

Delivering a Clean Almond Crop

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Producing a clean almond crop provides short and long-term benefits. Low reject levels -- usually due to low levels of worm and/or ant damage -- mean better grower returns. Damaged nuts have no value in the market, and some processors pay premiums for nuts below a certain percent damage. Low navel orange worm (NOW) damage also reduces the chance of aflatoxin contamination of nuts. Concerns about a high rate of aflatoxin detection in pistachio nuts from Iran caused the European Union to briefly ban imports of Iranian pistachios. Europe consumes roughly 30% of California almonds, so attention to NOW control will help reduce the risk of aflatoxin and will help maintain the excellent reputation of California almonds in the world market. What does all this mean to growers and PCAs in 2010? The following is a quick review of practices to consider to help deliver a clean crop.

Track NOW populations in your orchard. Use weekly egg trap counts to track moth flight development and determine when Nonpareil harvest should begin to avoid damage from the 3rd NOW generation. The graph in Figure 1 is an example of early harvest timed to minimize NOW damage.

Harvest soft shell varieties ASAP. Nonpareil should be ready for harvest when 95-100% of the nuts at eye level are split (see photo). Test shake a few trees to make sure the orchard is ready to go. If at least 95% of the nuts come off, the orchard is ready to harvest. Be careful with harvest timing. Premature harvest can reduce nut meat quality due to embedded shells. Early harvest is key to a clean crop. Hull split sprays only control 40-60% of NOW larvae, so early harvest is vital to obtain the lowest reject levels – especially in a light crop year.



A nut ready for early harvest.

If needed, apply a hull split spray for NOW control once hull split has begun on sound nuts and eggs are being laid on split nuts or egg traps. If sound nuts are splitting, but eggs aren't being laid, wait to spray until you see eggs. If egg laying starts before hull split, wait until hull split starts before spraying. Hull split begins in tree tops on the southwest side. Check nuts in that part of the canopy on 5-6 trees per block to monitor for the beginning of hull split. Excellent spray coverage is essential for effective NOW control with a hull split spray. Peach twig borer (PTB) can be partially controlled with a hull split spray as well.

With an early harvest, nuts will dry more rapidly on the ground than in the trees. However, don't trade NOW damage for ant damage. Make sure ants are controlled when protein-eating ants are present. Ant bait should go down at least 4 weeks before predicted harvest. Prompt pick up of dry nuts will help reduce ant damage. Nuts are ready for pickup when hulls on 8 out of 10 harvested nuts snap instead of bend when bent back between thumb and index finger.

Combining an early harvest with a well-timed hullsplit spray, if needed, should result in a cleaner crop with better returns to the grower.

Navel Orangeworm (NOW) Trap Counts and Harvest Timing, Sutter County, 2008. All varieties had <1% damage.

