



# *Neoseiulus californicus*

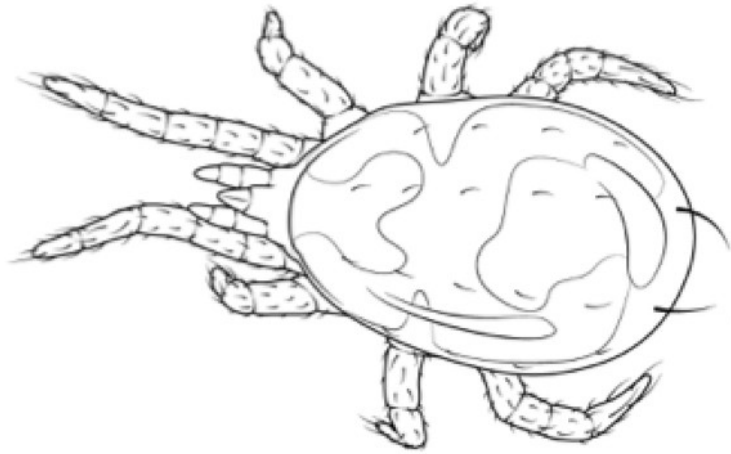
## Mite Predator

### DESCRIPTION:

*N. californicus* is a very versatile mite predator, similar to *A. fallacis* in cycle. It tolerates a wider range of temperatures and lower humidity than *P. persimilis*. It is being used on a wide variety of plants including: strawberries, raspberries, roses, grapes, ornamentals and vegetables. Eggs are oval and much larger than spider mite eggs. Adults are pear-shaped, light tan mites, less than 1/50 inch (0.5 mm) long.

### TARGET PEST:

Spider mites, Broad mite, Cyclamen mite, Russet Mite



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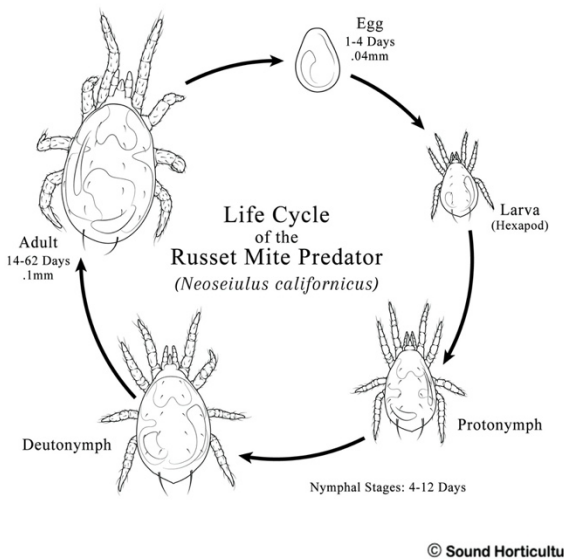
*Neoseiulus californicus*

### LIFE CYCLE:

Females are predominant, 2 to 1. Females consume about 5 spider mite eggs per day and lay about 43 eggs during a lifetime.

*N. californicus* goes through five life stages: egg, larvae, protonymph, deutonymph, and adult, and completes a generation in one to two weeks, depending on temperature. Eggs hatch within 2 days and begin feeding almost immediately. It takes about 5 days for *N. californicus* to go through immature stages to adult.

Average temperatures above 77°F will speed up reproduction; temperatures lower than 77°F will slow down reproduction. Reproduction stops at about 55°F. Reproduction continues up to 95°F and survival has been noted at 110°F. There is some evidence that *N. californicus* can survive on pollen, but will not reproduce.



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### USE IN BIOLOGICAL CONTROL:

*N. californicus* are well adapted to high temperatures (up to 85-90°F/30-33°C) as long as relative humidity is over 65%. It does best in warm, humid conditions, but will also tolerate low humidity (40% - 80% RH at 50°-105°F). They feed on pollen and spider mites and survive well even when pest populations are low if there is a pollen source.

Note: *N. californicus* is an aggressive predator and will eat other beneficial predatory mites being used in the same area. Consult Sound Horticulture before introduction if other beneficial insects are being used.

For more information, Please contact **Sound Horticulture**

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**MONITORING TIPS:**

Use a headband magnifier or 10-15 X hand lens to look for the mites in the top 1 inch (1-2 cm) of soil or growth media and at the base of plants.

**PRODUCT INFORMATION:**

*N. californicus* are highly perishable and should be released immediately upon delivery. If storage is absolutely necessary, refrigerate at 55°F (12°C), not to exceed 5 days, to minimize mortality.

*N. californicus* is usually shipped from Sound Horticulture in a corn grit carrier. If using a concentrated amount over a large area, it may be helpful to buy additional corn grits from your local grocer and use them to extend the predator supply for application over a larger area. Gently pour predator on carrier corn grits and extension corn grits into a large jar and gently roll to mix. Gently shake predator and carrier onto the foliage of infested crops. For best results, mist the foliage prior to application so

carrier will cling.

**INTRODUCTION RATES:**

Typical release rates are 1/ft<sup>2</sup>; 20-40,000/acre; 100,000/ha. Rates are dependent upon pest levels and desired speed of control.

Recommended pest/predator ratio at time of release is 10/1. Avoid releases in temperatures below 45°F or above 85°F and during dry windy conditions. It is preferable to release predators in the morning while humidity is high and the soil is not hot. It is extremely important to release predators as soon as pest mites appear in the crop.

**USING CHEMICALS:**

*N. californicus* is susceptible to many pesticides. Field tolerance will vary with type of spray, timing, application methods, weather and crop. Avoid spraying crop one week before or after releasing predators. Some pesticides may remain toxic to predators for up to four weeks.