

## Cooperative Extension

# Texas Citrus Mite (*Eutetranychus banksi*)

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

David Kerns<sup>1</sup>, Glenn Wright<sup>2</sup>, and John Loghry<sup>3</sup>

<sup>1</sup>Department of Entomology, Yuma Agricultural Center - Valley Station, 6425 W. 8<sup>th</sup> St., Yuma, AZ 85364

<sup>2</sup>Department of Plant Science, Yuma Agricultural Center - Mesa Station, RR1, Box 40M, Somerton, AZ 85350

<sup>3</sup>Arizona Crop Improvement Association, Yuma Agricultural Center - Mesa Station, RR1, Box 40M, Somerton, AZ 85350

**DESCRIPTION AND LIFE HISTORY:** The Texas citrus mite occurs in North, Central and South America, and Hawaii. In the United States it occurs in all of the major citrus production areas. It has a fairly large host range including among others almonds, figs, *Croton* spp., and citrus. It was first described in 1914 infesting castor and velvet beans in Florida. Since 1955 it has become the most common mite pest of Texas citrus. In Arizona, it was first reported in 1970. It is most common from February until June and then disappears with the onset of high temperatures. However, populations can sometimes be found in November and December. It seems likely this mite may be favored by lower humidity and mild winter temperatures.



**Figure 40. Texas citrus mite female (left), and male (right) is a large, cool season mite, predominant during early spring.**

Texas citrus mite are relatively large mites and easily seen with the naked eye. Adult females and males vary from tan to a brownish green with dark brown and greenish spots and bars near the lateral margins. The females have a round and flattened body with a dorsal H-shape marking compared to the males whose bodies are

smaller and elongated with very long legs. Eggs are deposited along the midrib and near the lateral margins of the leaves on the upper surface. The eggs are flat, disc like with a fine rolled rim or edge. Newly laid eggs are yellowish and become tan and green reddish brown just prior to hatching. Newly hatched larvae are light yellow to tan with pale legs, while older nymphs are similar in color to the adults.

The developmental rate, from egg to adult female, ranges from about 30 days at 59°F to 10 days at 90°F. A single female can produce as many as 37 eggs at an optimal temperature of 82°F. Each female mite will lay 1 to 10 eggs per day with maximum egg production occurring in the mid-80°F. Adult Texas citrus mites can live several months at temperatures in the upper 50°F, but only several weeks when temperatures are in the 80 and 90°F. The sex ratio of the Texas citrus mite is strongly biased for females. Females comprise over 80% of the total adult population at temperatures between 68 and 86°F.

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



**Figure 41. Close up of speckling on a lemon leaf (top) and defoliation of grapefruit in Texas (bottom) caused by Texas citrus mite (bottom photo courtesy of J. Victor French – Texas A&M University, Kingsville).**

## **CONTROLS:**

**Cultural:** There are no specific cultural control techniques utilized for Texas citrus mite.

### **Biological:**

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

•**Fungi.** The entomogenous (insect or mite infecting), *Neozygites floridana*, commonly causes disease epizootic (outbreak) in Texas citrus mites in Arizona. This pathogen can quickly reduce large mite populations, and is favored by higher humidity and temperatures.

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

**DAMAGE:** The Texas citrus mite primarily feeds on the upper surface of leaves. Feeding can cause stippling and leaf discoloration, and under high populations, can cause some leaf abscission; although this is not common in Arizona. However, under high populations Texas citrus mite will often move to the fruit where feeding may result in rind scarring. Damage is usually most severe on the southern portion of trees where the mite populations tend to be highest.

**MONITORING:** Citrus should be monitored for Texas citrus mites beginning at petal fall though June. Currently there is no action threshold for Texas citrus mites. It is probably not necessary to treat infestation relegated to the foliage, but in Florida they recommend a miticide if populations reach 15 mites per leaf. In Arizona, we suggest that action may be advisable once the 10% of the fruit has mites.

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