



News/What to Watch For:

Examine leaves of apple and cherry, and fruit of peach/nectarine, for powdery mildew lesions. Apply a fungicide where necessary to prevent additional spread.

Thin apples when they are 1/2-inch in diameter, and thin peaches now, or in the next few weeks (earlier is better). On apples, thin clusters to one apple and to six inches apart. Thin peaches to 4 to 6 inches apart.

Updated Codling Moth and Peach Twig Borer Spray Dates and Residential Products, pgs 5-7.

JUST THE BASICS

APPLE & PEAR

- *Codling moth* treatment dates are coming up for northern Utah locations.
- *Powdery mildew* may show up after bloom.
- *Fire blight strikes* may show up 2 weeks after bloom.

PEACH/NECTARINE, APRICOT, CHERRY

- Continue to watch for *coryneum blight*, and apply a fungicide before or right after 4+ hr rains.
- *No treatment information yet for peach twig borer, in northern Utah, or for greater peachtree borer, or western cherry fruit fly.*

Backyard Grower Information

APPLE, PEAR

Codling Moth

Hosts: apple, pear

- **see page 5 for updated spray dates**

The first protective spray for codling moth is starting in most northern Utah locations. Codling moth is a pest that is around all summer long, and requires repeated sprays for worm-free fruit. The length of time between sprays depends on the chemical used and on the “pest pressure” in your area.

To know which chemical you are using, check the “active ingredients” listed on the lower right or left (in small print) on the front of your product. Sometimes there are several ingredients, sometimes, just one. The ingredient listed there helps to know what insects can be treated, and whether a fungicide is included (“Bonide Fruit Tree Spray”, for example, contains captan, malathion, and carbaryl). Some materials last longer than others, and the time between sprays is not always listed on the label. The table on the next page provides this info for a few ingredients.

Product	Residual Length (days)
acetamiprid (Ortho Fruit & Veg)	14
carbaryl (Sevin)	14
codling moth virus (Cyd-X)	7
lambda-cyhalothrin (Triazicide)	14-21
malathion (Bonide Fruit Spray)	7
pyrethrin (Ortho Fruit Spray)	5
spinosad (Monterey Spinosad)	7-10

The other factor that will determine how often to treat is the “pest pressure” in your area. If you didn’t spray, do you think that only 10% of your crop would be affected, or do you think that more than 75% would be affected?

If your crop would have lower injury, then you probably only need to treat once per generation. For higher injury, maintain protection all summer.

Backyard Grower Information, continued

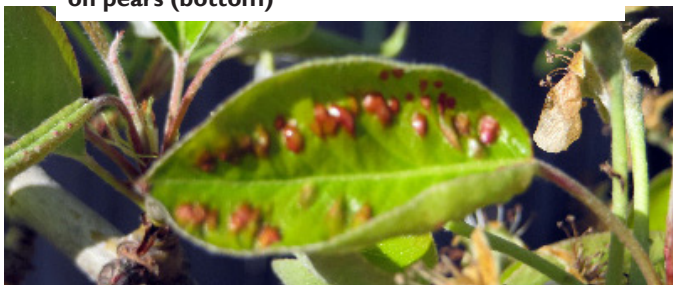
Appleleaf and Pearleaf Blister Mites

Hosts: apple, pear

- **no treatment at this time of year**



Blister mite damage on apple leaves (top) and on pears (bottom)



Many people are asking about leaf spots that look like a disease. They are actually blisters, and inside each one are hundreds of tiny mites. The minute, 4-legged mites feed inside the blisters all summer. On apple leaves, the blisters age to brown, and on pear leaves, they age to a dark brown/black. After harvest, the mites leave the blisters and migrate to leaf buds to spend the winter.

Note that there is nothing to do for treatment at this time of year, but an application after harvest and close to leaf drop will help. Materials include Sevin (carbaryl), sulfur, or oil.

Fire Blight

Hosts: apple, pear

- **prune out shoot and floral strikes and dispose of pruning debris**

We have had reports of fire blight infections in a few areas of northern Utah. It usually takes 2 to 3 weeks after infection to see symptoms. Look for fruit clusters that appear shriveled and brown, and wilted leaves.

