

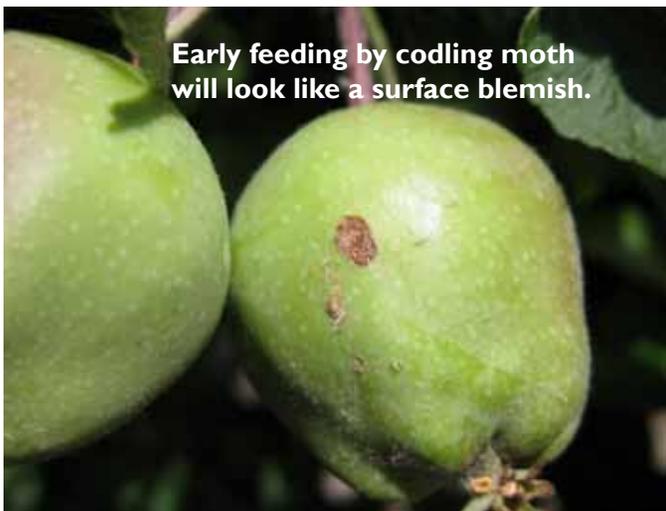
News/What to Watch For:

- Powdery mildew is starting in cherries
- Raspberry growers: Wasatch Front should have already started treatment for raspberry horntail; growers in Cache County should start now; Sevin is a good option
- San Jose scale crawlers will be active along the Wasatch Front soon
- Codling moth and peach twig borer spray timings, pages 4&5
- Spray materials, page 6

Insect and Disease Activity/Info

APPLES/PEARS

Codling Moth



Most locations are at the downward end of the peak egg hatch (which occurs at 340-640 DD after biofix). Most locations in the Wasatch Front will be finished with egg hatch of the first generation by the end of June, while colder areas will finish by early to mid July.

A second generation of codling moth egg hatch will about a week after the first generation ends. Not much of a reprieve from spraying, but if you work out your applications right, you can factor in an extra week after your last application before starting again on the second generation larvae.

Take some time to examine some fruits on your tree to see if your management strategy is working. Especially look at fruit that is touching other fruit or leaves. Often larvae will find

these hidden places where a spray couldn't cover, and enter there.

Apple Aphids



Green apple aphid is the most common aphid on apples and their populations are increasing now, as the apple leaves are still emerging and succulent. They feed throughout summer and overwinter as eggs. They generally do not cause damage to established trees. Younger trees or new plantings may need to be protected.

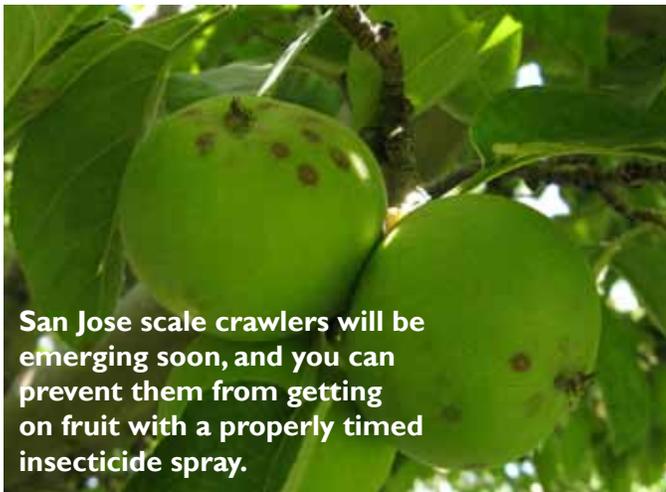
Rosy apple aphids (see image on next page) are easily identified by their rosy color. Feeding by rosy apple aphids can cause leaves to curl inward, and if feeding occurs in fruit clusters, the aphids' toxic saliva distorts fruit growth. We generally do not recommend control recommendations for rosy apple aphid after petal fall because they move from apple trees to weed hosts in early July.

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Rosy apple aphids also curl leaves, but can be identified by their reddish color.

