



Stay in the Pink: Use Centaur® for Early Control of Scale

Hood River pear grower, Larry Martin, learned the hard way the damage San Jose scale can inflict on pears.

For two years in the mid-2000s, Martin's pears suffered what he characterized as "severe damage" after he stopped using the organophosphate insecticide, Imidan, in his early-season treatment program.

Used to control early instar nymphs of pear psylla, the Imidan, Martin surmised, was picking up the scale.

His solution: Use Centaur from Nichino America around the pink stage.

The early-season application of Centaur provides control of San Jose scale and helps control early instar pear psylla nymphs.

"I've seen it as bad as to where packing houses have decided not to run them as U.S. No. 1, but run them as lower grade, because there have been that many scale marks on them," he said.

"It can do quite extensive damage," Kiyokawa said.

Scales can impact an orchard in two ways, according to university scientists.

Bark infestations of San Jose scale can result in a decline in tree vigor, growth and productivity. Fruit infestations can result in small, deformed fruit and dark red discoloration around feeding sites.



Bark infestation of San Jose scale.



Healthy bark of apple tree.

Scales overwinter usually as black caps on tree trunks and scaffolds and remain at that susceptible nymph stage until around petal fall, when they become adults.



Adult female San Jose scale giving live birth to crawlers.

After mating, adult females produce crawlers for several weeks at a rate of about 10 per day. A single female can produce 150 to 500 crawlers during this first generation, again showing the benefits of targeting the pest early in the season, before the pest experiences its rapid population buildup.

Martin has been using Centaur for "five or six years now," he said. And he plans to continue using it, "until the next magic bullet comes along."

Dunley, too, said he plans to continue using Centaur.

"It is an effective material," he said, "particularly when used in an early-season program."

Centaur is an insect growth regulator from Nichino America that is highly effective when applied to insects that are in their nymph stage. Researchers have also found some reduction in egg laying and viability of eggs from adult insects that come in contact with the active ingredient in Centaur, buprofezin.

"Centaur is a good material, particularly for grape mealybug, pear psylla and San Jose scale," said John Dunley, a Wilbur-Ellis fieldman based in Wenatchee, Wash., who also uses Centaur at the pink stage.

"We get better control early in the season, because we can get better coverage, which is critical when targeting San Jose scale," Dunley said.

Coverage is critical when targeting San Jose scale, as crawlers reside under the bark, and can be difficult to reach with an insecticide.

Because Centaur is a contact material, it takes effect faster than products that translocate through a tree.

And because Centaur is an insect growth regulator, it is easy on beneficial insects, which works well in Martin's mating disruption program, where beneficial predators are vital.

"Centaur helps me with pear psylla, and it is very effective on San Jose crawlers," said Bruce Kiyokawa, a fieldman for Chamberlin Distributing in Hood River. "Centaur is also not disruptive. It doesn't seem to disrupt any beneficial that I have going on out there," Kiyokawa said.

"San Jose scale is frowned upon by packing houses because it tends to be a quarantine pest in certain countries," Kiyokawa said. "They will isolate a grower's fruit if they see much of it in the packing line and not ship it into certain countries."



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