

# Diggin' in The Dirt: Oregon Conifers Show Drought Damage

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Service - Columbia County

**Upcoming programs:**

Columbia County Beekeepers Group: Monthly meeting on Thursday, September 5 at 6:00 pm at the Columbia River PUD Building on Highway 30 in Deer Island. Speaker will be Mandy Shaw on chasing swarms and other topics.

Garlic Festival, Clatskanie Farmers Market, Saturday, August 17, 10 am - 2 pm Copes Park, Clatskanie

**Food Preservation classes:**

Drying Fruits, Vegetables, and Meat (8/20), The Science and Art of Canning Salsa (8/28). These classes are \$20 each. All will be held at the Columbia Soil and Water Conservation District Office, 35285 Millard Rd, St. Helens, OR 97051

Other food preservation classes: Contact the Extension office (503) 397-3462 for details. To register online go to : <http://bit.ly/ColumbiaFood-Preservation>.

Got food preservation questions? Give us a call at (503) 397-3462.

Food Preservation recipes and fact sheets can be accessed online at: <https://extension.oregonstate.edu/food/preservation>.

**Poison hemlock**

For some reason, there appears to be an upsurge in the amount of poison hemlock (*Conium maculatum*) in Columbia County. This is not a new plant. It was unintentionally introduced by settlers to the region at least 150 years ago and has been part of the landscape ever since.

The plant is highly toxic to humans and livestock. Socrates was forced to drink a concoction of this plant as fatal payment for being somewhat of an obnoxious dissident in Greece several thousand years ago (read *The Death of Socrates* by I. F. Stone for an interesting discussion of this event).

The foliage or roots can poison livestock, with the foliage being more toxic. The toxicity is not lost in hay or silage making. Handling the plants or chopping them with a "weed-eater" can cause a dermal reaction in many people.

Poison hemlock is a carrot family biennial plant, meaning that seedlings that germinate this year over winter as visible rosettes (2-5 inches tall in the winter) which will bolt to flower next summer. The plant in flower is tall, often exceeding 5-6 feet. Flowering stems are very visible right now. The stems have characteristic purple spotting and the whole plant has a distinctive "mousy" odor. The leaves are very lacey and almost fern-like.

The flower is similar to Queen Anne's lace. Seeds fall near the stem and up to 85% can germinate immediately. Some will germinate the following year or two but seed viability is relatively short.

Poison hemlock needs disturbed ground or bare ground with little vegetative cover to get started. It can tolerate somewhat poor drainage (and may be more competitive in those areas) but does not require it. I have seen it in all parts of the County: along roadsides,

field edges, and once, a luxuriant stand in someone's back yard in Scappoose. It is showing up a lot more in residential landscapes. Often, it isn't clear how seeds got there.

There are some herbicides that will help control poison hemlock, but timing is crucial. There is little evidence that spraying the flowering stalk at this stage will keep the plant from going to seed. And since a biennial dies after going to seed, what's the point? Better to carefully cut off the seed heads and destroy them.

It is more effective to establish a vigorous competitive cover (usually grass) where hemlock seeds are germinating. Selective herbicides that don't damage grass can be used to control the escaped rosettes this fall or next March/April.

**Western Oregon conifers continue to show damage due to drought**

Even though we've had a mild summer, conifers in Oregon are still getting hit hard by several years of drought, to the point that many are dying.

"Beginning in 2013-14, we started to see significant impact on Doug-firs in western Oregon," said Dave Shaw, a forest health specialist with Oregon State University Extension Service. "Since evidence of drought often doesn't show up until the following spring, we are still experiencing problems from the last several dry years."

It's past the point of just Doug-firs dying. Many conifers, including western red cedar, incense cedar, grand fir, and even valley ponderosa pine are succumbing, as well.

The first signs of drought damage are dropping more needles than usual and/or an abnormally high number of cones (called "stress crop"). That will be followed by dead branches or tree tops, and sometimes entire trees.

People don't think about watering big trees, Shaw noted, but that's the best method to prevent death or possibly bring a not-too-stressed tree back to

health. One option is to water at least six hours every two to four weeks August through September. Using a soaker hose wound around the tree to the drip line (how far the branches reach) is much more efficient than other methods. Though the cost of water adds up, Shaw said, it's cheaper than removing a large tree, which can cost thousands of dollars.

Historically conifers dominated at higher elevations than the oak-dominant zone of the Willamette Valley. When Doug-firs and other conifers increased in abundance in the oak woodlands of the valley – driven by the end of controlled fires used by indigenous peoples – the trees were then on the lower end of their water needs.

"It's an elevation-driven thing," said Shaw, who has lost 12 Doug-firs on his five acres of land. "Precipitation drops as elevation drops. If you start out in the Coast Range where rainfall is typically over 80 or 90 inches of rain annually and go east to the middle of the valley, you're historically getting only 40 to 45 inches of rain on average. So, during a drought, trees that would normally be on the edge of their drought tolerance aren't anymore. Some trees, particularly Doug-firs and grand firs, are very susceptible to drought below a certain elevation."

Compounding the problem is that drought-affected trees are more susceptible to pests and diseases, including aphid- and scale-type insects, bark beetles, root and canker diseases. But many of the conifers surveyed by Shaw and his colleagues don't have insect or disease damage, reinforcing the diagnosis of drought damage.

Dave Shaw's suggestions to keep a tree healthy:

- Irrigate landscape trees during dry spells. Apply water slowly over many hours every two weeks; avoid frequent shallow watering.
- Apply mulch to the drip line to maintain soil moisture. Don't crowd mulch

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