

News/What to Watch For:

- Powdery mildew continues to develop in cherries
- San Jose scale crawlers: Cache, Carbon, Uintah counties should treat June 26; make second application 2 weeks later in heavy infestations
- Iron chlorosis is evident on new foliage of peach, plum; consider getting leaf nutrition analysis in early August
- Codling moth and peach twig borer spray timings, pages 3&4
- Spray materials, page 5

Insect and Disease Activity/Info

APPLES/PEARS

Codling Moth

Towards the end of June/early July, egg hatch for the first generation will be over in all areas of the Wasatch Front. Plan your last treatment accordingly. The start of second generation egg hatch will be about 7 or more days later, during which time the fruit does not need to be protected. The table on page 3 shows the dates for your area.

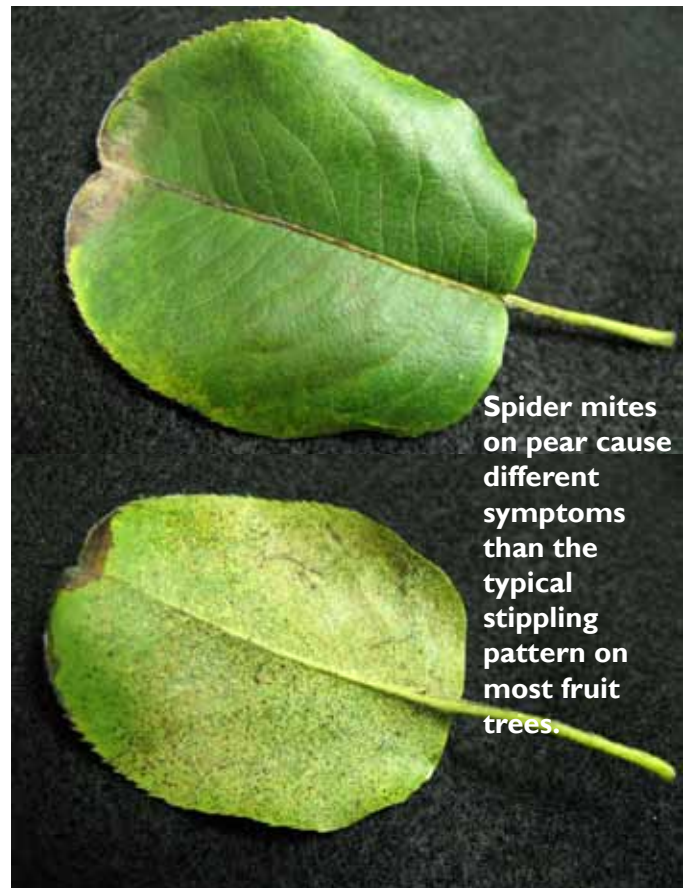
For those who have monitoring traps, you'll notice that your weekly trap catch will do down dramatically this week in areas along the Wasatch Front, as all moths in the first generation have emerged. Second generation moth flight picks up speed around July 4.

Spider Mites

Spider mites were seen in some locations in Utah and Box Elder counties, primarily on the lowest leaves of the inner canopy.

Keep a close watch on your own fruit trees for build-up of spider mite colonies. Trees can tolerate a low to moderate population (7-10 mites/leaf). But hot temperatures and dust will increase mite development and reproductive rates. In addition, some insecticides like carbaryl (Sevin) and imidacloprid (Provado and generics) can actually promote spider mite reproduction.

Light infestations cause what is called stippling on the foliage. The spider mites feed with piercing mouthparts, and suck out plant cell contents, leaving behind tiny chlorotic (yellow) spots. Heavier feeding can cause the tissue to actually scorch, known as "mite burn." On pears, mite feeding does not cause



Insect and Disease Information, continued from previous page

stippling, and sometimes it may not be obvious that spider mites are present without looking at the undersides of the leaves. Pear leaves may show slight scorching or blackening of leaf edges and petioles. Also, heavy feeding on older leaves can cause newly emerging foliage to be deformed or scorched.

Before making a decision on whether to treat for mites, look for predatory mites within the pest mite population. These are fast moving mites, about the same size, that can prevent spider mite densities from exceeding economic thresholds. If predators are present, then a treatment may not be necessary. When treating, good coverage is essential.

STONE FRUITS

Peach Twig Borer



Larvae of the first summer generation are actively feeding within succulent shoots of apricot, peach, and nectarine. They bore into the tips of the shoots and feed just on the upper inch or so of growth, causing the leaves to wilt over. Feeding is almost always associated with some oozing at the shoot tip. Egg hatch of this first generation will be ending soon (late June to mid July, depending on your location). As with codling moth, time your last spray for 1-3 weeks before that "ending spray date" (depending on your product). The start of the second generation will be about 2 weeks later. See the table on page 4 for the dates for your area.

Peach twig borer larvae prefer feeding in shoots over fruit, but once the shoots harden off, adult moths instead lay eggs on the ripening fruit, which is why the second generation can be more damaging.

Western Cherry Fruit Fly

Many locations have harvested or will begin harvesting sweet cherries, with tart cherries not far off. If a spray is needed close to harvest, choose one with a short pre-harvest interval,

like GF-120 (4 hours), Sevin (3 days), or Malathion (1-3 days). Note that the straight spinosad products (Success, Entrust) have a 7-day pre-harvest interval.

