

News/What to Watch For:

Check codling moth traps daily to get biofix (first moth flight)
Examine apple leaves for bright white powdery spores of powdery mildew
Examine apple, peach, and cherry leaves for new colonies of aphids forming
Images of bud stages, page 4
Spray information, pages 5-6

Bud Stages

According to the 10-day forecast, there is no threat of frost damage to open flowers for any counties listed here. This will be the last report of bud stages.

Davis, Box Elder, Salt Lake, Weber counties:

Apples: full bloom
Cherries (tart): full bloom
Pears: bloom - petal fall

Cache County:

Apples: open cluster - king bloom
Cherries: first white
Peaches: bloom
Pears: first bloom

Utah County:

Apples: full bloom
Cherries (tart): full bloom
Pears: bloom - petal fall

Insect and Disease Activity/Info

Specific spray information found on last two pages.

APPLES/PEARS

Codling Moth

No moths have been caught in northern Utah pheromone traps; however, a warm evening is expected to occur tonight, so biofix will almost certainly be set for many areas in the next few days. Stay tuned to spray timing information, which we will determine based on the biofix date.



Western flower thrips



Thrips activity was observed in apples in Utah County this week. Thrips are minute insects that are primarily a problem early in the season via oviposition scars on apples, or feeding on young nectarine fruit. With increasing temperatures, activity and populations will increase. Consider a bloom-time treatment of spinosad (Success, Entrust, Green Light) at dawn or dusk.

Insect and Disease Information, continued from previous page

Campylomma



Campylomma nymphs were observed in apple blocks in Utah County this week. The first generation nymphs are the only stage that causes damage to fruit. "Campy" adults and nymphs are typically beneficial predators of mites, aphids, and pear psylla. If no other food source is available, they may feed on flower parts and developing fruitlets, resulting in depressed, corky bumps.

If you have had a history of campylomma bug problems, sample your orchard by shaking a branch over a cloth tray to look for dislodged nymphs. The bloom-time threshold for treatment is 2 nymphs/10 "beat samples" on golden varieties and 17.5 nymphs/10 "beat samples" on red varieties. As noted in an earlier advisory, treatments should occur before or after bloom, or during bloom when bees are not foraging.

Rosy apple aphid



Rosy apple aphids have hatched and are building population size now. Adults are all females, and give birth to live young. They may not be visible until petal fall, because they are now tucked away at the bases of blossom clusters, feeding on newly expanding leaves. As they feed, their saliva causes the developing fruit to become distorted.

The optimal control timing is pre-bloom, but if you have not made an application and know that this aphid is a problem in your trees, make an inspection for activity. Shake a limb over a cloth tray to look for dislodged aphids, and look for dam-



age (curled leaves) on at least 10 terminals per tree, especially toward the center of the tree. If you find one colony per tree, make an application at petal fall.

Green peach aphid



Green peach aphid colonies, as well as twisted terminal leaves, were found in several orchards in Utah and Box Elder counties. This aphid can be a serious pest on developing nectarines, causing russeting and distortion. Growers that have more than 2 colonies per tree on peach or 1 colony per tree on nectarines should consider a petal fall treatment.

Fire Blight

Check the table on the next page for your area--most areas are at HIGH risk level for May 6 - May 12, with the greatest risk on May 8 and May 12. Remember that even at a high risk, at least two hours of moisture are necessary for infection to occur. Monitor moisture in your own orchard/trees. If wetting occurs during this time, AND flowers are open, apply an antibiotic (streptomycin, oxytetracycline). Because of resistance, growers in Utah County should not use streptomycin.

continued on next page

Insect and Disease Information, continued from previous page

If a fire blight infection does occur, symptoms will be visible within 1 - 2 weeks. Look for darkened blossom centers, dark green and water-soaked fruit pedicels, and bacterial ooze droplets on fruit pedicels. Growers who choose not to spray should watch their trees for new infections, and prune them out immediately.

We now offer the fire blight disease model (Cougarblight) on Utah Climate Center's TRAPs site: climate.usu.edu/pest.php. Simply select "fire blight" from the drop down menu (after selecting the station location), and hit "submit." You

can tailor the results to the fire blight history in your area.

Note that the risk levels provided in the table below are for areas that HAVE ACTIVE FIRE BLIGHT. The risk level goes down if your own trees are "clean" but there is a chance of spread from neighborhood trees:

Caution: Wetting at this point is not likely to lead to infection, except within a few yards of an actively oozing canker.

High: If unprotected flowers are wetted, infection is possible. You may

choose to protect every 2 – 3 days with a biological product during the HIGH risk period. Or, apply antibiotic within 24 hours before or after the infection (wetting) event.

Extreme: Outbreak may occur if blossoms are wetted, no matter the blight history of your orchard. Apply antibiotic within 24 hours before or after the wetting event. If used, biological products should already be present on flowers and may not work as well if only applied at this risk period.

