



For Control of Scales

CITRUS

Centaur® WDG insect growth regulator provides highly effective control on a wide range of pests in citrus trees. The active ingredient, buprofezin, is extremely effective against the crawler and nymph stages of scales by inhibiting chitin biosynthesis.

Key Benefits

- Effective against soft and armored scales
- Not disruptive to most beneficial insects including Aphytis
- Short PHI of 3 days
- Unique mode of action makes it an excellent rotational tool for insecticide resistance management
- Vapor activity of Centaur helps the product get to tough insect hiding places
- No known scale resistant populations to Centaur
- Long-lasting residual control

Key Pests Controlled

Barnacle scale (wax scale)	Citrus mealybug
Black scale	Citrus whitefly
California red scale	Cottony cushion scale
Citricola scale	Glassy-winged sharpshooter

Use Recommendations

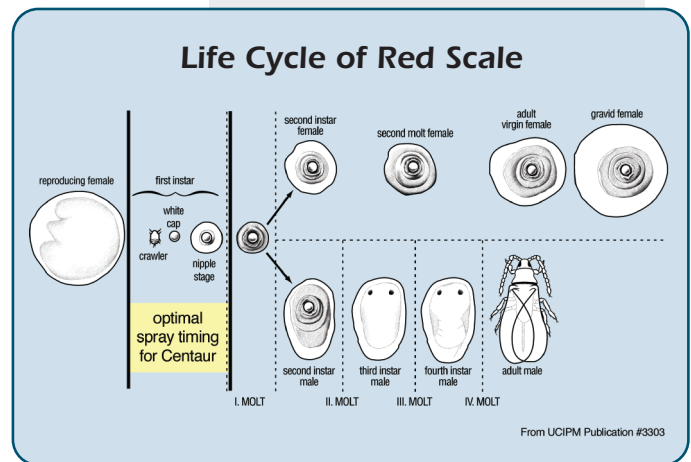
- 46.0 oz/acre
- Use a minimum of 750 gpa for mature trees.
- Proper coverage is essential for optimum scale control. Tractor speeds of 1.25 mph and higher volumes of water may be necessary to assure better spray coverage.
- Addition of oil or surfactant will enhance control of scales.

Timing of Sampling and Spraying

- **California red scale** – Spray at first or second generation early crawler emergence.
- **Citricola scale crawlers** – Sample females on twigs in May. Spray at crawler emergence in June.
- **Citricola scale nymphs** – Sample nymphs on leaves from July to September. Spray nymphs from July to September.
- **Cottony cushion scale nymphs** – Sample nymphs on leaves in June. Spray nymphs from mid-June to July.

Use Information

- Reentry Interval (REI) – 12 hours
- Preharvest Interval (PHI) – 3 days
- Group 16 Insecticide



Spray Timing for California Red Scale

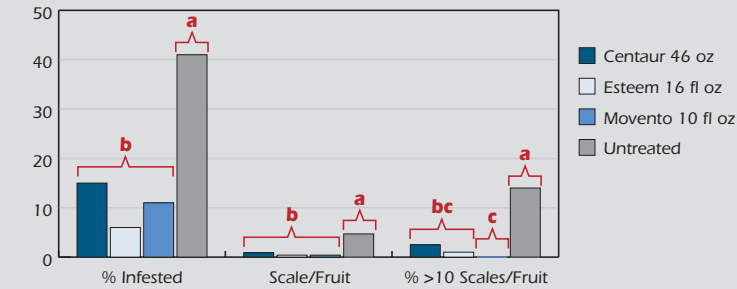
	MAY	JUN	JUL	AUG	SEP	OCT
Red Scale - 1st Crawler	■					
Red Scale - 2nd Crawler			■			

See reverse for additional information >

Control of California Red Scale

Efficacy of Centaur on Red Scale in Citrus

Application Timing - First Generation Crawler



Treatments with the same letter do not differ statistically

Spray Volume: 500 gpa

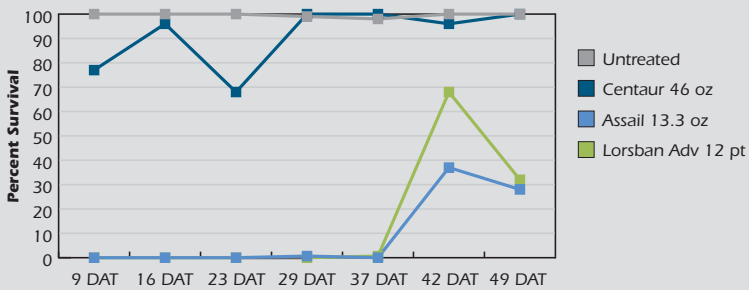
NIS 0.25% V/V

LSD P<0.0001

Harvest Evaluation in October

Sawtooth Research, Ivanhoe, CA, 2010

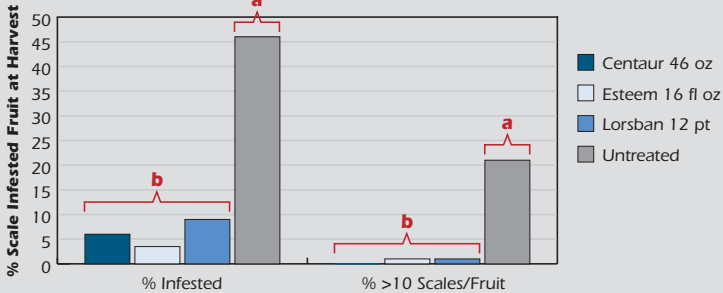
Toxicity of Citrus Insecticides to Aphis Adults in Citrus



Grafton-Cardwell, Elizabeth E., University of California Riverside, Lindcove Research and Extension Center, 2010

Efficacy of Centaur on Red Scale in Citrus

Application Timing - First Generation Crawler



Treatments with the same letter do not differ statistically

Spray Volume: 1,000 gpa

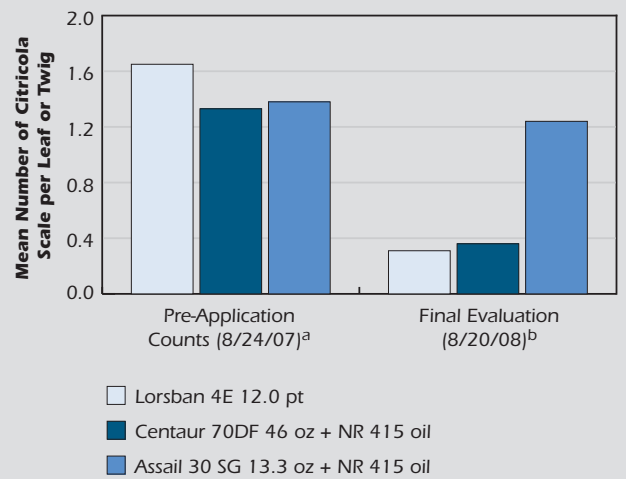
Crawler Emergence Mid-May

LSD P<0.05 Duncann's' New MRT

Harvest Evaluation: October 5th

Sawtooth Research, Ivanhoe, CA, 2009

Efficacy of Centaur Against Populations of Citricola Scale in 'Parent' Navel Orange Trees



^aMean number of citricola crawlers from 10 leaves per tree

^bMean number of citricola adult females from 5 twigs per tree

Application date: 09/13/07

Treatments were diluted in 500 gallons of water per acre and applied using an air blast sprayer.

Grafton-Cardwell, Elizabeth E., University of California Riverside, Lindcove Research and Extension Center, 2007



NICHINO
AMERICA®