San Jose Scale



San Jose scale crawlers will be emerging soon, and you can prevent them from getting on fruit with a properly timed insecticide spray.

This scale insect attacks a wide variety of hardwood trees, including all fruit trees, but in Utah, is most common on apple. It can be found feeding on twigs, scaffold branches, and if left untreated, will crawl to fruit. They are often difficult to see with the naked eye; a 10-20x hand lens helps.

Delayed dormant sprays help to knock down this pest, but treatment of first generation crawlers at 600-700 degree days after codling moth biofix (which is often the same as SJS) is the best option for larger infestations. Use the hand lens or double-sided tape to watch for crawlers to be sure.

Continue to monitor for scale by looking 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. The crawler stage is most vulnerable to treatment.

Estimated Treatment Timings for SJS:

Wasatch Front: between June 12 and June 17

Cache, Carbon, and Wasatch Ctys: between June 27 and July 2

Iron County: between June 17 and June 23

White Apple Leafhopper



Leafhopper nymphs were observed several weeks ago, and adults are active now. They are a minor pest of apples and rarely cause economic damage. They cause stippling of leaves but this does not harm the tree. Treatment threshold for leafhopper ranges (according to various sources) from 3 insects per terminal to 6 insects per terminal. Treatment is usually warranted when the pest is a nuisance at apple-picking time.

STONE FRUITS

Peach Twig Borer

The first peach twig borer sprays should be on this week in the Wasatch Front area, in later weeks in cooler areas. If you have apples and are treating for codling moth, you can use the same material for peach twig borer.

Western Cherry Fruit Fly



Fruit fly adults have been trapped all areas of northern Utah. If the cherries on your trees have developed a salmon-blush color (which most sweets have and tarts have in the last week

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or two) you should begin applications to protect your fruit through until harvest with materials that target the adults.

Greater Peachtree Borer



Greater peachtree borer (aka, trunk borer and crown borer) have been caught in traps in warmer areas of Utah County, Tooele, and Salt Lake Counties. We expect to catch this moth in most other traps along the Wasatch Front by early next week. 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) or exposed roots only. 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 now and in the next week for the Wasatch Front area. Repeat applications based on product label guidelines.

Materials for commercial growers include:

- carbaryl (Sevin)
- esfenvalerate (Asana)
- lambda-cyhalothrin (Warrior)
- permethrin (Ambush, Pounce, many brands)

Materials for home growers include:

- carbaryl (Sevin)*
- permethrin (many brands; works the best; if you cannot find this ingredient, use Spectracide with gamma-cyhalothrin)

Obliquebanded Leafroller

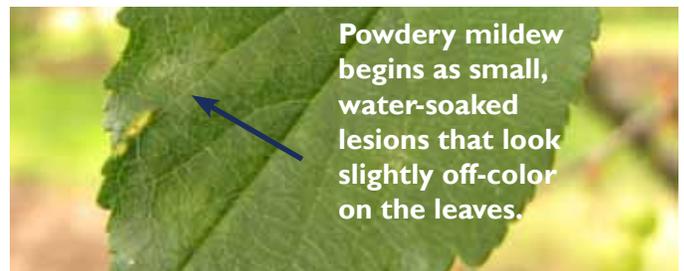


This is an insect that has become more common in commercial orchards as growers make the transition from Guthion for codling moth or cherry fruit fly control to other options.

Obliquebanded leafroller overwinters as larvae, and moths of the first summer generation began flying toward the end of last week in most northern Utah orchards. According to the degree day model, eggs start to hatch in mid June and will continue to hatch for the following four to six weeks. A second summer generation will emerge in August.

The best way to monitor for this pest is to look for larvae and for rolled leaves webbed together. They feed mostly on the terminals shoots, and feed on fruit as the larvae get bigger. Open or separate the leaves and look for the shiny green larva with a brown head.

Cherry Powdery Mildew



Powdery mildew on both sweet and tart cherries was observed in Davis and Utah counties this week. Powdery mildew causes a white fuzzy growth on leaves and fruits. In tart cherries, powdery mildew infections that enter the pedicels (stems) will make it difficult to shake the cherries loose. If you see some powdery mildew, treatments will not kill the existing infection, but will prevent spread to other sites.

