

Herbicide Comparison Table (Updated April 2015)

PRODUCT NAME & ACTIVE INGREDIENT/CAS NUMBER	FORMULATION	FORESTRY USE	APPLICATION	ENTERS WEED THROUGH	TIMING	COMMENTS	ADDITIVES	USE PRECAUTIONS
<b>Capstone</b> Aminocyclopyrid + triclopyr amine 57213-69-1, 566191-89-7	Water Soluble concentrate	Post emergent broadleaf weed control, especially legumes.	Aerial or ground broadcast for site prep, directed spray for conifer release, cut surface.	Foliage, cut surface	Actively growing weeds	Apply to cut surface undiluted	Use non-ionic surfactant for foliar applications	Conifer release by spot spray only
<b>Intensity, Intensity One, Select MAX, Select ZEC</b> Clethodim 99129-21-2	Emulsifiable concentrate	<b>POSTEMERGENCE</b> Annual and perennial grass control in conifer plantings	Aerial or ground, broadcast spray, band or spot. Ineffective when used in wick applicator systems.	Foliage.	Actively growing grass, before seed head appears. Works best when weeds are small.	More chemically active than sethoxydim.	For best results, add MSONIS blend at 1.0% of total spray volume (never less than 1 pint product per acre).	Noncorrosive. Extremely sensitive to UV light. Physical and chemical degradation accelerated in alkaline or hard water tank mixtures.
<b>Transline</b> Clopyralid 57754-85-5	Water soluble concentrate	<b>POSTEMERGENCE</b> Post-emergent control of composites & legumes; Site preparation; Release; Hybrid poplar plantations.	Aerial or ground broadcast, spot application, cut stump, injection, hack and squirt or frill application.	Rapidly enters plant through foliage, roots, and stems.	When weeds are actively growing. Provides some preemergent control with up to a year of soil activity.	Supplemental labeling for forestry application with <b>endangered species restriction: do not apply to wild lupine</b> . Clopyralid can be taken up by roots of non-target species, resulting in collateral damage.	<b>DO NOT use acidifiers</b> ; Use nonionic surfactant; Also use sticking agent if applying to clover ( <i>Mellilotus</i> spp. and <i>Trifolium</i> spp.)	Corrosive to copper, aluminum, zinc, and brass fittings and sprayer parts. Residue can remain on composted plant material and in manure of animals that have grazed on treated plant material.
<b>Vanquish, Sterling</b> Dicamba 1918-00-9	Emulsifiable concentrate	<b>POSTEMERGENCE</b> Non-selective forest brush and broadleaf weed control; Selective tree removal; Forest site preparation.	Aerial or ground broadcast, spot application, cut stump, or frill application.	Foliage, stem and sapwood. Some uptake by roots.	Full leaf to 2 weeks before first frost.	Ground and basal spray Foliar spray is effective on multiflora rose and brambles.	Amine salt; For optimum performance, add water conditioning agent or AMS to tank prior to mixing herbicide.	Noncorrosive. A 2% solution of household ammonia is required to effectively clean spray equipment.
<b>Accord, Accord XRT, Roundup, Razor</b> Glyphosate 38641-94-0	Water soluble concentrate	<b>POSTEMERGENCE</b> Non-selective post-emergent control; Conifer release; Site preparation.	Aerial or ground broadcast. Spot or direct spray; Wick; Injection; Cut surface.	Foliage or cut surface.	After full leaf expansion; Woody plants late summer; Release of pine and spruce allowed at end of first growing season. Do not apply to cut surfaces during periods of heavy sap flow.	Tank mixtures with auxin-type herbicides (2,4-D) may reduce glyphosate activity. Refer to label for approved tank mixtures.	IPA salt; For optimum performance, add water conditioning agent or AMS to tank prior to mixing herbicide. Most generic formulations and all aquatic formulations do not contain surfactant. Use an aquatic-approved surfactant for aquatic formulations.	Concentrate and mixtures react with steel containers and produce hydrogen which can explode.
