



## What's In Bloom

(Salt Lake City area)

Butterfly bush: bloom  
Goldenrain tree: bloom  
Mimosa: bloom  
Rose-of-Sharon: bloom  
Shrub roses: bloom

Smokebush: end bloom  
Smooth hydrangea: bloom  
Sourwood: bloom  
Sumac: bloom  
Trumpet vine: bloom  
Vitex: bloom

## Insect/Disease Information

### DECIDUOUS TREES

#### Honeylocust spider mite



Honeylocust spider mite can sometimes be a problem, especially on drought-stressed trees. They feed on the undersides of leaves and cause leaves to turn bronze in color and eventually drop. Their populations build rapidly in hot weather, and they are starting to be noticeable now. This pest will not kill trees, but repeated infestations can cause growth to slow.

This mite overwinters as orange colored adult females in cracks and crevices on the bark or in the canopy. (Two-spotted spider mites overwinter in groundcover.) They lay eggs in June, and start becoming active soon afterward, but are not noticeable until the weather heats up and the length between generations changes from 11 days to just 4.

Check for mites throughout the growing season at the base of honeylocust leaflets, where they will congregate early in the season. A hand lens will be necessary for this.

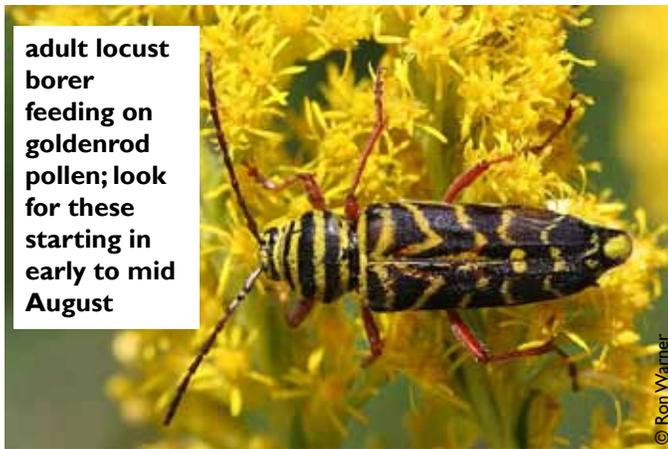
#### Treatment

Drought-stressed trees are more susceptible, so water trees deeply during dry spells. Mites are easily controlled with miticide sprays for commercial use, or horticultural oil or soap for residential use. Dormant oil in early spring can also kill the overwintering mites.

#### Locust Borer

The locust borer is a beetle that attacks black locust (*Robinia pseudoacacia*) and its cultivars. 'Purple Robe' locust is the most common black locust planted in Utah. Honeylocust (*Gleditsia triacanthos*) is not attacked. Adults of the locust borer will be active in mid to late August, when goldenrods start blooming, on which they are often found feeding.

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adult locust borer feeding on goldenrod pollen; look for these starting in early to mid August

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Although adults start emerging in August, they are most abundant in Utah during September. An individual female can lay up to 200 eggs singly in bark crevices and around wounds on the trunk and larger branches. Hatched larvae immediately bore into the cambium and "rest" for the winter. In spring, larvae start feeding and boring into the sapwood and heartwood, producing a tunnel 3-4 inches long. They start pupating to adults at this time of year.

