PREDATOR™ TRAP for Mite Predators

Sixspotted Thrips *(Scolothrips sexmaculatus)*, Stethorus Beetle *(Stethorus punctillum)*

Spider Mites

Description:

Adults:

Adults are amber in color, have eight legs, an oval body shape, and two red eyespots on their abdomen. Living in colonies of hundreds of individuals on the undersides of leaves, the presence of webbing is a distinguishing characteristic to determine presence. Overwintering females are orange to orange red in color.

Nymphs:

Immature forms resemble adults, but they are typically smaller.

Eggs:

Eggs are laid within webbing, spherical and translucent, resembling tiny droplets, and becoming cream colored before hatching.

Left: adult spider mites and eggs, and Right: Webbing produced by spider mites (source: UC IPM Webspinning Spider Mite PMG).

Phenology:

Can reproduce rapidly in hot, dry weather and populations increase from June through September. In favorable conditions, life cycle can be completed in less than a week with 8 to 10 generations per season.

Hosts:

Have been reported on over 300 host plants that include over 100 cultivated plants such as fruit and nut trees, vines, berries, vegetables, and ornamental plants, among others.

Damage:

- Mites damage foliage by sucking contents from leaves causing stippling on leaves. As feeding continues, leaves turn yellow or reddish and drop off.
- High populations cover tree terminals with webbing.
- Crop reduction and reduced vegetative tree growth follows the year after the damage occurs.

Sixspotted Thrips *(Scolothrips sexmaculatus)*

Description:

Adults:

Adults are pale yellow, 0.08-0.12 in (2-3 mm) in length, slender bodied with three dark spots and long fringes on each wing. They thrive in hot, dry conditions and are excellent at navigating within mite webbing.

Nymphs:

Nymphs are translucent white to yellow, smaller versions of adults, and often difficult to distinguish from other thrips species.

Left: adult sixspotted thrips feeding on spider mite eggs. Right: Sixspotted thrips larvae feeding on a mite (source: UC IPM Sixspotted Thrips Identification).

Eggs:

Light in color, minute, and found within plant foliage where they are unlikely to be seen. A female can lay about 200 eggs in her lifetime.

Phenology:

Multiple generations per year. Can rapidly reduce high mite populations, but often populations do not increase until after spider mite populations have become abundant.

Common prey:

Both adults and larvae are predaceous on phytophagous spider mite adults and eggs. Can consume 50 eggs per day at temperatures of 86°F (30°C) and populations can quadruple in one week.

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Stethorus Beetle *(Scolothrips punctillum)*

Description:

Adults:

Commonly referred to as the Spider mite destroyer lady beetle, adults are shiny black in color, about 0.06 in (1.5 mm) in size, oval in shape, and covered with tiny pale hairs.

Larvae:

Larvae are dark gray to brownish and covered with fine hairs.

Eggs:

Eggs are tiny, pale, and oblong in shape and typically laid singly among spider mite colonies.

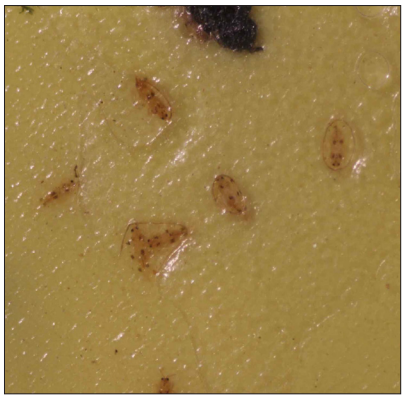
Phenology:

At warm temperatures, can complete one generation from egg to adult in about three weeks. Slow development is often considered a disadvantage, and often populations do not appear until very late in the season, long after they are needed for control of mites.

Left: Adult Stethorus mite destroyer beetle and Right: Stethorus beetle larva feeding on mite (source: UC IPM Natural Enemies Gallery).

Trap Design:

- PHEROCON® PREDATOR™ Trap.



Left: PREDATOR™ Trap for monitoring and Right: Sixspotted thrips on a sticky trap (source: David Haviland, UCCE).

Placement Time:

- Before bud break and spring emergence, no later than April 1.
- Before July 1, focus on monitoring hot spots or areas that develop mites first.

Placement Pattern:

- Within interior of an orchard in a grid pattern.
- Hang from a tree branch, 4-6 ft (1.5-2.1 m) high at eye level.
- Place in locations near other monitoring traps for Navel Orangeworm or Peach Twig Borer.

Trap Density:

- Never use less than two traps.
- Use a minimum of 4 traps per 40 acres (16 ha).

Trap Maintenance:

- Check traps and record capture numbers of sixspotted thrips.
- Replace traps weekly, or when fouled with dust or insect debris.

Monitoring and Treatment Recommendations:

- Monitor mites and predator populations with leaf sampling and PREDATOR™ traps at least weekly from May through August.
- If one thrips is captured per card per week, there is no need to use miticides in April or May.
- Later in the season in June and July, if three thrips are captured per card per week, there is a 50% change that mite populations will be the same or lower within 14 days.
- If six thrips are captured per card per week in June or July, there is a 72.7% chance mite populations will decrease within seven days, and a 96.6% chance mite populations will crash within two weeks (source: David Haviland, UCCE)

Source: Recommendations and certain other sections were sourced from UC IPM Pest Management Guidelines for Thrips and UC IPM Almond Pest Management Guidelines for Webspinning Spider Mites.

Note, always:

- Count and record captures as recommended.
- Change trap as needed.
- Follow recommendations.
- Contact local extension authorities and consultants for regional advice

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