



Managing Broad Mites on Greenhouse Crops

Broad mites (*Polyphagotarsonemus latus*) can cause serious damage to a variety of greenhouse crops. These mites are extremely small which makes it difficult to detect the mites before severe feeding damage is evident. This tropical or subtropical species generally doesn't survive outdoors in the Northeast, so it may be introduced on vegetatively propagated material. Damage may be more pronounced on certain plant species or on one or two cultivars. The target audience of this fact sheet is commercial greenhouse growers.

Description

Broad mites are colorless-to-pale brown mites with a white stripe down the center of their backs. Broad mite eggs are elliptical but are covered by small whitish bumps that look like rows of diamonds. After eggs hatch, the distinctive dots on the surface persist. Look on the underside of the leaf or stem surface for the broad mite eggs. With practice and good lighting, it is possible to detect the eggs with a 20x hand lens, but a microscope is preferred.

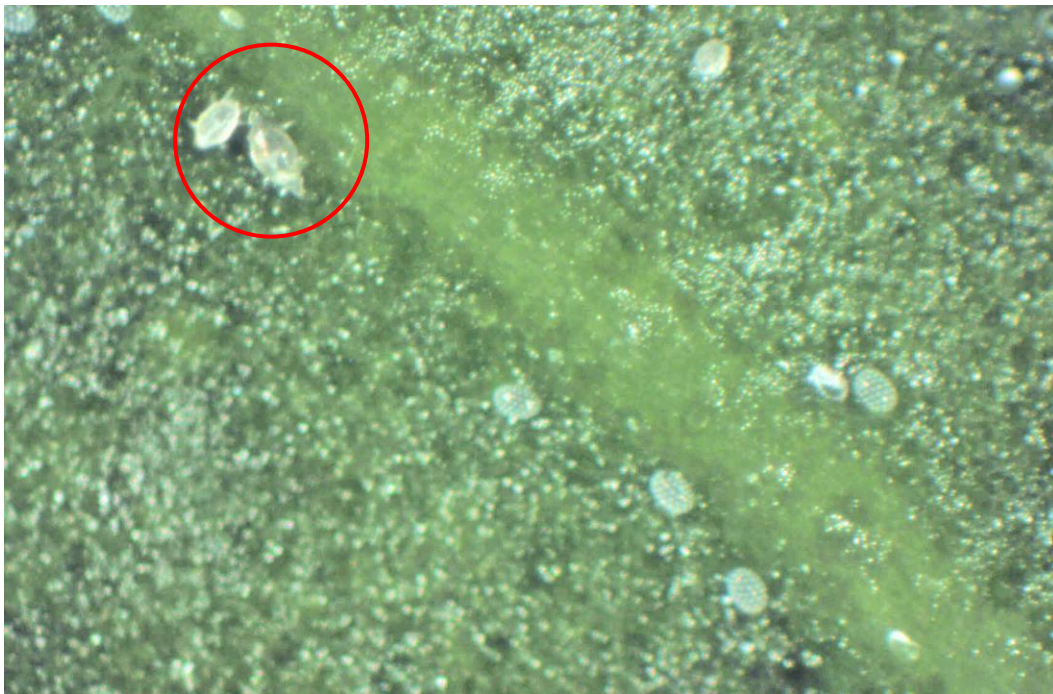


Figure1: The elliptical, translucent, colorless broad mite eggs are covered with whitish bumps. Broad mite adults are within the red circle. Photo by L. Pundt

Feeding Damage

Broad mites have a wide host range and can feed on ageratum, begonia, chrysanthemum, cyclamen, dahlia, gerbera daisy, gloxinia, hibiscus, English ivy, jasmine, impatiens, New Guinea impatiens, lantana, marigold, snapdragon, verbena, and zinnia. Broad mites can also infest vegetable bedding plants, especially peppers.

They may be spread among a crop via air currents, plant-to-plant contact, by workers handling infested plants and then touching uninfested plants and hitching on whitefly adults.

- Broad mites inject a toxin from their saliva as they feed.
- Leaves become twisted, hardened, and distorted with bronzed lower leaf surfaces. Young terminal buds can be killed, especially if high broad mite populations are present. Broad mite feeding prevents normal leaf expansion and causes a downward puckering along the leaf edges.
- Broad mite injury may resemble herbicide injury, certain nutrient deficiencies (boron or calcium), cold temperature injury, or several physiological disorders. Broad mite injury often occurs suddenly and may be spotty in distribution. This damage may persist long after the mites are gone.



Figures 2 & 3: Outer leaf edges turn downward, and terminal buds are killed on pepper (on left) and salvia (on right). Photos by L. Pundt



Figures 4 & 5 & 6: Feeding damage to jasmine (far left), English ivy (middle), and dahlia (on right). Photos by L. Pundt



Figures 7 & 8: Feeding damage to New Guinea impatiens (on left) and begonias (on right). Outer leaves turn downward, and growing point is killed. Photos by L. Pundt

Life Cycle and Biology

High temperatures of 70° to 80° F and 80 to 90% relative humidity favor the development of broad mites. Female broad mites lay from 30 to 75 eggs on the leaf surface over an 8 to 13-day period. Larvae hatch in 2 to 3 days and begin feeding. Broad mites can complete their life cycle from egg to adult in as little as one week's time.

Scouting

- Broad mites are very hard to see without the aid of a microscope.
- Regular inspection of crops for their feeding damage is the best way to detect infestations.
- Broad mites often feed on the underside of leaves.
- Leaves near the growing points or collected during humid conditions are more likely to have mites present.
- If characteristic symptoms are seen, inspect samples under a dissecting microscope. See the Video [Identifying Broad Mites and Their Damage](#) on the Greenhouse Channel on You tube for more tips on identification and scouting for broad mites.

Prevention

Rogue infected plants as soon as possible. If detected early, it may be feasible to discard a small number of infested plants. Broad mites can be easily spread to healthy plants by workers' hands or clothing. During scouting and other routine tasks, enter broad mite-infested areas last.

Biological Control

The commercially available predatory mites, *Neoseiulus cucumeris*, *Neoseiulus californicus* and *Amblyseius swirskii*, may be used preventatively against broad mites. These generalist predatory mites also feed upon pollen. However, these predatory

mites must be released before populations are high and plant damage occurs. When growers are placing *N. cucumeris* sachets in thrips-prone crops they often also place these sachets in crops that are prone to broad mites. Consult with your biological control supplier for more information on release rates.

Chemical Control

Several different miticides are labeled for broad mites. If possible, select materials with translaminar properties that move through the leaf. High volume applications and repeat applications are frequently necessary to achieve adequate control. Not all miticides labeled for spider mites are labeled for broad mites. See [New York and New England Management Guidelines for Greenhouse Floriculture and Herbaceous Ornamentals](#) for more specific information.

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