Upcoming Monitoring/Insect Activity

Pest	Host(s)	Monitoring Action
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

Spray Timing - Codling Moth

Codling Moth, First Generation

First generation egg hatch is still underway; continue protecting fruit until the end of egg hatch. Then, start again for the second generation.

County	Location	End of Egg Hatch (920 DD)	Start Sprays; Second Gen (1150 DD, 1-2% egg hatch)
Box Elder	Perry	June 28	July 9
	Tremonton	July 7	July 16
Cache	River Heights	July 11	July 21
	Smithfield	July 11	July 20
Carbon	Price	July 9	July 21
Davis	Kaysville	June 27	July 7
Grand	Castle Valley	June 11	June 21
Iron	Cedar City	July 1	July 11
Salt Lake	All Regions	June 19	June 29
Tooele	Tooele	June 27	July 27
Uintah	Vernal	July 1	July 12
Utah	Alpine	July 1	July 12
	American Fork	June 27	July 7
	Genola	June 27	July 7
	Lincoln Point	June 28	July 8
	Orem	June 24	July 3
	Payson	June 29	July 8
	Santaquin	June 29	July 9
Weber	Pleasant View	June 27	July 7
Wasatch	Heber City	July 18	July 30

Spray Timing - Peach Twig Borer

Peach Twig Borer, First Generation

(If you had moderate to severe PTB damage last year, use the earlier spray date; if you had very little PTB damage last year, use the later date to start sprays. These two dates correspond to 300 and 360 degree days after biofix, or 5% and 16% egg hatch. End of egg hatch, where you should "keep fruit protected up to" is at 800 degree days.

County	Location	Start Date (large population)	Start Date (small population)	Keep Fruit Protected Up To:
Box Elder	Perry	May 31	June 5	July 2
	Tremonton	June 18	June 21	July 11
Cache	River Heights	June 17	June 21	July 13
	Smithfield	June 17	June 22	July 13
Carbon	Price	June 18	June 21	July 19
Davis	Kaysville	May 30	June 3	June 27
Grand	Castle Valley	May 17	May 21	June 10
Iron	Cedar City	June 2	June 7	July 1
Salt Lake	All Regions	June 1	June 5	June 29
Tooele	Tooele	May 31	June 5	June 28
Uintah	Vernal	June 2	June 7	July 5
Utah	Alpine	June 10	June 14	July 6
	American Fork	June 1	June 6	June 29
	Genola	June 1	June 6	June 29
	Orem	June 6	June 9	June 28
	Payson	June 1	June 5	June 29
	Santaquin	June 2	June 7	July 1
Weber	Pleasant View	June 1	June 5	June 27
Wasatch	Heber City	June 20	June 23	July 15

Spray Materials - Commercial Applicators

Please look up spray material options in the **2012 Utah-Colorado Tree Fruit Production Guide**. If you do not have a copy and would like one, contact marion.murray@usu.edu. You may also access spray options at the guide's companion website at intermountainfruit.org.

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
Both codling moth AND peach twig borer (except Cyd-X)	apple, pear	<i>Conventional</i> carbaryl acetamiprid malathion gamma-cyhalothrin <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 Many products Green Light, Gardens Alive Bull's Eye, Monterey Cyd-X	acetamiprid: every 14 days carbaryl: every 14 - 21 days malathion: every 7 days gamma-cyhalothrin: every 14 days hort. oil (codling moth only): lasts 5-7 days for killing eggs; use at beginning of each generation; apply at 1% rate only when temperatures are below 80 F; follow up with a different product spinosad: every 7 days codling moth virus (codling moth only) can only be purchased online
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, and do not mix with oil or apply after or before oil
Coryneum blight	peach, apricot	captan	Captan	use as a preventive before a rain
Aphids	all	1% horticultural oil insecticidal soap	variety variety	these work as contact sprays only, so thorough coverage is important; repeat will be needed for woolly apple aphid

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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