Tree Fruit IPM Advisory: July 26th, 2006

Past IPM advisories are archived at:
http://extension.usu.edu/cooperative/ipm/index.cfm/cid.610/

************Insect Advisory*************

CODLING MOTH (Apple and Pear): Larval emergence (i.e., egg hatch) of the 2nd generation is over half-way completed in warmer locations in northern Utah, and just getting going in cooler locations. View the codling moth development table below. **A critical period for codling moth control is between 1380 to 1780 Degree-Days (DD). This is the steepest portion of the egg hatch curve and corresponds to when 18-79% of egg hatch is completed for 2nd generation**. **Keep fruit protected from injury by reapplying insecticides based on the chemical protection interval.** For those orchards using mating disruption, use your pheromone trap catch numbers to guide whether a full cover or border spray is prudent, and be especially cautious during this rapid egg hatch period.

Egg hatch of the 2nd generation ends at approximately 2100 DD; this deadline is projected for Aug. 5-10 in the warmest locations (Salt Lake City, Tooele, and Perry) and Aug. 15-18 in moderate temperature locations (Kaysville and warmer Utah Co. locations). The break between 2nd and 3rd generation is very brief, only 60 DD or about 2 days. Egg hatch of the 3rd generation begins at approximately 2160 DD. The codling moth model is predicting a 3rd generation for northern Utah sites except Cache County, Alpine, and West Mountain. For sites with a 3rd generation, fruit should remain protected through approximately September 15. After this date, emergence of codling moth larvae from eggs should be completed for the season. For sites without a 3rd generation, fruit should remain protected through the end date of larval emergence for the 2nd generation (see table below) or September 15, whichever date comes first. Harvest dates of apples and pears and preharvest intervals of insecticides (required interval between last application and picking fruit) need to be considered when applying late season insecticides.

Insecticides effective for codling moth in commercial orchards include Intrepid, Calypso, Assail, Esteem, Guthion, Imidan, Danitol, codling moth granulosis virus, and horticultural mineral oil. Homeowners can find a list of effective insecticides in the Utah Home Orchard Pest Management Guide:
http://extension.usu.edu/files/publications/homeorchard20061.pdf.

Summary of Codling Moth Degree-Days and Projected Onset and End of 2nd Generation Larval Emergence

	DDs Since Biofix	% Moth Flight of 2nd Gen^.	% Egg Hatch of 2nd Gen.^^	Onset of 2nd Gen.*	Projected End of 2nd Gen.**
Box Elder County					
Perry	1701	92%	69%	Jul 4	Aug 10
Cache County					
Logan	1313	44%	10%	Jul 18	Sep 6
North Logan	1275	38%	8%	Jul 19	Sep 8
Davis County					
Kaysville	1581	83%	50%	Jul 8	Aug 15
Salt Lake County					
Salt Lake City	1787	96%	80%	Jul 2	Aug 6
Tooele County					
Tooele	1712	92%	70%	Jul 1	Aug 5
Utah County					
Alpine	1389	58%	19%	Jul 13	Aug 25
Genola	1562	81%	47%	Jul 6	Aug 18
Payson	1536	79%	43%	Jul 8	Aug 18
Provo (bench)	1569	82%	48%	Jul 8	Aug 15
Santaquin	1560	81%	46%	Jul 7	Aug 17
West Mountain	1401	60%	21%	Jul 12	Aug 29

^ The percentage of 2nd generation adult moths that have emerged.
^^ The percentage of 2nd generation eggs that have hatched.
* Onset of 2nd generation = 1% egg hatch.
** Projected end of 2nd generation =99% egg hatch completed.

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 2nd Generation CM in the right column and then the most recent date

PEACH TWIG BORER (Peach, Nectarine, and Apricot): Egg hatch of the 2nd generation ranges from 13 to 76% in northern Utah monitoring sites. Application of insecticides to protect fruit is recommended to begin at 5% egg hatch. Keep fruit protected throughout the 2nd generation or through harvest, whichever comes first. The projected end dates for 2nd generation (99% egg hatch) range from Aug. 5 (Provo) to 18 (Alpine). See the summary table for peach twig borer spray dates below.

