

News/What to Watch For:

“June drop” will be happening soon for peach fruit. If the fruit was not thinned enough, the drop may be greater than usual.

Aphids, such as green peach aphid, black cherry aphid, and rosy apple aphid, will be leaving fruit trees in the next few weeks for alternate weed hosts.

Explanation of why peach trees lost leaves this spring, page 5.

Updated Codling Moth Spray Dates, Peach Twig Borer Dates, and Residential Products, pgs 6-8.

JUST THE BASICS: Current Treatments

APPLE & PEAR

- Look for *fire blight* infections now and prune them out immediately (in dry weather).
- The time to treat *San Jose scale* is coming up.


CHERRY


- Start protecting cherries from *western cherry fruit fly* when fruit has turned a salmon blush color.

PEACH/NECTARINE, APRICOT

- For *coryneum blight*, apply fungicide after each 4-hour rainfall (if disease is already present).
- Time to treat for *peach twig borer*; see page 7.
- *Not* time yet for *greater peachtree borer*.
- Consider foliar iron application if *iron chlorosis* is becoming severe.

Insect and Disease Information

 : information for residential settings

 : information for commercial orchards

APPLE and PEAR

Codling Moth

Hosts: apple, pear

- **protect fruit during rapid egg hatch (see page 6)**

Most areas are in the middle of the “period of greatest egg hatch”. This is the time when up to 75% of codling moth eggs hatch into larvae. If it has been a while since you applied a treatment, and your fruit was infested last year, you might consider another application during this time period.

The egg hatch for the first generation will be ending in late June, and a second generation will begin in early July. Between these two dates, there is no need for the fruit to be protected.

San Jose Scale

Hosts: apple, sometimes other fruit trees, as well



If San Jose scale gets to the point where you can easily see them on the fruit, the infestation is considered severe.

This armored scale attacks all fruit trees, but in Utah, is most common on apple. It is an immobile insect that looks like

Insect and Disease Activity, continued

a small pimple, and feeds on tree sap through a straw-like mouthpart. It can be found on fruit as well as the bark of twigs, scaffold branches, and the main trunk. They are often difficult to see with the naked eye; a 10-20x hand lens helps.

If you applied a dormant oil spray, keep in mind that most overwintering adults will survive that spray. So a treatment targeting newly hatched nymphs (called crawlers) will need to be applied. Each adult female lays approximately 200 eggs. The crawlers are bright yellow, and slow-moving. They walk or are windblown to new sites to settle on twigs or fruit, insert their mouthparts, and feed for the remainder of their lives. Once they form their hard outer covering, they are more resistant to pesticides.

If the scale population is left untreated, the fruit becomes small and deformed. The tree loses vigor and branches may start to die. It is primarily a problem in standard-sized, poorly pruned trees.

Treatment timing windows:

- Cache, Carbon, northern Box Elder Counties, and high elevation areas: June 26 - July 2
- Warmer Wasatch Front locations and Grand County: June 7 - 13
- Cooler Wasatch Front locations: June 15 - June 19
- Iron County: June 24 - 29
- Washington (not St. George): June 20 - 24

(If your area is not listed and you would like to know, please contact me at marion.murray@usu.edu.)

Commercial treatment (and days between sprays): a few options are Centaur (14), Esteem (14), Admire Pro (14), and Ultor; for more information, see the [Intermountain Tree Fruit Production Guide](#)

Residential treatment options (and days between sprays): insecticidal soap (5); horticultural oil (5-7); see page 8 for more information

Fire Blight

Hosts: apple, pear

- **prune out new infections**

A few fire blight infections are showing up in apple trees now. It is important that these are removed because otherwise, the bacteria may continue to spread in the tree and kill branches. In addition, these infected areas will contribute to spread of the disease to other parts of the tree or orchard.

Prune in dry weather only. To be safe, wipe pruners with bleach or disinfecting wipes in between cuts. For infections



look for wilted and dried flower clusters and prune them out as soon as possible (in dry weather)

that are caught early, remove twice the length of the visible symptoms. If moisture is predicted after pruning, remove the debris rather than leaving it in the orchard. (If conditions are hot and dry, it is OK to leave the debris on the ground.)

