Tree Fruit IPM Advisory

Weekly Orchard Pest Update, Utah State University Extension, **AUGUST 22, 2007**

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Jump to Treatment Timings:

Codling Moth - Commercial
Codling Moth - Homeowner
Peach Twig Borer - Commercial
Peach Twig Borer - Homeowner

Upcoming Monitoring/Insect Activity

Peach Twig Borer	Third generation egg hatch ends at 2940 DD (after biofix)
Codling Moth	3rd Generation egg hatch ends at 3210 DD (after biofix–estimate)
Greater Peachtree Borer	Moth flight and egg-laying continues until mid-September

Degree Day Accumulations, as of Wednesday, August 22

County	Location	Codling Moth, Peach Twig Borer (Base 50°F)				
		DD since March 1	CM DD since biofix*	% CM Egg Hatch	PTB DD since biofix*	% PTB Egg Hatch
Box Elder	Perry	2702	2519	29 (3rd)	2353	31 (3rd)
Cache	North Logan	2129	1992	95 (2nd)	1831	99 (2nd)
	Richmond	2366	2111	100 (2nd)	1962	0 (3rd)
	River Heights	2417	2233	5 (3rd)	2079	3 (3rd)
Carbon	Price	2697	2427	22 (3rd)	----	----
Davis	Kaysville	2699	2496	27 (3rd)	2315	24 (3rd)
Juab	Tintic	2246	----	----	----	----
Salt Lake	SLCC	3034	2769	61 (3rd)	2570	72 (3rd)
	West Valley City	2921	2667	51 (3rd)	2470	54 (3rd)
Tooele	Erda	3130	2727	56 (3rd)	----	----
	Grantsville	3176	2771	64 (3rd)	----	----
	Tooele	3146	2761	61 (3rd)	----	----
Utah	Alpine	2413	2210	4 (3rd)	2047	2 (3rd)
	Genola	2668	2427	18 (3rd)	2247	15 (3rd)
	Lincoln Point	2498	2286	7 (3rd)	2112	4 (3rd)
	Orem	2702	2485	29 (3rd)	2244	13 (3rd)
	Payson	2668	2462	22 (3rd)	2310	24 (3rd)
	Provo	2682	2336	14 (3rd)	2211	4 (3rd)
	Santaquin	2552	2372	14 (3rd)	2212	11 (3rd)
	West Mountain	2362	2110	100 (2nd)	1968	0 (3rd)
Weber	Pleasant View	2803	2635	45 (3rd)	2451	50 (3rd)

"Base 41F" and "base 50F" refer to the lower temperature threshold at which insects develop;
*__Biofix__ is the date of moth flight. (CM=Codling Moth, PTB=Peach Twig Borer)

Insect Activity

APPLES and PEARS

Codling Moth

As it stands now, only the coldest locations of Cache County as well as West Mountain in Utah County will **not** see a third generation. No more sprays are necessary in those locations

All other areas need to keep your fruit protected through September 15, after which, egg-hatch will end.

Keep in mind the pre-harvest interval for the material you are using, and time your applications based on harvesting dates.

Pear Psylla

Damage to pear leaf caused by pear psylla

Honeydew caused by pear psylla

This is an insect that has been active all summer, but you may only have noticed damage in the last month. This insect lays its eggs in early spring, and several generations follow until fall. The newly hatched nymphs live and feed within a protective, honeydew "bubble" until they are ready to molt to an adult.

Their feeding causes necrotic lesions on the leaves, and high populations can cause loss of vigor as well as unsightly sooty mold growing on the honeydew that drips onto the fruit.