Prune out all infections as they are found. This will not only prevent the infections from becoming larger, but also reduce the inoculum (source of bacteria) in the area. For infections



oozing bacteria at a fire blight infection

that are caught early, remove twice the length of the visible symptoms.

Prune in dry weather only. To be safe, wipe pruners with disinfecting wipes between cuts. Dispose of pruning cuts.

Apple Scab

Hosts: apple

- **if scab is identified, treat once with Immunox or captan**



apple scab causes olive to brown lesions on foliage and fruit

Apple scab is rare in Utah, but has been reported from some areas in Davis and Cache counties. It is caused by a fungus and results in brown blotchy spots on foliage and brown to black scabby areas on fruit. Untreated crabapples are commonly a source of infection for nearby apples. New infections may occur during periods of cool, wet weather, and symptoms will appear about 2 weeks later.

The fungus overwinters on fallen leaves, so removal of these leaves in summer and fall will help to reduce inoculum.

Backyard Grower Information, continued

PEACH/NECTARINE, APRICOT, PLUM

Coryneum Blight

Hosts: peach/nectarine, apricot, plum

- **apply fungicide between rains**

Unfortunately, coryneum infections have been seen on apricot and some peach fruits. These existing infections will contribute to the spread of new infections on leaves and fruit. When temperatures are warm (above 75), all that is needed is 4 to 6 hours of rain to cause new infections.

There is nothing to be done about existing infections. But future infections can be prevented with a fungicide spray. Captan is only effective when applied before a rain. Spectracide Immunox can be applied before or after a rain, but when applied after rain, it may not provide complete protection from infection.



Peach Twig Borer

Hosts: peach/nectarine, apricot

- **treatment dates for some southern Utah locations are located on page 6**

Commercial Grower Information

APPLE & PEAR

Codling Moth

Hosts: apple, pear

Updated treatment dates are listed on page 5. The following is repeated from the May 2 advisory:

Washington State University entomologists developed an option of using horticultural oil as a codling moth treatment at the beginning of each generation. The idea of this option is to kill eggs before they hatch using 1% oil, providing a “clean slate”. Eggs will continue to be laid on the fruit after the oil, but they will not start hatching for another 150 degree days. An insecticide is applied at that timing, to protect the fruit from hatching larvae. This “delayed first cover” has proven not only to be effective and economical, but it is applied during the period of greatest egg hatch, providing fresh residual protection.

Options for codling moth can be found by [clicking here](#).

Fire Blight

Hosts: apple, pear

Start to watch fruit clusters for signs of fire blight infections. Prune them out as quickly as possible to prevent the bacteria

from invading the tree. Wipe pruners with disinfecting wipes between cuts.

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, PLUM

Coryneum Blight

Hosts: peach/nectarine, apricot, plum, cherry

- **treat with a fungicide at threats of rain**

The weather conditions continue to be good for spread of the fungus that causes coryneum blight. Commercial growers can find options by [clicking here](#).

Cherry Powdery Mildew

Hosts: tart cherry

- **treat with a fungicide at threats of rain**

Cherry powdery mildew lesions may start to show up in the next few weeks. The fungus overwinters as resting spores in fallen leaves, on the orchard floor, or in bark crevices.

Commercial Grower Information



scout for powdery mildew on the lowest, most interior leaves first

Infections on new leaves occurs when spring rains or summer irrigation increases the humidity under the trees, causing the resting spores to release and spread. This pathogen needs 90% humidity and temperatures between 50-78°F for infection to occur. Leaves, fruit, and fruit pedicels can all become infected.

Look for the earliest infections on leaves near the trunk, and on the lowest, interior twigs (where humidity is highest). These infections can serve as inoculum for future infections that can be repeated throughout the summer.

Sprays are recommended as soon as the first lesions are spotted, because prevention is the best management option for powdery mildew. Continue sprays at 7 to 14-day intervals until growth hardens off.

Commercial growers can find options by [clicking here](#).

Bacterial Canker

Hosts: sweet cherry

- **prune out new infections**

Bacterial canker is a disease of sweet cherry. Buds and twigs are commonly killed by this disease, but fruit and foliage can also be infected, especially during the periods of cool, wet weather that we have been experiencing.

