



## Tree Fruit IPM Advisory: September 6th, 2006

Past IPM advisories are archived at:

<http://extension.usu.edu/cooperative/ipm/index.cfm/cid.610/>

**NEW IPM PROJECT LEADER:** The Utah IPM Project has hired a new project leader. Ms. Marion Murray will join us September 18<sup>th</sup>. Marion received her MS degree in Plant Pathology and Forest Science from Oregon State University and has worked as a horticulturist, garden conservancy preservationist, nursery manager, and research and forest pathologist over the last 12 years. She is moving from Bristol, RI to Logan this week. We are pleased and excited to have new expertise and enthusiasm join the USU IPM Team. Marion will assume responsibility for the IPM Pest Advisories beginning next spring.

**REQUEST FOR HELP:** Have you ever wondered how USU has near-real-time access to in-orchard weather data from across the Wasatch Front? Maybe not, but it is an important issue as relates to our ability to predict insect, disease, and tree development for northern Utah commercial and home orchard growers. USU Horticulture and IPM Projects financially support 10 weather stations placed in northern Utah orchards. Costs to support these stations are higher than you might think. In addition to purchase of the data loggers and sensors, part of a technician's time is required to maintain the stations. Also, purchase of cell phones and monthly cell phone charges (which average about \$100 per month for the 10 stations) must be supported. The stability of future funding for the weather stations is uncertain due to possible changes in the technician's appointment and reduced experiment station support for horticulture. How can you help us? Please send an e-mail (by responding to this advisory) briefly stating how the IPM pest advisory service helps you better manage your fruit trees and pests. Do you think you've reduced your pesticide use by following recommendations of the advisory? If so, please let us know. I will compile these e-mails and present them to the new Utah Climate Center (UCC) Director. We are seeking continued support for the orchard weather stations through the UCC, USU Extension, and USU Agricultural Experiment Station. If you know your local state representative, please let him or her know how much this advisory service means to you and that we need their vote for funding of Utah Climate Center, USU Extension and Experiment Station initiatives in this next budget year. Please help us so we can better serve you.

**!EXOTIC PEST ALERT!**

Over 500 Japanese Beetle adults have been trapped since mid July 2006, in an approx. ¼ mile square area in Orem, Utah Co. The Japanese Beetle can be a highly destructive pest to ornamentals, trees, shrubs, and turfgrass. First discovered in North America in the eastern U.S. in 1916, the Japanese Beetle has slowly moved south and west. This population is the first detected in Utah. Fruit trees, especially apple, are preferred food hosts for adults. The Utah Department of Agriculture and Food has an active Japanese Beetle detection survey underway. You can learn more about this new pest to Utah at the UDAF web site (<http://www.ag.state.ut.us/>) and by reading a new USU fact sheet at: <http://extension.usu.edu/cooperative/ipm/files/PDFDocs/japanese%20beetle%202006.pdf>.

**\*\*\*\*\*Insect Advisory\*\*\*\*\***

**CODLING MOTH (Apple and Pear):** The need to protect apple and pear fruits from codling moth injury is nearing an end. Sep 15 is the deadline for emergence of codling moth larvae from eggs due to too little daylight (daylength is too short). For northern Utah sites with a 3<sup>rd</sup> generation (all sites but Cache County and Alpine and West Mtn, Utah Co.), keep fruit protected until Sep 15. For sites without a 3<sup>rd</sup> generation, the need to protect fruit is now at an end.

Consider harvest dates of apples and pears and heed preharvest intervals of insecticides (PHI = required interval between last application and picking fruit) when making late-season pest control decisions.

Insecticides effective for codling moth in commercial orchards and recommended near harvest include Assail (7 d PHI), Imidan (7 d PHI), Intrepid (14 d PHI), and codling moth granulosis virus (see label). PHIs for Guthion and Calypso are 21 d and 30 d, respectively, so they may not be a good fit for late season control. Homeowners can find a list of effective insecticides in the Utah Home Orchard Pest Management Guide: <http://extension.usu.edu/files/publications/homeorchard20061.pdf>.

