

News/What to Watch For:

It seems as if time has stood still (insect development-wise) with this cold weather! At a recent scouting trip, I found no activity except a few aphids and stray bees. Diseases such as coryneum blight and powdery mildew are still progressing along.

Watch for powdery mildew lesions on apple, cherry, and peach leaves.
Watch for “cottony” colonies of woolly apple aphid in the next few weeks
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Insect and Disease Activity/Info

APPLES/PEARS

Codling Moth

Usually moth flight is in full swing by this time, but due to the cooler weather and rains, codling moth trap catches have been very sporadic throughout our monitoring area. We cannot make any predictions on codling moth populations until the temperature warms and we can compare trap catches this spring and summer with numbers from previous years.

Starting spray dates for the warmer areas of northern Utah will begin the first week of June.

Fire Blight



The first fire blight infections were found in Utah County in spotty locations. Keep an eye out for flower/fruit clusters and leaves turning brown/black.

If flower cluster infections are not removed, the bacteria will spread to other plant parts. Shoots arising from blighted flower clusters will be killed, as will the terminal shoots farther out on affected twigs or limbs. They will develop the classic “shepherd’s crook” appearance.

Remove infections on flower/fruit clusters as you see them to prevent further spread. This is especially important in orchards or backyard trees with a few sporadic infections. This will reduce the spread of bacteria later in the season to succulent shoot tips, as well as spread from individual cankers. Ignoring even a few infections for one to two seasons can lead to a long road to tree recovery. Young trees and orchards (less than seven years) should also be carefully monitored because the bacteria that enter through blossoms can move rapidly through tissues into branches, scaffold limbs, and rootstocks.

Some orchards still have a few blooms, so we have included the fire blight warnings on page 3.

STONE FRUITS

Lygus Bug (Tarnished Plant Bugs)

Lygus bugs and stink bugs feed with piercing-sucking mouthparts, and their feeding early in the season can result in fruit with deep puckers or scars. Scouting in orchards showed very low lygus bug pressure. Check individual orchards by shaking a branch over a cloth



Insect and Disease Information, continued from previous page

try to look for the distinctive bugs. Alternatively, use a sweep net in weedy groundcovers or in adjacent alfalfa fields. Ideally, groundcover weeds should be managed to prevent lygus bugs, as they are a haven for all plant bugs.

Green Peach Aphid

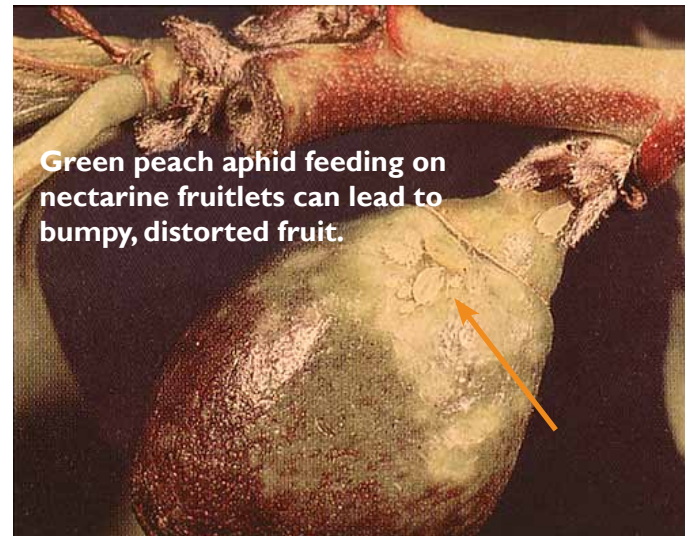


curled leaves caused by aphid feeding on peach

Green peach aphids were found in low levels in most peach orchards, with a few locations showing curled peach leaves due to aphid feeding. Normally at this time of year they have reproduced to large colonies on succulent leaves. Most locations are still below treatable levels, but where trees have high populations, consider treatment especially if the orchard is young.

Monitor peach and nectarine trees weekly from petal fall until the terminals harden off. According to Penn State University Fruit IPM Program, the treatment threshold for nectarines is one colony per tree, and five or more colonies per tree for peaches. Large trees can tolerate higher levels of infestation.

Keep in mind that predators such as syrphid fly larvae and lady beetles often contribute to biological control of aphids. The weather has been too cool for predators to build up in populations but they will start to be found in aphid colonies soon.



Last week, we discussed western flower thrips on nectarine. This can be a serious pest, causing scarring and gumming. Green peach aphids can also damage nectarine fruit early in the season, leading to bumpy and distorted fruit.

