

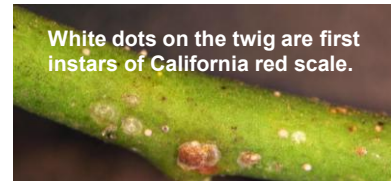
California red scale memo

June 2025

California red scale is a key pest of citrus in the SJV. Its life cycle starts as crawlers produced by overwintering females from the past season. Crawlers move and find a suitable place to start feeding. Once they have settled, they do not move.

What's happening with the SJV CRS population?

Biofix for Kern, Tulare and Fresno was called for March 1st week. Madera county, March 15. As of June third week, second generation crawlers have started to emerge and white caps can be seen near females. Treat if necessary.



County	Biofix date	DD June 24	Future events
Kern	March 4	1664	Second generation crawlers have emerged. Treat if necessary.
Tulare	March 4	1675	
Fresno	March 8	1547	Second generation crawlers will start emerging within 1 week. Treat if necessary.
Madera	March 15	1347	2-3 week for second generation crawlers to emerge.

When to spray?

When crawlers emerge from the first and second generation. Immatures are the most susceptible stage (thin wax layer) and have synchronized population. Second generation crawlers are emerging in the SJV orchards.

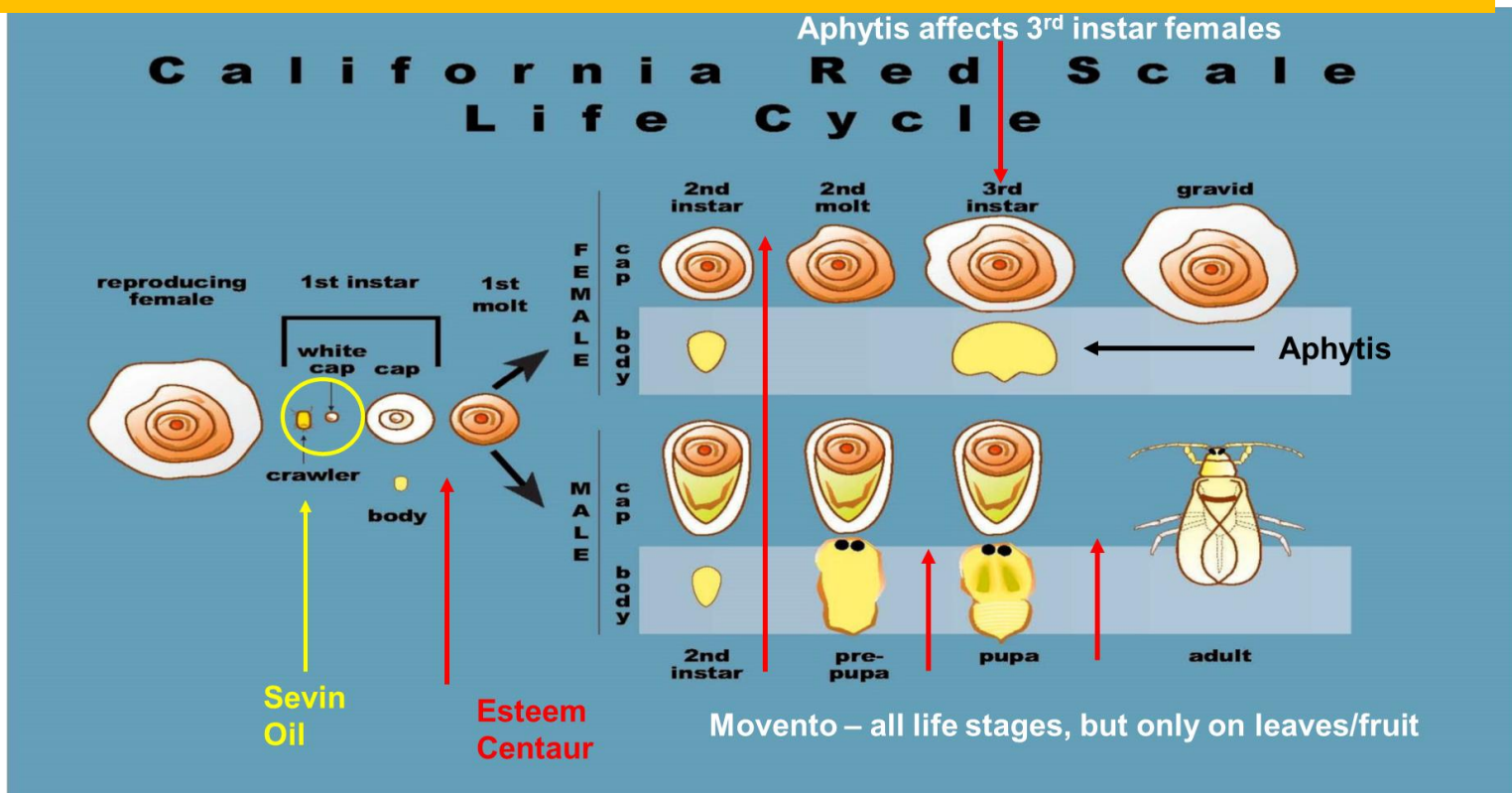
CRS management: mating disruption, insecticides, *Aphytis*! Points to remember when choosing management strategy.

- Pheromone cards **overestimate scale numbers in *Aphytis* release blocks** –as *Aphytis* attacks third instar females males numbers can be high even when female numbers are low.
- Pheromone cards **underestimate CRS when Insect growth regulator/mating disruption are used** –as treatments affect males more than they affect females. Use a threshold of 30-50 scales per flight.
- When Movento/Admire Pro is used, **CRS males on pheromone cards are not a reliable predictor**, especially if you have a history of scale infestation as these products do not kill scale on wood or scale.

California red scale management choices – UCIPM Guidelines

Management choices	Efficacy	Selectivity	Spectrum
Mating disruption (Checkmate CRS)	Moderate: Effectiveness varies	Nontoxic	Narrow: CRS
<i>Aphytis melinus</i>	Moderate: effectiveness varies	Nontoxic	Narrow: CRS
Oils (415, omni)	Moderate: short residual	Short term effect on all arthropods	Broad: most pests
Esteem (Pyriproxyfen)	Moderate: Emerging resistance issues	Toxic to beetles	Narrow: CRS
Centaur (Buprofezin)	Moderate	Toxic to beetles	Interm: CRS, Citricola
Movento (Spirotetramat)	Moderate: Doesn't control scale on wood	Toxic to predatory mites	Interm: CRS, ACP
Sevin (Carbaryl)	Moderate: Resistance issues	Toxic to most natural enemies	Broad; CRS, Citricola scale, FRB

Most pesticide products work best on immatures.
Mating disruption – before male flight. Aphytis – 3rd instar females.



Recommendations for chemical control of California red scale

- Timing: treat the stage that is most sensitive
- Treat generations 1 or 2 when the scale population is uniform in stage (exception is spirotetramat, which seems to work in fall)
- Use the selective insecticides that allow natural enemies to survive when you can.
- Rotate products to avoid resistance
- Good coverage: 750-100 gpa/acre (7000-15000 l/ha) (spirotetramat 250 gpa/acre)
- Drive slowly! < 1.5 mph (2.4 kph)

Links to Pesticide trials on CRS

- [CRS trial 2015](#)
- [CRS trial 2016](#)
- [CRS trial 2017](#)
- [CRS trial 2018](#)
- [CRS trial 2019](#)
- [CRS trial 2022](#)
- [CRS trial 2023-1](#)
- [CRS trial 2023-2](#)

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