

Insects

Twospotted Spider Mites

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Twospotted spider mites occur as injurious pests on more than 180 host plants, including more than 100 cultivated species. Violet, chickweed, pokeweed, wild mustard and blackberry are common foci from which infestations develop on nearby ornamental plants.

Spider mites are not actually insects. More closely related to spiders than insects, they derive their name from the thin web that some mite species spin.

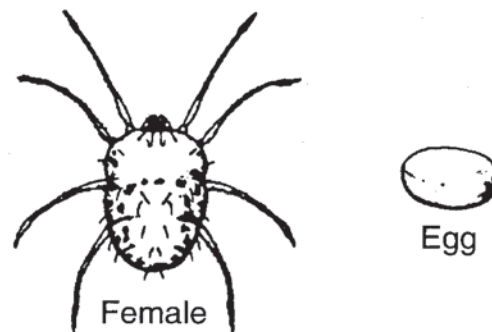
Mites pierce the outer leaf surface with their sharp, slender mouthparts as they feed. When they extract the sap, the tissue of the leaf collapses in the area of the puncture. Soon a chlorotic (yellow) spot forms at each feeding site. After a heavy attack, an entire plant may become yellowed, bronzed, partially defoliated or completely killed. The mites may spin so much webbing over the plant that it becomes entirely covered.

Spider mites pass through four separate life stages — egg, larva, nymph and adult. The eight-legged adult can be rusty green, greenish amber, yellowish, brick red or rust to almost black. There are usually two (sometimes four) black spots on the top of the 0.5-0.7 mm long mites. A good hand lens is needed to see this. The spherical eggs, laid on the leaf, range from transparent and colorless to a milky white or opaque straw yellow.

The six-legged larva is colorless, pale green or yellow. Similar to the adult except in size, the nymph has eight legs and is pale green to brownish green. Large spots of black may develop on each side.

Twospotted mites overwinter in the soil or on host plants. In mild weather, they continue to feed and lay eggs, although development in the winter is much slower than in the summer.

Adults mate soon after emerging in warm weather, and females soon begin to lay eggs. Each female may lay more than 100 eggs in her lifetime and up to 19 eggs per day. Development is rapid in hot, dry weather. Each generation may take as many as 20 or as few as five days to mature.



Control Measures

Inspect plants for mites at frequent, regular intervals (at least once each week). Observe the plants for webbing between the leaf petiole, stems and leaf edges. Observe the plant for chlorotic discoloration, stippling and eggs, or cast skins on the



underside of the leaf. A hand lens or other magnification is a useful aid for seeing mites on the foliage.

Hold a white card under the plant foliage. Shake the foliage to dislodge mites onto the card. Circle the small dots that appear with a pencil mark. Hold the card in the sunlight and observe. Mites will crawl out of the circles. Dust and dirt will not.

Spray the undersurfaces of leaves with miticide at five-day intervals until mite infestations are suppressed. Usually two to three applications are required. Do not use horticultural oil (SunSpray Ultra-Fine Oil) more than once per week or apply captan two weeks before or after an oil spray. Some miticides can only be used once per year or need to be applied early in the season at specific growth stages of the host plant. Follow label directions. Do not apply any miticide to ornamental, vegetable or fruit plants that are not listed on the label.

Crop	Miticide
Ornamental Plants (other mite pests include spruce spider mites, southern red mites and boxwood mites.)	Avid 0.15 lb/gal EC (do not use on ferns or Shasta daisies), Kelthane 50% WSP, Hexygon 50% WP, Talstar Lawn & Tree 7.9% F, horticultural oil (SunSpray Ultra-Fine Oil), insecticidal soap (Safer Insecticidal Soap, M-Pede), Sanmite 75% WSB, Isotox IV (8% acephate plus 0.5% hexakis), Ornamate 30% WSB, Floramite 50% WP, Conserve 1 lb/gal SC. Use Conserve SC with a nonionic spray adjuvant such as DYNE-AMIC (spruce spider mite and twospotted spider mite only) or Ovation SC (twospotted spider mites and European red mite only).
Apple (other mite pests include European red mites)	Danitol 2.4 lb/gal EC, Kelthane 50% WSP, Carzol 92% SP, Apollo 4 lb/gal SC, Vendex 50% WP, Savey 50% W, Agri-Mek 0.15 lb/gal EC plus horticultural oil (0.25% or 1 gal/acre), Pyramite 60% WP, wetttable sulfur, Vydate 2 lb/gal L or horticultural oil.
Peach	Apollo 4 lb/gal SC, Carzol 92% SP or Vendex 50% WP.
Strawberry	Kelthane 50% WSP, Danitol 2.4 lb/gal EC, Agri-Mek 0.15 lb/gal EC or Brigade 10% WSB.
Grape	Kelthane 50% WSP, Danitol 2.4 lb/gal EC or Vendex 50% WP.
Blackberry, raspberry	malathion 57% EC.
Tomato	Agri-Mek 0.15 lb/gal EC or Danitol 2.4 lb/gal EC.
Pepper	Agri-Mek 0.15 lb/gal EC.
Snap bean, lima bean	Digon 400 4 lb/gal EC, Dimethoate 2.67 lb/gal EC, Capture 2 lb/gal EC or Dibrom 8 Emulsive 7.5 lb/gal EC.
Cucumber, pumpkin, squash	Kelthane 50% WSP, Agri-Mek 0.15 lb/gal EC
Melons and watermelon	Danitol 2.4 lb/gal EC, Kelthane 50% WSP, Agri-Mek 0.15lb/gal EC.

Precautionary Statement

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store, or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

Disclaimer Statement

Pesticides recommended in this publication were registered for the prescribed uses when printed. Pesticides registrations are continuously reviewed. Should registration of a recommended pesticide be canceled, it would no longer be recommended by the University of Tennessee.

Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others which may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.

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