



Contact:

Marion Murray
435-797-0776
marionm@ext.usu.edu
www.utahpests.usu.edu/ipm

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Upcoming Monitoring/Insect Activity

Peach twig borer	First flight ends at 400 DD after biofix (base 50F)
Codling Moth	Adult peak flight: 350-580 DD (after biofix) Larval hatch: 220-920 DD (after biofix)
Oblique banded leafroller	Moth flight at 832-1000 DD (base 43F)
San Jose Scale	Peak crawler emergence 600-700 DD (after biofix)
Greater Peachtree Borer	Hang traps at 700 degree days (base 50)

Jump to Treatment Timings:

- [Codling Moth - Commercial](#)
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Degree Day Accumulations, as of Wednesday, June 13

County	Location	Codling Moth, Peach Twig Borer (Base 50°F)			Western Cherry Fruit Fly (Base 41°F)
		DD since March 1	CM DD since biofix*	PTB DD since biofix*	DD since March 1
Box Elder	Perry	833	650	484	1479
Cache	North Logan	586	449	288	1083
	Richmond	667	411	----	1212
	River Heights	675	491	337	1215
Carbon	Price	852	581	----	1451
Davis	Kaysville	808	605	423	1450
Salt Lake	SLCC	948	684	485	1647
	West Valley City	938	684	486	1634
Tooele	Erda	1078	675	----	1763
	Grantsville	1123	718	----	1833
	Tooele	1075	690	----	1777
Utah	Alpine	744	542	378	1359
	Genola	900	659	479	1531
	Lincoln Point	787	576	402	1399
	Orem	896	679	438	1553
	Payson	838	633	480	1465
	Provo	896	550	424	1545
	Santaquin	769	586	430	1379
West Mountain	835	583	440	1452	
Weber	Pleasant View	882	714	530	1534

“Base 41F” and “base 50F” refer to the lower temperature threshold at which certain insects develop

***Biofix** is the date of consistent moth flight. (CM=Codling Moth, PTB=Peach Twig Borer)

Insect Activity

APPLES AND PEARS

Codling Moth (CM):

Most locations are at the downward end of the peak egg hatch (which occurs at 340-640 DD after biofix). By 800 degree days after biofix, 95% of the eggs of the first generation will have hatched.

The second generation of codling moth will begin flight at 1000-1050 degree days after biofix. (County estimations: June 28 in Box Elder, June 24 in Carbon, July 12 in Cache, June 30 in Davis, June 26 in Tooele, July 2 in Utah, June 26 in Weber) For those with traps out, you may or may not be able to pinpoint the exact time of second moth flight, but you should see a rise in trap catches starting at the 1050 degree day mark. Treatment timing recommendations for the second generation will be provided later.

[Click here](#) for the USU codling moth fact sheet

Apple Aphids:

Green apple, rosy apple, and woolly apple aphids are still active. Continue to monitor by looking for curling leaves, honeydew, and/or cottony masses on stems and twigs.

[Click here](#) for the USU apple aphid fact sheet

San Jose Scale (SJS):

Estimated Treatment Timings for SJS:

Wasatch Front: between June 13 and June 19

Cache Valley: between June 22 and June 28

White Apple Leafhopper:

Adults are still active in very low numbers. If you applied a treatment earlier in the season, you should be all set through harvest.

PEACHES AND NECTARINES

Peach Twig Borer (PTB):

First generation peach twig borer flight has just about come to an end on the Wasatch front as all monitoring traps had zero catch this past week. If you applied a material that lasts fewer than 10 days, plan on a second application for the first generation. Second generation sprays will occur at approximately 1200 DD after biofix (or mid-July). Spray dates will be supplied as we get closer to that time.

Continue to monitor for shoot strikes and prune these out as they become visible.

[Click here](#) for the USU peach twig borer fact sheet.

