



What's In Bloom

(Salt Lake City area)

Blackhaw viburnum: first bloom
Crabapple: end bloom
Lilac: bloom - end bloom
Redbud: end bloom
Redtwig dogwood: first bloom

Japanese flowering cherry: bloom
Kwanzan cherry: full to end bloom
Quince: end bloom
Serviceberry: full bloom

Insect/Disease Information

DECIDUOUS TREES

Lilac-Ash Borer

Hosts: lilac and ash; occasionally privet and mountain-ash

- **treat susceptible trunks now until mid-July**



frass from larva feeding in tree (top)
portion of lilac dying back (bottom)



Lilac-ash borer adults have just started to emerge and females are laying eggs on the bark of ash trees and lilac. Green and white ash (*Fraxinus*) are the most susceptible. Sometimes, mountain-ash (*Sorbus*) and privet are attacked.

Lilac-ash borer does not directly kill trees, but repeated infestations can cause branch dieback and can leave trees susceptible to breakage in storms. Infested trees will have round exit holes on the bark, sawdust-like frass near the holes or at the base of the tree, and rough, swollen, cracked bark, mostly near branch crotches.

This insect overwinters as a larva inside the host plant and pupates in spring, emerging as an adult moth, usually in early to mid May. Emergence and egg-laying continues for about 6 to 8 weeks.

Treatment:

Healthy plants are able to withstand minor infestations, while stressed plants are more susceptible to attack and failure, so give trees optimal water and fertilizer, and prune properly.

Insecticides target the adults. Small trees can be treated by the home gardener, but in order to get thorough coverage on large trees, treatments should be made by a licensed pesticide applicator.

Residential options: Hi-Yield Permethrin, Spectracide Triazicide (lambda-cyhalothrin)

Commercial options: Acelepryn (chlorantraniliprole), permethrin (Astro, Covert, Waylay), or Onyx (bifenthrin)

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Western Tent Caterpillar

Hosts: ornamental cherry, chokecherry, others

- **remove visible tents**



Eggs of the western tent caterpillar have hatched and larvae have been feeding on the foliage of a variety of ornamentals in the rose family. The larvae create webbed tents at the ends of branches or where branches fork. After they have consumed the foliage within the tents, they will venture out to feed on fresh foliage and return to the tent at night. After about 6 weeks of feeding, the larvae leave the tree to find a place to pupate, ending their activity for the season.

This species of tent caterpillar is more a nuisance than a threat to the tree health. They can be destroyed by opening up the nest and exposing the larvae to predators. Or, a blowtorch will quickly singe and destroy the nest.

The southwestern tent caterpillar is a different species that occurs in southern Utah. It feeds voraciously on cottonwoods, willows, and chokecherry.

Treatment:

A large number of products are registered for use on tent caterpillars including spinosad, Bt (*Bacillus thuringiensis*, on young larvae), carbaryl, malathion, insecticidal soap, pyrethrin, permethrin, indoxacarb (Provaunt), etc. The key is to treat trees early, when larvae are small.

Ash Leaf-Curl Aphid

Hosts: ash species (*Fraxinus*)

- **apply systemic only where needed**

In 2013, there were many reports in Salt Lake, Utah, and Tooele counties of ash trees crawling with cottony aphids on the trunk, branches, and foliage. This aphid (*Prociphilus fraxinifolii*) has a few common names: ash leaf-curl aphid, leafcurl ash aphid, or woolly ash aphid.



aphids congregating on trunk of ash (top)
feeding on foliage causes tightly curled leaves (bottom)



This aphid has an interesting life cycle. It overwinters on the roots of the host ash tree, and in spring, it migrates up the trunk to feed on the foliage. When populations are high, winged aphids form and move to adjacent ash hosts. The aphids stay on the ash foliage until migrating back down the trunk to the roots in mid to late summer.

Aphids that feed on the foliage cause severe twisting and cupping of the leaves, and in severe cases, galling of the leaf tissue. Even though the damage may look extreme, the health of the tree is rarely affected.

Treatment:

Because the aphid exudes a waxy coating that helps to protect it from predators, and they are hidden in foliage, contact sprays are not effective. One of the few options is a systemic application of imidacloprid in spring.

