


Chemical Control of Mites on Ornamental Plants



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Challenges in Mite Management

- Mites feed on the leaves, fruit and tissues of nearly all species of ornamental plants
- The life cycle of mites can be very short (4 days) so populations can build rapidly
- Extremely high numbers of mites can be found on plant surfaces
- Mites are not usually detected until plants are damaged
- Environmental conditions can cause mite populations to explode
- Mites can lay several hundred eggs

Challenges in Mite Management

Landscape

- Less availability of products
- Fewer application methods
- Landscape diversity
- Obtaining good coverage

Production

- Expense
- Re-entry times
- Worker safety
- Different production systems (greenhouse, shadehouse, outdoors, container, field, etc)

Challenges in Mite Management

Palms

- Application of product
 - Plant height
 - Systemic products (time of movement to the foliage)
 - Injection (no healing at the injection site)
- Diversity of palms
- Native areas or other areas not suitable for pesticide application

Typical Mite Damage

- Initial damage appears as yellow or gray stippled patterns
- Severe damage includes plant yellowing, necrosis, and defoliation; overall appearance may be “bronzed”
- Presence of webbing (spider mites)

Monitoring for Mites

- Monitor regularly and often (every 7-10 days for problem plants)
- Monitor thoroughly
 - Use a hand lens
 - Shake the foliage over a white sheet of paper
 - When infestations are detected; monitor downwind
 - Check the underside of leaves (low populations)
- Many times mite damage is more severe during dry weather
- Some insecticides can flare mites

Insecticide Applications

- Inspect plants frequently to determine when and where to apply insecticides
- Apply insecticides before severe damage
- Thorough coverage (underside of leaves) is necessary
- The best mite control is not detrimental to natural enemies or non-target organisms

Miticides/Insecticides

- All these products can be used for control of mites
- Use the label for the correct site (i.e. production; landscape etc)
- Note any other precautions/restrictions on the label
- Systemic versus contact
- Effect on non-target (especially predatory mites)

Miticides/Insecticides

Abamectin (MOA 6)	Avid	<ul style="list-style-type: none">-Broad-Cyclamen-Eriophyid-False spider-Two-spotted-Mites (general)
Bifenthrin (MOA 3)	Talstar	<ul style="list-style-type: none">- Broad- Eriophyid- False spider- Two-spotted
Bifenazate (MOA 2)	Floramite	<ul style="list-style-type: none">- Red mite;- Two spotted

Miticides/Insecticides

Chlorfenapyr (MOA 13)	Pylon	-Broad -Cyclamen -Eriophyid -False spider -Two-spotted
Clofentezine (MOA 10A)	Ovation	- Two-spotted
Deltamethrin (MOA 3)	DeltaGard	- Mites (general)
Dicofol (MOA 20)	Kelthane	- Broad - Cyclamen - Red -Two-spotted

Miticides/Insecticides

Etoxazole (MOA 10B)	Tetrasan	-Two-spotted - Red mite
Fenbutatin-oxide (MOA 12)	Vendex	- Two-spotted
Fenpyroximate (MOA 21)	Akari	-Red mite -Two-spotted
Fluvalinate (MOA 3)	Mavrik	-Two-spotted - Mites (general)

Miticides/Insecticides

Hexythiazox (MOA 10A)	Hexygon	- Two-spotted
Pyridaben (MOA 21)	Sanmite	- Broad - Two spotted
Propargite (MOA 12)	Ornamite	- Red mite - Two spotted
Spinosad (MOA 5)	Conserve	- Red mite - Two spotted
Spiromesifen (MOA 23)	Forbid Judo	-Broad -Cyclamen -Eriophyid -False spider -Two-spotted

Biopesticides

Sulfur		-Broad
Horticultural oil		-Cyclamen
Insecticidal soap		-Eriophyid
Neem oil		-False spider
		-Two-spotted
		- Mites (general)

Management of Red Palm Mite

- **Cultural Control**

- If necessary, prune off the most heavily infested (damaged) plants or plant parts, double bag any plant material that you dispose of before moving it off your property place. Place the double bagged material in the garbage. DO NOT move infested plants or plant material as it facilitates spread of this pest to unaffected areas. If you have a commercial tree or lawn maintenance company pruning your landscape, have them follow these guidelines or at least have them cover their vehicles prior to leaving your property.

Management of Red Palm Mite

- **Biological Control**

- The good news is that the United States Department of Agriculture and the University of Florida have identified potential predators that may help manage this new and invasive species. This work is in the early stages.

Management of Red Palm Mite

- **Homeowner Chemical Control**

- Very few pesticides are available to the homeowner for management of this pest. Avoid using broad-spectrum insecticides because they probably will not kill this mite and they may negatively affect any potential beneficial insects or mites. Insecticidal soaps and horticultural oils are the best options when applications are needed to prevent damaging population levels but they only work if you can contact the mites with them. It may take specialized equipment to reach all infested parts of a large palm. Private pest control companies will have access to and the appropriate licenses for applying the pesticides known to be effective.

Insecticide Results

Puerto Rico

Product	Tradename	Rate Used	Label Rate	MOA
Spiromesifen	Forbid 480 SC	2 fl oz/A	2-4 fl oz/A	23
Dicofol	Kelthane 50WS		1/2 to 1 lb/100 gallons	20
Acequinocyl	Shuttle 15 SC	8 fl oz/100 gallons	6.4 -12.8 fl oz/100 gallons	20
Bifenazate	Floramite SC	5.8 oz/100 gallons	4-8 oz/100 gallons	2
Etoxasole	Tetrasan 5WG	28 fl oz/100 gallons	8-16 fl oz/A	10B
Milbemectin	Ultiflora	8 oz/100 gallons	8 -16 oz/100 gallons	6

Significant reduction in red palm mite after 21 days.

Miticides Labeled in Florida

Product	Trade name	Label Rate Range (per 100 gal)	Greenhouse and Nursery Ornamentals	Landscape Ornamentals	MO A
Spiromesifen	Forbid 480 SC	2-4 fl oz	No	Yes	23
	Judo	2-4 fl oz	Yes	No	23
Acequinocyl	Shuttle 15 SC	6.4 – 12.8 fl oz	Yes	No	20
Bifenazate	Floramite SC	4-8 fl oz	Yes	Yes	2
Etoxazole	TetraSan 5WG	8-16 oz	Yes	Yes	10B
Milbemectin	Ultiflora	8-16 fl oz	Yes	No	6

Miticides with Activity Against Tenuipalps on Ornamentals

Product	Tradename	Rate on Label	MOA
Sulfur	Thiolux 80 DF	15 lb/A	NR
Pyridaben	Sanmite	4 oz/100 gal	21
Fenbutatin oxide	Vendex 50 WP	2 lb/A	12B

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