PEACH/NECTARINE, APRICOT, CHERRY

Coryneum Blight

Hosts: peach/nectarine, apricot, plum

- **remove fallen, infected fruit**



lesions on peach may ooze and will later scab; infected leaves take on a shothole appearance



Insect and Disease Activity, continued

This spring, the disease coryneum blight is wreaking havoc on apricots, peaches, and even some cherries. The recent May rains helped to spread the fungal spores, leading to heavy infections on leaves and fruit. Leaves may turn yellow and drop early.

Unfortunately, there is nothing to be done about existing infections. For backyard settings, remove the most heavily infected fruit and rake up fallen leaves to prevent further spread.

For the remainder of the season, new infections can occur when temperatures are warm (above 75) combined with a steady rain lasting 4 to 6 hours. A fungicide spray is required to prevent these infections from happening.

Commercial growers can find options by [clicking here](#) (scroll down the page).

For backyard growers, Captan is only effective when applied before a rain. Spectracide Immunox can be applied after a rain, but may not provide complete prevention of infection.

Peach Twig Borer 
Hosts: peach/nectarine, apricot



peach twig borer feeds in the top inch of succulent growth, causing wilting and death of the plant tissue

Peach twig borer affects peaches, nectarines, and apricots. Unlike codling moth on apples, this pest appears to be more sporadic in Utah, and some locations have a low enough population that do not need to be treated.

Peach twig borer larvae prefer to feed on succulent tissue inside twigs. Later in the season, when twigs become hardened off and unpalatable, larvae enter fruit as the “second best option.” In short, the first generation bores into succulent twigs (hence, its name) while later generations move on to the ripening fruit.

A table has been added to page 7 that shows when to start treating the first generation. You may need to apply insecticide regularly so that your tree is protected throughout each generation, or, if you have low pest pressure, you can get away with a single (or no) application for each generation (up to 2 well-timed sprays).

Sprays for the first generation will protect shoots from being attacked while later sprays will protect fruit from being attacked. Treatment options are the same as for codling moth, and shown on page 6.

Commercial growers can find treatment options [here](#). Go to pages 115-116 of the pdf.

Greater Peachtree Borer
Hosts: peach/nectarine

We have not caught peachtree borer in any of our traps in northern Utah yet. We expect that the moths will probably start to fly anywhere from June 15 to July 4, depending on your location (warm Wasatch Front to Cache County). As soon as we catch moths in our monitoring traps, we will provide that information.

(If using mating disruption, you can hang that any time now.)

Adult peachtree borer moths lay eggs on the lower 12” of the tree trunk or on nearby soil, and larvae bore into the tree and feed on the cambium for the rest of the summer. They pupate in spring and emerge as moths.

Commercial growers can use (and days between sprays): Lorsban (one spray only; do not touch foliage); Asana (21); permethrin (21); Isomate-P mating disruption. For more information, see page 114 of the pdf: [Intermountain Tree Fruit Production Guide](#).

Western Cherry Fruit Fly 
Hosts: cherry

Treatment for western cherry fruit fly—the worms in the fruit—should begin as soon as cherries develop a **salmon blush color**. Tart cherries in most locations are still green, while sweets are coloring up. It is important to monitor your own trees for color change.



Insect and Disease Activity, continued

Western cherry fruit fly is a serious pest of tart and sweet cherries. Although residential growers can “tolerate” several wormy cherries, please keep in mind that a commercial growers’ crop can be rejected by the processing plant if worms are detected. If residential trees are adjacent to commercial orchards, they should be treated for cherry fruit fly, or else removed.

There is an excellent product called GF-120 that is used by many growers across the country with great success (in Washington, they use this product almost exclusively). If you have a heavy infestation, it will take 1-2 seasons of use to bring 100% control with this product, especially if you can get as many nearby neighbors to use it as well. It contains a bait that attracts the fly to eat it, and the active ingredient is called spinosad. Spinosad is a metabolite from the naturally occurring soil bacterium, *Saccharopolyspora spinosa*.

GF-120 must be applied every 7 days as large droplets, so complete coverage is not necessary. It is expensive (\$160 for 2 gallons), and only available for purchase at larger ag supply chains.

Other options for residential growers are shown on page 8.

