



What's In Bloom

(Salt Lake City area)

Catalpa: bloom
Clematis: bloom
Climbing roses: bloom
Gray dogwood: bloom
Goldenchain tree: end bloom

Japanese tree lilac: bloom
Mockorange: end bloom
Ninebark: end bloom
Privet: full bloom
Shrub roses: bloom
Smokebush: bloom
Sumac: begin bloom

Insect/Disease Information

DECIDUOUS TREES

The Benefits of RAIN!!

Rain, glorious rain. Recent Utah rainfall that is 75% above average is providing real benefits to the plants and landscape that we may not normally see in the arid Intermountain West. The primary benefit is that, in well-drained soil, plants are getting optimal water and are very lush. And some insects are being kept at bay.



Aphids:

Regular rains wash aphids off leaves, and nymphs cannot crawl back to the foliage. The downside to lush plants is that once the rains stop, the surviving aphids will have plenty of tasty foliage on which to feed and multiply.

Scales:

If scale crawlers are active at the time of a heavy downpour, they are also vulnerable to getting washed off.

Spider Mites:

Spider mites, too, can get washed off leaves, but more impor-



tantly, rain also washes off the dust and dirt, in which spider mites thrive. Cooler temperatures are also keeping these heat-loving pests at bay.

Fungi:

We don't often think about it, but fungi are **everywhere**—and most species are beneficial decomposers. The extra moisture in the soil is promoting certain species of fungi to sporulate in the form of mushrooms. Mushrooms of fungi are like apples of a tree: they are the fruiting structures that hold the “seeds” (spores) for dispersal. “Mushrooms in the lawn” is not a disease of the turf, or anything to worry about. The fungal body (thallus, made up of mycelium) from which the mushrooms sprout is actively decomposing organic matter in the soil and thatch layer of the turf. Mushrooms are particularly noticeable in areas where trees have been removed, or wood is buried on new construction sites.

Once the material the fungi are feeding on has been fully broken down and nutrients returned to the soil, their work is done and you won't see more mushrooms.

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Lecanium Scale



lecanium scales swell with eggs in spring; each individual can lay as many as 5000 eggs



crawlers of soft scales move to the undersides of leaves for the summer

Lecanium scale is one of the most common soft scales in Utah, and this group is made up of several different species, including the European fruit lecanium. Hundreds of different woody species are attacked, including maple, linden, ash, cottonwood, and honeylocust. Soft scales produce honeydew, and the waxy outer covering is not "removable," as it is in armored scales.

Crawlers of lecanium scale are starting to emerge now in the greater Salt Lake area, and will continue hatching throughout the summer. They will slowly migrate to the undersides of leaves, and settle along the leaf midribs through early fall. They then migrate back to the woody twigs for the remainder of their lives.

Treatment: Scale insects are difficult to treat, but there are a few windows of opportunity for control. Dormant oil sprays in spring will smother many overwintering soft scales, but for severe infestations, it is not a stand-alone treatment. A soil

drench or injection of a systemic insecticide such as imidacloprid (Merit) should be applied in early May. (It may take three months for the material to reach the top of the tree.) Targeting crawlers is a primary time to treat because these young nymphs are at their most vulnerable. Horticultural oil or insecticidal soap are very effective against the crawlers, and soft on beneficials. Other products that are effective are azadirachtin, carbaryl, synthetic pyrethroids, and malathion. Trees should be sprayed at least twice, once in early July and again 2-3 weeks later.

Poplar Borer

The poplar borer adults are starting to emerge now. It is one of the many borers that attack aspen, hybrid poplars, cottonwood, and willow. It is a long-horned beetle (*Saperda calcarata*) that emerges as an adult from infested trees from late June through early August. After mating, adult females lay eggs within a slit they have made in the bark, on trees growing in full sun, or on stressed trees. Once larvae hatch, they migrate into the heartwood of the tree and feed and develop for approximately three years.



Minnesota Department of Natural Resources Archive

Infested trees will have swollen areas on the trunk and larger limbs where larvae have been active. Woodpeckers sometimes gouge out the bark looking for larvae or pupae. Some trees may ooze a tar-like sap down the trunk. Healthy trees can survive light infestations, but may be susceptible to limb failure in storms. Smaller trees can be killed by the girdling effect of numerous galleries in the trunk.

Treatment: Remove infested trees to reduce the local population. Apply an insecticidal cover spray on the trunk and main limbs. Materials include various formulations of carbaryl and permethrin. Apply once in late June and again in mid-July.

Cottony Maple Scale

Cottony maple scale is another soft scale that will be hatching soon. The primary host tree is silver maple, but other maples, honeylocust, linden, poplar, elm, and birch are also susceptible.

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In the overwintering stage, it looks like lecanium scale: brown, oval, and flat. But in spring, a large, cottony white egg sac is produced that extends from beneath the body.