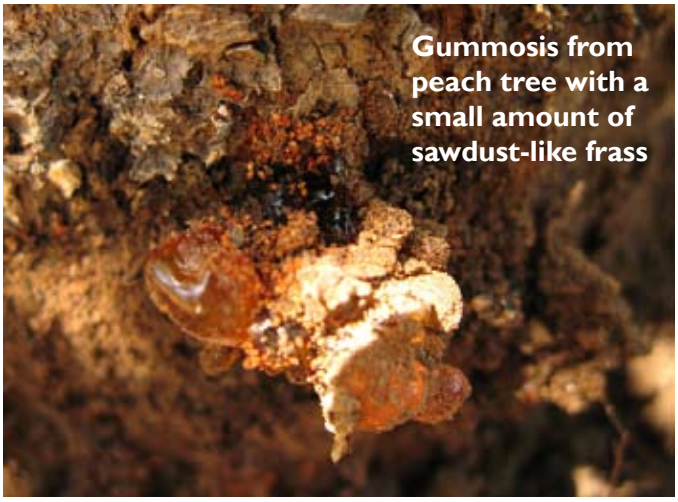
Control is best achieved in early spring with dormant oil followed by applications of horticultural oil. Hort. oil and neem oil can also be applied post-harvest when the weather has cooled. Be sure to read this advisory in the spring for proper insecticide applications.

PEACH, NECTARINE, APRICOT

Boxelder Bugs

If you feel you have a problem with this pest, you can use Prentox Pyronyl Crop Spray (pyrethrin), which can be used up to the day of harvest, or Sevin, which can be used up to 3 days before harvest.

Greater Peachtree Borer



Gummosis from peach tree with a small amount of sawdust-like frass

We are continuing to see this insect in our traps, as well as suspected entry holes. If you have not applied a treatment in the last month, then we recommend making a treatment now to last through the end of the moth flight. Spray the lower 2-3 feet of the tree trunk.

In the meantime, look at the very base (at the soil line) of your peach, nectarine, or apricot for oozing and frass.

Peach Twig Borer

Look for these entry holes in your peaches and destroy the fruits or you may bite into the larva!

Egg hatch of 3rd generation larvae is progressing quickly. Many peaches have been harvested, but the remaining peaches still need protection up to harvest time. (Orchards with good control in the first two generations may not need late season control.)

Spinosad can be used up to 3 days before harvest time.

Disease Activity

The hot, dry weather this summer has stressed orchard trees, and any trees that had diseases such as canker or root rot have been "pushed over the edge" and are now showing quick decline.

Phytophthora Collar Rot and Crown Rot

Phytophthora is a soil-borne pathogen that kills root and crown tissue. It is present in most soils, but becomes a problem only in saturated, poorly drained soils and when a living host is present. Most fruit trees are susceptible, with the exception of pear and plum.

Symptoms include poor growth, small leaves, a yellow-ish cast to the leaves, and dieback. Sudden death may also occur. Trees with symptoms that are in "problem areas" such as low spots where water drains slowly, should send up a red caution flag.

If you suspect phytophthora, scrape the outer bark away from the base of the tree and look for the brown, necrotic tissue. It will be in stark contrast to the healthy, cream-colored tissue.

Treatment: Unfortunately, there is no "cure" for infected trees. Removal and prevention of spread is the only option. If possible, remove much of the root system and do not spread the soil from one area to another. Try to improve soil drainage and monitor soil moisture. Replant with trees that are less susceptible. See the July 11 IPM Advisory for a list.

Cytospora Canker

Cytospora canker is a disease of stone fruits (primarily peaches, but also cherries, apricots, and nectarines). (A "canker" is a term for a stem infection causing sunken, killed tissue.) This pathogen is fairly common, and can kill young trees.

It is spread as wind or rain-blown spores at any time of the year except during severe heat or cold. It causes infection in small wounded sites (winter injury, sunscald, pruning cuts, etc.). As the fungus grows in the dead or damaged wood, it quickly invades healthy wood.

Symptoms include leaf wilting followed by dieback of branches. Peach trees show heavy gummosis with infection. Smaller trees can be killed in one or more seasons.

Treatment: There is no cure for these cankers. Prune them out immediately, and remove dead trees. Prevent wounding, and maintain optimal vigor. Some studies show that pruning only in spring when cuts heal rapidly (prevent flush cuts) can reduce disease incidence.