Degree Day Accumulations and Insect Development

Upcoming Monitoring/Insect Activity

Pest	Host(s)	DD/Monitoring Action
Apple powdery mildew	apple	Look for small white lesions on new foliage
Codling moth	apple, pear	Egg-hatch begins approximately 2 weeks after biofix
San Jose scale	apple mostly	Crawler emergence early June; treat in late June
White apple leafhopper	apple	Look for nymph and adult activity on undersides of leaves
Cherry powdery mildew	cherry	Look for small white lesions on new foliage near the base and interior of the tree
Western cherry fruit fly	cherry	Hang traps in late May; first flies in early June; treat when fruit develops salmon blush color
Peach twig borer	peach, nectarine	Hang traps in late May; first flight early June

Degree Day Accumulations and Pest Phenology

March 1 - Wednesday, May 26

County	Location	GDD (50)	Codling Moth			Fire Blight Warning
			DD (post biofix)	% Moth Flight	% Egg Hatch	
Box Elder	Perry	---	67	8	0	May 26: LOW, May 27-29: HIGH, May 30: CAUTION
	Tremonton	204	---	---	---	May 26: LOW, May 27-29: HIGH, May 30: CAUTION
Cache	North Logan	180	---	---	---	May 26-30: LOW
	Providence	---	31	3	0	May 26-30: LOW
	Smithfield	158	---	---	---	May 26-30: LOW
Carbon	Price	---	62	7	0	May 26-27: LOW, May 28-30: CAUTION
Davis	Kaysville	---	67	8	0	May 26: LOW, May 27-29: HIGH, May 30: CAUTION
Grand	Castle Valley	---	233	50	2	---
Juab	Tintic	---	24	2	0	May 26: CAUTION, May 27-30: EXTREME
Salt Lake	Holladay	---	92	13	0	May 26-30: LOW
	West Valley City	---	99	15	0	May 26-30: LOW
Tooele	Erda	251	---	---	---	May 26-30: LOW
	Tooele	---	32	3	0	May 26-30: LOW
Uintah	Vernal	---	54	7	0	May 26-27: CAUTION, May 28-30: HIGH
Utah	Alpine	236	---	---	---	May 26-30: LOW
	American Fork	---	88	12	0	May 26: CAUTION, May 27-30: EXTREME
	Genola	---	94	13	0	May 26: CAUTION, May 27-30: EXTREME
	Lincoln Point	---	143	24	0	May 26: CAUTION, May 27-30: EXTREME
	Orem	---	90	12	0	May 26: CAUTION, May 27-30: EXTREME
	Payson	---	63	7	0	May 26: CAUTION, May 27-30: EXTREME
	Provo	---	98	15	0	May 26: CAUTION, May 27-30: EXTREME
	Santaquin	---	85	10	0	May 26: CAUTION, May 27-30: EXTREME
West Mountain	---	87	11	0	May 26: CAUTION, May 27-30: EXTREME	
Weber	Pleasant View	---	86	11	0	May 26: LOW, May 27-29: HIGH, May 30: CAUTION
Wasatch	Heber City	164	---	---	---	May 26-27: No Blight, May 28-29: CAUTION, May 30: No Blight
Wayne	Capitol Reef	---	175	35	0	---

Spray Timing

Please check these chart each week for updated dates. These dates are forecasted using the average temperature for each site. Fruit should remain protected through each generation according to interval provided on pesticide label.

Codling Moth, First Generation

Most residential growers should start sprays at the “traditional start date,” unless you choose to use horticultural oil at 200 DD. The period of greatest egg hatch occurs from 340 DD - 640 DD.

County	Location	If using oil for early ovicide		Traditional Start Date (1% egg hatch)	Period of Greatest Egg Hatch (340-640 DD)
		Apply Oil (200 DD)	Apply delayed 1st cover (350 DD)		
Box Elder	Perry	June 5	June 15	June 6	June 14 - July 1
	Tremonton				
Cache	N. Logan				
	Providence	June 10	June 21	June 12	June 20 - July 7
	Smithfield				
Carbon	Price	June 10	June 22	June 11	June 21 - July 9
Davis	Kaysville	June 4	June 13	June 5	June 13 - July 27
Grand	Castle Valley	May 22	June 1	May 24	June 1 - June 15
Juab	Tintic	June 9	June 19	June 11	June 19 - July 5
Salt Lake	Holladay	June 1	June 10	June 9	June 9 - June 23
	West Valley City	June 2	June 11	June 3	June 10 - June 25
Tooele	Erda				
	Tooele	June 6	June 15	June 7	June 14 - June 29
Uintah	Vernal	June 6	June 16	June 7	June 15 - July 2
Utah	Alpine				
	American Fork	June 3	June 13	June 4	June 12 - June 28
	Genola	June 3	June 13	June 4	June 12 - June 29
	Lincoln Point	May 30	June 10	June 1	June 9 - June 26
	Orem	June 1	June 10	June 2	June 9 - June 24
	Payson	June 4	June 13	June 5	June 12 - June 27
	Provo	June 1	June 10	June 2	June 10 - June 24
	Santaquin	June 4	June 14	June 5	June 13 - June 29
	West Mountain	June 2	June 11	June 3	June 11 - June 26
Weber	Pleasant View	June 3	June 12	June 4	June 11 - June 26
Wasatch	Heber City				
Wayne	Capitol Reef	May 27	June 5	May 28	June 4 - June 19

Spray Materials - Commercial Applicators

NOTE: If your trees are in bloom, we do not recommend applying any pesticides unless you are controlling fire blight with antibiotics. Although it is OK to use “softer” materials such as Bt or spinosad during bloom, we still recommend either: waiting until the petal fall stage or applying at dawn or dusk when pollinators are not active.

