

Cooperative Extension

Twospotted Spider Mite (*Tetranychus urticae*)

The University of Arizona \$ College of Agriculture \$ Tucson, Arizona 85721 (part of the publication “Citrus Arthropod Pest Management in Arizona”)

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DESCRIPTION AND LIFE HISTORY: The twospotted spider mite is a pest of many agricultural and horticultural crops. It is a cosmopolitan pest, but occurs in Arizona citrus occasionally. The twospotted spider mite is heat tolerant and is most abundant in Arizona citrus in August and September. It appears to be most often problematic in groves suffering from water and heat stress.

Colonies of twospotted mite begin on the underside of mature leaves, but under higher populations they can be found on the tops of leaves, and on the fruit. On the leaves, they prefer to settle along the midvein. On the fruit, this mite prefers to colonize between fruit, where the fruit are clustered together. This mite produces a large amount of fine webbing that may completely cover infested areas of leaves and fruit. The eggs are spherical and translucent when first laid, but become opaque with age, and can be found scattered about the webbing.

The twospotted spider mite is similar in appearance to the Yuma spider mite. It is greenish to a straw yellow in color, and has “red-eye” spots and dark pigmentation on the sides of its body. The Yuma spider mite usually has more pink pigmentation while the twospotted spider mite has more green pigmentation. However, color variation among these species makes discerning them very difficult. For definitive identification, the Yuma spider mite has two pairs of anal setae (small hairs on the posterior), while the twospotted spider has one pair. In the field, these species can usually be separated based the appearance of their colonies and their eggs (see descriptions).



Figure 46. Twospotted spider mite is an occasionally pest of Arizona citrus that usually occurs during late summer.

DAMAGE: Foliar feeding by the twospotted spider mite results in yellow speckling of the leaves or reddish-brown spots as the damage intensifies. Foliar damage is usually minor and rarely justifies chemical control unless the trees are under environmental stress. On the fruit, more severe damage can occur. Fruit attacked by twospotted spider mite may suffer russetting or brown scabbing to the rind. This damage is sometimes not evident until after the fruit has been fumigated for coloring.

MONITORING: Citrus should be monitored for twospotted spider mite from June through September. Currently there is no action threshold for twospotted mite but some general guidelines exist. It probably is not necessary to treat infestations relegated to the foliage unless populations are extremely high. Florida authorities recommend a miticide application if spider mite populations reach 15 mites per leaf. Miticides may be necessary to control twospotted spider mites on the fruit when 10% of the fruit less than 1 inch in diameter is

This document and others on citrus insect pests can be found at
<http://cals.arizona.edu/crops/citrus/insects/citrusinsect.html>

infested, or when larger fruit averages 3 to 5 mites per fruit.

CONTROLS:

Cultural:

•**Avoid Tree Stress.** Insure that the trees are properly irrigated and fertilizer. Trees irrigated via microsprinklers where volume due to emitter damage tend to experience more twospotted spider mite problems because they are drought stresses and are more prone to shedding leaves.

Biological:

•**Predators.** A number of predators that attack twospotted spider mites including mites, lacewings, predacious thrips, etc.

Commonly used Chemicals: Twospotted spider mites are fairly easy to control using miticides (see below for chemical control section for all mites).

Commonly used Chemicals for control of mites in Arizona citrus:

•**Abamectin.** 7 day PHI. Abamectin (AGRI-MEK) is applied at a rate of 0.006 to 0.024 lbs-ai per acre. It is occasionally used in the Yuma area. It cannot be applied to nurseries or by aircraft. It should always applied in combination with a horticultural spray oil at a rate of not less than 1.0 gal per acre. Abamectin is relatively nontoxic to beneficial insects and mites. Do not exceed three applications or 0.048 lbs-ai per acre per year, and allow at least 30 days between applications. The restricted entry interval for abamectin is 12 hours.

•**Fenpropathrin.** 1 day PHI. Fenpropathrin (DANITOL) is a broad-spectrum pyrethroid insecticide/miticide that is used at a rate of 0.4 lbs-ai per acre. It is recommended that not more than one application be made per year, but there is an allowance of up to 0.8 lbs-ai per acre per year. Fenpropathrin is toxic to beneficial insects and is especially toxic to predatory mites. The restricted entry interval for fenpropathrin is 24 hours.

•**Dicofol.** 7 day PHI. Dicofol (KELTHANE, DICOFOL) is a chlorinated hydrocarbon miticide that is commonly used in Arizona for mite control. It is used at a rate of 3 lbs-ai per acre. Dicofol is relatively safe to beneficial arthropods although predaceous mites maybe suppressed. Do not exceed two applications per year. The restricted entry interval for dicofol is 12 hours.

•**Pyridaben.** 7 day PHI. Pyridaben (NEXTER) belongs to a new class of miticide, the pyridazinones, which act by disrupting cellular respiration through inhibition of mitochondrial electron transfer. Pyridaben is used at 0.25 to 0.50 lbs-ai per acre. It is most active against immature mites as a contact poison, and is relative safe to beneficial arthropods although predacious mites may be suppressed. The restricted entry interval is 12 hours.

•**Wettable Sulfur.** 0 day PHI. Wettable sulfur (MICROTHIOL, BEN SUL, SPRAY SULFUR, KUMULUS, and others), is applied to thoroughly cover foliage as soon as mites are detected. Rates vary slightly among products and range from 8 to 100 lbs of product per acre. Addition of sulfur with insecticides targeting citrus thrips will often preventively control mites. To avoid foliar scorching: do not apply in combination with any oils or within 21 days of previous oil application, or when temperatures are high; young trees are particularly susceptible. The restricted entry interval varies among products from 12 to 24 hours.

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