

Christmas Tree Weeds

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Weed control is considerably more complicated in crops with a long-duration cropping sequence such as Christmas trees. Perennial weeds are not likely to become a serious problem in annual crops since they can be removed either mechanically or chemically after harvest or before planting. Because perennial weeds such as poison ivy, brambles, shrubs, and small tree sprouts cannot be easily removed without serious risk to young Christmas trees, proper site preparation is critical to the long-range management of a tree plantation. After an effective site preparation program has been completed, preemergence herbicides may be used to prevent the re-establishment of annual grasses and broadleaf weeds. The maintenance of a weed-free strip in the planted row will increase tree survival and subsequent growth.

Sod Suppression in Fraser Fir

An alternative to mowing and/or complete vegetation control is sod suppression using low herbicide rates. The intent is to minimize weed competition while maintaining a groundcover to minimize soil erosion. Sod suppression treatments are generally applied in spring when grass has greened up but prior to budbreak of trees. Reapplication may be needed in mid to late summer. Potential treatments include Roundup Original, Roundup Original plus Goal, Vantage plus Goal, and Vantage plus Goal plus Stinger. Check the individual herbicide labels for recommended rates of application.

Weed Control in Christmas Trees

Table 7.15 - Herbicides for Weed Control in Christmas Trees

Crop	Weed Problem	Chemical Rate/A	Remarks
Preemergence to weeds	Annual grasses and yellow nutsedge	metolachlor 1.2-2.4 lb Pennant Magnum 1.3-2.6 pt	Apply prior to nutsedge and annual grass emergence and prior to bud break. Combine with simazine for greater broadleaf control. For small areas apply 0.5-0.9 fl oz Pennant Magnum/1,000 sq ft.
	Annual grasses, yellow nutsedge, and certain annual broadleaf weeds	dimethenamid 0.98-1.5 lb ai/A (Tower 6EC 21.0-23.0 fl oz/A or 0.48-0.73 fl oz/1000 sq ft)	Apply to established plantings prior to weed emergence or include a postemergence herbicide to control emerged weeds. Can also be applied to new plantings after the soil has settled from rain or irrigation. Apply as a directed spray either prior to bud break or after new growth has hardened. Combine with a preemergence broadleaf herbicide for broader-spectrum control. Use a shielded spray if trees have been in the ground less than one year.
	Most annual grasses and certain annual broadleaf weeds	napropamide 4.0-6.0 lb (Devrinol 50DF 8.0-12.0 lb)	Apply prior to weed germination in fall or early spring. Rainfall or irrigation within 2-3 days after application is needed for maximum weed control. Tank mixing with other herbicides such as simazine improves the spectrum of broadleaf weeds controlled. For small areas apply 2.9-4.4 fl oz Devrinol 50 DF/1,000 sq ft.
		oryzalin 2.0-4.0 lb (Surflan 4AS 2.0-4.0 qt, Surflan WDG 2.4-4.7 lbs, Oryzalin 4PRO 2.0-4.0 qt)	Apply to established plants (at least two weeks in containers) as a directed spray before weeds emerge. May be tank mixed with other herbicides such as simazine to control a greater spectrum of broadleaf weeds in field grown Christmas trees. Should be applied in the fall or early spring when rainfall is likely to activate the herbicide. For small areas, apply 1.5-2.9 fl oz Surflan 4AS or Surflan WDG 0.9-1.7 oz/1,000 sq ft.

Table 7.15 - Herbicides for Weed Control in Christmas Trees (cont.)

