

News/What to Watch For:

Examine cherry leaves for powdery mildew; watch peach terminals for shoot strikes from peach twig borer on apple and peach;
 watch apple fruit clusters for signs of fire blight infections
 New spray timing dates for codling moth
 Spray information, pages 4-5

Insect and Disease Activity/Info

Specific spray information found on last two pages.

APPLE AND PEAR

Codling Moth

Biofix (first moth flight) update:

Alpine: May 17	Price: May 17
Castle Valley: May 5	Providence: May 16
Erda: May 16	Provo: May 5
Genola: May 5	Salt Lake City: May 5
Kaysville: May 16	Santaquin: May 5
Lincoln Point: May 9	Smithfield: May 17
Orem: April 29	Tooele: May 12
Payson: May 8	West Mountain: May 5
Perry: May 5	West Valley City: May 5
Pleasant View: May 5	

and fruit should be protected starting at the date equivalent to this degree day value. The end of the first generation is at 1020 degree days after biofix, after which, a 2nd generation begins. Be sure that the material you apply has lasting residues (or re-apply) for the time period of maximum egg hatch (340-640 DD).

Fire Blight



Forecasting results from the Cougarblight model show that there is no risk of fire blight infection through Tuesday, and other than Cache and Carbon counties, apples in most areas will be finished blooming. The Cougarblight model is based on the daily high and low temperatures, where a "daily degree hours" is calculated for each day. The risk is determined based on the value of the "accumulated degree hours" which is for the past 4 days only. Based on the rating system, higher numbers mean higher risk. That's why, when we have cold weather, the model tells us that the risk of infection goes down.



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Estimated spray timing is shown under the "spray recommendation" sections. The biofix (first moth flight) is the date from which we track degree day accumulations. At 220 degree days after biofix, 1% of eggs have begun to hatch,

Insect and Disease Activity, continued

The next “phase” of fire blight is when infections occur on succulent leaf tissue. Watch for these shoot infections in the coming weeks. Fire blight remains active, and as weather conditions (warm, moist) persist, the bacteria can be spread to tiny wounds on succulent new leaves.

Antibiotics are only used to prevent flower infections, so growers must watch the conditions and look for signs of infections and prune those out immediately.

We mentioned the product Apogee in the April 2 IPM advisory ([click here](#)). This material is a plant growth regulator, normally used to slow shoot growth on overly vigorous trees. It has also been shown to slow or even stop development of fire blight on shoot infections. The timing for application for managing fire blight is at petal fall, with a second application 7-14 days later. The rate is provided in the “commercial applicators” section.

PEACH, NECTARINE, APRICOT



Peach Twig Borer

If you have not already done so, it is time to hang peach twig borer traps. The first moths are expected at 400-450 degree days after March 1.

The first generation of peach twig borer larvae attack succulent peach terminals, causing the terminal to wilt and then die. These are referred to as “shoot strikes” (shown above). Later in the season, after the terminal growth has hardened off, the larvae will attack the fruit. Good control of the first generation is critical to preventing fruit damage later in the season.

Like codling moth, we can predict the start of spray timing by getting a biofix.

Degree Day Accumulations and Insect Development

Upcoming Monitoring/Insect Activity

By Insect (in order of appearance)	
Cherry powdery mildew (CPM)	Look for small white lesions on new foliage near the base and interior of the tree
Apple powdery mildew (PM)	Look for small white lesions on new foliage
Green peach aphid (GPA)	Look for colonies on peach and nectarine
Black cherry aphid (BCA)	Watch terminals for leaf-curling and feeding
White apple leafhopper (WALH)	Look for nymph activity
Codling moth (CM)	Egg-hatch begins at 220 DD (after biofix)

By Host (see abbrev. at left)	
Apple	RAA, WALH, PM
Cherry	BCA, BCM
Peach	GPA
Pear	

Degree Day Accumulations [\(click here](#) for more information on degree days)

March 1 - Thursday, May 22

County	Location	Base 50	Codling Moth (post biofix)	Western Cherry Fruit Fly (base 41)
Box Elder	Perry	285	157	645
Cache	North Logan	226	---	534
	Providence	217	89	478
	Smithfield	244	50	539
Carbon	Price	277	63	635
Davis	Kaysville	283	81	651
Grand	Castle Valley	611	219	808
Salt Lake	SLC	327	162	737
	West Valley City	412	216	842
Tooele	Erda	458	153	905
	Grantsville	456	---	896
	Tooele	405	158	842
Utah	Alpine	280	62	625
	Genola	348	170	725
	Lincoln Point	290	117	628
	Orem	287	175	645
	Payson	313	138	664
	Provo	374	185	753
	Santaquin	300	153	646
	West Mountain	326	156	680
Weber	Pleasant View	306	163	687

“Base 41” and “base 50” refer to the lower temperature threshold at which certain insects develop. For example, no codling moth development occurs below 50 degrees.