This dead peach tree and exposed inner bark look similar to the dead cherry shown at left. But upon further examination, notice that the necrotic tissue is mid-way up the stem, and the tissue at the base of the tree is still a healthy color, suggesting a canker.

Current Spray Timings - Commercial Growers

Note that these treatments are only recommended if you know you have the particular pest in your trees.

CODLING MOTH, Second and Third Generations:

The projected timing dates of the spray periods shown below will be updated each week. The critical period of protection corresponds to the period 1320-1720 DD, when the rate of egg hatch is the highest. The end of egg hatch for the second generation is 2100 DD after biofix. The beginning of 3rd generation egg hatch is at 2160 DD after biofix.

County	City	End of Second Generation	Beginning of 3rd Generation Hatch
Box Elder	Perry, Willard, Brigham	August 6	August 8
Cache	North Logan	August 28	----
	Richmond	August 21	----
	River Heights	August 16	----
Carbon	Price	August 11	August 13
Davis	Kaysville	August 8	August 10
Salt Lake	Salt Lake City	July 30	August 1
	West Valley City	August 1	August 4
Tooele	Erda	August 1	August 3
	Grantsville	July 30	August 1
	Tooele	July 31	August 1
Utah	Alpine	August 17	----
	Genola	August 9	August 11
	Lincoln Point	August 14	August 17
	Orem	August 7	August 9
	Payson	August 8	August 10
	Provo	August 12	August 15
	Santaquin	August 12	August 14
	West Mountain	August 21	----
Weber	Pleasant View	August 3	August 5

Materials for codling moth control:

eggs: Rimon, Horticultural oil, Esteem, Confirm, Intrepid, Azatin

larvae: Assail, Asana, Calypso, Carbaryl, Clutch, Diazanon, Guthion, Codling Moth Granulosis Virus, Imidan, Intrepid, Warrior, Sevin, Malathion

Cat-Facing Insects:
chlorpyrifos (Lorsban), endosulfan (Thionex, Phaser), carbaryl (Sevin)

Greater Peachtree Borer:
chlorpyrifos (Lorsban), endosulfan (Thionex, Phaser), carbaryl (Sevin), lambda-cyhalothrin (Warrior), permethrin (Ambush, Pounce, many brands)

Rosy and Green Apple Aphids:
Provado, Thiodan

Spider Mites:
Acramite, Envidor, FujiMite, Savey, Zeal

Current Spray Timings - Commercial Growers, continued

Note that these treatments are only recommended if you know you have the particular pest in your trees.

PEACH TWIG BORER, Second and Third Generations:
The projected timing dates of the spray periods shown below will be updated each week. The second generation ending spray date represents 1900 DD (degree days) after biofix, when 100% of eggs have hatched. The third generation spray date represents 2140 DD after biofix, when 5% of third generation eggs have hatched.

County	City	Ending Spray Date, Second Generation	Beginning Spray Date, Third Generation
Box Elder	Perry, Willard, Brigham	August 4	August 14
Cache	North Logan	August 26	----
	Richmond	August 18	----
	River Heights	August 14	August 26
Davis	Kaysville	August 7	August 17
Salt Lake	Salt Lake City	July 31	August 8
	West Valley City	August 1	August 10
Utah	Alpine	August 16	----
	Genola	August 8	August 18
	Lincoln Point	August 14	August 24
	Orem	August 8	August 18
	Payson	August 6	August 16
	Provo	August 9	August 18
	Santaquin	August 11	August 21
	West Mountain	August 19	----
Weber	Pleasant View	August 2	August 11

Materials for peach twig borer control:

-same as codling moth materials

White Apple Leafhopper:
carbaryl, cyfluthrin (Baythroid), endosulfan (Thionex), novaluron (Rimon), permethrin

Woolly Apple Aphid:
Provado, Calypso, malathion

Cherry Powdery Mildew:
azoxystrobin (Amistar), boscalid (Pristine), fenarimol (Rubigan), myclobutanil (Laredo), propiconizole (Orbit), qunioxyfen (Quintec), triadimefon (Bayleton), trifloxystrobin (Flint), triflumizole (Procure)

Current Spray Timings - Homeowners

Note that these treatments are only recommended if you know you have the particular pest in your trees.