During extended rainfall in the spring, the disease-causing bacteria are spread from oozing cankers on the tree to



oozing is often associated with bacterial canker lesions on sweet cherry (top); infection on foliage (bottom)

flowers, foliage, and any open bark wounds.

The symptoms on the leaves are angular brown to black spots that drop out of the leaf, leaving a tattered appearance. Fruit infection are brown to black depressions. The bacteria move through these infections into the twigs, killing the inner bark and girdling the branch. It eventually may spread to larger branches or the main trunk.



Ooze is often associated with these twig or branch infections.

If bacterial canker has been diagnosed, management is difficult and involves careful pruning and application of copper.

Any infected tissue should be pruned out in dry weather, and tools should be disinfected between cuts. Cut the infected limb several inches below the symptomatic area. Fungicide sprays during the growing season have not been effective in disease control, but applying copper in the fall and/or before bud break in spring may help prevent spread.

Spray Timing Information - Codling Moth

Please check this table at each advisory as the information may change as the dates get closer. Many more locations can be viewed on the [Utah Climate Center TRAPs website](#) (select location; select codling moth).

Codling Moth, First Generation

The “*Option for Commercial Growers - Delayed First Cover*” is an alternative that may help to reduce sprays. Liberally apply horticultural oil (1%) on the first date, and then apply your regular insecticide on the later date. The oil kills eggs that have been laid on fruit up to that point. In general, apply treatments (the number of times depends on prior infestation), spaced 7-21 days apart (depending on material) to protect fruit up to the end of the first generation egg hatch.

County	Location	Backyard Growers	Option for Commercial Growers - Delayed First Cover		Period of Greatest Egg Hatch
		Apply first spray	Apply oil	Apply first insecticide	
Box Elder	Perry	May 23	May 21	June 4	June 3 - unknown
	Tremonton	May 28	May 26	June 7	June 6 - unknown
Cache	Logan Airport	June 3	June 1	June 13	June 12 - unknown
	River Heights	May 30	May 28	June 10	June 9 - unknown
Carbon	Price Airport	May 29	May 28	June 8	June 7 - unknown
Davis	Kaysville	May 21	May 19	June 1	June 1 - unknown
	Farmington	May 15	May 14	May 27	May 26 - June 14
Grand	Moab	passed	passed	May 15	May 14 - May 31
Iron	Cedar City Airport	May 23	May 21	June 4	June 3 - unknown
Juab	Nephi	May 30	May 28	June 9	June 8 - unknown
Millard	Delta	May 19	May 18	May 31	May 30 - unknown
Salt Lake	Benches/Cooler sites	May 25	May 23	June 3	June 2 - unknown
	Most areas	May 19	May 17	May 28	May 27 - June 14
Sevier	Monroe	May 13	May 11	May 27	May 25 - June 16
Tooele	Erda Airport	May 28	May 27	June 7	June 6 - unknown
	Grantsville	May 20	May 18	May 31	May 30 - unknown
Uintah	Vernal Airport	May 31	May 29	June 10	June 9 - unknown
Utah	Alpine/Highland	May 28	May 26	June 8	June 7 - unknown
	American Fork	May 22	May 20	June 1	June 1 - unknown
	Genola	May 25	May 23	June 4	June 3 - unknown
	Lincoln Point	May 25	May 23	June 5	June 4 - unknown
	Orem/Lindon	May 18	May 16	May 28	May 29 - June 15
	Payson	May 19	May 17	May 30	May 29 - June 16
	Provo Airport	May 19	May 17	May 29	May 30 - June 16
	Provo Canyon	May 22	May 20	June 1	June 2 - unknown
	Santaquin	May 23	May 21	June 4	June 3 - unknown
	Tickville (Oak Springs)	not yet known	not yet known	not yet known	not yet known
Weber	West Mountain	May 19	May 17	May 29	June 1 - unknown
	Ogden Airport	May 19	May 17	May 30	May 30 - unknown
Wasatch	Pleasant View	May 20	May 18	May 31	May 30 - unknown
	Heber City	not yet known	not yet known	not yet known	not yet known
Washington	New Harmony	not yet known	not yet known	not yet known	not yet known
Wayne	Capitol Reef	May 13	passed	May 23	May 22 - June 9
	Torrey	May 20	May 18	May 31	May 29 - June 15