Codling Moth (CM) Phenology Table

	<u>DDs Since Biofix</u>	<u>Projected End of 2<sup>nd</sup> Gen.*</u>	<u>Projected Onset of 3<sup>rd</sup> Gen.**</u>	<u>% Egg Hatch of 3<sup>rd</sup> Gen.^</u>
Box Elder County Perry	2705	Aug 10	Aug 11	>10%
Cache County Logan	2120	Sep 6	--	--
North Logan	2059	Sep 8	--	--
Davis County Kaysville	2568	Aug 15	Aug 17	>10%
Salt Lake County Salt Lake City	2830	Aug 5	Aug 6	>10%

Tooele County				
Tooele	2827	Aug 6	Aug 7	>10%
Utah County				
Alpine	2299	Aug 26	--	--
Genola	2416	Aug 16	Aug 20	>10%
Payson	2463	Aug 19	Aug 21	>10%
Provo (bench)	2542	Aug 16	Aug 18	>10%
Santaquin	2514	Aug 17	Aug 19	>10%
West Mountain	2166	Sep 2	--	--

\*Projected end of 2<sup>nd</sup> generation = 99% egg hatch completed.

\*\*Projected 1% egg hatch of 3<sup>rd</sup> generation.

^Percentage of 3<sup>rd</sup> generation eggs that have hatched.

Also, you can go to the “Orchard Spray Timing” tables posted on the IPM website to track the rate of codling moth development for your area:

<http://extension.usu.edu/cooperative/ipm/index.cfm/cid.645/>. Select 2<sup>nd</sup> and 3<sup>rd</sup> Generation CM in the right column and then the most recent date

**PEACH TWIG BORER (Peach, Nectarine, and Apricot):** The 3<sup>rd</sup> generation of PTB has reached from 9 to 69% egg hatch in northern Utah sites (see PTB table below). Fruit should be protected through Sep 15 or through harvest, whichever comes first. Be sure to consider the preharvest intervals of insecticides (required interval between last application and picking fruit) when applying late season insecticides.

#### Peach Twig Borer (PTB) Phenology Table

	<u>DDs Since Biofix</u>	<u>Projected Onset of 3<sup>rd</sup> Gen.*</u>	<u>% Egg Hatch of 3<sup>rd</sup> Gen.^</u>
Box Elder County			
Perry	2556	Aug 18	69%
Davis County			
Kaysville	2441	Aug 22	48%
Utah County			
Alpine	2193	Sep 3	9%
Genola	2341	Aug 23	29%
Lincoln Point	2224	Aug 30	12%
Payson	2399	Aug 23	40%
Provo (bench)	2551	Aug 17	68%

\*Projected 5% egg hatch of 3<sup>rd</sup> generation.

^Percentage of 3<sup>rd</sup> generation eggs that have hatched.

Also, you can go to the “Orchard Spray Timing” tables posted on the IPM website to track the rate of PTB development for your area:  
<http://extension.usu.edu/cooperative/ipm/index.cfm/cid.645/>. Select 3<sup>rd</sup> Generation PTB in the right column and then the most recent date

Insecticides effective for preventing twig borer larvae in fruit include Success, Intrepid, Imidan, and Thionex. Pyrethroid insecticides (Asana, Pounce, Ambush) should be avoided at this time of year as they are harsh on predatory mites that provide biological control of spider mites.

