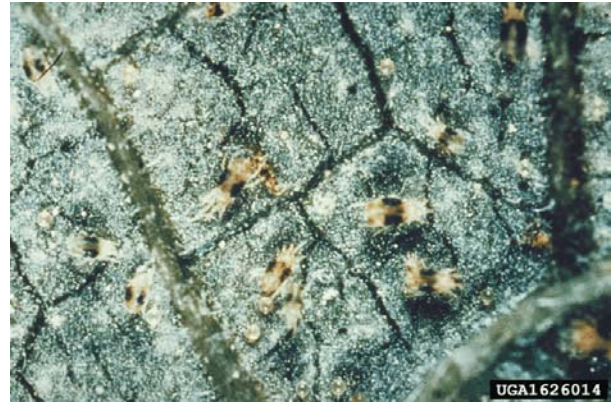


**Spider mites** (Order: Acari, Family: Tetranychidae)  
**Twospotted spider mite** (*Tetranychus urticae* (Koch))  
**Carmine spider mite** (*Tetranychus cinnabarinus* (Boisduval))  
**Tumid spider mite** (*Tetranychus tumidus* (Banks))

### Description:

**Adult:** Adults are 0.4 to 0.5 mm long, with females being slightly larger, more robust (oval shaped), and more plentiful. Adults have four pairs of legs with long hairs on the legs. Actively feeding females are clear to greenish with dark spots on the body (except tumid mite). The tumid mite female is usually reddish with dark markings. Adult female carmine mites are red. Although color and number of spots is frequently used for rough identification of spider mite species, accurate identification requires microscopic evaluation by an expert.



Twospotted spider mites.

**Immature stages:** Eggs are whitish, almost clear, and spherical with a diameter of 0.1 to 0.15 mm. The first instar is called a larva. It is colorless when it hatches, but turns yellowish or pinkish after feeding. The larva has three pairs of legs. There are two nymphal instars after the larva called the protonymph and deutonymph. These both have 4 pairs of prolegs. The larval and nymphal stages each last 1 to 3 days depending on temperature. Near the end of each stage, there is a non-feeding resting stage called the nymphochrysalis or protochrysalis (between the larva and protonymph), the deutochrysalis (between the two nymph stages) and the teliochrysalis (between the deutonymph and adult stages).

### Biology:

**Life cycle:** Spider mites generally feed and reproduce on the lower leaf surface, but when populations are high will readily infest the upper leaf surface. Spider mites complete a life cycle in 8 to 12 days at 30° C and in about 17 days at 20 degrees. Overwintering may occur on many weed hosts in warmer climates, but females may also overwinter in debris in a state of diapause. Eggs are laid singularly, with females depositing 5 to 6 eggs per day, with a total of 60 to 100 eggs per female. Eggs hatch in 3 to 6 days depending on temperature. Larva and nymphs complete development in 4 to 9 days depending on temperature and the females have a pre-oviposition period of 1 to 2 days. Adults live about 30 days.



Spider mite webbing on tomato plants in Georgia.

**Seasonal distribution:** Spider mites prefer hot dry conditions, so they tend to increase in population during the summer. They have an extremely wide host range, including numerous weed hosts, and may be present in the field when vegetables are planted, but seldom require control early in the production season. More typically, they build populations later in the season and are likely aided by multiple applications of broad spectrum insecticides which impact natural enemies without controlling spider mites.

### Damage to Crop:

Spider mites generally feed on the underside of leaves, but will cover the entire leaf surface when

populations are high. They pierce plant cells and withdraw the cell contents. Feeding results in small clumps of dead cells and a speckled appearance of infested leaves. Wilting, leaf deformity, desiccation, and abscission occur with prolonged, high density infestations. Disruption of photosynthesis results in plant stunting and reductions in yield.

**Management:**

Spider mites are often considered a secondary pest, with damaging populations frequently occurring after application of broad spectrum insecticides (particularly sevin and most pyrethroids). A growing set of data also indicates increased problems with spider mites following soil applications of neonicotinoid insecticides. While use of these products is frequently recommended for other pest situations, when spider mites are present in the field, potential influence on mites should be considered in the decision.