

Herbicide Recommendations for Control of Listed Species

Species	Herbicide ¹	Active ingredient per 50-100 gal of solution	Carrier	Expected control	Application and remarks
Alder, red <i>Alnus rubra</i>	2,4-D	3 lb	Water	Excellent	Foliage spray. See label for release timing.
	picloram + 2,4-D	1 gal (0.54 + 2 lb ae)	Water	Excellent	Foliage spray. Site prep only.
	2,4-D amine	Undiluted	None	Good	Injection, 3 inches between centers, 1-2 ml/injection.
	picloram + 2,4-D	Undiluted	None	Good	Injection, 3 inches between centers.
	triclopyr ester	3 lb	Water	Good	Midsummer directed foliage spray.
	triclopyr salt	50%	Water	Excellent	Injection, 3-4 inches between centers. Use full strength in maple and tanoak.
	triclopyr ester	2 to 15% product in oil	Oil	Excellent	Low-volume basal treatment.
	glyphosate	3 lb ae	Water	Good to excellent	Foliage spray. Summer.
	glyphosate	50%	Water	Excellent	Hack and squirt summer through fall
	imazapyr	25-50%	Water	Excellent	Trunk injections, 6 inches between centers.
10 lb (2.5%)		Water	Excellent	Low-volume sprays June-Aug. on sprout clumps.	
Ash, Oregon <i>Fraxinus latifolia</i>	triclopyr salt	3 lb	Water	Excellent	Foliage spray.
	triclopyr ester	3 lb	Water	Excellent	Directed foliage spray.
Birch <i>Betula</i> spp.	glyphosate	3 lb ae	Water	Good	Directed foliage spray; summer to fall. Adding imazapyr may improve control.
Blackberry	glyphosate	3 lb ae	Water	Good	Sept.-Oct., as long as most foliage is still green.
	metsulfuron	2 oz	Water	Excellent	Spring, summer, fall site prep.
Himalayan <i>Rubus procerus</i>	picloram + 2,4-D	1 gal (0.54 + 2 lb ae)	Water	Good	Foliage spray. Aug.-Sept. Site prep only.
Evergreen <i>R. laciniatus</i>	triclopyr ester	3 lb	Water	Excellent	Directed foliage spray; midsummer to fall. Use directed spray around pines.
	triclopyr salt	2 to 3 lb	Water	Excellent	Foliage spray; midsummer to fall. Use directed spray around pines.
Trailing <i>R. vitifolius</i>	aminopyralid + triclopyr amine (Capstone)	0.075 to 0.11 + 0.75 to 1.12 lb (6 to 9 pints product/A)	Water	Good to excellent	Midsummer to fall foliage spray
All <i>Rubus</i> spp.	metsulfuron	2 oz	Water	Excellent	June-Sept. Damages conifers.
Broom, Scotch <i>Cytisus scoparius</i>	2,4-D	2 lb	Water-oil emulsion	Excellent	March. See label for release timing.
	triclopyr ester	2 to 15% product in oil	Oil	Excellent	Basal spray Feb. to Oct.
	triclopyr ester	2 to 4 lb	Water	Excellent	Foliage spray Feb. to Oct. Oil or oil surfactants may improve control.
	aminopyralid + triclopyr amine (Capstone)	0.075 to 0.11 + 0.75 to 1.12 lb (6 to 9 pints product/A)	Water	Good to excellent	Foliage spray. Optimum at bud to bloom.