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Oystershell Scale

Hosts: many deciduous ornamentals

- **treat crawlers now**



Crawlers of oystershell scale are just starting to emerge in northern Utah. A treatment should be made on plants that are declining in vigor. A second treatment may be required 7-14 days later, depending on the infestation.

Oystershell scale is an armored scale with two generations of crawlers. Dozens of deciduous plants can be attacked. There is a second generation later in the season.

Treatment:

Residential: horticultural oil (1%), neem oil, Hi Yield Permethrin, insecticidal soap (many brands), Spectracide Triazicide (lambda-cyhalothrin)

Commercial: Dinotefuran (Safari) as a soil injection (imidacloprid is not effective); Distance (pyrifoxfen), Talus (buprofezin), Tempo (cyfluthrin) or another pyrethroid

Honeylocust Borer

Hosts: honeylocust

- **if positively identified, treat trees now**



honeylocust borer adult beetles are emerging from trees now in the Salt Lake City area

Honeylocust is a widely planted tree that we typically don't think of as having problems with borers. But recently, trees in the Salt Lake area were found infested with honeylocust borer (*Agrilus diffcilis*), and adult beetles were seen emerging.

Honeylocust borer is a flatheaded (metallic) beetle related to the pacific flatheaded borer, bronze birch borer, and emerald ash borer (which is not in Utah). It only attacks honeylocust, and is not to be confused with the locust borer that only attacks black locust.

Trees that are under drought stress, or newly planted trees are the most susceptible. Mature, healthy, and properly planted trees are rarely attacked. Starting in early to late May (depending on the temperatures of the season), female adults lay eggs on the trunk or larger branches and cover them with a frothy white substance that eventually hardens.

The larvae hatch and then bore into the cambium where they create shallow, meandering tunnels. Tree sap will ooze out of the entry site and then harden into a mass of gum. Repeated infestations gradually cause decline and dieback of twigs and branches in the crown.

Treatment:

Management relies on prevention. Keep trees healthy with optimal watering and fertilizer so they can withstand attack.

Insecticides should target the adults. Although the larvae of flatheaded borers can be killed by systemics, they **should not be used** on honeylocusts, as these trees are bee-magnets when in bloom.

Residential options: Hi-Yield Permethrin, Spectracide Triazicide (lambda-cyhalothrin)

Commercial options: Acelepryn (chlorantraniliprole), permethrin (Astro, Covert, Waylay), Onyx (bifenthrin)

Hackberry Psyllid

Hosts: hackberry

- **no action needed (see images, next page)**

There are many species of hackberry psyllids, the most common species forms small galls on the undersides of hackberry leaves. They overwinter as adults in protected areas, and fly in early spring to lay eggs on emerging leaves. After the eggs hatch, the young nymphs start feeding on the leaves, causing a small pocket that surrounds the insect and forms a gall. The psyllids feed inside the galls for the rest of the summer.

Infested hackberry can withstand a high population of psyllid galls, so control is not warranted.

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hackberry psyllids (nymph shown below) cause small galls on the undersides of leaves

**Honeylocust Pod Gall Midge**

Hosts: honeylocust

- *treat foliage now if this pest is a problem*



honeylocust pod gall midge lays eggs on leaves, and the leaves become gall-like, enclosing the larva inside

Swellings (galls) on honeylocust leaves are fairly common in northern Utah, and are caused by a midge (*Dasineura gleditchiae*). The adult females are laying eggs now on the young honeylocust leaves. When the midge larvae hatch, their feeding causes galls to form, and each gall may contain one or several larvae.

Heavily infested leaves drop prematurely and when small branches die back, new shoots develop. There are several generations each year.

Treatment:

Residential and Commercial: carbaryl (Sevin)

Powdery Mildew

Hosts: many deciduous ornamentals

- *treat foliage as necessary*



Powdery mildew is a fungal disease of many ornamental plants. It is common in Utah because the fungus thrives without water. It just needs some humidity to spread, and often, the amount of humidity naturally generated within a tree or shrub canopy is just enough to promote infections.

Just like there are many susceptible plants, there are also many species of fungi that cause powdery mildew. Most are host specific. For example, the powdery mildew on lilacs is a different species from that on maple or honeysuckle.

Powdery mildew prevents leaves from photosynthesizing to their fullest ability, resulting in stunted or twisted leaf growth, leaf chlorosis or necrosis, and leaf drop. Some plants, however, are not adversely affected by powdery mildew.