Spray Materials - Commercial Applicators

Target Pest	Host	Chemical	Example Brands	Amount per acre	REI	Comments
Codling moth	apple, pear	acetamiprid deltamethrin methoxyfenozide phosmet spinetoram thiacloprid codling moth virus	Assail Battalion Intrepid Imidan Delegate Calypso Virosoft, etc	3.4 oz 7-14 oz 16 oz 5.33 lbs 6-7 oz 4-8 oz ---	12 h 12 h 4 h 5 d 4 h 12 h ---	<ul style="list-style-type: none"> • see table below for timing • ensure good coverage for effective control • virus must be applied every 7 days
Powdery mildew	apple	potassium bicarbonate myclobutanil trifloxystrobin triflumizole fenarimol boscalid/pyraclostrobin	Kaligreen Rally Flint Procure Rubigan Pristine	2.5-3 lb 5 oz 2-2.5 oz 8-16 oz 12 oz 14.5-18 oz	4 h 24 h 12 h 12 h 12 h 12 h	
Fire blight	apple, pear	streptomycin oxytetracycline	Agri-mycin Mycoshield	check label		apply within 24 h of a wetting event only if fire blight was present last year; for use when flowers are still open
Fire blight	apple, pear	prohexadione-calcium)	Apogee	6 oz/100 gal		apply at petal fall, and again 7-14 days later. A higher rate causes increased fruit set, and a lower rate is not as effective. For use where fire blight is a severe problem.

Spray Timing for Codling Moth (Please check this chart each week for updated dates. These dates are forecasted using the average temperature for each site.)

County	Location	First Egg Hatch (220 DD)	Dates of Max. Egg Hatch (340-640 DD)	End of First Gen. (1020 DD)
Box Elder	Perry	May 27	June 5-June 22	July 8
Cache	Providence	June 5	June 14-July 3	July 21
	Smithfield	June 7	June 15-July 3	July 21
Carbon	Price	June 4	June 11-June 22	July 13
Davis	Kaysville	June 2	June 10-June 25	July 10
Grand	Castle Valley	May 22	May 29-June 13	June 28
Salt Lake	SLC	May 26	June 3-June 18	July 4
	West Valley City	May 22	June 1-June 18	July 4
Tooele	Erda	May 26	June 5-June 19	July 4
	Tooele	May 25	June 5-June 22	July 9
Utah	Alpine	June 5	June 14-June 29	July 15
	Genola	May 26	June 4-June 21	July 7
	Lincoln Point	May 29	June 7-June 22	July 9
	Orem	May 25	June 2-June 19	July 6
	Payson	May 30	June 8-June 25	July 12
	Provo	May 25	June 4-June 23	July 13
	Santaquin	May 28	June 7-June 24	June 11
Weber	West Mountain	May 27	June 5-June 21	July 8
	Pleasant View	May 27	June 4-June 21	July 8

Spray Materials - Residential Applicators

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

In addition, we recommend waiting until the petal fall (or pre-bloom for Cache County) stage to make applications to prevent harming pollinators.

Target Pest	Host	Chemical	Example Brands	Comments
Codling moth	apple, pear	azadirachtin carbaryl esfenvalerate malathion permethrin pyrethrin spinosad	Azatin Sevin, Bonide Fruit Tree Spray Ortho Bug-B-Gone Malathion Bayer Advanced Dust Concern Multi-Purpose Green Light	<ul style="list-style-type: none"> • Rotate among chemical classes to prevent resistance. • Most are applied every 7 days, but read the label. • See spray timing below
Powdery mildew	apple	bayleton lime sulfur propiconazole neem oil potassium bicarbonate	Bonide Lilly Miller Ferti-Lome Garden Safe Kaligreen	do not apply lime sulfur when temperature is over 75 degrees F
Fire blight	apple, pear	streptomycin oxytetracycline	Ferti-Lome Mycoshield	apply within 24 h of a wetting event only if fire blight was present last year

Spray Timing for Codling Moth (The forecasting of these dates will become more accurate as the actual spray timing recommendation draws closer. Please check this chart each week for updated dates. Note that there are 2 additional generations.)

County	Location	Begin Sprays (1st Generation)	End Sprays (1st Generation)
Box Elder	Perry	May 27	July 8
Cache	Providence	June 5	July 21
	Smithfield	June 7	July 21
Carbon	Price	June 4	July 13
Davis	Kaysville	June 2	July 10
Grand	Castle Valley	May 22	June 28
Salt Lake	SLC	May 26	July 4
	West Valley City	May 22	July 4
Tooele	Tooele	May 25	July 9
Utah	Alpine	June 5	July 15
	Genola	May 26	July 7
	Lincoln Point	May 29	July 9
	Orem	May 25	July 6
	Payson	May 30	July 12
	Provo	May 25	July 13
	Santaquin	May 28	June 11
	West Mountain	May 27	July 8
Weber	Pleasant View	May 27	July 8

Precautionary Statement: Utah State University Extension and its employees are not responsible for the use, misuse, or damage caused by application or misapplication of products or information mentioned in this document. All pesticides are labeled with ingredients, instructions, and risks. The pesticide applicator is legally responsible for proper use. USU makes no endorsement of the products listed herein.

Tree Fruit IPM Advisory

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