Species	Herbicide ¹	Active ingredient per 50-100 gal of solution	Carrier	Expected control	Application and remarks
Cascara, buckthorn <i>Rhamnus purshiana</i>	glyphosate	3 to 4 lb ae	Water	Good	Midsummer to late summer.
<i>Ceanothus</i> spp.*	triclopyr ester	3 lb	Water	Good to excellent	Midsummer directed foliage spray.
Mountain whitehorn <i>C. cordulatus</i>	imazapyr	1 lb	Water	Good to excellent	Midsummer directed foliage spray.
Blue blossom <i>C. thyrsiflorus</i>	2,4-D	2 lb	Water	Excellent	Foliage spray. See label for release timing.
Snowbrush <i>C. velutinus</i>	glyphosate	3 lb ae	Water	Excellent	Sept., foliage spray. Deerbrush or Redstem only.
Deerbrush <i>C. integerrimus</i>	aminopyralid + triclopyr amine (Capstone)	0.075 to 0.11 + 0.75 to 1.12 lb (6 to 9 pints product/A)	Water	Good	Foliage spray.
Redstem <i>C. sanguineus</i>					
Cherry, bitter <i>Prunus emarginata</i> Chokecherry <i>P. virginiana</i>	picloram + 2,4-D	1 gal (0.54 to 2 lb ae)	Water	Good to excellent	Foliage spray. Site prep only.
	glyphosate	3 lb ae	Water	Excellent	Summer foliage spray. Imazapyr additions may improve control
	triclopyr ester	2 to 15% product in oil	Oil	Excellent	Basal spray.
	triclopyr ester	undiluted	None	Excellent	Thin-line basal bark treatment.
	metsulfuron	2 oz	Water	Excellent	June foliage spray.
	2,4-D amine	undiluted	None	Excellent	Injection, stump treatment, or frill June–Aug.
	imazapyr	25-50%	Water	Excellent	Injection or frill June- December
Chinquapin <i>Castanopsis</i> spp.	picloram + 2,4-D	1 gal (0.54 + 2 lb ae)	Water	Good	Foliage spray. Site prep only.
	2,4-D amine	undiluted	None	Good	Frill treatment.
	triclopyr ester	4 lb	Water	Excellent	Foliage spray. Directed spray.
		2 to 15% product in oil	Oil	Excellent	Basal spray.
	imazapyr	25-50%	Water	Excellent	Injection or frill June–December
Coffeeberry <i>Rhamnus californica</i>	2,4-D	4 lb	Water**	Poor	Directed foliage spray or site prep
	picloram + 2,4-D	1 gal (0.54 + 2 lb ae)	Water	Good	Foliage spray. Site prep only.
Cottonwood <i>Populus trichocarpa</i>	2,4-D amine	undiluted	None	Good	Frill treatment or injection.
	triclopyr ester	2 to 15% product in oil	Oil	Excellent	Basal spray.
	glyphosate	3 lb ae	Water	Excellent	Foliage spray, July–Aug. Not recommended in Idaho.
	metsulfuron	2 oz	Water	Excellent	Full foliar.
Currant and Gooseberry <i>Ribes</i> spp.	2,4-D + picloram	1 gal	Water	Good	Summer.
	glyphosate	3 lb ae	Water	Poor	Summer–fall.

Species	Herbicide ¹	Active ingredient per 50-100 gal of solution	Carrier	Expected control	Application and remarks
Douglas-fir <i>Pseudotsuga menziesii</i>	picloram + 2,4-D	2 gal (1.08 + 4 lb ae)	Water	Good	Roadside spray.
	glyphosate	50%	Water	Excellent	injection or frill, summer to winter.
	picloram + 2,4-D	undiluted	None	Excellent	Injection (thinning) fall-winter.
	metsulfuron	2.4 oz	Water	Poor to excellent	Full foliage spray, spring to summer.
Elderberry, red <i>Sambucus callicarpa</i>	clopyralid	6 oz	Water	Excellent	Foliage spray, summer-fall
	glyphosate	3 lb ae	Water	Excellent	July–Sept.
	picloram + 2,4-D	1 gal (0.54 + 2 lb ae)	Water	Excellent	Foliage spray, summer.
	triclopyr ester	3 lb	Water	Excellent	June–July.
Gorse <i>Ulex europaeus</i>	picloram + 2,4-D	1 gal (0.54 + 2 lb)	Water	Excellent	Foliage spray. Best on younger plants. Site prep only.
	triclopyr ester	4 to 8 lb ae	Water	Excellent	Spring.
	metsulfuron	2 oz + surfactant	Water	Excellent	Spring.
Hazel <i>Corylus cornuta</i> var. <i>californica</i>	glyphosate	3 lb ae	Water	Excellent	Late summer foliage spray. Adding imazapyr may improve control.
	triclopyr ester	2 to 15% product in oil	Oil	Excellent	Basal spray.
Madrone <i>Arbutus menziesii</i>	2,4-D ester	4 lb	Water	Good	Directed foliage spray/site prep, spring/summer.
	2,4-D amine	undiluted	None	Excellent	Injection, 1–2 ml/inch of diameter
	triclopyr ester	2 to 3 lb	Water	Fair	Midsummer directed foliage spray.
		2 to 15% product in oil	Oil	Excellent	Basal spray.
	imazapyr	25% strength	Water	Excellent	Injection, 6–9 inches between centers.
	glyphosate	50% to full strength	Water	Excellent	Cut stump/injection.
Manzanita* Hairy <i>Arctostaphylos columbiana</i> Hoary <i>A. canescens</i> Pine <i>A. parryana</i> Whiteleaf <i>A. viscida</i> Greenleaf <i>A. patula</i>	triclopyr ester	2 to 3 lb	Water	Poor to fair	Midsummer directed foliage spray. Not recommended in Idaho.
		2 to 15% product in oil	Oil	Excellent	Basal spray
	2,4-D	2 lb	Water	Good	Foliage spray. See label for release timing.