CODLING MOTH, Second and Third Generations:

The projected timing dates of the spray periods shown below will be updated each week. The "ending spray date" for the second generation is at 2100 DD after biofix, when all eggs finish hatching. The "beginning spray date" for the third generation is 2160 DD after biofix, when the eggs of the next generation begin hatching.

Read your pesticide label for residual period (length of time it is effective) and re-apply at the given interval from beginning date to ending date, so that fruit is protected during this entire period. Pay attention to the harvest date and time the last spray accordingly.

County	City	Ending Spray Date, 2nd Generation	Beginning Spray Date, 3rd Generation
Box Elder	Perry, Willard, Brigham	August 6	August 8
Cache	North Logan	August 28	----
	Richmond	August 21	----
	River Heights	August 16	----
Carbon	Price	August 11	August 13
Davis	Kaysville	August 8	August 10
Salt Lake	Salt Lake City (estimate)	July 30	August 1
	West Valley City	August 1	August 4
Tooele	Erda	August 1	August 3
	Grantsville	July 30	August 1
	Tooele	July 31	August 1
Utah	Alpine	August 17	----
	Genola	August 9	August 11
	Lincoln Point	August 14	August 17
	Orem	August 7	August 9
	Payson	August 8	August 10
	Provo	August 12	August 15
	Santaquin	August 12	August 14
	West Mountain	August 21	----
Weber	Pleasant View	August 3	August 5

Materials for codling moth control:

Chemical	Example Names	Protection Period
carbaryl	Sevin, Bayer Advanced Complete Insect Killer, etc.	7-14 days (read label)
malathion	Bonide Malathion, Hi-Yield 55% Spray,	7-14 days (read label)
Bacillus thuringiensis	Dipel	3-6 days (read label)
spinosad	Success, Entrust	3-6 days (read label)
CM granulosis virus	Virusoft	10-14 days
kaolin clay	Surround	5-7 days

Cat-Facing Insects:

carbaryl (Sevin), esfenvalerate (Bug Buster, KGro Multi-Purpose), malathion, permethrin (many brands)

Greater Peachtree Borer

carbaryl (Sevin), permethrin (many brands) (just spray the bottom 2-3 feet of the tree trunk, and maintain protection through mid-September

Current Spray Timings - Homeowners, continued

PEACH TWIG BORER, Second and Third Generations:

The projected timing dates of the spray periods shown below will be updated each week. The ending spray date for the second generation represents 1900 DD (degree days) after biofix, when 100% of eggs have hatched. The beginning spray date for the third generation represents 2140 DD after biofix, when 5% of eggs have hatched. For materials that last fewer than 10 days, apply a second spray.

County	City	Ending Spray Date, Second Generation	Beginning Spray Date, Third Generation
Box Elder	Perry, Willard, Brigham	August 4	August 14
Cache	North Logan	August 26	----
	Richmond	August 18	----
	River Heights	August 14	August 26
Davis	Kaysville	August 7	August 17
Salt Lake	Salt Lake City (est.)	July 31	August 8
	West Valley City	August 1	August 10
Utah	Alpine	August 16	----
	Genola	August 8	August 18
	Lincoln Point	August 14	August 24
	Orem	August 8	August 18
	Payson	August 6	August 16
	Provo	August 9	August 18
	Santaquin	August 11	August 21
	West Mountain	August 19	----
Weber	Pleasant View	August 2	August 11

Materials for peach twig borer control are same as for codling moth

Rosy and Green Apple Aphid:

malathion (Ferti-lome Mal-a-cide, etc.), pyrethrin (Hi-Yield Rose and Flower Spray, etc.)

Spider Mite Adults:

insecticidal soap, permethrin, malathion, neem oil

Woolly Apple Aphid:

carbaryl (Sevin), malathion

Cherry Powdery Mildew:

Hi-Yield Lime Sulfur Spray, Bonide Sulfur Dust