Treatment:

Residential: avoid overhead irrigation, improve air circulation between and within plants, and rake fallen leaves in the fall.

Fungicides include horticultural oil (0.5%), potassium bicarbonate (Bicarb), Bayer Advanced Natria, neem oil, Spectracide Immunox (myclobutanil), or chlorothalonil. The fungicide must be applied as a preventive, to stop future infections.

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Commercial: There are many fungicides, including Banner Maxx, Bayleton, Heritage, Regalia, Tourney

CONIFERS

Pitch Moths

Hosts: most pine species, Douglas-fir

- *treat trunks of pines in the next few weeks*



pitch moth feeding sites form masses of pitch (top); remove the pitch and often a larva will be exposed (bottom)



In recent years, the incidence of pitch moth activity on pines in the Wasatch Front has increased. The reason for this increase is unknown, possibly due to stresses from drought or insects such as black pineleaf scale. Ryan Davis, the insect diagnostician for the Utah Plant Pest Diagnostic Lab, recently observed pitch moth larvae pupating and getting ready to emerge as adults from infested pine trees.

There are several species of pitch moths, and Ryan is in the process of identifying what species we are seeing in Utah.

Pitch moths are clearwing moths whose larvae feed on the outer and inner bark of pine trees. Their feeding stimulates the tree to produce copious sap that forms large, drippy masses on the pine trunk. The larvae will also feed within the mass of pitch and if you remove the glob at the right time, you will often find a larva inside or close to the trunk.

From May through August, adult pitch moths lay eggs on pine trees, often preferring pruning or other wounds, branch collars, or existing pitch masses. When the eggs hatch, the larvae bore through the bark and create meandering tunnels in the cambium, or may bore into the sapwood. The feeding is usually localized around the pitch mass, and sometimes, the larvae will exit the wood and feed on the pitch.

Smaller trees are at greatest risk of being affected by pitch mass borers. Larger, healthy trees can withstand attack.

Keep in mind that after the moths exit the trees, the pitch mass will remain on the trunk, possibly for several years, unless they are removed by hand.

Treatment:

Management should focus on keeping trees healthy. Avoid pruning in July when moths are laying eggs. Manually remove existing pitch masses to prevent further egg-laying or to kill larvae inside. If a spray is warranted on larger trees, it should be applied by a professional.

Commercial: permethrin or bifenthrin (trunk sprays)

Spruce Spider Mite

Hosts: spruce (primarily)

- *treat now if present in high numbers*



Unlike the two-spotted spider mite, the spruce spider mite is a cool season mite, active in spring and fall. They feed on juniper, blue spruce, dwarf alberta spruce, firs, arborvitae, and some pine. They are so tiny that you cannot see them with the naked eye, and require a 30x hand lens. They overwinter as red-colored eggs near the bases of needles, and start becoming active at this time of year.

If trees are showing symptoms—stippled and yellowed needles—look for the mites over the next few weeks by shaking a few branches over white paper. Look for the

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dislodged mites on the paper; they will be pale yellow in color. To confirm that the “black dots” on the paper are mites, you can smear them across the paper, or use a hand lens.

Treatment:

Horticultural oil will control the mites, but if you choose to use oil on Colorado blue spruce, keep in mind that the oil will remove the bluish bloom from needles. It may take up to 2 seasons to return.

Residential: neem oil, insecticidal soap

Commercial: any miticide (do not use pyrethroids)

Pine Needle Scale

Hosts: Austrian, Scotch, mugo pines

- *treat crawlers now*



Pine needle scale is an armored scale that attacks two- and three-needled pines including Austrian, Scotch, and mugo pines. This scale is white in color, as opposed to the black pineleaf scale, which is dark gray. It is also not as serious a pest in Utah as the black pineleaf scale.

Pine needle scale feeds on mesophyll cells and sucks plant juices. As a result, the needles turn yellow and may drop prematurely. Most pines can tolerate a small to moderate-sized population.

Eggs of the pine needle scale hatch into crawlers starting in late April to early May and continue for approximately two to four weeks. There is a second generation of crawlers in late July.

Treatment:

Residential: horticultural oil (1%), repeated 1-2 weeks later, Ortho Tree and Shrub Insect Control Granules (dinotefuran)

Commercial: pyrethroids, Azatrol (azadirachtin), Safari (dinotefuran)

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

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