Species	Herbicide ¹	Active ingredient per 50-100 gal of solution	Carrier	Expected control	Application and remarks
Howell's <i>A. hispidula</i>					
Maple* Bigleaf <i>Acer macrophyllum</i> Vine <i>A. circinatum</i> Rocky Mountain <i>A. glabrum</i>	imazapyr (4 lb/gal)	25% to 50%	Water	Excellent	Injection summer-fall.
		10 lb (2.5%)	Water	Excellent	Foliage spray on sprout clumps. Very low volume.
	triclopyr salt	undiluted to 50%	Water	Excellent	Injection, half-strength for trees less than 12 inches or for stump treatment.
	triclopyr ester	4 lb	Water	Fair	Foliage spray of sprout clumps. Not for conifer release.
	triclopyr ester	2 to 15% product in oil	Oil	Good to excellent	Basal treatment.
		undiluted to 50%	None/Oil	Good to excellent	Thin-line basal bark treatment.
		30% strength	Oil	Good to excellent	Low-volume basal bark treatment.
	picloram + 2,4-D	undiluted	None	Excellent	Frill, injection, or stump.
glyphosate	3 lb ae	Water	Good	Foliage spray, late summer.	
picloram + 2,4-D	1 gal (0.54 + 2 lb ae)	Water	Good	Foliage spray. Site prep only.	
Ninebark <i>Physocarpus</i> spp.	glyphosate	3 lb ae	Water	Excellent	Summer and fall foliage spray
Oak Oregon <i>Quercus garryana</i> California black <i>Q. kelloggii</i> Canyon live <i>Q. chrysolepis</i>	glyphosate	3 lb ae	Water	Excellent	Foliage spray.
	picloram + 2,4-D	1 gal (0.54 + 2 lb ae)	Water	Excellent	Foliage spray. Site prep only.
	2,4-D amine or glyphosate	undiluted	None	Excellent	Frill; good on all oaks.
	triclopyr ester	2 to 3 lb	Water	Good	Directed foliage spray. Good on all oaks.
		2 to 15%	Oil	Excellent	Basal treatment. Good on all oaks.
	imazapyr	25% strength	Water	Excellent	Cut surface or injection, 6 inches between centers.
	metsulfuron	2 oz	Water	Excellent	Full foliar.
2,4-D	24 lb	Water**	Good	Directed foliage spray or site prep, May-July. May be necessary to re-treat.	
Ocean spray <i>Holodiscus discolor</i>	glyphosate	3 lb ae	Water	Good	Summer to fall foliage spray. Adding imazapyr may improve control.

