

**Contact:**

Marion Murray  
435-797-0776  
marionm@ext.usu.edu  
[www.utahpests.usu.edu/ipm](http://www.utahpests.usu.edu/ipm)

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## Upcoming Monitoring/Insect Activity

Peach twig borer	First flight at 400 DD (base 50F)
Western Cherry Fruit Fly	3% flight at 1060 DD (base 41F)
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)
White Apple Leafhopper	First adults 550 DD (base 50F)
San Jose Scale	Peak crawler emergence 600-700 DD (after biofix)

**Jump to Treatment Timings:**

- [Codling Moth - Commercial](#)
- [Codling Moth - Homeowner](#)
- [Peach Twig Borer - Commercial](#)
- [Peach Twig Borer - Homeowner](#)

## Degree Day Accumulations, as of Wednesday, May 30

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
<b>Box Elder</b>	Perry	619	436	270	1149
<b>Cache</b>	North Logan	408	271	----	801
	Richmond	485	229	----	922
	River Heights	502	319	----	937
<b>Carbon</b>	Price	633	362	----	1117
<b>Davis</b>	Kaysville	603	400	218	1131
<b>Salt Lake</b>	SLCC	705	440	241	1282
	West Valley City	678	424	226	1250
<b>Tooele</b>	Erda	818	415	----	1379
	Grantsville	851	446	----	1436
	Tooele	833	463	----	1413
<b>Utah</b>	Alpine	555	353	120	1061
	Genola	660	419	226	1183
	Lincoln Point	589	377	204	1092
	Orem	685	468	281	1225
	Payson	604	398	245	1114
	Provo	681	335	289	1218
	Santaquin	577	397	237	1076
	West Mountain	614	362	220	1115
<b>Weber</b>	Pleasant View	661	492	308	1195

\*“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

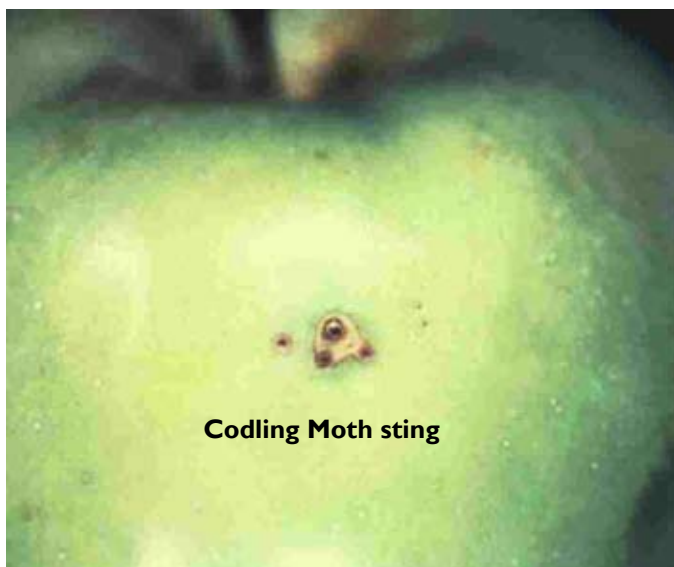
### **Codling Moth (CM):**

Trap catches of codling moth adults have declined due to the combination of cover sprays and the waning moth flight. We have entered the peak period of egg hatch (340-640 DD after biofix) where it is very important to have the fruit protected. As I've mentioned earlier, this is the time where you might consider overlapping with your first cover spray.

**Information for commercial growers:** Some new research out of Washington State University by Jay Brunner and others discusses tank mixing two different types of materials: one that acts as an ovicide (Rimon, Esteem) with one that acts as a larvicide (Assail, Calypso) as an alternative to the organophosphates. This combination provides a one-two punch of killing existing and future eggs (depending on residual time) and existing and future larvae (whose eggs had not been killed).

Continue to monitor with pheromone traps (10x or combo lure for MD orchards; 1x for conventional orchards). [Click here](#) for links to monitoring supply companies.