Greater Peachtree Borer (GPTB):

Traps for GPTB should be up now, as these wood-boring insects begin flight between 800-1200 degree days (base 50). Adults emerge from their pupae in the soil starting late June, early July (northern Utah) into early September. Peachtree borer adults look like a wasp, but they are really a moth, with clear wings and a blue-black body striped with yellow.

The female lays eggs on the lower trunk (12" high at most). The larvae that hatch immediately bore into the tree trunk and feed on the inner bark and cambium. There they stay until the following spring. Young trees can be girdled and killed in one season, while older trees can usually withstand a few attacks.

Trees with borer may have gummosis mixed with frass at the **base of the trunk** and peeling bark. If you see these symptoms, plan on implementing a management program.

Insecticides should be applied just after trap catch and repeated based on product label guidelines. We have traps up and will notify you in an upcoming advisory of when to treat.

Materials for commercial growers include:

- chlorpyrifos (Lorsban)
- endosulfan (Thionex, Phaser)
- carbaryl (Sevin)*
- lambda-cyhalothrin (Warrior)
- permethrin (Ambush, Pounce, many brands)*

Materials for home growers include:

- carbaryl (Sevin)*
- permethrin (many brands)

Since there are few labeled products for peachtree borer, many commercial growers are using mating disruption, which is very effective. The mating disruption dispensers last all season and work in orchards as small as one acre in size.

CHERRIES

Western Cherry Fruit Fly (WCFF):

Sweet and tart cherries are ripening quickly. Continue to keep fruit protected until harvest. Be mindful of the pre-harvest interval (PHI) of your material.

[Click here](#) for the USU western cherry fruit fly fact sheet.

Disease Activity

APPLES AND PEARS

Fire Blight:

The general consensus is that this has been a very bad year for fire blight. Some orchardists are seeing blight in the majority of the canopy, on a majority of their trees Why?

There are a host of reasons, all different depending on who you ask and where the orchard is located:

- In general, we had a strong rain event on May 3 and 4 during late bloom, which caused several floral infections, and then a second heavy, windy rain on May 23 that spread the bacteria to tender young shoots.
- Another reason is the susceptibility of the host tree. The most susceptible trees are currently the most in-demand apple varieties today: fuji, jonagold, gala, etc. Resistant varieties can get infections, but the bacteria is stopped quickly in its tracks.
- You can't have a disease without the pathogen, right? Although fire blight may not have been a severe problem in years past, it has always been present. The amount of new infections in an orchard will depend on the amount of inoculum present. This inoculum (disease-causing bacterial cells in infected tissue) can spread from barely-visible cankers that did not get dormant-pruned, or from neighboring abandoned orchards, or from cankers on other susceptible trees (such as crabapple, pyracantha, cotoneaster--all in the rose family).
- And finally, there are several colonies ("isolates") of fire blight bacteria that have developed resistance to the antibiotic treatment of choice, streptomycin (strep). As the use of strep increased, the population of bacteria that could withstand it also increased. Alternative antibiotics are unfortunately not as strong of a treatment as strep. The reasons for this are not entirely understood.

So what to do now...

- For lighter infections, prune out all visible diseased tissue 18" down from the margin of infection. Prune any closer than that and you may see the fire blight showing up on that same twig in two weeks' time. Be sure to disinfect your pruners in between cuts. The recommendation is a 10% bleach solution. Research has shown that it may take a dip of up to 5 minutes in the bleach to kill the bacteria between cuts. This is not very practical, but knowing this should provide the impetus to do what disinfecting you can.
- For some growers, one option is to walk away from your trees now and prune out the cankers this winter. There is no curative spray and treatments to prevent further infection are not recommended. The heat of the upcoming week will essentially stop (or slow) the growth of the fire blight bacteria within the wood. Pruning during the dormant season is often easier because the infections are more readily visible, and there is more time to devote to this tedious task. It will be imperative to go through the orchard several times this winter to remove all the cankers. And plan on a copper application in early spring to knock down the inoculum.
- Unfortunately, for some growers, the only option is tree removal. Cankers on susceptible trees can often go 12-36" beyond the visible wilting. Once the bacteria enters the stem, there is no alternative but removal.