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 (lots of injury last year)	Start Date (little injury last yr)	Keep Fruit Protected Up To:
Box Elder	Perry	not yet known	not yet known	not yet known
	Tremonton	not yet known	not yet known	not yet known
Cache	Logan Airport	not yet known	not yet known	not yet known
	River Heights	not yet known	not yet known	not yet known
Carbon	Price Airport	not yet known	not yet known	not yet known
Davis	Kaysville	not yet known	not yet known	not yet known
	Farmington	not yet known	not yet known	not yet known
Grand	Moab	May 27	May 30	June 18
Iron	Cedar City Airport	not yet known	not yet known	not yet known
Salt Lake	Benches/Cooler sites	not yet known	not yet known	not yet known
	Most areas	not yet known	not yet known	not yet known
Sevier	Monroe	not yet known	not yet known	not yet known
Tooele	Erda Airport	not yet known	not yet known	not yet known
	Grantsville	not yet known	not yet known	not yet known
Uintah	Vernal Airport	not yet known	not yet known	not yet known
Utah	Alpine/Highland	not yet known	not yet known	not yet known
	American Fork	not yet known	not yet known	not yet known
	Genola (CHF)	not yet known	not yet known	not yet known
	Lincoln Point	not yet known	not yet known	not yet known
	Orem (Lindon)	not yet known	not yet known	not yet known
	Payson	not yet known	not yet known	not yet known
	Provo Airport	not yet known	not yet known	not yet known
	Provo Canyon	not yet known	not yet known	not yet known
	Santaquin	not yet known	not yet known	not yet known
	Tickville (Oak Springs)	not yet known	not yet known	not yet known
West Mountain	not yet known	not yet known	not yet known	
Washington	New Harmony	not yet known	not yet known	not yet known
Weber	Ogden Airport	not yet known	not yet known	not yet known
	Pleasant View	not yet known	not yet known	not yet known
Wasatch	Heber City	not yet known	not yet known	not yet known
Wayne	Capitol Reef	June 1	June 4	not yet known
	Torrey	May 18	May 22	June 13

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> carbaryl acetamiprid malathion gamma-cyhalothrin <i>Soft/organic</i> spinosad codling moth virus	Sevin, Bonide Fruit Tree Spray, etc. Ortho Max Flower, Fruit, and Veg. Malathion Spectracide Triazicide 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 spinosad: every 7 days codling moth virus can only be purchased online; store in fridge or freezer
Powdery mildew	apple, peach, cherry	<i>Conventional</i> myclobutanil <i>Soft/organic</i> neem oil potassium bicarbonate	Spectracide Immunox Garden Safe, Fertilome Triple Action Kaligreen, Monterey Bi-Carb	myclobutanil: lasts 14 days; repeat once neem oil: repeat 1 to 3 times every 5 days potassium bicarbonate: repeat 1 to 3 times every 7 days
Aphids	all	<i>Conventional</i> acetamiprid <i>Soft/organic</i> oil (1%) insecticidal soap	Ortho Max Flower, Fruit, and Veg. Many products, EcoSmart Safer's, Bayer Natria, Bonide	oil: allow 4 hours-time for application to dry before temps reach 85 or above. oil and soap: spray needs to cover aphids to be effective
Coryneum blight	peach, apricot	<i>Conventional</i> chlorothalonil captan myclobutanil	Fung-onil, Ortho Max Disease Control Captan Spectracide Immunox	Apply once at shuck split stage chlorothalonil: do not use after shuck split captan, Immunox: use as a preventive before a rain
Peach twig borer	peach, apricot	<i>Conventional</i> carbaryl acetamiprid malathion gamma-cyhalothrin <i>Soft/organic</i> spinosad	Sevin, Bonide Fruit Tree Spray, etc. Ortho Max Flower, Fruit, and Veg. Malathion Spectracide Triazicide Green Light, Gardens Alive Bull's Eye, Monterey	One to 2 applications per generation, depending on prior injury level acetamiprid: every 14 days carbaryl: every 14 - 21 days malathion: every 7 days gamma-cyhalothrin: every 14 days spinosad: every 7 days

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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