Greater Peachtree Borer

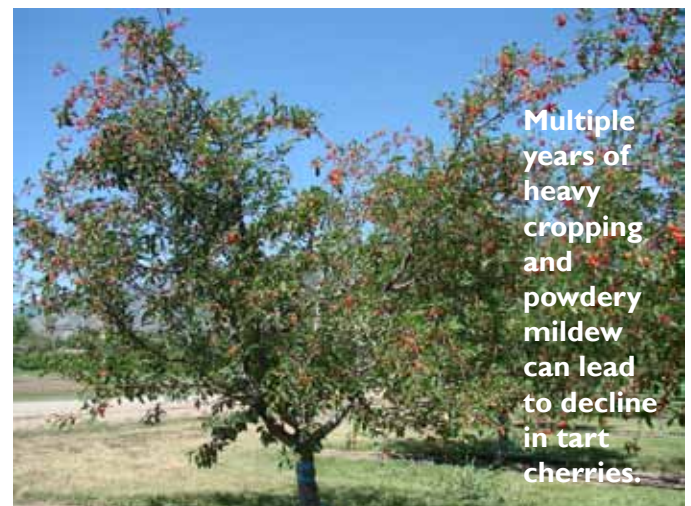


A single peachtree borer was captured in a trap in Cache County, so bark treatments should start in all cooler areas of northern Utah (Cache, Carbon, Uintah, Wasatch counties). All other locations should have already started.

Again, sprays only need to be applied to the lower 12-18" of the trunk and any exposed roots. The residual material of the insecticide on the bark will kill the eggs and newly hatching larvae. Weeds should be cleared from around the base of the trunk so that the material can thoroughly cover the bark.

Cherry Powdery Mildew

Continue to keep an eye on powdery mildew on cherries. Many orchards have tart cherry trees loaded with fruit, and after several years of heavy crops, the added stress of powdery mildew preventing photosynthesis can result in a loss of vigor that could be severe. Powdery mildew does not need free water to spread, just humidity (which is raised just enough by microsprinkler irrigation), so don't think that this dry weather means no disease.



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	Adults of first generation form in late June; nymphs of second generation start showing up in mid-July
Cat-facing insects (lygus, stink bugs)	peach	As peaches start to ripen, these piercing-sucking insects will become attracted to feeding on the flesh.

Spray Timing - Codling Moth

Codling Moth, First and Second Generations

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 8	July 18
Cache	River Heights	July 11	July 21
	Smithfield	July 11	July 20
Carbon	Price	July 3	July 15
Davis	Kaysville	June 29	July 8
Grand	Castle Valley	June 11	June 20
Iron	Cedar City	July 1	July 11
Salt Lake	All Regions	June 23	July 3
Tooele	Tooele	June 29	July 8
Uintah	Vernal	June 29	July 10
Utah	Alpine	July 2	July 12
	American Fork	June 28	July 8
	Genola	June 27	July 7
	Lincoln Point	June 28	July 8
	Orem	June 26	July 5
	Payson	June 30	July 9
	Santaquin	June 29	July 9
Weber	Pleasant View	June 29	July 8
Wasatch	Heber City	July 18	July 30

Spray Timing - Peach Twig Borer

Peach Twig Borer, First and Second Generations

End of first generation egg hatch, where you should “keep fruit protected up to” is at 800 degree days. Second generation egg hatch, which will be occurring mostly on fruit, begins a few weeks after the first generation ends. Like the first generation, if you had moderate to severe PTB damage last year, use the earlier spray date to start again. If you had very little PTB damage last year, use the later date to start sprays. These two dates correspond to 1200 and 1300 degree days after biofix, or 5% and 16% egg hatch.

County	Location	Keep Fruit Protected Up To:	Start Protecting Fruit 2nd Gen, large pop.	Start Protecting Fruit 2nd Gen, small pop.
Box Elder	Perry	June 29	July 17	July 22
	Tremonton	July 12	July 28	August 1
Cache	River Heights	July 14	August 1	August 5
	Smithfield	July 14	July 31	August 4
Carbon	Price	July 14	August 3	August 9
Davis	Kaysville	June 27	July 14	July 18
Grand	Castle Valley	June 10	June 27	July 1
Iron	Cedar City	June 30	July 17	July 21
Salt Lake	All Regions	June 24	July 10	July 14
Tooele	Tooele	June 23	July 10	July 14
Uintah	Vernal	June 29	July 18	July 23
Utah	Alpine	July 7	July 25	July 29
	American Fork	June 29	July 16	July 20
	Genola	June 29	July 16	July 20
	Orem	June 28	July 15	July 19
	Payson	June 29	July 15	July 19
	Santaquin	July 1	July 17	July 21
Weber	Pleasant View	June 29	July 15	July 19
Wasatch	Heber City	July 20	August 11	August 16

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 the 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, cherry	<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 Western cherry fruit fly	all cherry	1% horticultural oil insecticidal soap acetamiprid carbaryl spinosad	variety variety Ortho Max Flower, Fruit, and Veg., Sevin, Bonide Fruit Tree Spray, etc. Green Light, Gardens Alive Bull's Eye, Monterey	these work as contact sprays only, so thorough coverage is important; repeat will be needed for woolly apple aphid continue protecting every 1-2 weeks until harvest

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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