<b>Velpar L<sup>1</sup></b> Hexazinone 51235-04-2	Water dispersible liquid	<b>PRE-EMERGENCE</b> and <b>POSTEMERGENCE</b> Site preparation; Conifer release; Grid and single stem control; Brush control.	Aerial or ground, broadcast; Directed spray; Grid or single stem soil application; Injection.	Roots. Primarily transported in xylem; Negligible translocation occurs when foliar applied.	Apply when before target weeds emerge or when they are under 2' in height Needs to be incorporated by 0.25-0.5" of rainfall within 2 weeks of application.	Release trees 2 to 4 years after planting depending on soil and tree species. Refer to label for approved tank mixtures.	No additives required.	Noncorrosive. Slightly degraded by UV light.
<b>Arsenal<sup>1</sup></b> Imazapyr 81510-83-0	Soluble concentrate	<b>POSTEMERGENCE</b> control for site preparation and conifer release.	Aerial (helicopter only) or ground, broadcast or directed spray, cut surface treatments; injection.	Roots, foliage, and cut surfaces.	Foliage after full leaf expansion; cut surface any time except during periods of heavy sap flow.	Refer to label for approved tank mixtures.	IPA salt; For optimum performance, add water conditioning agent or AMS to tank prior to mixing herbicide.	Noncorrosive. Rinsate is highly active; use a chemical neutralizer when rinsing spray tanks.
<b>Chopper Gen2</b> Imazapyr 81510-83-0	Water miscible liquid concentrate;	<b>POSTEMERGENCE</b> for site preparation, brush control, conifer release. .	Aerial or ground, broadcast or directed spray; cut surface treatments.	Roots, foliage, and cut surfaces.	Foliage after full leaf expansion; cut surface any time except during periods of heavy sap flow.	Refer to label for mixing instructions. Tank mix with Oust, Escort.	For foliar applications, concentrate may be mixed with water and then oil to form an emulsion.	Do not store concentrate or mixed material in unlined steel containers other than stainless steel.
<b>Escort XP, Patriot</b> Metsulfuron methyl 74223-64-6	Water dispersible granule	<b>POSTEMERGENCE</b> Red pine site preparation the season before planting; Brush control.	Aerial (helicopter only) or ground broadcast; spot application.	Rapid uptake by foliage and roots. Xylem translocation substantially faster than phloem translocation.	When weeds have full leaf expansion and are actively growing or after undesirable woody vegetation has broken winter dormancy and reached full leaf expansion.	Due to low phloem mobility, symptoms of phytotoxicity can take several weeks to appear. Transplant following planting season. Refer to label for approved tank mixtures.	No additives necessary.	Slightly abrasive to sprayer fittings and components.
<b>Pendulum 3.3 EC</b> Pendimethalin <sup>1</sup> 40487-42-1	Emulsifiable concentrate	<b>PRE-EMERGENCE</b> Pre-emergent control of annual grasses and some broadleaf weeds; Site preparation and maintenance.	Ground broadcast, directed, or over the top of established plants. Should be incorporated with 0.5" of water within 30 days of application.	Some absorption via roots, but grass shoot coleoptiles are particularly susceptible.	Site preparation apply at planting or to established trees.	Refer to label for approved tank mixtures. For application at planting wait for closure of plantings.	Pre-emergence herbicide-No additives necessary.	If endangered plant species occur in proximity to the application site, leave 200 foot untreated buffer zone. Apply using a low boom (20' above ground and fine to medium/coarse nozzle.