Each egg mass contains 1,000 to 1,500 eggs that are starting to hatch into crawlers in the greater Salt Lake area. Emergence will continue for a short duration, until mid to late July. They migrate to the underside of leaves and settle along the midrib to feed on sap. They spend the remainder of the summer feeding on leaves. Just before leaf drop, the scales move back to the branches and twigs and reinsert their mouthparts for overwintering.

Like lecanium scale, severe infestations can kill twigs or major limbs. Trees under drought stress are most affected. Honeydew is also produced.

Treatment: see lecanium scale

CONIFEROUS TREES

Black Pineleaf Scale



Crawlers of black pineleaf scale will be hatching in the greater Salt Lake area soon. The black pineleaf scale (*Nuculaspis californica*) is an armored scale, concealing its body under a removable, waxy covering. A severe infestation is targeting Austrian, Scotch, and other pines in many areas along the Wasatch Front.

This scale feeds on nutrients and contents of mesophyll cells,

and does not produce honeydew like soft scales. Where it feeds, the foliage becomes yellowed with localized necrosis (death). Under heavy and prolonged infestations, needles that are normally retained for 5 years will drop in 1 to 2 years. New needles are sparse, stunted, and chlorotic. Branches die back and the tree may eventually be killed.

Scales overwinter as immatures, and in late June, eggs hatch from under the females into late July. They migrate to current season needles, or become airborne, where they are delivered to nearby hosts. By early August, crawlers will have settled to immobility for the remainder of their lives.

Treatment: Merit does NOT work on black pineleaf scale. An alternative systemic is the product Safari (dinotefuran) that is more mobile within the plant. Ideally, it should be applied as a soil drench in May, however, with all the rain we have been having, it should move quickly up to the top of the tree even at this time of year. Alternatively, it can be applied as a foliar spray for quicker results.

Horticultural oil and insecticidal soap can be used on crawlers but may not be effective in severe infestations. Insect growth regulators such as Distance (pyriproxyfen) or Talus (buprofezin) disrupt molting and work best on earliest instars. These products also have sublethal effects in that surviving females lay fewer eggs the following year.

Fletcher Scale



Crawlers of fletcher scale (another soft scale) will start emerging in the next one-two weeks in the Salt Lake area. This insect feeds on plant juices of arborvitae and yew.

You can monitor for crawlers by shaking infested branches over a cloth tray, cardboard, or piece of paper. They will be light yellow in color, and about the size of a period on this page. A good hand lens (16-30x) will make it easy to see them. Once they have settled on leaf blades and twigs, they will not be easy to dislodge by shaking.

Treatment: The crawler stage is the most vulnerable to insecticides. Horticultural oil and insecticidal soap are both effective and soft on natural enemies.

Degree Days and Pest Monitoring Timeline

Upcoming Monitoring/Insect Activity

| Pest | Host Plants | Degree Day Timing (base 50) | Indicator Plant |
|------------------------|----------------------|-------------------------------------|--------------------------|
| Oystershell scale | many deciduous trees | 1st gen. crawlers: 363-707 | beautybush full bloom |
| Bronze birch borer | paper birch | Adults emerge and lay eggs: 440-800 | kousa dogwood full bloom |
| Lilac root weevil | many deciduous | Adults feeding at 500-950 | smokebush full bloom |
| Lecanium scale | many hardwoods | Crawlers emerge at 800 | catalpa full bloom |
| Cottony maple scale | many hardwoods | Crawlers emerge at 802-1265 | catalpa full bloom |
| Cottonwood leaf beetle | <i>Populus</i> sp. | 3rd generation larvae: 900 | kousa dogwood full bloom |
| Fletcher scale | Arborvitae, yew | Crawlers emerge at 900-1200 | elderberry full bloom |
| Black pineleaf scale | Austrian, Scotch | Crawlers emerge at 1068 | elderberry full bloom |
| European elm scale | Elm | Crawlers peak at 1029-1388 | goldenrain tree bloom |

Current Growing Degree Days (base 50)

March 1 - Thursday, June 18

| County | Location | GDD (50) |
|------------------|------------------|----------|
| Box Elder | Perry | 748 |
| | Tremonton | 716 |
| Cache | North Logan | 561 |
| | Providence | 604 |
| | Smithfield | 536 |
| Carbon | Price | 592 |
| | Spring Glen | 565 |
| Davis | Kaysville | 705 |
| Salt Lake | Holladay | 867 |
| | West Valley City | 854 |
| Tooele | Erda | 812 |
| | Grantsville | 1018 |
| | Tooele | 771 |

| County | Location | GDD (50) |
|---------------|---------------|----------|
| Utah | Alpine | 727 |
| | Genola | 779 |
| | Lincoln Point | 750 |
| | Orem | 823 |
| | Payson | 825 |
| | Provo | 985 |
| | Santaquin | 730 |
| Uintah | Vernal | 725 |
| Weber | Pleasant View | 720 |

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