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Persimilis Mite

Victoria Deren and Karla Adesso

Phytoseiulus persimilis (Persimilis) is a species of predatory mite that exclusively feeds on spider mites. This species has been known to decimate large populations of its prey, as it feeds on all life stages. It is commonly used in integrated pest management plans to control twospotted spider mites (TSSM) in the greenhouse for both crops and vegetables.

Biology of Persimilis:

- Approximately the size of TSSM and can be better observed with a hand lens
- Active and fast moving
- Pear shaped bodies with long legs and shiny orange to red coloring
- Eggs are oval shaped and are 2-3 times larger than that of TSSM
- Specially adapted to navigate spider mite webbing
- Note: TSSM can also develop a reddish color in the winter. Persimilis can be easily differentiated because they lack the two dark spots on either side of the body



Hort Americas, hortamericas.com

Application and Effectiveness:

Adult Persimilis are voracious predators of TSSM and can consume 2-3 adults or several dozen eggs per day. This species can only survive and reproduce on spider mites, so if their prey is absent they will starve. Before ordering, check the underside of leaves for evidence of TSSM. It is suggested to add Persimilis into your pest management plan if you find two or more adults with eggs per leaf.

Orders of Persimilis can be made from distributors of beneficial insects online. Different release methods and quantities are available. Know when your shipment will arrive and be prepared to use them immediately. To prepare your plants for predatory mites, avoid using any pesticides that may harm your beneficial, such as, but not limited to, pyrethrin and spinosad products. Most companies that produce beneficial insects and mites have pesticide compatibility information



(Persimilis adult - left, twospotted mite - center, TSSM egg - top right, Persimilis egg -bottom right)
 Australasian Biological Control, goodbugs.org.au



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to assist growers in selecting pesticides that are compatible with the use of beneficial.

Read all instructions before applying predatory mites. Avoid temperature extremes by applying mites in the early morning or late evening. If mites have been held in a cooler, allow them to acclimate to room temperature for 1 h prior to release. Persimilis is most effective at temperatures around 68°F and 75% relative humidity. If humidity drops below 60% eggs will fail to hatch. When temperatures are above 86°F the predatory mite will often be out competed by its prey. Persimilis must often be reintroduced as it tends to consume all of its prey and then die out.*



BioBee Biological Systems, biobee.com

Suppliers of Beneficial Insects and Mites in North America:**

- Applied Bio-nomics (www.appliedbio-nomics.com)
- Beneficial Insectary (www.insectary.com)
- BioBest (www.biobestgroup.com)
- Koppert (www.koppertonline.com)

*Contact your local extension agent for more information on beneficial mites and insects

** Company names are provided for information purposes only and do not constitute an endorsement by Tennessee State University



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