

BROAD MITE MANAGEMENT

Broad mites (*Polyphagotarsonemus latus*) are members of the Tarsonemid mite family and are very difficult to manage in greenhouse environments. They are virtually impossible to see with the naked eye and have a wide host range. Scout incoming young plants and unrooted cuttings (URCs) diligently, source plant material from trusted suppliers, and act quickly if symptoms of broad mite damage appear in your crops.

Pest Identification

Broad mites are oval shaped, and females are ~0.25 mm in length and while males are ~0.13 mm. Comparatively, they are ~1/4 to 1/8 of the size of two-spotted spider mites (*Tetranychus urticae*).

- Due to broad mites' incredibly small size, it is critical to scout suspect material using at least a 40x magnification hand lens or dissecting microscope.
- Adults and nymphs are translucent with a yellow- to greenish hue. Eggs are translucent to milky-colored and covered in small white protrusions that look like rows of white spots.
- They congregate at meristematic tissue and between newly developed leaves and flower buds. Eggs are typically found on the undersides of leaves along midribs and primary veins.
- Damage caused by feeding is due to a toxin in their saliva. Affected tissues often become brittle, distorted, curled, thicker than normal, and bronzing or general discoloration may occur.
- Symptoms of broad mite feeding often mimic nutritional disorders like calcium or boron deficiency, high substrate EC, or herbicide injury.

Life Cycle

Broad mites have an egg, larval, nymphal, and adult life stage. Females can lay ~30–75 eggs over their lifetime and broad mites can complete a life cycle in ~ 6–10 days under favorable conditions (warm temperatures; high relative humidity).

- The high volume of moisture applied to URCs during propagation can slow their reproductive cycle, impede scouting efforts, and result in infestations going undetected during liner production.
- Cool temperature setpoints from late winter to early spring in many North American greenhouses further slow their population growth. This contributes to why broad mite infestations often go unnoticed until early- to mid-March.



Fig 1A & B. Broad mite (*Polyphagotarsonemus latus*; top) eggs (circled) are translucent to milky colored with small white spots and can often be found along the midribs or primary veins on the undersides of leaves. Even under high magnification, they are very difficult to spot. Adult broad mites (bottom) are slightly larger than eggs and often have a pale green- to yellowish tint. Photo credit: [A] [Ohio State University CFAES](#) & [B] [Virginia Cooperative Extension](#)

Management Strategies

Due to their small size and ability to evade miticide sprays, it is highly advisable to have a preventative IPM strategy in place for broad mites.

- Heavily scrutinize incoming URCs or vegetatively propagated liners of “magnet crops” like *Begonia*, *Dahlia*, *Hedera*, *Impatiens*, and *Lantana*. While broad mites can feed on a wide range of crops, these are some of their preferred genera that they often gravitate to first.
- Growers who utilize conventional miticide-based IPM strategies should integrate a preventative miticide application into their program early in the crop cycle – especially for higher-risk crops going into hanging baskets (HBs). It is easier to achieve thorough spray coverage on smaller plants and before they are hung up out of the normal line of sight.
- If your IPM strategy uses biological control agents (BCAs), ensure that appropriate predators are released immediately when new plant material arrives. Place predatory mite sachets generously in mixed-species containers, large pots, and HBs, as these types of plantings are harder to scout thoroughly on a weekly basis. Also, consider implementing URC or liner dips to help catch stowaways before material is planted and alleviate the pressure on your BCAs.

Control Measures for Broad Mites

Before you apply anything to control broad mites, read the label and follow all instructions regarding the number of times a given active ingredient may be applied to a single crop. Also be sure to:

- Use controls that target multiple life stages and rotate IRAC groups between applications.
- Use a combination of systemic, translaminar, and contact miticides to ensure full coverage.

Pesticides and Biocontrol Agents (BCAs) for Broad Mites

Active Ingredient	Available In (Trade Name)		Life Stage Affected			IRAC Code	Site Activity ¹	App. Method ²
	US	Canada	Egg	Immature	Adult			
abamectin	Avid	Avid		x	x	6	C,T	SP
chlorfenapyr	Pylon	Pylon		x	x	13	C,T	SP
bifenazate + abamectin	Sirocco	-	x	x	x	6+20D	C,R,T	SP
acequinocyl	Shuttle-O	*N/A	x	x		20B	C,R	SP
fenazaquin	Magus	*N/A	x	x	x	21A	C	SP
fenpyroximate	Akari	FujiMite	x	x	x	21A	C	SP
pyridaben	Sanmite	*N/A	x	x	x	21A	C	SP
spiromesifen	Judo, Savate	Forbid	x	x		23	C,T	SP
spirotetramat	Kontos	Kontos	x	x		23	C,T,S	SP, DR
<i>Effective BCAs for Broad Mite Control</i>								
<i>Amblyseius andersoni</i>	<-- Available in both US and Canada; trade names vary by supplier		x	x	x	N/A	P	---
<i>Amblyseius swirskii</i>			x	x	x	N/A	P	---
<i>Neoseiulus californicus</i>			x	x	x	N/A	P	---
<i>Neoseiulus fallacis</i>	-->		x	x	x	N/A	P	---

*N/A - while the A.I. is available in Canada, it is not labeled for greenhouse control of broad mite

¹Site Activity: C = contact only, R = residual, T = translaminar (locally systemic), S = systemic, P = predator

²App Method: SP = spray, DR = drench

Not all commercially available products may be listed. The use of brand names or commercial products listed does not imply endorsement by Ball Horticultural Co. or discrimination against similar products not mentioned. This table is not intended as a substitute for the product label. Obtain current information about usage regulations before purchasing or applying any chemical.

---LISTED PRODUCTS MAY NOT BE REGISTERED IN ALL STATES OR PROVINCES---