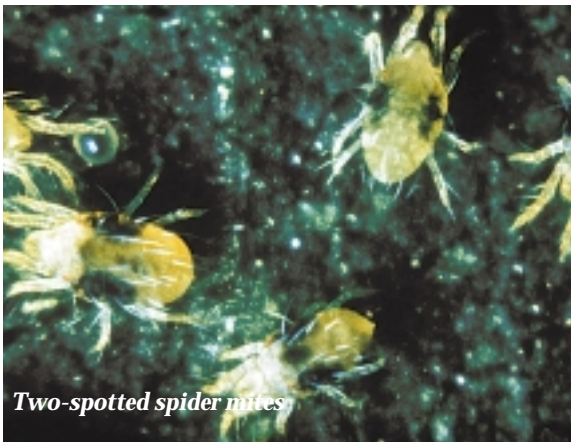




GROWER 101:

# Scouting for Mites part II



Two-spotted spider mites



Cyclamen

Now that you know how to implement a scouting plan, it's time to start scouting with help from this second article of a two-part series.

By Kevin Donovan

One of the keys to a successful scouting program is being able to accurately identify the pests and diseases you come in contact with. The following is a review of the most prevalent greenhouse mites.

**Two-spotted Spider Mite (*Tetranychus urticae*):** The two-spotted spider mite is the most commonly encountered greenhouse mite. Less than a millimeter in size, the two-spotted spider mite normally has two distinct spots on each side of the body beginning at the forward part of the body and ending just beyond half of the body length. The larval stage has six legs, whereas adults have eight. Spider mites can attack virtually every ornamental crop, including most species of foliage plants.

Indications of mite damage include a stippling or mottling, yellowing or bronzing of foliage causing early leaf drop. Where severe infestations exist, plants may be covered with the characteristic webbing produced by these mites, thus the term spider mite.

Spider mite infestations occur most often during hot, dry conditions and develop faster on water-stressed plants. Infested plants should be marked and re-inspected with a hand lens several days after treatment to evaluate control.

Two-spotted spider mites commonly migrate via wind and plant material. Weeds can serve as an alternative food source and should be eradicated. Should any of these conditions exist near your greenhouses, appropriate measures should be taken to prevent and/or eliminate them.

**Cyclamen Mite (*Steneotarsonemus pallidus*):** This tiny mite hides in protected locations on the host plant, usually buds and flowers. They are serious pests of a number of flowering and foliage plants, including cyclamen, African violet, ivy, snapdragon, chrysanthemum, begonia and fittonia. The petals of infested buds often

become so curled and distorted that plants are unmarketable.

The injury they cause can resemble thrips feeding damage, phytotoxicity or physiological disorders.

To avoid inappropriate control actions, plants that display curled, distorted leaves should be carefully examined, using a hand lens, for the presence of cyclamen mites.

**Lewis Mite (*Eotetranychus lewisii*):** The Lewis mite is a slender, tiny, straw or greenish-colored mite with several small spots along each side of the body and is smaller than the two-spotted spider mite. Like the two-spotted spider mite, it infests greenhouses and is particularly injurious to poinsettias. Lewis mite feeding causes leaf stippling and yellowing. Upper leaf surfaces usually display a mottled or speckled appearance. These mites also produce visible webbing, which can completely cover the poinsettia's flowers and leaves. Infestations must be detected and treated before leaves begin dropping off the plants.

**European Red Mite (*Panonychus ulmi*):** The European red mite is brownish-red and elliptical in shape with four rows of spines that run down its back. It is about one-eighth the size of a pinhead. It attacks deciduous shade trees and fruit trees, as well as shrubs, resulting in leaf drop.

European red mites winter as bright red eggs laid in clusters on twigs and branches of small trees. Frequently the twig crevices and scars seem to be covered with red brick dust. They develop from newly hatched nymph to adult in approximately 20 days at 55° F and sometimes as quickly as four days at 77° F.

**Southern Red Mite (*Oligonychus ilicis*):** Southern red mites are typically found on outdoor-grown woody ornamentals such as azalea, camellia and Japanese Holly. This mite species is most active in cool weather, with the most serious infestations usually occur-

ring in fall and spring. The Southern red mite reproduces rapidly then becomes almost inactive in winter and summer. Generally, summer populations are controlled predaceous insects and mites.

The female adult has a dark reddish or brown abdomen, pinkish or red cephalothorax and a pale mid-stripe. The male resembles the female but is smaller in size, usually darker in color and lacks the pink or red color.

**Spruce Spider Mite (*Oligonychus ununguis*):** Spruce spider mites are tiny and almost impossible to detect with the naked eye. When young, they are yellow-green, turning grayish-black at maturity. They reproduce rapidly with eggs that are reddish-brown. Spruce spider mites feed on many conifers, including: spruce, pine, cedar and yew. Indications of mite damage include yellow stippling, yellow foliage and dieback. Spruce spider mites are most active in the cool weather of spring and fall, with greatest damage occurring from March to June. Spraying is recommended

## SCOUTING EQUIPMENT

- 10x hand lens, adjustable headband-mounted magnifier or 2-x4-inch magnifying glass
- Books with pictures for proper identification of pests
- Maps of greenhouses
- Scouting reports and forms
- Flagging tape or colored flags to mark indicator plants

Please note: Insect monitoring cards, also known as sticky cards or sticky traps, are NOT an effective tool for mite detection.



*Euro red mite*



*Southern red mite*



*Lewis mite*



*Spruce spider mite*

*Spruce spider mite photograph courtesy of David Shetlar, Ohio State University, Entomology Extension. Lewis mite photograph courtesy of Dr. Richard Lindquist, Ohio State University. All others courtesy of Uniroyal Chemical/Crompton Corporation.*

### highly susceptible HOST PLANTS

Mites can infect a wide variety of host plants, however, several of the following species are particularly susceptible to mite infestation. Ideally, the following plant species should be scouted twice weekly throughout the production season.

- Roses
- Marigolds
- Hedera (Ivy)
- Pittosporum
- Ficus
- Hibiscus


when 10 or more mites can be tapped from the branch and no beneficials are found.

### CONTROL

Each week, the grower and scout should review the scouting information gathered from plant inspections and data from indicator plants. This data will help prioritize a strategy. Looking at trends over a period of time will help you decide if controls are needed.

When control of a pest population is necessary, there are many control activities available. The specific method selected should be

based on the type of pest causing the problem and the severity of the loss if the desired control is not achieved. Control methods fall into four basic groups:

- *Cultural practices:* in general, any activity that promotes plant health and vigor.
- *Mechanical methods:* crop management activities often performed by hand labor in greenhouse crops.
- *Biological controls:* utilizing predators, parasites and pathogens to manage pest populations.
- *Chemical controls:* when cultural and mechanical methods cannot provide the desired control. 

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