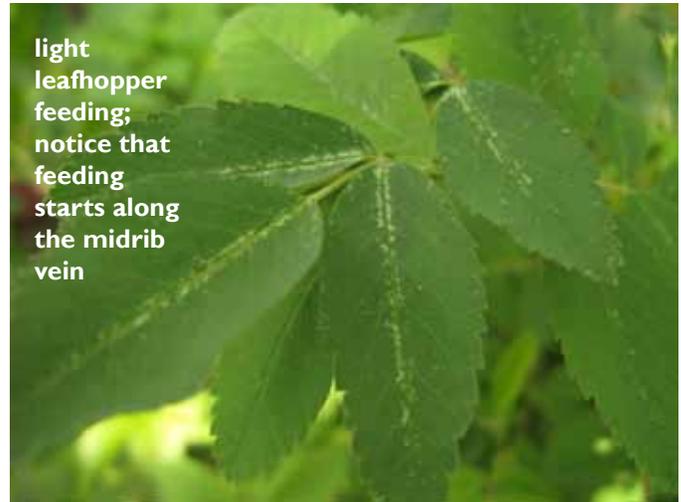


Trees infested by locust borer will ooze at feeding sites. Limbs may be killed, or the weakened wood can split during storms. Trees produce excessive sprouts, and with repeated attacks, may be killed. Drought-stressed trees or trees weakened by root compaction or root loss are most susceptible, as are trees less than 8 inches in diameter.

**Treatment:** Maintain a vigorously growing tree with optimal watering and fertilization. Treat bark and major limbs with an insecticide starting in mid-August through early October (carbaryl, permethrin).

### Rose Leafhopper

Rose leafhopper is a voracious feeder of a wide variety of hosts including roses, cherry, apple, raspberry, oak, maple, and poplar. It has three generations and is entering the adult stage



light leafhopper feeding; notice that feeding starts along the midrib vein

of the second generation now. Nymphs are flightless, and can be found on the undersides of leaves, causing white stippling on the leaf surface that resembles spider mite feeding.

Rose leafhopper overwinters as eggs on rose stems. The first generation is completed by mid-June, with nymphs of the second generation hatching in early July. Individuals of the later generations may leave roses for alternate hosts, or may stay on roses until frost. Treat now before nymphs become adults.

**Treatment:** Usually populations do not get high enough to warrant treatment. The nymph stage is the easiest to treat. Hard sprays of water can dislodge the flightless nymphs. Insecticide options include imidacloprid (Merit, Bayer), acetamiprid (Assail, Ortho Max), insecticidal soap, horticultural oil.

### Oak Felt Scale



a single female scale with an egg sac in a twig crotch

The oak felt scale is not very common in Utah, but we had a report in 2009 on gamble oak. It is a native species of scale, and resembles mealybugs. It feeds primarily on new growth, in cracks and crevices.

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The oak felt scale overwinters as nymphs and completes development throughout the summer. Crawlers start emerging in August, continuing through September. It can be treated with dormant oil in early spring.

### Prionus Root Borer



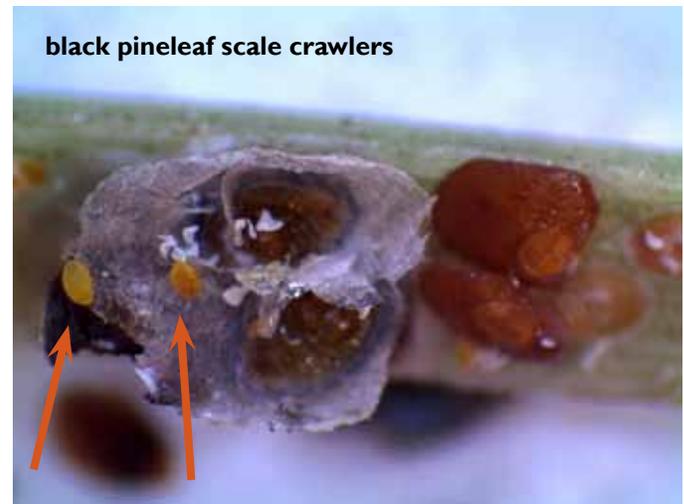
Prionus root borer is a large beetle whose larvae feed within roots of a variety of tree species including oak, maple, pine, and fruit trees. The Utah Plant Pest Diagnostic Lab recently received a larva taken from a dead gamble oak. Adults are very short-lived, but the larvae take 3-4 years to develop within the roots.

Adults are emerging now, seeking mates. Females will then lay eggs on the soil surface, and larvae will seek out roots for feeding. Affected trees may show gradual thinning, dieback, and sometimes death. Often, the only way to determine cause of death is to expose the roots to look for tunnelling or the large larvae.