Species	Herbicide ¹	Active ingredient per 50-100 gal of solution	Carrier	Expected control	Application and remarks
Pine	triclopyr salt	3 lb-	None	Good	Injection; one cut per 3-inch circumference. May–Sept.
Lodgepole <i>Pinus contorta</i>	metsulfuron	0.6 oz + silicon surfactant	Water	Good	Spring, after budbreak.
Ponderosa <i>P. ponderosa</i>	triclopyr ester or 2,4-D ester	4 lb	Water/Oil	Excellent	Foliage spray April–June.
Poison-oak <i>Toxicodendron diversilobum</i>	triclopyr ester	2 to 3 lb	Water	Good to excellent	Directed foliage spray. Spring application best.
	glyphosate	6 lb ae	Water	Excellent	Foliage spray July–Aug. (before color).
	2,4-D	4 lb	Water	Fair to poor	Directed foliage spray or site prep. Re-treat sprouts.
	picloram + 2,4-D	1 gal (0.54 + 2 lb ae)	Water	Fair	Foliage spray. Site prep only.
	imazapyr	4 lb	Water	Excellent	Directed spray in summer. Over application can injure nearby trees and plants through root uptake.
	aminopyralid + triclopyr amine (Capstone)	0.075 to 0.11 + 0.75 to 1.12 lb (6 to 9 pints product/A)	Water	Good	Foliage spray. Spring application best.
Rhododendron <i>R. macrophyllum</i>	imazapyr	10 lb (2.5%)	water	good	Directed Summer foliage spray
	triclopyr ester	4 lb	Water/Oil	Fair to good	Spring foliage spray.
Salal <i>Gaultheria shallon</i>	triclopyr ester	4 lb	Water	Fair to good	Summer foliage spray. Site prep only.
	picloram	2 lb	Water	Good	Summer foliage spray. Site prep only.
	picloram + 2,4-D	1 gal (0.54 + 2 lb ae)	Water	Fair	Foliage spray. Site prep only.
	imazapyr	10 lb (2.5%)	Water	Good	Low volume.
Salmonberry <i>Rubus spectabilis</i>	glyphosate	3 lb ae	Water	Excellent	July–Sept.; Sept. only for release.
	metsulfuron	1 oz	Water	Excellent	June–July. Injures conifers.
	sulfometuron	1.5 to 3 oz	Water	Good	April–May.
Serviceberry <i>Amelanchier</i> spp.	2,4-D	2 lb	Water**	Poor to fair	Foliage spray. Several treatments required. See label for release timing.
	glyphosate	3 lb ae	Water	Good	Summer–fall.
	triclopyr ester	2 to 3 lb	Water	Good	Directed foliage spray.
Snowberry <i>Symphoricarpos albus</i>	glyphosate	4 lb ae	Water	Good	Foliage spray July–Sept. Not recommended in Idaho.
	metsulfuron	2 oz	Water	Excellent	Full foliar.
	triclopyr ester	2 to 3 lb	Water	Fair	Foliage spray.
Sweetbriar rose <i>Rosa eglantheria</i>	picloram + 2,4-D	1 gal (0.5 + 2 lb ae)	Water	Good	Good initial kill, some re-treatment on sprouts. Site prep only.
	triclopyr ester	2 to 3 lb	Water	Good	Directed foliage spray.
	glyphosate	3 lb ae	Water	Good	Directed foliage spray.

Species	Herbicide ¹	Active ingredient per 50-100 gal of solution	Carrier	Expected control	Application and remarks
Tanoak* Lithocarpus densiflora	2,4-D	4 lb		Poor	Directed foliage spray. Several treatments needed.
	imazapyr	50%	Water	excellent	Injection or frill, 6 inches between centers.
	triclopyr salt	Undiluted	—	Excellent	Injection any season, 4 in between centers.
	triclopyr ester	8 to 12 lb	Water	Good	Directed foliage spray
	triclopyr ester	2 to 15% product in oil	Oil	Good to excellent	Basal treatment. Best to treat third-year sprouts.
Thimbleberry Rubus parviflorus	picloram + 2,4-D	1 gal (0.54 + 2 lb ae)	Water	Good	Foliage spray. Re-treatment may be required. Site prep only.
	glyphosate	3 lb ae	Water	Excellent	Foliage spray, July–Sept.
	metsulfuron	2 oz	Water	Excellent	Full foliar.
Willow Salix spp. Note: Oregon’s many species of willow vary in susceptibility. These are starting recommendations.	2,4-D	2 lb	Water	Good	Foliage spray. May need to retreat sprouts. See label for release timing.
	triclopyr ester	2 to 3 lb	Water	Good	Directed foliage spray.
	triclopyr ester	2-15% product in oil	Oil	Good	Basal treatment.
	glyphosate	3 lb ae	Water	Fair to good	Foliage spray July–Sept.
	metsulfuron	2 oz	Water	Excellent	Full foliar.
	imazapyr + glyphosate	0.5 lb ae + 3 lb ae	Water	Good to excellent	Foliage spray July–Sept.
<p>*Based on results in southwestern Oregon. **Adding 2 to 5% oil as an emulsion gives best results.</p> <p>¹ Herbicides listed in these recommendations generally have broadly inclusive labels, in terms of effectiveness at concentrations given. New regulations regarding use and current label coverage should be consulted before using a particular product.</p>					