

Foresters use herbicides

# TO GIVE SEEDLINGS A HEAD START



Herbicides control plants that compete with tree seedlings for water, sunlight and nutrients. They are typically applied only two to four times during the first few years of tree growth to help establish a new forest, with no further use until after the next timber harvest, in 40 to 80 years.

In forests throughout Oregon, Douglas-fir and other conifer tree seedlings are planted to replace harvested trees. The newly planted trees need full sun, nutrients and moisture. Grasses, brush and invasive plants such as Himalayan blackberry and Scotch broom all grow rapidly, depriving seedlings of the resources they need to survive.

Careful and targeted application of herbicides controls growth of competing vegetation and gives young trees a head start. Once the trees grow taller, they shade out the weeds.

## Limited use, low risk

### CHOSEN WITH CARE

All herbicides undergo rigorous testing on their toxicity to determine any hazards to humans, fish and wildlife. Strict regulations minimize the risk of herbicides to human health.

### COMMONLY USED

Foresters choose from among 15 common types of herbicides. Many of these are the same types sold for residential and agricultural use. Forest herbicide usage accounts for about 4 percent of all pesticide use in Oregon each year.

### DILUTED, TARGETED AND TEMPORARY

For forest use, as little as 2 to 16 ounces of herbicide are diluted in 5 to 10 gallons of water and applied over an acre, which is about the size of a football field. Many herbicides target a specific plant without injuring other plants or trees. Once applied, most herbicides break down quickly with no lasting impact on the environment.

### LOW TOXICITY TO HUMANS

Herbicides have a low toxicity because they are formulated specifically to disrupt biological functions of plants. Extensive studies show that when properly applied, herbicides used in forests do not pose a significant risk to humans, the environment or wildlife.



# HERBICIDES AND FORESTRY



## Carefully applied

### AERIAL APPLICATION IS METHODICALLY PLANNED

Forest herbicides are often applied by helicopter. This is usually the fastest, safest and most accurate way to apply herbicides across large areas of forestland.

Helicopters fly close to the ground – typically within about 40 feet – which limits herbicide dispersal to a narrow area. To ensure targeted application, weather is monitored for wind speed and direction as well as humidity.

Pilots use specially designed nozzles and adjustable pressures to direct droplets to their target. Within minutes of application, the herbicide has usually been absorbed by the targeted plants.

## Highly regulated

### STATE AND FEDERAL LAWS ENSURE HUMAN SAFETY

Every herbicide and application method faces rigorous regulation, including:

- Before the Environmental Protection Agency can grant approval for use, herbicides must be tested for toxicity.
- In Oregon, herbicide application is regulated through the state's Department of Agriculture and Department of Forestry.
- The Pesticide Analytical and Response Center (PARC) receives complaints and investigates incidents. To report a pesticide issue, call 503-986-6470.
- Federal law requires applicators to follow specific instructions for each herbicide, including requirements to avoid drift.
- Forest landowners must submit notifications to apply herbicides to the Department of Forestry at least 15 days in advance.
- All herbicide applicators must be licensed by the Oregon Department of Agriculture. To maintain their license, they must attend continuing education classes.
- By law, applicators must leave extra-wide buffers around water, schools and homes.

#### Select References:

Clark, L.A., Roloff, G.J., Tatum, V.L., Irwin, L.L. 2009. Forest herbicide effects on Pacific Northwest ecosystems: a literature review. Tech. Bull. No. 970. Natl. Council for Air and Stream Improvement, Inc., Research Triangle Park, NC.

Environmental Protection Agency, "Summary of the Federal Insecticide, Fungicide, and Rodenticide Act," <https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act>

Kelpas, B., & Landgren, C. 2018, March. Forestry. In: Peachey, E., editor. Pacific Northwest Weed Management Handbook [online]. Corvallis, Ore.: Oregon State University. <https://pnwhandbooks.org/weed/forestry-hybrid-cottonwoods/forestry> (accessed April 30, 2018).

Oregon Department of Agriculture, Pesticide Analytical and Response Center, <http://www.oregon.gov/oda/programs/pesticides/pages/parc.aspx>

Oregon Department of Forestry, "Herbicide Use in Forestry: Forest Fact Sheet," January 2017, [http://www.oregon.gov/ODF/AnalyticsReports/ForestryFacts\\_Herbicides\\_And\\_Forestry\\_01092017.pdf](http://www.oregon.gov/ODF/AnalyticsReports/ForestryFacts_Herbicides_And_Forestry_01092017.pdf)

Oregon Forest Resources Institute, "Oregon's Forest Protection Laws: An Illustrated Manual," Revised 3rd Edition, updated 2018, <https://oregonforests.org/pub/oregons-forest-protection-laws-illustrated-manual>

Oregon Society of American Foresters, Using herbicides on forestlands in Oregon, <http://www.oregonforestry.org/sites/default/files/Using%20Herbicides%20-%20OOSAF%20FINAL%2012Jan18.pdf>



**Oregon Forest  
Resources Institute**

**OregonForests.org  
OregonForestLaws.org**