CHERRIES

Cherry Powdery Mildew:

Cherry powdery mildew should be controlled up to harvest as fruits are also susceptible.

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 First Generation:

The projected timing dates of the spray periods shown below will be updated each week. Spray dates are dependent on what pest stage is targeted. **It is crucial to have fruit protected during the interval 340-640 DD after biofix.

County	City	Spray Date to Target First Larvae Hatch	**Spray Dates to Target Max. Larvae Hatch	End of Egg Hatch
Box Elder	Perry, Willard, Brigham	May 14	May 21 - June 12	June 26
Cache	North Logan	May 24	June 2 - June 25	July 10
	Richmond	May 29	June 5 - June 27	July 12
	River Heights	May 18	May 31 - June 22	July 8
Carbon	Price	May 16	May 28 - June 23	July 8
Davis	Kaysville	May 17	May 26 - June 13	June 27
Salt Lake	Salt Lake City (est.)	May 16	May 24 - June 11	June 24
	West Valley City	May 18	May 22 - June 11	June 24
Tooele	Erda	May 18	May 23 - June 12	June 25
	Grantsville	May 16	May 21 - June 10	June 23
	Tooele	May 16	May 21 - June 10	June 23
Utah	Alpine	May 18	May 28 - June 17	July 1
	Genola	May 14	May 24 - June 13	June 27
	Lincoln Point	May 17	May 27 - June 15	June 28
	Orem	May 13	May 19 - June 10	June 23
	Payson	May 16	May 25 - June 16	June 30
	Provo	May 20	May 30 - June 16	June 29
	Santaquin	May 16	May 26 - June 16	June 30
	West Mountain	May 17	May 28 - June 16	June 29
Weber	Pleasant View	May 14	May 18 - June 9	June 23

Materials for codling moth control:

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

*Reapply insecticides based on the residual period (i.e., protection interval) of the product used, and be sure to rotate among pesticide classes.

Rosy and Green Apple Aphids:

Provado, Thiodan, (can combine with first PTB cover spray)

San Jose Scale:

acetamiprid (Assail), carbaryl (Sevin), diazinon, esfenvalerate (Asana), imidacloprid (Provado, Merit), pyriproxyfen (Esteem), hort. oil

Western Cherry Fruit Fly:

imidacloprid (Merit, Provado-every 14 days), phosmet (Imidan-every 14 days, but not on sweet cherry), chlorpyrifos (Lorsban-every 14 days but not on sweet cherry), diazinon (every 14 days), spinosad (GF-120, Success), permethrins

White Apple Leafhopper:

carbaryl, cyfluthrin (Baythroid), endosulfan (Thionex), novaluron (Rimon), permethrin

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, First Generation:

The projected timing dates of the spray periods shown below will be updated each week. The spray date represents 300 DD after biofix, when 5% of eggs have hatched, and 400 DD after biofix, when 28% of eggs have hatched. For materials that last fewer than 10 days, apply a second spray.

County	City	Beginning Spray Date. High Pops (300 DD after Biofix)	Beginning Spray Date, Moderate Pops (400 DD after Biofix)
Box Elder	Perry, Willard, Brigham	June 1	June 6
Cache	North Logan	June 13	June 20
	Richmond	June 14	June 21
	River Heights	June 9	June 17
Davis	Kaysville	June 4	June 9
Salt Lake	Salt Lake City	June 2	June 7
	West Valley City	June 2	June 7
Utah	Alpine	June 6	June 12
	Genola	June 4	June 10
	Lincoln Point	June 5	June 11
	Orem	June 4	June 9
	Payson	June 1	June 7
	Provo	June 4	June 10
	Santaquin	June 3	June 9
	West Mountain	June 4	June 10
Weber	Pleasant View	May 29	June 4

Materials for peach twig borer control:

-same as codling moth materials

*Reapply insecticides based on the residual period (i.e., protection interval) of the product used, and be sure to rotate among pesticide classes.

