determined by crop, the degree of infestation, weather conditions and damage inflicted on the crop. When the infestation level is high, it is recommended to add BioPersi+ (*Phytoseiulus persimilis*) . Additional quantities might be needed according to the infestation level and scouting information

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 pest mites, providing a long-term solution.

BioPersi+ and BioCalifornicus, 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 representative.

DISCLAIMER

The success of biological pest control is affected by the crops initial pest population (upon application of the product), weather conditions and chemical residue present in the crop, among other possible aggravating factors.

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