## CONIFERS

### Black Pineleaf scale crawlers

Because of this year's "late" season (we are behind by about 1-2 weeks), crawlers of the black pineleaf scale are still active and can be treated now. This scale has reached epidemic



proportions in the Salt Lake Valley area, hitting Scotch, mugo, and Austrian pines repeatedly. Many trees have been killed. Because it is an armored scale, it is difficult to treat. Its waxy covering makes it almost impervious to contact insecticides. And imidacloprid (Merit) has no effect on this insect. Imidacloprid targets insects that feed on phloem (aphids, soft scales, etc.), while the armored scales feed on the contents of mesophyll cells. Heavy feeding causes yellowed, short needles and limb dieback.

**Treatment:** Armored scales can be treated with a systemic or with foliar spray applied to the crawlers. Because there is such an extended emergence period for the crawlers, most opt for a systemic. Managers of some parks and landscapes have started using the systemic dinotefuran (Safari) and have found good results. It is applied as a soil injection (best method) or soil drench. It can also be used a foliar treatment, but again, must be applied to the crawlers. It lasts approximately 20 days as a foliar, and if it is applied too early in the season, will have no effect.

Dinotefuran is now available in a formulation for homeowners, called Green Light Tree and Shrub Insect Control with Safari.

### Spruce Abiotic Problems

Blue spruce is one of the most common plants submitted to the Utah Plant Pest Diagnostic Lab for disease diagnosis. In our historic database of almost 3500 disease samples, 112 of those were blue spruce. The most common diagnosis? "Abiotic injury" to 90 of those samples. That means that of the diseases on spruce in Utah, about 80% are caused by non-living factors: scorch, winter injury, herbicide injury, transplant shock, salt, etc.

These types of problems are difficult to diagnose on conifers.

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fers because there are several diseases (and insects like bark beetles) that cause similar-looking injury. Often the root of the problem is just that--at the roots!

Spruce trees are very shallow-rooted and therefore, sensitive to environmental changes, such as over- or under- watering, root cultivation or compaction, and herbicide applications. They are native to the mid-mountain range of the Rockies where optimal water occurs. Below are a few examples of abiotic symptoms of spruce trees.

### Tip burn/yellowing of needles

If the tips of old needles are brown, this is caused by winter injury (desiccation). Either wind dried the needles or a brief warming period caused the tree to transpire where the roots in frozen soil could not replace the lost moisture. If tips of new needles are also brown, this could be caused by sunscorch during the growing season (drought), which also results from the tree's inability to replace water lost from the leaves. Saline soils also cause tip burn on new and old foliage. Inadequate rainfall and poor drainage cause naturally occurring salts to concentrate in the soil, preventing the roots from absorbing water and nutrients. Spruces have a low to moderate tolerance to salts.



### Purpling of needles

New and/or old needles that turn purple indicate a sign of over- or under-watering. Because of their shallow root system, spruces are sensitive to changes in watering. Usually the oldest needles show symptoms first and then symptoms will progress to the newer needles. Drought conditions will often appear throughout a group of trees because the soil conditions will be similar.



Root disturbances (construction activity, paving, soil compaction, grade change, etc.) can also result in bronzing needles. If the tree is given sufficient water and TLC after the injury, it may recover.

Needles can also turn bronze from reflective surfaces such as an asphalt drive, sidewalk or building.

### Needle drop and tree dieback

Most conditions mentioned earlier (saline soils, inadequate watering, root disturbances) can all cause more severe damage if the problem persists for several years, including needle drop, twig dieback, and eventually limb death.

### Yellowing or distorted growth



Indirect contact with herbicides can cause leaf spotting, yellowing or distorted growth, and damage is greater when the herbicide is sprayed during hot weather or when trees are drought-stressed.

Again, because spruces are so shallow-rooted, they are sensitive to herbicides that might come in contact with the root system. Herbicide drift or volatilization can also cause injury. Symptoms of damage will vary depending on the type of herbicide used, and symptoms may not be expressed until several weeks after exposure, or even the following spring.

**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.

### Landscape IPM Advisory

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