Crop	Weed Problem	Chemical Rate/A	Remarks
Preemergence to weeds (cont.)	Most annual grasses and certain annual broadleaf weeds (cont.)	pendimethalin 2.0-4.0 lb (Pendulum 60WDG 3.3-6.6 lb, Pendulum Aqua Cap 2.1-4.2 qt)	Apply to established plants as a directed spray prior to weed germination and budbreak. For small areas apply 1.2–2.4 oz/1,000 sq ft of Pendulum 60WDG or 1.6-3.2 fl oz Pendulum Aqua Cap.
	Most annual grasses and broadleaf weeds	flumioxazin 0.25-0.375 lb (SureGuard 8.0-12.0 oz)	Preemergence and early postemergence action. Apply as a directed spray to dormant trees prior to weed germination or to small emerged weed seedlings. Combine with a labeled postemergence herbicide for control of larger annual weeds or perennials. Can be applied overtop to dormant conifers. For small areas, apply 0.18-0.275 oz/1,000 sq ft.
		oxyfluorfen 1.0-2.0 lb (Goal 2XL 4.0-8.0 pt)	Apply as overtop treatment to newly planted or established conifers before bud-break in the spring or after the foliage has hardened off. Preemergence control plus control of small weeds less than 3–4 inches in height. Will injure tender growth if applied after buds break dormancy. For small areas apply 1.5-2.9 fl oz Goal 2XL/1,000 sq ft.
		pronamide 1.0-2.0 lb (Kerb 50W 2.0-4.0 lb)	Fall application to fir or pine species established one growing season. High rate has given control of quackgrass and other cool-season perennial grasses like fescue, bluegrass and orchardgrass. For small areas, apply 0.7-1.4 oz Kerb 50W/1,000 sq ft. RESTRICTED USE.
		simazine 2.0-4.0 lb (Princep 4L 2.0-4.0 qt)	Make application after rainfall has firmed the soil around the roots of Christmas trees and before weeds start to emerge. Simazine may be applied in spring or fall but do not use more than one application of simazine/year or injury may result. Do not use on seedlings less than 2 years of age. For small areas, apply 1.5-2.9 fl oz Princep 4L/1,000 sq ft.
Postemergence to weeds	Certain broadleaf weeds	clopyralid 0.09-0.25 lb (Stinger 1/4-2/3 pt)	Primarily controls legume and composite weeds (clover, vetch, thistles, ragweed, etc.). Use lower rates for small, actively growing weeds. Apply only to trees established at least one year. Can be applied overtop trees.
	Emerged weeds	glyphosate 0.75 - 3.75 lb ae (Roundup Pro or Touchdown Pro 1.0-5.0 qt or other labeled formulation; for wiper applications, use 1 part herbicide to 2 parts water; for cut stump treatments, use a 50-100% solution).	For site preparation, apply in strips in the fall prior to planting. Do not disturb treated soil for at least 7 days after treatment. Apply as a directed spray to pine, spruce or fir when trees are not in active growth. Conifers are most tolerant to glyphosate in the fall. Do not allow spray to contact foliage of Christmas trees, especially if earlier applications are made. For small-area application with a hand sprayer, use 2 oz/gal of water and lightly wet the foliage. There are other glyphosate formulations available. Check label for application rates.

Table 7.15 - Herbicides for Weed Control in Christmas Trees (cont.)

Crop	Weed Problem	Chemical Rate/A	Remarks
Postemergence to weeds (cont.)	Emerged weeds (cont.)	Roundup Original 1.0-5.0 qt	Due to different surfactant loading, Roundup Original is considered less likely to cause tree damage than Roundup Pro. Roundup Original is therefore the preferred formulation if the spray happens to contact needles.
		paraquat 0.63-1.0 lb (Gramoxone Inteon 2.5-4.0 pt + nonionic surfactant 1.0-2.0 pt/100 gal)	Apply as a directed spray for contact kill of annual weeds. Perennial weeds will require repeat application. Do not allow spray to contact desired foliage. May be combined with other herbicides such as simazine for residual control. For small-area application, use 2/3 fl oz plus 0.5 fl oz spreader sticker/gal of water and lightly wet foliage. Thorough coverage is important.
	Annual and perennial grasses	clethodim 0.09-0.25 lb (Envoy 13.0-34.0 fl oz + 1.0% crop oil concentrate)	Apply to actively growing grasses. For spot treatment use a 0.5 to 1.0% solution plus 1.0% crop oil concentrate. A repeat application may be required for perennial grasses control.
		fluazifop-P-butyl 0.25-0.375 lb (Fusilade II 16.0-24.0 fl oz + 0.5 pt nonionic surfactant/25.0 gal)	May be applied overtop of selected trees (see label) but should be used as a directed spray after bud break until new growth hardens. (For spot treatment with hand held sprayers, use 0.75 oz of Fusilade II plus 0.5 oz of surfactant/gal of water) Treat perennial grasses at the following stages of growth: bermudagrass 4-8 inch runners; johnsongrass 12-18 inches tall; quackgrass 3-5 leaves, but not more than 10 inches tall. Apply only to actively growing grasses not under moisture stress. A repeat application may be necessary in 7-14 days on some perennial grasses.
		sethoxydim 0.28-0.47 lb (Segment 36-60 fl oz)	May be applied overtop young trees or banded to conserve material. Use lower rates on annual grasses less than 6 inches tall and high rate on taller annual grasses and perennial grasses. Apply only to actively growing grass. Do not use under severe moisture stress. For spot treatment, use 2-3 fl oz Segment/gal of water. A repeat application may be needed to control perennial grasses.