Commercial growers should consult the [Intermountain Tree Fruit Production Guide](#) (page 102 of the pdf).

Obliquebanded Leafroller

Hosts: all fruit trees; especially tart cherry



Leafroller larvae web leaves together and feed inside a rolled shelter. When disturbed, they quickly squirm.

In Utah, leafrollers were a threat to commercial tart cherry growers from 2011 - 2013. As cherries were harvested, the larvae fell into the bins, contaminating the crop. Since 2013,

leafroller populations have decline significantly, either due to diligent treatment, weather patterns, or natural enemies. Some growers should still consider spraying to prevent leafrollers from becoming the problem that they once were.

The first leafrollers of the season were trapped in southern Utah County, setting an area-wide biofix of June 2. The table below provides treatment timings. Materials that are ***italicized*** will also treat cherry fruit fly.

Esteem and Rimon are insect growth regulators that, if used, should be applied near the start of egg laying to kill existing eggs, and eggs laid later. The next timing option is at 350 DD after biofix, just before larvae begin to hatch. At this timing, Intrepid will kill existing egg masses, as well as any larvae that consume the chemical. Intrepid can also be used at the next timing, 400-450 DD after biofix, along with a host of other products, including ***Delegate, Altacor, pyrethroids, Success/Entrust, Voliam Xpress, or Imidan***. (Imidan is least effective.)

If you are growing fruit organically, use ***Entrust*** at 400-450 DD, or use Deliver (Bt) at the 450 DD timing. Deliver is applied later because of the short residual of this product. It should be applied with good coverage (it must be consumed).

Products that have 14 or more days of residual (Delegate, Altacor, pyrethroids, etc.) may require 1 additional application, while products like spinosad or Bt may require 2 or 3.

Date to Treat Based on Material Used (Commercial Growers in Southern Utah County Only)

Product and Timing	Event	Date
Esteem, Rimon (100 DD)	pre-egg laying period	June 6
Intrepid (350 DD)	peak egg-laying period	June 17
<i>Delegate, Altacor, Intrepid, pyrethroids, Success/Entrust, Voliam Xpress</i> (400-450 DD)	egg-hatch begins	June 19
Bt (Deliver) (450 DD)	small larvae	June 21

Production Information

Peach Leaf Drop

By Dr. Brent Black, Extension Fruit Specialist



Dozens of homeowners around the Intermountain West have noticed some peculiar spring symptoms on peach trees. These include leaf drop, leaf yellowing, and in some cases, collapse (wilting) of entire branches. In many cases, these symptoms have shown up in the absence of any other common symptoms such as fungal diseases. One possible cause of this is winter injury.

While this past winter was generally mild, the damage likely occurred in early December, when temperatures dropped rapidly after a relatively mild fall. Trees need two environmental “signals” to develop dormancy and acclimate appropriately. Initial dormancy onset occurs in response to shorter day lengths (longer nights). However, development of cold tolerance is triggered by exposure to cold temperatures. Whenever we experience a relatively mild fall and then have temperatures drop too rapidly, cold injury is possible.

Damage is similar to, but not as bad as what we experienced 4 years ago in a similar event. The fall of 2010 was very mild, with a storm and extreme cold weather arriving during Thanksgiving weekend. Trees had not had sufficient time to acclimate, and peaches were particularly hard hit.

Aside from controlling the weather, the best management strategy for the home gardener is to be cautious about over fertilizing, or applying fertilizer too late in the season. Trees with excess nitrogen available will show delayed dormancy and development of cold hardiness.

Iron Chlorosis



Iron deficiency is a common sight in Utah orchards, and something commercial and residential growers have to deal with every year. Iron deficiency is not caused by a lack of iron in the soil, but rather the soil pH (which ranges from 7.5 to 8.5). In high pH, iron is insoluble, and therefore not available for root absorption. Because irrigation water is also very alkaline, trying to manage iron deficiency by reducing soil pH is impossible.

Iron is a nutrient necessary for the formation of chlorophyll. Lack of chlorophyll means reduced photosynthesis, and reduced tree vigor. Some trees are genetically more susceptible to nutrient deficiencies than others.