Cherry Powdery Mildew:

azoxystrobin (Amistar), boscalid (Pristine), fenarimol (Rubigan), myclobutanil (Laredo), propiconazole (Orbit), quinoxyfen (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 First Generation:

The projected timing dates of the spray periods shown below will be updated each week. The “beginning spray date” is at 220 DD after biofix, when larvae just begin to hatch, and the “ending spray date” is at 920 DD after biofix, when most of the larvae have hatched.

*The second column represents the time period when most eggs are hatching, which is a crucial period for protecting your fruit. Use it as a guideline to time your applications so that you do not miss a spray or are late with a spray during that time.

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.

County	City	Beginning Spray Date	*Critical Period to Keep Fruit Protected	Ending Spray Date
Box Elder	Perry, Willard, Brigham	May 14	May 21 - June 12	June 26
Cache	North Logan	May 24	June 2 - July 25	July 10
	Richmond	May 29	June 5 - July 27	July 12
	River Heights	May 18	May 31 - June 22	July 8
Carbon	Price	May 16	May 28 - June 23	July 8
Davis	Kaysville	May 17	May 26 - June 13	June 27
Salt Lake	Salt Lake City (estimate)	May 16	May 24 - June 11	June 24
	West Valley City	May 18	May 22 - June 11	June 24
Tooele	Erda	May 18	May 23 - June 12	June 25
	Grantsville	May 16	May 21 - June 10	June 23
	Tooele	May 16	May 21 - June 10	June 23
Utah	Alpine	May 18	May 28 - June 17	July 1
	Genola	May 14	May 24 - June 13	June 27
	Lincoln Point	May 17	May 27 - June 15	June 28
	Orem	May 13	May 19 - June 10	June 23
	Payson	May 16	May 25 - June 16	June 30
	Provo	May 20	May 30 - June 16	June 29
	Santaquin	May 16	May 26 - June 16	June 30
	West Mountain	May 17	May 28 - June 16	June 29
Weber	Pleasant View	May 14	May 18 - June 9	June 23

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)
<i>Bacillus thuringiensis</i>	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

Cherry Powdery Mildew:

Hi-Yield Lime Sulfur Spray, Bonide Sulfur Dust

Current Spray Timings - Homeowners, continued

Peach Twig Borer, First Generation:

The projected timing dates of the spray periods shown below will be updated each week. The spray date represents 300-400 DD after biofix, when 5-28% of eggs have hatched. For materials that last fewer than 10 days, apply a second spray.

County	City	Beginning Spray Date Range
Box Elder	Perry, Willard, Brigham	June 1 - 6
Cache	North Logan	June 13 - 20
	Richmond	June 14 - 21
	River Heights	June 9 - 17
Davis	Kaysville	June 4 - 9
Salt Lake	Salt Lake City (est.)	June 2 - 7
	West Valley City	June 2 - 7
Utah	Alpine	June 6 - 12
	Genola	June 4 - 10
	Lincoln Point	June 5 - 11
	Orem	June 4 - 9
	Payson	June 1 - 7
	Provo	June 4 - 10
	Santaquin	June 3 - 9
	West Mountain	June 4 - 10
Weber	Pleasant View	May 29 - June 4

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

*Reapply insecticides based on the residual period (i.e., protection interval) of the product used, and be sure to rotate among pesticide classes.

Green and Rosy Apple Aphid:

malathion (Ferti-lome Mal-a-cide, etc.), pyrethrin (Hi-Yield Rose and Flower Spray, etc.) (can combine with first PTB cover spray)

San Jose Scale:

Bonide Lime Sulfur Concentrate, sevin, esfenvalerate (Ortho), imidacloprid (Merit), horticultural oil, neem oil

Western Cherry Fruit Fly:

spinosad (GF-120, Natural Guard Spinosad, every 7 days), Sevin (every 7 days), permethrins (every 7-14 days)

White Apple Leafhopper:

products that contain carbaryl or permethrin

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.

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