Table 7.16 - Guide for Herbicide Selection – Christmas Trees¹

Herbicide	Fraser Fir	Norway Spruce	Scotch Pine	White Pine
Devrinol	X	X	X	X
Envoy	X	X	X	X
Fusilade	X	X	X	X
Goal	X	X	X	X
Gramoxone	X	X	X	X
Kerb	X	X	X	X
Pendulum	X	X	X	X
Pennant	X	X	X	X
Segment	X	X	X	X
Princep	X	X	X	X
Roundup	X	X	X	X
Stinger	X	—	X	X
SureGuard	X	X	X	X
Surflan	X	X	X	X

¹An “X” indicates the herbicide is labeled for that particular species. Check the product label for a more complete listing of plants and directions for use.

Table 7.17 - Weed Susceptibilities to Preemergence Herbicides Labeled for Use in Christmas Tree Production¹

	Devrinol	Goal	Kerb	Pendulum	Pennant	Princep	SureGuard	Surflan
Annual Grasses								
Crabgrass	E	F	F	E	G	F-G	F-G	E
Foxtails	E	F	F	E	G	G	F-G	E
Fall panicum	G	F	P	G	G	F-G	—	G
Annual Broadleaves								
Lambsquarters	G	G	F	G	P	E	E	G
Morningglory	N	F	P	P	N	G	G	P
Ragweed	F	G	P	N	N	E	E	P
Smartweed	P	G	F	F	P	E	—	P
Perennial Grasses and Sedges								
Bermudagrass	N	N	P	N	N	P	N	N
Johnsongrass	P	N	P	P	N	P	N	P
Fescue	N	N	E	N	N	P	N	N
Yellow nutsedge	P	N	N	N	G	N	N	N
Perennial Broadleaves								
Poison ivy	N	N	N	N	N	N	—	N
Blackberry	N	N	N	N	N	N	—	N
Honeysuckle	N	N	N	N	N	N	—	N

¹E = 90% or greater control, G = 75 to 90% control, F = 50 to 75% control, P = slight control, and N = no control.

Table 7.18 - Weed Susceptibilities to Postemergence Herbicides Labeled for Use in Christmas Tree Production¹

	Fusilade	Envoy	Gramoxone	Segment	Roundup	Stinger
Annual Grasses						
Crabgrass	E	E	E	E	E	N
Foxtails	E	E	E	E	E	N
Fall panicum	E	E	E	E	E	N
Annual Broad Leaves						
Lambsquarter	N	N	E	N	E	N
Morningglory	N	N	E	N	G	N
Ragweed	N	N	E	N	E	G
Smartweed	N	N	E	N	E	F
Vetch	N	N	F	N	P	G
Perennial Grasses and Sedges						
Bermudagrass	G	G	P	G	G	N
Johnsongrass	G	G	P	G	G	N
Fescue	P-F	F	P	F	G	N
Yellow nutsedge	N	N	P	N	G	N
Perennial Broadleaves						
Canada thistle	N	N	P	N	G	G
Poison ivy	N	N	P	N	G	-
Blackberry	N	N	P	N	G	-
Honeysuckle	N	N	P	N	G	-

¹E = 90% or greater control, G = 75 to 90% control, F = 50 to 75% control, P = slight control, and N = no control.

