

Late Season Codling Moth Issues

September 18, 2003

CODLING MOTH:

Relatively high numbers of moths were caught in traps in Boxelder (20 per orchard), Davis (16 per orchard), and Utah Counties (10+ per orchard). Generally, at this time of year, trap counts have bottomed out and egg-hatch becomes less of a concern for growers harvesting in late-September to mid-October. However, our mild winter and record heat during June-July have allowed the codling moth populations to not only develop into tremendous numbers but also proceed with a third generation. This year, 2nd generation larvae were so far along in their development by late August that they got a "green light" to pupate into adults rather than enter diapause (hibernate).

The 3rd generation larvae will continue to eat and develop as fast as they can before temperatures get too cold, and while their attempt may turn out to be suicidal, they'll take some apples with them. Diane Alston, USU Extension Entomologist, and I have discussed the situation (we've both remarked at what an interesting year this has been), and we need to advise growers to maintain protection on a crop if the orchard has had substantial trap counts (10 or more per trap over the last two weeks may be cause for concern). Our trap counts have been high enough in certain orchards to suggest that eggs have been laid recently and are in the process of hatching. If a grower won't be harvesting for another couple of weeks, and trap counts have been high, then there may be crop damage. Examining fruit at this time for the typical codling moth "sting" (red halo around a small worm-hole) may help determine the degree of worm pressure in an orchard.

There are a couple of mitigating factors to consider: daily low temperatures, dusk temperatures, and daytime hours over 65 degrees F. Dusk temperatures are very important, since females are inactive when temperatures are below 62 degrees F. The recent cold and wet weather has probably hampered the activities of females, and if this cold weather continues, there may be very few opportunities for females to find mates and lay eggs. Looking at the hourly temperatures at one of the warmest locations in Boxelder County, it appears that since the 8th of September, there have been only 4-7 hours per day when temperatures were above 65 degrees. High temperatures tended to stay in the 70s. Again, this limits the developmental rate for eggs and larvae. Nighttime low temperatures can play an important role. At this time of year, if the temperature sinks into the mid-twenties, it will likely cause some mortality, especially in larvae that have just hatched out. With rainfall, mortality increases as immobilized larvae drown or are knocked from the host tree.

Precautionary Statement: All pesticides have benefits and risks, however following the label will maximize the benefits and reduce risks. Pay attention to the directions for use and follow precautionary statements. Pesticide labels are considered legal documents containing instructions and limitations. Inconsistent use of the product or disregarding the label is a violation of both federal and state laws. The pesticide applicator is legally responsible for proper use. Any mention of a pesticide brand in this document is not an endorsement by USU, and brand lists are not all-inclusive.