**BOXELDER BUGS and EARWIGS:** Boxelder bugs and earwigs can be late-season threats to peaches and other fruits. If there is a problem with large numbers of boxelder bugs or earwigs in the canopy, then a treatment of Pyganic, Lannate, Ambush/Pounce, or Sevin should provide some suppression (Lannate will also take care of problematic thrips populations, which may be a concern for nectarine or plum growers). Remember that Ambush, Pounce, and Sevin are toxic to predatory mites and may reduce overwintering populations that will contribute to mite control next season. Earwigs and boxelder bugs can feed directly on fruits, but these insects usually don't become interested in the fruit until it's nearly ripe. Fruit injury from earwigs is typically small, deep pits (1/4-1/2 inch deep) in the surface of the peach, usually with some relatively large frass pellets scattered within the pit (and no webbing present). Beat-samples or close examinations of fruit (especially split-pits) will determine if earwigs are present.

**SPIDER MITES:** Spider mite reproduction is slowing down. Orange-colored adult females that will overwinter on the lower trunks and on debris and groundcover near trunks can be observed as daylength shortens in late August and September. If spider mite densities are high, a late season treatment may be helpful, but it is uncommon to need to treat for spider mites after approx. mid August as reproduction slows dramatically and adult females transform into their diapausing (overwintering) state. If you have an orchard where spider mites are causing stippling and bronzing of leaves now, treat with a miticide to protect trees from early senescence and stress. Trees that enter dormancy in a stressed state are more susceptible to winter freeze injury and reduction of growth, bloom, and fruit set next season. Miticides that would be effective at suppressing mites late in the season include horticultural mineral oil, bifenazate (Acrامة), pyridaben (Pyramite, Nexter), fenbutatin-oxide (Vendex), and propargite (Omite) (for use on nectarines only).

**ERIOPHYID MITES:** Peach silver mite; cherry, apple, and pear rust mites; and apple and pear leaf blister mites are in the group of mites called eriophyids (air-e-o-fy-ids). High populations of eriophyids can cause leaf and/or fruit injury, but low to moderate populations can be “good” for trees because they serve as alternate food sources for predatory mites when spider mites aren't around. As an alternate food source, they keep predatory mite numbers high so they can more effectively exploit spider mites. Pear leaves are especially sensitive to rust and blister mites, so control of eriophyid mites on pears may be necessary when they occur. Adult female eriophyid mites move from leaves and fruits to hide under bud scales in September and October where they will spend the winter. As leaves senesce and change color, the mites will

crawl to the buds. Effective miticides that can be applied at this time include lime-sulfur + horticultural mineral oil, flowable/micronized sulfur, carbaryl (Sevin), endosulfan (Thionex), or 2% (by volume) horticultural mineral oil alone. Propargite (Omite) can be used on nectarines only. The next opportunity to treat eriophyid mites will be in the spring when buds open and the first leaves emerge.

**SHOTHOLE BORER:** Shothole borer is a type of bark beetle that tunnels in the cambial tissues under the bark. Shothole borer is most commonly seen attacking tart cherry, peach, and apple trees in Utah. They usually attack trees that are already under stress and decline. We have observed shothole and other boring insects attacking trees stressed by drought in recent years. Once populations increase in an orchard, nearby trees are at greater risk for attack. Late summer and early autumn is a time when adult shothole borers emerge from infested trees and fly to new trees to lay their eggs. To protect trees that are at risk for shothole borer attack (i.e., trees already infested or trees near other infested trees), an application of protectant insecticide can reduce infestation. Carbaryl (Sevin), endosulfan (Thionex), and permethrin (Ambush, Pounce) are effective in protecting trees from shothole borer infestation.

**VERTEBRATE PESTS:** We are approaching the time of year when various vertebrate pests (gophers, voles, mice, squirrels, and rabbits) increasing rely on tree cambium to supplement their diets. In winter, mice and voles will tunnel under snow, weeds, and mulch to get to the fruit trees. In fact, the cover of vegetation and snow around tree trunks is preferred because it provides cover during feeding. Maintaining approximately 3 feet of clear ground around each tree will help reduce trunk girdling by some vertebrate pests. Young trees are especially susceptible to girdling because the trunk circumference is so small. Trapping, baiting, fumigation, and other rodent control methods will help reduce local rodent populations. Physical barriers (to 6 inches deep) and deep plowing may also help.

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