

LEWIS MITE MANAGEMENT

Lewis mites (*Eotetranychus lewisi*) are not considered a major pest of floriculture crops, but they appear in North American greenhouses periodically – often on poinsettias. Infestations early in the crop cycle can be managed with minimal impact to crop quality, but unmanaged populations can create significant challenges for growers as crops approach finish. Scout your poinsettias thoroughly and ramp-up control measures ASAP if signs of Lewis mites appear.

Pest Identification

Lewis mites are ~0.3 mm in length at mature size and range from green- to yellowish in color as immatures, but develop to a light orangish color as they mature.

- Unlike two-spotted spider mites (TSSM; *Tetranychus urticae*), Lewis mites lack the (proportionally) large, dark-colored spots on their abdomens or other eye-catching identification traits.
- Due to their size, magnification is necessary to scout for Lewis mites effectively. Use at least a 20x magnification hand lens when scouting suspicious plants.
- Lewis mites tend to congregate along leaf veins or edges as populations grow. Eggs are laid on the undersides of leaves and start off clear in color but develop to a milky white color before they hatch.
 - Stippling damage caused by Lewis mites is often faint in the early stages of an outbreak and mimics mild chlorosis in poinsettias.
 - Since feeding is frequently concentrated along veins as populations grow, many growers mistake these symptoms for mineral nutrient deficiency symptoms.

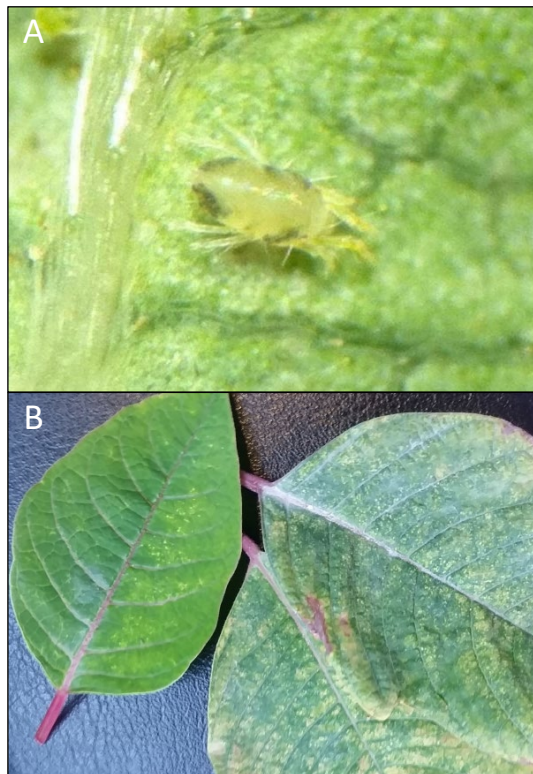


Fig 1A & B. Lewis mites (*Eotetranychus lewisi*; top) are almost impossible to see with the naked eye. Under magnification, small dark-colored spots can be observed along the sides of their abdomens. Damage caused by Lewis mites (bottom) is often confused with mineral nutrient deficiencies. Minor damage to newer growth (bottom left) is easily dismissed or overlooked. Photo credit: [A] [UCANR](#) & [B] [Judy Colley, Plant Products via ONfloriculture](#)

Life Cycle

Lewis mites have one larval and two nymphal stages before they mature into adults.

- They can complete their life cycle in ~ 14 days at an average daily temperature of ~77 F (25 C). In contrast, TSSM can complete their life cycle in as few as ~3 days under optimal temps.
- Adult Lewis mites lay ~60–90 eggs per month; much slower than TSSM, which can lay ~100 eggs in 10 days.
- The comparatively slow life cycle of Lewis mites contributes to why populations often go undetected until crops are mature. Once populations reach a critical mass, webbing is visible, and damage is severe, affected plants may be unsalable.

Management Strategies

Due to the sporadic incidences of Lewis mite outbreaks, it's not typical for growers to implement dedicated preventative measures for them.

- Growers who utilize conventional insecticide-based IPM strategies should lean on early scouting and detection efforts to prevent major damage or losses. Implement an appropriate miticide spray rotation ASAP when a Lewis mite infestation is confirmed.
- If your IPM strategy focuses on the use of biological control agents (BCAs) and conventional miticide spray are necessary to curb an outbreak, consult your BCA supplier(s) to develop measures that:
 1. Knock down Lewis mite pressure quickly/effectively, and
 2. Minimizes negative impacts to BCAs that manage other target pests in your operation.

Control Measures for Lewis Mites

Before you apply anything to control Lewis mites, always 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,
- Rotate IRAC groups between every miticide application, and
- Use a combination of systemic, translaminar, and contact miticides to ensure full coverage.

Pesticides and Biocontrol Agents (BCAs) for Lewis 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
etoxazole***	TetraSan	TetraSan	x	x		10B	C,T	SP
fenbutanin oxide	Vendex	Vendex		x	x	12B	C,R	SP
acequinocyl	Shuttle	Shuttle	x	x		20B	C,R	SP
bifenxate	Floramite	Floramite	x	x		20B	C,R	SP
fenpyroximate	Akari	FujiMite	x	x	x	21A	C	SP
spiromesifen	Savate	Forbid	x	x		23	C,T	SP
spirotetramat	Kontos	Kontos	x	x		23	C,T,S	SP, DR
isocycloseram	Vykenda	---	x	x	x	30	C, I	SP

<i>Ambylesius andersoni</i>			x	x	x	N/A	P	---
<i>Neoseiulus californicus</i>	<-- Available in both US and Canada; trade names vary by supplier -->		x	x	x	N/A	P	---
<i>Neoseiulus fallacis</i>			x	x	x	N/A	P	---

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

²App Method: SP = spray, DR = drench

*****Do NOT apply etoxazole (TetraSan) to poinsettias after bract formation or phytotoxicity will likely occur.*****

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