**Information for homeowners:** You can monitor your apples by looking for stings, which are small wounds that indicate attempted larval tunnelling into fruit.



**Codling Moth sting**

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

### **Woolly Apple Aphid (WAA):**

Continue to scout the inner canopy of your trees now and apply treatments as necessary to prevent colony build-up.



**Woolly apple aphid in twig crotch**

### **San Jose Scale (SJS):**



**San Jose scale on twig and fruit (below)**

San Jose scale is a sucking insect that can weaken a tree over time. It also occurs on peaches and plums. It injects a toxin as it feeds, causing a red discoloration. When these blemishes are seen on fruit, then the population size is large enough to cause damage to the tree.



Males fly and mate in early spring, and mated females give "birth" to live crawlers. Crawlers are barely visible. They move around on the bark and foliage until settling down permanently to feed. The best time to treat is when the crawlers are active, because they have not yet formed the hard coat that adults have.

To monitor for scale, look now on new twig bark for the purplish-red halos. If you see them, wrap double-sided sticky tape (or duct tape) around the twig/limb and watch for tiny crawlers that will get trapped on the tape.

## PEACHES AND NECTARINES

### ***Peach Twig Borer (PTB):***

Biofix dates:

Alpine: May 14

Perry: May 11

Pleasant View: May 10

Salt Lake City: May 14

Santaquin: May 12

Genola: May 12

Kaysville: May 13

Orem: May 13

Payson: May 12

Provo: May 15

West Mountain: May 12

West Valley City: May 15

Lincoln Point: May 14



Spray dates for PTB are coming up next week, depending on your population size (or last year's damage). If you have a large population of twig borer, time your sprays for 300 DD after biofix. If you have a moderate population, spray at 400 DD after biofix.

The first damage you would see from PTB are called "shoot strikes", where the larva bores into succulent new shoots. Monitor for these strikes.

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

## CHERRIES

### ***Western Cherry Fruit Fly (WCFF):***

Fruit fly adults have been trapped in Davis, Cache, and Weber counties. According to the degree day accumulations and what we know about the development of this fruit fly, it should be out by now in all areas where it had overwintered (as pupae in the soil).

WCFF lays its eggs within the skin of the cherry, and the larvae feed on the cherry flesh for 14-21 days. It then drops to the ground, burrows into the soil, and pupates for emergence next year. Although there is just one generation, fruit fly

adults emerge from their cocoons continuously all summer; as such, the fruit must be protected all summer.



Cherry fruits are not susceptible to egg-laying until they become

soft enough for the adult's ovipositor to penetrate, (i.e., when they develop a salmon blush). If you are not monitoring for fruit fly in your own orchard, use this point as the guideline in which to begin sprays. Be sure to look at the fruit that ripens earliest--at the top of the tree, or areas exposed to the most sunlight.

We can also use the fruit maturity coloring in combination with degree day accumulation. At 1060 degree days after March 1, approximately 3% of the flies have emerged. If you are at 1060 in your area, AND your fruits have developed a salmon blush, it is time to start sprays.

Insecticides we recommend are targeted at the adult stage. (The larvae hatch within the cherry, so they are safe from the chemicals.) Once your control treatment has begun, continue sprays based on protection interval of material used, until harvest time. Be sure to note the pre-harvest interval (PHI) of your material. (This is the time period you must wait after a spray to harvest your fruit.) If you know your harvest date, you can time your sprays backward by starting from that date.

A promising and easy-to-apply treatment is GF-120, which is the material spinosad (a metabolite produced by a bacteria), mixed with an attractive "bait." The fly is attracted to the bait and drinks it, and is then killed by the spinosad. It is available for homeowner use, but only in large sizes, and can be costly.

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

## Disease Activity

### APPLES AND PEARS

#### ***Fire Blight:***

Continue to monitor your orchard/trees for fire blight infections and prune them out 12-18" below the canker.



