

Spider Mites

Order Acari, Family Tetranychidae

Spider mites are among the most common and serious pests of greenhouse and nursery crops. The two-spotted spider mite, *Tetranychus urticae*, causes the most problems because of its wide host plant range and rapid reproduction leading to quick development of miticide resistant populations. Spider mites are tiny – adults are about 1/50-inch long - and have puncturing–sucking mouthparts. Spider mites are usually found on the undersides of leaves, but may be on/in flowers and other plant parts under heavy infestations. Feeding damage appears as light-colored spots, or stipples on upper leaf surfaces. Heavy infestations can kill plants or cause leaves to drop off, and webbing can cover leaves and flowers resulting in aesthetic injury. Spider mite developmental stages are egg, larva, protonymph, deutonymph, and adult. Development from egg to adult takes about 8 days (77°– 95°F, 25°– 35°C) to 28 days (50°– 68°F, 10°– 20°C). Hot and dry conditions are most favorable. Spider mite development is also affected by the host plant, plant nutrition, leaf age, and moisture. Moisture stressed plants often sustain higher spider mite populations. High moisture slows mite dispersal.

One of the keys to successful spider mite management is early detection of infestations by pest scouting and crop monitoring programs. Eliminate weeds in and around the greenhouse or nursery that may harbor spider mites. When possible, control greenhouse temperature and humidity to avoid pest-favorable conditions. Releases of natural enemies of spider mites including predatory mites have been successful in minimizing plant damage in greenhouse situations.



Spider Mite Life Cycle



Adult Female Spider Mite and Egg



Spider Mite Adults and Damage. Photo courtesy of G. Brooks



Heavy Spider Mite Infestation with Webbing



Plant Inspection for Spider Mite Infestation

OHP products registered for control of Spider Mites

OHP Products	Chemical Class	MOA Group	Residual	REI
Ancora®	Microbial Insecticide	UNF	3 to 5 days	4
Floramite® SC	Carbazate	20D	7 to 14 days	12
Kopa™ Insecticidal Soap	Biopesticide - Soaps	UNM	7 to 14 days	12
Notavo®	Tetrazines	10A	21 days	12
Pycana™	Pyrethrins + Oil	3 + UNE	3 to 7 days	12
Sirocco®	Carbazate + Glycoside	6 + 20D	7 to 14 days	12
Shuttle® O	Napthoquinone derivative	20B	14 to 28 days	12
Triact® 70	Clarified hydrophobic extract of neem oil	UNE	3 to 7 days	4

OHP Recipe for Success on Controlling Spider Mites

Application	Rate per 100 gallons	Rate per gallon	Rate per gallon metric	Remarks
1.) Notavo®	2 fl oz as a tank mix 4 - 8 fl. oz as a standalone	1/8 tsp to 1/2 tsp	0.6 mL to 2.4 mL	Effective on immature stages.
2.) Floramite® SC	4 to 8 fl. oz.	1/4 tsp to 1/2 tsp	1.3 mL to 2.6 mL	Rapid activity
3.) Kopa™ Insecticidal Soap ** Alternative treatment and/or tank mix	1 to 2 gallons	1.28 to 2.56 fl. oz.	39 mL to 75 mL	Good coverage is essential. Do not apply more than 3 consecutive applications.
4.) Pycana™ ** Alternative treatment and/or tank mix	1 to 2 gallons	1.28 to 2.56 fl. oz.	39 mL to 75 mL	Good coverage is essential. Do not apply more than 3 consecutive applications.
5.) Sirocco®	3 to 4 fl. oz.	3/16 tsp to 3/8 tsp	1.3 mL to 2.6 mL	Translaminar activity
6.) Shuttle® O	6.4 to 12.8 fl. oz.	2/5 tsp to 4/5 tsp	2 mL to 4 mL	Contact – rapid activity
7.) Triact® 70 ** Alternative treatment and/or tank mix	1/2 to 1 gallons	3 3/4 tsp to 7 1/2 tsp	19.5 mL to 37.5 mL	Use the lower rate in greenhouses.

** Can be used to reduce a high mite population before applying a conventional miticide. Be sure to follow label instructions and precautions if oils are used.

TBS = tablespoon tsp = teaspoon mL = milliliter 1 fl oz = 29.6 mL 1 tsp = 5 mL

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