<b>Tordon K</b> Picloram 6753-47-5 <b>RESTRICTED USE</b>	Emulsifiable concentrate	<b>POSTEMERGENCE</b> Site preparation.	Aerial or ground broadcast or directed spray.	Foliage and stem.	From full leaf expansion through late summer.	<b>Backflash possible.</b> Wait 8-9 months after use before planting conifers. Refer to label for approved tank mixtures.	No additives required.	Inhalation danger. Read label precautions.
<b>Tordon 101 Mixture</b> Picloram 6753-47-5, 2,4-D amine 18584-79-7 <b>RESTRICTED USE</b>	Soluble concentrate.	<b>POSTEMERGENCE</b> Broadleaf weed and brush control in forest planting sites; Site preparation; Wildlife openings.	Aerial or ground, broadcast or directed spray.	Foliage, stem and cut surface.	Foliage application after leaf expansion; Cut surface any season except heavy sap flow.	<b>Backflash possible.</b> Wait 8 - 9 months for conifer transplants. Refer to label for approved tank mixtures.	No additives required.	Inhalation danger. Read label precautions.
<b>Tordon RTU , Pathway</b> Picloram 6753-47-5, 2,4-D amine 18584-79-7	Ready-to-use Solution	<b>POSTEMERGENCE</b> Selective tree removal.	Cut surface, injection, frill or girdle.	Sapwood.	Any season except during heavy sap flow or when snow or water covers surface where herbicide will be applied to tree or brush.	<b>Backflash possible.</b> Stays phytotoxic for 1 year or more in soil. Do not exceed more than 4 gallons product per acre in 2 growing seasons.	No additives required.	Inhalation danger. Read label precautions.
<b>Tordon RTU , Pathway</b> Picloram 6753-47-5, 2,4-D amine 18584-79-7	Flowable Concentrate	<b>PRE-EMERGENCE</b> Pre-emergent annual broadleaf weed and grass control in shelterbelts.	Aerial or ground broadcast, band, directed or over the top spray.	Roots.	Before weeds emerge or after weed removal.	Do not apply to transplants under 2 years of age. Refer to label for approved tank mixtures.	Pre-emergence herbicide-No additives necessary.	Noncorrosive.
<b>Simazine 90 DF</b> (Simazine 90%) 122-34-9	Water dispersible granule	<b>PRE-EMERGENCE</b> Pre-emergent annual broadleaf weed and grass control in shelterbelts.	Ground broadcast, band, directed or over the top spray.	Roots.	Before weeds emerge or after weed removal.	Do not apply to transplants under 2 years of age. Refer to label for approved tank mixtures.	Pre-emergence herbicide-No additives necessary.	Noncorrosive.
<b>Oust XP, Spyder</b> Sulfometuron methyl <sup>1</sup> 74222-97-2	Water dispersible granule	<b>PRE AND EARLY POST-EMERGENT</b> grass and broadleaf control; Hardwood and conifer site preparation; Release in plantations.	Aerial or ground broadcast, band or directed spray.	Roots and foliage.	Site prep apply in late fall or spring before transplanting; Release apply in spring after trees are planted but before trees break dormancy.	Product requires use of a sprayer dedicated to only Sulfometuron methyl products. Refer to label for approved tank mixtures. For release apply after rainfall closes planting slit.	Apply surfactant at 0.25% by volume.	Noncorrosive.
<b>Garlon 3A, Tahoe 3A, Element 3A</b> Triclopyr amine <sup>1</sup> 57213-69-1	Soluble concentrate	<b>POSTEMERGENCE</b> Brush and broadleaf control; Site preparation; Conifer release; Single tree removal. See Zee recommendation for woody plant control in WI	Aerial (helicopter only) or ground broadcast, directed spray or cut surface.	Foliage and cut surface.	Foliage application during active growth; Cut surface any time except heavy sap flow.	Refer to label for approved tank mixtures	<b>NEVER ADD ACIDIFIERS.</b> Amine salt: For optimum performance, add water conditioning agent or AMS to tank prior to mixing herbicide. For foliar applications, add MSO at 1% of total spray volume.	Slightly corrosive to metals upon repeated use.
<b>Forestry Garlon 4, Garlon XRT, Tahoe 4E, Element 4</b> Triclopyr ester 64700-56-7	Emulsifiable concentrate	<b>POSTEMERGENCE</b> Brush and broadleaf control; Site preparation; Conifer release; Select tree removal. .	Aerial (helicopter only) or ground broadcast, directed, basal bark, cut stump, or dormant stem spray.	Foliage, bark and cut surface.	Foliage application during active growth. For conifer release when weed foliage has reached full size.	Site preparation 1 - 2 month delay before planting conifers; Overtop spray applications can kill pines. Refer to label for approved tank mixtures <sup>2</sup> .	<b>NEVER ADD ACIDIFIERS.</b> No special additives required for foliar applications.	Slightly corrosive to metals upon repeated use. High concentration solutions can distort polypropylene compression and backpack sprayers; Do not store in polypropylene containers.
<b>Pathfinder II</b> Triclopyr ester 64700-56-7	Ready-to-use Solution	<b>POSTEMERGENCE</b> Brush control; Single tree removal.	Basal bark and cut stump.	Bark, sapwood.	Any season except during heavy sap flow or when snow or water covers surface where herbicide will be applied to tree or brush.	OK on seasonally dry wetlands.	<b>NEVER ADD ACIDIFIERS.</b> No additives required.	Slightly corrosive to metals upon repeated use. High concentration solutions can distort polypropylene compression and backpack sprayers; Do not store in polypropylene containers.
<b>Patron 170</b> 2,4-D ester <sup>1,2</sup> 2,4-DP ester <sup>1</sup> 1926-43-4, 79270-78-3	Emulsifiable concentrate	<b>POSTEMERGENCE</b> Brush control; Site preparation; conifer release; Selective control of most broadleaf species. Pine release; Single tree removal.	Ground broadcast, directed, basal bark, frill or cut surface spray.	Foliage, stem and cut surface.	After full leaf development; Pine release after bud set. Basal bark anytime that surface is not wet or covered in snow.	To release red, jack and white pine and white spruce.	No additives required.	Noncorrosive.

<sup>1</sup>Multiple formulations are available for this product.

<sup>2</sup>Indicates pesticides currently on a list of chemicals prohibited by the Forest Stewardship Council (FSC). On FSC-certified lands, (including State Forests and some County Forests) in 2006 these pesticides can only be used if they were used previously. Use on FSC-Certified lands after 2006 is subject to change. Use on lands not certified under FSC is permissible so long as use is concurrent with label specifications.