## Current Spray Timings - Commercial Growers, continued

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

### Codling moth:

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	by May 24	June 5 - July 27	July 11
	Richmond	by May 29	June 9 - June 29	July 14
	River Heights	May 18	June 1 - June 24	July 9
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 18	July 2
	Genola	May 14	May 24 - June 12	June 26
	Lincoln Point	May 17	May 27 - June 15	June 28
	*Orem-High population	May 13	May 19 - June 9	June 23
	*Orem-Moderate pop.	May 15	May 20 - June 10	June 24
	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

\*Due to a high population of codling moth in certain Orem areas, we had an early date for moth flight this year. If you have severe "wormy" apples, use the information for the "high population." Otherwise, use the information for "moderate population."

### 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.

### Green Peach Aphid:

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

## Current Spray Timings - Commercial Growers

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 8
Cache	North Logan	----	----
	Richmond	----	----
	River Heights	----	----
Carbon	Price	----	----
Davis	Kaysville	June 5	June 11
Salt Lake	Salt Lake City	June 3	June 9
	West Valley City	June 4	June 9
Tooele	Erda	----	----
	Grantsville	----	----
	Tooele	----	----
Utah	Alpine	June 7	June 14
	Genola	June 4	June 10
	Lincoln Point	June 6	June 12
	Orem	June 4	June 10
	Payson	June 3	June 10
	Provo	June 5	June 10
	Santaquin	June 4	June 11
	West Mountain	June 4	June 10
Weber	Pleasant View	May 29	June 5

### **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.

## 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 third 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	Ending Spray Date	*Critical Period to Keep Fruit Protected
Box Elder	Perry, Willard, Brigham	May 14	June 26	May 21 - June 12
Cache	North Logan	May 23	July 11	June 6 - July 27
	Richmond	May 27	July 14	June 9 - June 29
	River Heights	May 18	July 9	June 1 - June 24
Carbon	Price	May 18	July 8	May 30 - June 23
Davis	Kaysville	May 16	June 27	May 24 - June 13
Salt Lake	Salt Lake City (estimate)	May 16	June 24	May 24 - June 11
	West Valley City	May 16	June 24	May 22 - June 11
Tooele	Erda	May 17	June 25	May 23 - June 12
	Grantsville	May 16	June 23	May 21 - June 10
	Tooele	May 16	June 23	May 21 - June 10
Utah	Alpine	May 18	July 2	May 28 - June 16
	Genola	May 14	June 26	May 23 - June 12
	Lincoln Point	----	June 28	May 27 - June 15
	*Orem-High population	May 13	June 23	May 19 - June 9
	*Orem-Moderate pop.	May 15	June 24	May 20 - June 10
	Payson	May 16	June 30	May 25 - June 16
	Provo	May 21	June 29	May 30 - June 16
	Santaquin	May 16	June 30	May 25 - June 16
	West Mountain	May 17	June 29	May 28 - June 16
Weber	Pleasant View	May 14	June 23	May 18 - June 8

\*Due to a high population of codling moth in certain Orem areas, we had an early date for moth flight this year. If you have severe “wormy” apples, use the information for the “high population.” Otherwise, use the information for “moderate population.”

### 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 granulosus virus	Virusoft	10-14 days
kaolin clay	Surround	5-7 days

## 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 - 8
Cache	North Logan	----
	Richmond	----
	River Heights	----
Carbon	Price	----
Davis	Kaysville	June 5 - 11
Salt Lake	Salt Lake City (est.)	June 3 - 9
	West Valley City	June 4 - 9
Tooele	Erda	----
	Grantsville	----
	Tooele	----
Utah	Alpine	June 7 - 14
	Genola	June 4 - 10
	Lincoln Point	June 6 - 12
	*Orem-High population	June 4 - 10
	*Orem-Moderate pop.	June 3 - 10
	Payson	June 5 - 10
	Provo	June 4 - 11
	Santaquin	June 4 - 10
	West Mountain	June 4 - 10
Weber	Pleasant View	May 29 - June 5

### **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.

### **Green Peach Aphid:**

malathion (Fertil-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)

**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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