Degree Day Accumulations and Insect Development

Degree Day Accumulations

March 1 - Wednesday, May 6

County	Location	Codling Moth, Peach Twig Borer (Base 50)	Western Cherry Fruit Fly (Base 41)	Fire Blight Warning through May 12 (see page 2)
Box Elder	Perry	207	479	May 6-7, 9, 10: CAUTION, May 8, 12: HIGH
Cache	North Logan	115	339	No Blight
	Providence	126	340	No Blight
	Smithfield	107	309	No Blight
Carbon	Price	152	405	No Blight
Davis	Kaysville	197	470	May 6-7, 9, 10: CAUTION, May 8, 12: HIGH
Grand	Castle Valley	113 (after biofix)	784	---
Salt Lake	Holladay	218	500	May 6-7, 9, 10: HIGH, May 8, 12: EXTREME
	West Valley City	218	517	May 6-7, 9, 10: HIGH, May 8, 12: EXTREME
Tooele	Erda	201	464	May 6-7, 9, 10: CAUTION, May 8, 12: HIGH
	Grantsville	315	651	May 6-7, 9, 10: HIGH, May 8, 12: EXTREME
	Tooele	195	489	May 6-7, 9, 10: CAUTION, May 8, 12: HIGH
Utah	Alpine	198	466	May 6-7, 9, 10: LOW, May 8, 12: CAUTION
	Genola	245	563	May 6-7, 9, 10: HIGH, May 8, 12: EXTREME
	Lincoln Point	201	470	May 6-7, 9, 10: CAUTION, May 8, 12: HIGH
	Orem	191	472	May 6-7, 9, 10: HIGH, May 8, 12: EXTREME
	Payson	217	460	May 6-7, 9, 10: CAUTION, May 8, 12: HIGH
	Provo	264	553	May 6-7, 9, 10: HIGH, May 8, 12: EXTREME
	Santaquin	215	490	May 6-7, 9, 10: CAUTION, May 8, 12: HIGH
Weber	Pleasant View	182	448	May 6-7, 9, 10: LOW, May 8, 12: CAUTION

"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.

Bud Phenological Stages

Apple

Open cluster



Pear

Bloom



Peach

Petal fall



King bloom



Cherry

First bloom



Bloom



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 legal to use "softer" materials such as Bt or spinosad during bloom, we still recommend either: waiting until the petal fall stage or apply at dawn or dusk when pollinators are not active.

Target Pest	Host	Chemical	Example Brands	Amount per acre	REI	Comments
Campylocoma	apple	acetamiprid	Assail	1.7-3.4 oz	12 h	
Codling moth	apple, pear	hort. oil acetamiprid deltamethrin methoxyfenozide phosmet spinetoram thiacloprid rynaxypyr codling moth virus	variety Assail Battalion Intrepid Imidan Delegate Calypso Altacor Virosoft, etc	see label 3.4 oz 7-14 oz 16 oz 5.33 lbs 6-7 oz 4-8 oz 3.5-4.5 ---	12 h 12 h 4 h 5 d 4 h 12 h ---	<ul style="list-style-type: none"> works on eggs only ensure good coverage for effective control virus must be applied every 7 days has shown to have good efficacy
Rosy apple aphid	apple	acetamiprid clothianidin flonicamid imidacloprid thiacloprid	Assail Clutch Beleaf Provado Calypso	1.7 oz 2-3 oz 2-2.8 oz 4-8 oz 2-4 oz	12 h 12 h 12 h 12 h 12 h	apply post bloom
Thrips	light-skinned apples, nectarines	endosulfan spinosad	Thionex Success	4 lb 4-8 oz	24 h 4 h	<ul style="list-style-type: none"> apply just before bloom or during bloom at dusk or dawn Thionex will also control lygus and campylocoma; toxic to bees
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	apply starting at open cluster stage
Fire blight	apple, pear	streptomycin oxytetracycline	Agri-mycin Mycoshield	check label check label		apply within 24 h of a wetting event only if fire blight was present last year
Green peach aphid	peach, nectarine	acetamiprid imidacloprid	Assail Provado	8 oz 4-8 oz	12 h 12 h	
Lygus bug	peaches	azadirachtin beta-cyfluthrin cyfluthrin pyrethrin	Aza-Direct Baythroid Tombstone Pyganic	1-2 pints 2-2.4 oz 2-2.4 oz 4..5-18	4 h 12 h 12 h 4 h	OMRI certified organic restricted use product restricted use product OMRI certified organic

Spray Timing for Codling Moth

County	Location	Biofix	Timing (75 DD) for Ovicides (Rimon, IGRs)	Timing (200 DD) for Hort oil	Traditional Timing (220 DD)
Grand	Castle Valley	April 26	---	May 15	May 17

Spray Materials - Residential Applicators

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

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

Target Pest	Host	Chemical	Example Brands	Comments
Codling moth	apple, pear	azadirachtin carbaryl esfenvalerate malathion pyrethrin spinosad	Azatin Sevin, Bonide Fruit Tree Spray Ortho Bug-B-Gone Malathion 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
Rosy apple aphid	apple	carbaryl bifenthrin malathion neem oil permethrin	Bayer Advanced Ortho Bug-B-Gone Bonide, Malathion Green Light Lilly Miller	start with a single application
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	biological streptomycin oxytetracycline	Blightban, Bloomtime Ferti-Lome Mycoshield	<ul style="list-style-type: none"> • Biologicals should be applied at 15-20% bloom and again at full bloom • Do not use antibiotic unless necessary; apply within 24 h of a wetting event only if fire blight was present last year
Green peach aphid	peach, nectarine	malathion pyrethrin	Bonide, Malathion Pyganic	start with a single application

Spray Timing for Codling Moth

County	Location	Biofix	Timing (200 DD) for Hort oil	Traditional Timing (220 DD)
Grand	Castle Valley	April 26	May 15	May 17

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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