To prevent or treat iron deficiency, chelated iron can be applied to the soil or foliage, but results are temporary. (Chelated products are readily available for absorption, and are not affected by soil pH.) Soil applications should be worked into the root zone. Foliar sprays (0.1%) with a spreader-sticker provide quick results but must be reapplied at approximately 10- to 21-day intervals. The drawback of foliar sprays is that staining of fruit can occur.

Residential growers can use Miller's Ferriplus, Sequestrene/Sprint 138, or Lily Miller Sequester.

Commercial growers can use the above products, or see the [Intermountain Tree Fruit Production Guide](#) (pages 162 and 166 of the pdf).

Spray Timing Information - Codling Moth

Please check this table at each advisory as the information may change as the dates get closer. The forecasts use the average temperature for each site. Fruit should remain protected through each generation according to interval provided on your pesticide label. Many more locations can be viewed on the [Utah Climate Center TRAPs website](#) (select location; select codling moth).

Codling Moth, Second Generation

The “period of greatest egg hatch” is the time when 75% of all eggs for the first generation will hatch. Use this information to time your treatment applications.

County	Location	passed Beginning of 2nd Generation Egg Hatch	2nd Gen. Period of Greatest Egg Hatch	2nd Gen. End of Egg Hatch	3rd Gen Beginning of Egg Hatch
Box Elder	Perry	passed	July 11 - July 24	not yet known	
	Tremonton	July 6	July 17 - July 27	not yet known	
Cache	Logan Airport	July 20	July 30 - not yet known	not yet known	
	River Heights	July 13	July 23 - Aug 4	not yet known	
Carbon	Price Airport	July 12	July 23 - Aug 4	not yet known	
Davis	Kaysville	passed	July 12 - July 23	Aug 8	
Grand	Moab	June 24	July 4 - July 30	Aug 1	
Iron	Cedar City Airport	July 15	July 26 - Aug 8	not yet known	
	Benches/Cooler sites	July 13	July 23 - Aug 6	Aug 8	
Salt Lake	Most areas	passed	July 10 - July 21	Aug 5	Aug 7
	Monroe	July 7	July 16 - July 29	not yet known	
Tooele	Erda Airport	passed	July 15 - July 26	Aug 9	
	Grantsville	passed	July 12 - July 23	Aug 7	Aug 8
Uintah	Vernal Airport	July 14	July 25 - Aug 7	not yet known	
Utah	Alpine	July 10	July 21 - Aug 3	not yet known	
	American Fork	passed	July 13 - July 25	Aug 9	
	Genola (CHF)	passed	July 9 - July 21	Aug 6	Aug 8
	Lincoln Point	passed	July 15 - July 27	not yet known	
	Orem (Lindon)	passed	July 14 - July 25	Aug 9	
	Payson	passed	July 13 - July 25	Aug 9	
	Provo Airport	passed	July 15 - July 26	not yet known	
	Provo Canyon	July 6	July 17 - July 28	not yet known	
	Santaquin (South Ridge)	passed		not yet known	
	Tickville (Oak Springs)	July 16	July 26 - Aug 7	not yet known	
West Mountain (Wall)	passed	July 15 - July 26	not yet known		
Weber	Ogden Airport	passed	July 12 - July 23	Aug 6	Aug 9
	Pleasant View	passed	July 6 - July 18	Aug 2	Aug 4
Wasatch	Heber City	July 23	Aug 4 - not yet known	not yet known	
Washington	New Harmony	July 8	July 19 - Aug 1	not yet known	
Wayne	Torrey	passed	July 8 - July 21	Aug 7	

Spray Timing - Peach Twig Borer

Peach Twig Borer, First and Second Generations

Apply at least one application per generation, or two in high population areas. For the start of the second generation, use the earlier spray date if you had PTB damage last year and the later date if you had very little damage.

