

2023 season memo

Citricola scale

What is citricola scale?

Citricola scale is a soft scale insect that feeds on all aerial parts of citrus, including leaf and twigs, but rarely on fruit. When eggs hatch, crawlers move to the outer canopy leaves and settle mainly on lower side of leaves. Also can be found infesting upper side of the leaves in severe infestation. All life stages, adults, first and second instar feed by sucking plant sap.

Citricola scale can be serious pest in the San Joaquin Valley. Severe infestation may reduce tree vigor, kill twigs, reduce fruit set. Honeydew and sootymold presence on leaves and fruit affects photosynthesis and downgrade fruit in the packinghouse.

What is happening with the Citricola scale population in SJV.

By late July, all of the female scales have died (Figure 1) and the population consists just of 1st instar nymphs on leaves (Figure 2). The 1st instar nymph is the stage most susceptible to insecticides.



Figure 1. Dead female on a twig



Figure 2. First instars on lower side of leaf

Why is citricola scale such a problem in some years?

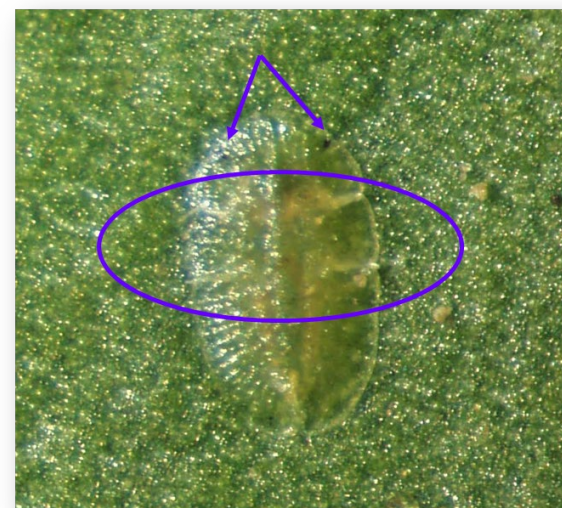
You may have noticed higher number of citricola scales this year. A wet cool spring and mild summer allows (like the one we had in 2023) helps females to create many eggs (1,000 per female), maximizes egg hatch, and helps the nymphs to survive.

Monitoring – July- September Sampling

Begin monitoring in late July for first instars.

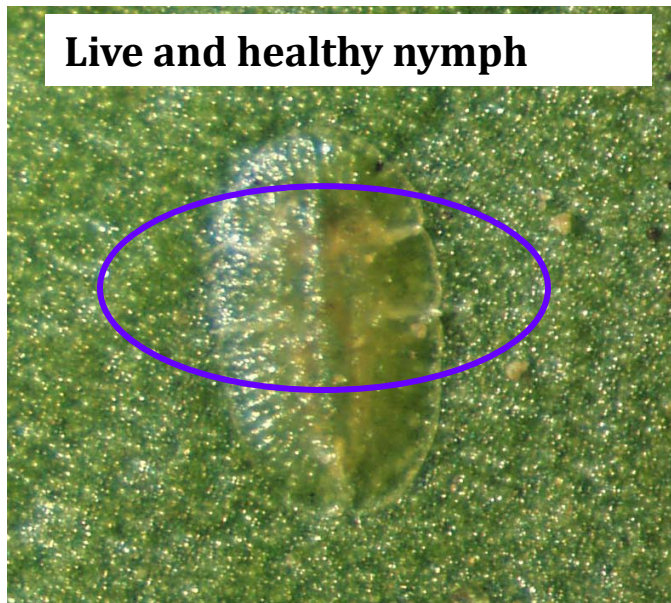
- For monitoring, pick four evenly spaced rows of the block.
- In each row, pick one leaf from the northeast side of 25 trees, and examine for live first instar.
- Count the number of leaves in the 25-leaf sample that are infested with live scale (presence-absence sampling). Record results. [Sampling form for citricola scale monitoring.](#)

How does live nymph (first instar) look like?



A live first instar nymph of citricola scale is oval, translucent, full of fluid. Pair of legs are visible through the body. A pair of eyes can also be seen (eyes at arrowhead). They prefer feeding on lower side on the leaf. Handlens (>10x helps to see them better).

How to tell dead nymphs from live ones?
Dead nymphs are shriveled and darker in color.



Live and healthy nymph



Dying nymph - starting to shrivel, opaque color.



Dead due to oil treatment



Dead due to natural causes - heat

Best Management Practices for Citricola scale management

- Treat as soon as the eggs have completely hatched and the crawlers moved out on the leaves, late July-September.
- Coverage is critical because the insecticide must contact the insect. **Slow** down the speed of the rig to get better coverage. (≥ 500 gpa at ≤ 1.5 mph)
- Adjuvants to improve coverage are helpful.
- Assail, Bexar, Sivanto > Actara, Centaur > Admire, Oil
- Low populations are well-controlled by anything. Treatment threshold is 0.5 scale/leaf.

BEST TIME TO TREAT IS LATE JULY-AUG WHEN ALL THE SCALES HAVE HATCHED AND MOVED OUT ONTO THE LEAVES.

Sampling based treatment decision presence-absence sampling on 25 leaves/row

	Site 1	Site 2	Site 3	Site 4
Row 1	2	14	18	5
Row 2	1	15	7	8
Row 3	0	24	13	12
Row 4	0	22	10	7
Treat?	NO	YES	YES	NO

Citricola scale has one only generation in a year. If the nymph population is low, you may not need to treat this season. Monitor activity to make treatment plans in the following season.

Pesticides Recommended for Control Citricola Scale [\(UC Citrus Pest Management Guidelines\)](#)

Trade name	Common name	Pesticide Class	Selectivity range
Center WDG	Buprofezin	16	Narrow
Assail 70 WP	Acetamiprid	4A	Broad
Actara	Thiamethoxam	4A	Broad
Sivanto 200SL	Flupyradifluorene	4D	Narrow
Malathion 8	Malathion	1B	Intermediate
Sevin XLR Plus	Carbaryl	1A	Broad
Bexar CA	Tolfenpyrad	21 A	Broad
415, 435, 440 Oil	Narrow range oil	Organic	Narrow

Links to pesticide trial reports of Citricola scale

- [Citricola scale trial, 2013](#); [Citricola scale trial 2014](#)
- [Citricola scale trial, 2015](#); [Citricola scale trial, 2016](#)
- [Citricola scale trial, 2017](#); [Citricola scale trial 2018](#)
- [Citricola scale trial, 2019](#)