1Watch for Spider Mites or Aphid Infestations

Bill Krueger, UC Farm Advisor, Glenn Co.

Web spinning mites (spider mites) may develop high populations in the late spring or early summer as temperatures rise. Light bronzing of the leaves is an indication of an increasing population. As the population develops, clusters of brown leaves are noticed. Heavy feeding results in webbing-over of the leaves and, ultimately, the defoliation of the infested leaves.

Spider mites are usually kept below damaging levels by natural enemies unless they are disrupted by broad spectrum pesticides. Use selective materials whenever possible when treating other pests and avoid dusty conditions and water stress, which also favor mite development. The most dependable natural enemy is the western predatory mite which can be seen by using a hand lens. It is generally clear and pear-shaped and will be moving more rapidly than the spider mites. Six spotted thrips can also be an effective predator, but may come into the orchard too late to control the pest before economic damage occurs.

Monitoring. Starting in late May or early June and continuing through August at weekly intervals, randomly select ten trees in the orchard and check ten leaflets per tree (5 low and 5 high). Look for web spinning mites, predator mites and six spotted thrips.

Treatment thresholds where organophosphate or pyrethroid insecticides are **not** used.

- 30-40% infested leaflets if predators are on less than 10% of the leaflets.
- 40-50% infested leaflets if predators are on 40-50% of the leaflets.
- If predators are on 50% or more of the leaflets, a treatment should not be necessary.

Treatment thresholds where organophosphates or pyrethroid insecticides are used.

- 10% infested leaflets if predator mites are on less than 10% of the leaflets.
- 20% infested leaflets if predators are on more than 20% of the leaflets.

There are a large number of materials available for controlling spider mites with different modes of action and characteristics. Select a material to fit your situation. Avoid using materials in the same mode of action group more than 2 times per year to reduce the risk of resistance development.

Aphids. There are two aphid species that damage walnuts, the walnut aphid (a small yellow aphid usually found on the lower surface of the leaf) and the dusky veined aphid (larger yellow aphid with dark banded spots that feeds near the mid vein on the upper surface of the leaf). In recent years, a white form (morph) of the walnut aphid has been found in the Sacramento Valley. Populations of the white morph tend to build later in the season than the normal yellow aphids. Aphid feeding produces honeydew, and, a sooty mold growing on the honeydew turns the leaves black. Aphid feeding can reduce tree vigor, yield, nut size and quality.

Walnut aphid will usually be controlled by the introduced parasite, *Trioxys pallidus*. *Trioxys* can be disrupted by sprays to control other pests or by hyperparasitism (parasitism of the parasites). In-season oil sprays have also been shown to disrupt *Trioxys.* Treatment materials that control

other pests such as codling moth and walnut husk fly will normally control hyperparasites but may increase spider mite problems.

Begin sampling in May and continue through shoot and nut growth. Collect 5 sub terminal leaflets from 20 trees. Treatment is recommended if there are more than 15 healthy walnut aphids per leaflet. Treatment of dusky veined aphid is recommended if 10% of the leaflets have colonies of 6 or more aphids.

For more information on these and other pests, including pictures and treatment options, consult UC Pest Management Guidelines for walnuts available online at http://ucipm.ucdavis.edu or through your local Farm Advisors' office.