A 3rd generation of PTB will occur in most northern Utah locations. If fruit hasn't been picked then it should be protected through harvest. Egg hatch of 3rd generation will reach

5% at 2140 DD. Be sure to consider the preharvest intervals of insecticides (required interval between last application and picking fruit) when applying late season insecticides.

Summary of Peach Twig Borer Degree-Days and Projected Onset and End of 2nd Generation Larval Emergence

	DDs Since Biofix	% Moth Flight of 2nd Gen^.	% Egg Hatch of 2nd Gen.^^	Onset of 2nd Gen.*	Projected End of 2nd Gen.**
Box Elder County					
Perry	1552	98%	71%	Jul 13	Aug 6
Davis County					
Kaysville	1454	93%	48%	Jul 17	Aug 10
Utah County					
Alpine	1282	66%	13%	Jul 23	Aug 18
Genola	1487	96%	58%	Jul 13	Aug 8
Lincoln Point	1424	90%	42%	Jul 16	Aug 11
Payson	1472	95%	54%	Jul 16	Aug 9
Provo (bench)	1578	98%	76%	Jul 12	Aug 5

^ The percentage of 2nd generation adult moths that have emerged.
^^ The percentage of 2nd generation eggs that have hatched.
* Onset of 2nd generation = 5% egg hatch.
** Projected end of 2nd generation =99% egg hatch completed.

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 2nd 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.

WESTERN CHERRY FRUIT FLY (Sweet and tart cherry): Catch of western cherry fruit fly adults on traps has declined in the last two weeks as many cherry orchards have been harvested. However, it is still important to keep fruit protected through harvest. Insecticides with short preharvest intervals (PHIs) should be used as fruit nears harvest (insecticides and PHIs): GF-120 (4 hr), Sevin (3 days), malathion (1 or 3 days depending on product), Ambush and Pounce (3 days), Success and Entrust (7 days), Provado (7 days), and Imidan on tart cherries (7 days). Sevin, malathion, Ambush, Pounce, and Provado can flare spider mites, so limit use of these insecticides when temperatures rise above 85ºF because spider mites reproduce rapidly under hot conditions.

If a large number of cherry fruits will remain on trees after harvest, consider a post-harvest insecticide application to prevent development of late-season fruit fly larvae (western cherry fruit fly and apple maggot). A few apple maggot adults have been observed on traps in Kaysville. In commercial orchards, Dimethoate and Guthion are good choices for post-harvest treatment.

SPIDER MITES (All tree fruits): Hot, dry conditions spur spider mite reproduction. Scout weekly to keep a watch on build-up of spider mite numbers. Also scout for the orchard predatory mite. A ratio of 1 predator to 10 spider mites (or 1:5 for pear) is usually adequate to keep spider mite numbers below economic levels. For more information on pest and beneficial mites: http://extension.usu.edu/files/gardpubs/6.pdf.

Miticides Registered on Tree Fruits in Utah, 2006

	Pre-Harvest Intervals in Days (unless otherwise indicated)			
Brand Name	Apple/Pear PHI	Tart Cherry PHI	Sweet Cherry PHI	Peach PHI
Acramite	7	3 (2006 Sec. 18)	--	3
Agri-Mek	28	--	--	--
Apollo	45/21	21	21	21
Envidor	7	7	7	7
FujiMite	14	--	--	--
Kelthane	7	--	--	--
M-Pede	12 hr	12 hr	12 hr	12 hr
Pyramite, Nexter	25/7	300	300	7
Savey	28	28	28	28
Vendex	14	14	14	14
Zeal	28	--	--	--

GREATER PEACHTREE BORER (Peach, Nectarine, Apricot): No trap catch has been reported. In areas where mating disruption has been used for numerous years (i.e., Kaysville Research Farm), the population has dropped below detectable levels. If orchards have a history of GPTB (crown borer) injury to the base of trunks, apply Isomate-P mating disruption dispensers (Pacific Biocontrol Inc.) or spray lower trunks, crotches, and ground around trees with handgun-applied Lorsban or Thionex. In past years, first GPTB moths were caught in late June and treatments should be applied by early July. If using Thionex, a second application may be needed 4 weeks later.