

## Control of Spider Mites

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Q. I have vegetable starts in my greenhouse and several of the plants show stippled, yellowish leaves and a couple leaves look like they have webbing on them. What's causing this, and how can I control it?

A. The leaf damage you describe is consistent with the damage caused by spider mites, the most common of the mites, which are arachnid cousins of spiders and ticks, usually belonging to the species *Tetranychus*. Also called Web-spinning mites, they're frequently found on fruit trees, vegetables, vines and ornamentals. To confirm that you indeed have spider mites, pick an infected leaf and shake it over a sheet of white paper, you should see tiny dots moving on the paper. Otherwise they're too small to spot without a 10X hand lens. If you do have a hand lens you can see spherical bodies with eight legs and two red dots near the head end, and round, translucent eggs. In greenhouses female spider mites overwinter under benches, in plant litter or under the rim of pots. On landscape plants and fruit trees they will overwinter on the rough bark scales and begin to feed and reproduce once the weather warms.

Spider mites can be very destructive to young seedlings but on shrubs and trees they're mostly an esthetic concern, though high populations can kill plants.

According to the UC IPM pest notes you can control spider mite populations in gardens and on small fruit trees, "with regular, forceful spraying of plants with water. This will often will reduce spider mite numbers adequately. Be sure to get good coverage, especially on the undersides of leaves."

In the garden spider mites have quite a few natural enemies and only become a problem after the application of insecticides as this kills off the natural enemies of the spider mite. The UC IPM pest note for Spider mite states that "such outbreaks are commonly a result of the insecticide killing off the mites' natural enemies but also occur when certain insecticides stimulate mite reproduction. For example, spider mites exposed to carbaryl (Sevin) in the laboratory have been shown to reproduce faster than untreated populations. Carbaryl, some organophosphates, and some pyrethroids apparently also favor spider mites by increasing the level of nitrogen in

leaves. Insecticides applied during hot weather usually appear to have the greatest effect, causing dramatic spider mite outbreaks within a few days.” If spraying with water is not controlling the spider mites and stronger treatment is necessary, use selective materials, preferably insecticidal soap or insecticidal oil. Both petroleum-based horticultural oils and plant-based oils such as neem, canola, or cottonseed oils are acceptable. Don’t use soaps or oils on water-stressed plants or when temperatures exceed 90°F. These materials may injure some plants, so check labels and/or test them out on a portion of the foliage several days before applying a full treatment. Oils and soaps must contact mites to kill them, so excellent coverage, especially on the undersides of leaves, is essential, and repeat applications may be required.

To reduce the chance of spider mites becoming a problem on the rest of your vegetable starts keep plants fertilized, well-watered and dust free.