County	Location	1st Gen: Keep Fruit Protected Up To:	Start Dates 2nd Gen.	Keep Fruit Protected Up To:	Start Dates 3rd Gen.
Box Elder	Perry	passed	July 13 - 17	not yet known	
	Tremonton	passed	July 17 - 21	not yet known	
Cache	All Locations				
Carbon	Price Airport	July 9	July 26 - 30	not yet known	
Davis	Kaysville	passed	July 12 - 16	Aug 7	
Grand	Moab	passed	July 4 - 8	July 29	Aug 6
Iron	Cedar City Airport	July 7	July 25 - 29	not yet known	
Salt Lake	Benches/Cooler sites	passed	July 13 - 17	Aug 6	
	Most areas	passed	July 10 - 14	Aug 5	
Sevier	Monroe	passed	July 13 - 17	not yet known	
Tooele	Erda Airport	passed	July 15 - 19	not yet known	
	Grantsville	passed	July 13 - 17	Aug 7	
Uintah	Vernal Airport	July 6	July 25 - 29	not yet known	
Utah	Alpine	passed	July 22 - 26	not yet known	
	American Fork	passed	July 13 - 17	not yet known	
	Genola (CHF)	passed	July 12 - 15	Aug 7	
	Lincoln Point	passed	July 16 - 19	not yet known	
	Orem (Lindon)	passed	July 10 - 13	Aug 5	
	Payson	passed	July 14 - 18	not yet known	
	Provo Airport	passed	July 15 - 19	not yet known	
	Provo Canyon	passed	July 22 - 25	not yet known	
	Santaquin	passed	July 16 - 20	not yet known	
	Tickville (Oak Springs)	July 7	July 23 - 27	not yet known	
West Mountain	passed	July 15 - 19	not yet known		
Washington	New Harmony	passed	July 18 - 22	not yet known	
Weber	Pleasant View	passed	July 8 - 12	Aug 3	
Wayne	Torrey	passed	July 21 - 25	not yet known	

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.

Target Pest	Host	Chemical	Example Brands	Comments
Codling moth	apple, pear	<i>Conventional</i> acetamiprid carbaryl gamma-cyhalothrin malathion <i>Soft/organic</i> codling moth virus spinosad	Ortho Max Flower, Fruit, and Veg. Sevin, Bonide Fruit Tree Spray, etc. Spectracide Triazicide Bonide products, Malathion Cyd-X Green Light, Gardens Alive Bull's Eye, Monterey	acetamiprid: every 14 days carbaryl: every 14 - 21 days malathion: every 7 days; check label carefully as some brands do not apply to apple or pear gamma-cyhalothrin: every 14 days spinosad: every 7 days codling moth virus can only be purchased online
San Jose scale	apple	<i>Soft/organic</i> hort. oil insecticidal soap neem oil	many options Safer's EcoSmart, others Concern, Garden Safe, others	two applications during crawler stage, spaced 5-7 days apart, should be enough
Coryneum blight	peach, apricot	<i>Conventional</i> captan myclobutanil	Captan Spectracide Immunox	captan: use as a preventive before a rain Immunox: may be applied after a rain
Peach twig borer	peach, nectarine	<i>Conventional</i> acetamiprid carbaryl gamma-cyhalothrin malathion permethrin <i>Soft/organic</i> kaolin clay spinosad	Ortho Max Flower, Fruit, and Veg. Sevin, Bonide Fruit Tree Spray, etc. Spectracide Triazicide Bonide products, Malathion Hi-Yield Lawn, Garden, and Livestock Insect Control Surround see 'codling moth' above	see comments under Codling Moth permethrin: peaches only; every 14 days; this ingredient is becoming less available in stores and may cause spider mite outbreaks Surround: every 3-5 days; works to repel, not kill insects; only moderate control; must purchase online
Western cherry fruit fly	cherry	<i>Conventional</i> acetamiprid carbaryl gamma-cyhalothrin malathion <i>Soft/organic</i> pyrethrin spinosad	Ortho Max Flower, Fruit, and Veg. Sevin, Bonide Fruit Tree Spray, etc. Spectracide Triazicide Bonide products, Malathion Concern Multi-Purpose see above	start applications when fruit in sunniest locations develops a salmon blush spinosad: every 7 days malathion: check label carefully as some brands do not list cherry
Greater peachtree borer	peach, nectarine, apricot	<i>Conventional</i> gamma-cyhalothrin permethrin	Spectracide Triazicide Hi-Yield Lawn, Garden, and Livestock Insect Control	apply every 3 to 4 weeks until mid-September in highly infested areas; apply twice in low infestations permethrin: peaches only

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

is published weekly by Utah State University Extension

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

[click here](#) for archived advisories