Target Pest	Host	Chemical	Example Brands	Amount per acre	REI	Comments
Codling moth	apple, pear	hort. oil	variety	see label		<ul style="list-style-type: none"> for all products, ensure good coverage for effective control hort. oil works on eggs only codling moth virus must be applied every 7 days Altacor and Delegate have shown to have good efficacy, and target eggs and larvae
		acetamiprid	Assail	3.4 oz	12 h	
		deltamethrin	Battalion	7-14 oz	12 h	
		methoxyfenozide	Intrepid	16 oz	4 h	
		phosmet	Imidan	5.33 lbs	5 d	
		spinetoram	Delegate	6-7 oz	4 h	
		thiacloprid	Calypso	4-8 oz	12 h	
		rynaxypyr	Altacor	3.5-4.5		
codling moth virus	Virosoft, etc	---	---			
Powdery mildew	apple	potassium bicarbonate	Kaligreen	2.5-3 lb	4 h	rotate among chemical classes to prevent resistance
		myclobutanil	Rally	5 oz	24 h	
		trifloxystrobin	Flint	2-2.5 oz	12 h	
		triflumizole	Procure	8-16 oz	12 h	
		fenarimol	Rubigan	12 oz	12 h	
		boscalid/pyraclostrobin	Pristine	14.5-18 oz	12 h	
Fire blight	apple, pear	streptomycin	Agri-mycin	check label		apply within 24 h of a wetting event only if fire blight was present last year
		oxytetracycline	Mycoshield	check label		
Green peach aphid	peach, nectarine	acetamiprid	Assail	8 oz	12 h	
		imidacloprid	Provado	4-8 oz	12 h	
Lygus bug	peaches	azadirachtin	Aza-Direct	1-2 pints	4 h	OMRI certified organic restricted use product restricted use product OMRI certified organic
		beta-cyfluthrin	Baythroid	2-2.4 oz	12 h	
		cyfluthrin	Tombstone	2-2.4 oz	12 h	
		pyrethrin	Pyganic	4..5-18	4 h	

Spray Materials - Residential Applicators

Note that these treatments are only recommended if you know you have the particular pest in your trees. We recommend learning about specific pests, and scouting your trees at least once/week.

Products are listed by **Conventional** (usually broad-spectrum pesticides that are effective, but harmful to beneficial insects), or **Soft/Organic** (not as effective, but safer for environment and humans). Products are listed in order of efficacy.

Target Pest	Host	Chemical	Example Brands	Comments
Codling moth	apple, pear	<i>Conventional</i> carbaryl acetamiprid malathion gamma-cyhalothrin bifenthrin <i>Soft/organic</i> hort. oil (1%) spinosad codling moth virus	Sevin, Bonide Fruit Tree Spray, etc. Ortho Max Flower, Fruit, and Veg., Malathion Spectracide Triazicide Ortho Max Lawn and Garden Insect Killer Many products Green Light, Gardens Alive Bull's Eye Virosoft, Cyd-X	acetamiprid: every 14 days carbaryl: every 14 - 21 days malathion: every 7 days gamma-cyhalothrin: every 14 days bifenthrin: every 14 days hort. oil: lasts 5-7 days for killing eggs; use at beginning of each generation; apply at 1% rate only when temperatures are below 80; follow up with a different product spinosad: every 7 days codling moth virus can only be purchased online
White apple leafhopper	apple	imidacloprid acetamiprid	Ortho Max Tree and Shrub Ortho Max Flower, Fruit and Veg.	one application when nymphs are first noticed in spring
Powdery mildew	apple	<i>Conventional</i> bayleton propiconazole <i>Soft/organic</i> lime sulfur neem oil potassium bicarbonate	Lilly Miller Ferti-Lome Bonide Garden Safe Kaligreen	do not apply lime sulfur when temperature is over 75 degrees F
Fire blight	apple, pear	streptomycin oxytetracycline	Ferti-Lome Mycoshield	Do not use antibiotic unless necessary; apply streptomycin within 24 h of a wetting event only if fire blight was present last year; oxytetracycline within 12 hr.
Green peach aphid	peach, nectarine	<i>Conventional</i> malathion <i>Soft/organic</i> pyrethrin	Bonide, Malathion Pyganic	start with a single application

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.

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Editor: Marion Murray, marion.murray@usu.edu

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