



Persea Mite Primer

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What is the persea mite?

The *Olyponichus persea* is a mite that feeds on the underside of some leaves. Its favorite food is the leaves of certain varieties of avocado. It is pale yellow, and can be seen with a 10x magnifying glass. The persea mite has also been observed trying to feed on other varieties of avocado as well as peaches, roses and grapes, but has only become a serious pest on avocados such as Haas and Pinkerton. The persea mite has been a major problem in San Diego County since 1991, and in Mexico before that. More recently, it has spread throughout Ventura and Santa Barbara Counties.

The persea mite spins webbing for protection (this appears to be white spots, usually near the veins of the leaves). Turn a leaf to bounce sunlight off the back of the leaf to see the pin-head size shiny patches near the veins. The persea mite sucks the chlorophyll from the leaves, resulting in the brown spots that are often the first sign of problems with a tree. As the leaves are weakened, they fall from the tree. The loss of leaves allows sunlight to strike the new growth, the branches and the fruit, sometimes burning them.

How did I get it?

The persea mite produces webbing which can transport the mite on a passing animal, a vehicle or the wind. This means that they may also be carried by agricultural workers or their equipment. Because the persea mite can be so easily spread, it is possible for you to rid your tree of the pest only to have it re-infested from a neighboring tree.

How do I get rid of it?

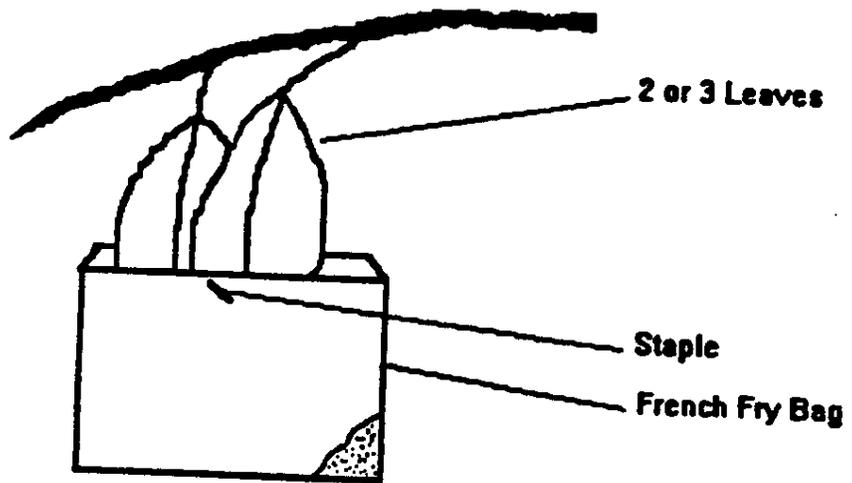
Rincon-Vitova carries two predatory mites which feed on the persea mite: one is *Galendromus helveolus* and the other is *Neoseiulus californicus*. Each species has advantages:

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| <i>Galendromus helveolus</i> reproduces faster, able to get underneath the persea mite's protective webbing | <i>Neoseiulus californicus</i> better at low prey density, feeds on pollen, will overwinter as an adult, tolerates low humidity |
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Many of the larger avocado growers are using the *Galendromus helveolus* because it is a faster predator. For the person with just a few trees, however, Rincon-Vitova offers a package of half *Galendromus helveolus* and half *Neoseiulus californicus*. This combination allows for a fast knockdown of the problem, as well as a better chance for both a complete eradication and the prevention of re-infestation.

When considering how many predatory mites to release, and by what method, several factors need to be considered. How bad is the infestation? What is the cost, in both labor and money? The larger the number of predators released, and the closer they are brought to the persea mites, the faster the problem will be eliminated.

The predators are shipped in vials of 1,000, packed in a medium of ground-up corn cob. The vials should be gently turned over for about a minute to be sure that the predators are evenly distributed throughout the medium. The mixture is then poured into the bags.) The bags are then fitted around the ends of the avocado branches or clusters of leaves and stapled in place so that the predatory mites can easily climb onto the tree and get to work.



For an infested tree of average size, 100 to 250 predators should be released to establish a population. Larger trees with more severe infestations will require more predators. The best distribution of the predators can be achieved by pouring them into several small paper bags or envelopes (French fry bags work well). If there is one part of a tree where the problem is more severe, then the predators should be concentrated there. Otherwise, the bags should be evenly distributed around the tree.

Chemical pesticides have proven ineffective against the perseia mite, partly because of the protective webbing. Other possible remedies include the six-spotted thrip (now being studied) and the green lacewing (which can chew through the webbing, but does not always get all of the perseia mites which are hiding under the webbing).

How do I make sure it doesn't come back?

There is no 100% guarantee that a tree will never become re-infested. The best protection available is to communicate with your neighbors who have avocado trees to coordinate your efforts. The *Neoseiulus californicus* can survive when all the perseia mites are gone, and perhaps over winter. The green lacewing is a good general predator to have in your garden or farm. The young lacewing (larvae) feed on several pests such as aphids, mealy bugs and perseia mite. The adult lacewing feeds on flower nectar, so it is relatively easy to get a lacewing population established. Although these general predators are not as dedicated to going after the perseia mite as the more prey-specific predatory mites, the green lacewing can often be the first line of defense against the arrival of the perseia mite.