

Woody Plants and Forestry

Table 1. Herbicides for tree injection.

Active Ingredient and Rate	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
2,4-D amine	Various products (4 lbs/gal) @ 1.0-2.0 ml (cc) in spring and early summer at 1-2 inch intervals	Most oaks, hickory, pecan, hawthorn, elm, waterlocust. Hard-to-kill trees require continuous cuts.	Best results are obtained in spring and early summer. Rates apply to trees 4-9 inches in diameter measured at breast height (DBH). The injector bit must penetrate inner bark. Make each injection at ground line (473 ml = 1 pt). Hatchet and squirt bottles may also be used.
imazapyr @ 2 lbs/gal	Chopper 8-12 fl oz/gal water or diesel. Apply 1 ml per injection or cut at 1-inch interval	Most hardwoods. Pines are resistant.	Apply year-round. Legumes (locusts) and briars are not controlled.
glyphosate @ 4 lbs/gal	glyphosate @ 1 ml per 2-3 inches DBH	Oaks, sweetgum, poplar, sycamore.	Apply from full-leaf expansion until leaf drop in fall. The injector bit must penetrate inner bark.
2,4-D amine plus picloram	Tordon 101R or RTU @ 1.0 ml of undiluted material inject at 2- to 3-inch intervals.	Most species.	Best results in spring and summer. Maple, blackgum, hollies, hickory and dogwood are more difficult to control. To control these species, apply in continuous cut.

Table 2. Soil-applied herbicides.

Active Ingredient and Rate	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
tebuthiuron @ 1-4 lbs/A	Spike 20P @ 5-20 lbs./A Spike 80WP @ 1.25-6.0 lbs/A	Most woody brush and trees.	Apply anytime the ground is not frozen. Distribute pellets uniformly. Caution: Off target movement potential.
imazapyr @ 0.5-1.0 lb/A	Chopper or Chopper Gen 2 at 1.0-2.0 qt/A	Weeds, vines, woody brush.	For site preparation prior to replanting pines, follow label for tolerances to different pine species.
imazapyr 0.5% + diuron 2.0 G	Topsite 2.5G @ 200 lbs/A	Most species.	Apply year-round. Some legumes are resistant.
hexazinone @ 3.6-6.3 lbs/A	Velpar 90SP @ 4-8 lbs/A; Velpar L @ @ 1.8-3.6 gal; WK or Pronone 10G @ 5-30 lbs/A	Willow, oak, gum; other trees and brushes.	Apply between late winter and early summer. Apply Velpar in 50-200 gal. of water, plus surfactant with handgun as individual stem treatments or as narrow bands 4-6 feet apart. Follow instructions on label. Apply Pronone 10G by hand or with spreader.
hexazinone @ 3.6-6.3 lbs/A	Velpar L undiluted @ 4-8 ml per 2-inches stem diameter.	Willow, oak, maple, tallow, other trees and brush.	Apply late winter to early summer. Apply by "spot gun" to the soil at base of the stem.

Table 3. Herbicides for basal bark treatment.

Active Ingredient and Rate	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
triclopyr @ 1 lb/gal+ 2,4-D @ 2 lbs/gal	Crossbow @ 115 oz/gal plus Penetrator or Cide Kick @ 13 fl oz/gal; makes 1 gal finished spray	Same as above. Very effective on briar and multiflora rose.	Same as above. Apply as basal spray or with spot gun as thin line solid stream at 3-5 ml/second.
triclopyr @ 4 lbs/gal	Garlon 4 @ 25 oz/gal + diesel @ 90 oz/gal + Cide Kick or Penetrator @ 12 oz/gal; makes 1 gal finished spray	Most hardwoods up to 4 inches DBH; better on thin-bark species.	Apply year-round by hand with backpack sprayer as a narrow band or mist to lower 12 inches of stem. Can be applied with a spot gun set to deliver 3-5 ml/sec as a solid stream. Vegetable-based basal oil may be used instead of diesel.
triclopyr	Pathfinder II RTU	Woody plants in forests, in rangeland and permanent pastures, and in noncrop area, commercial and residential landscapes.	Ready to use product. Cut stump or basal bark treatment.
2,4DP + 2,4D	Weedone CB @ 5 gal/A	Most Southern hardwoods up to 4 inches DBH.	Apply spring through fall. Apply with hand pump sprayer to lower 18-36 inches of stem.

Table 4. Herbicides for foliage spraying.

Active Ingredient and Rate	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
imazapyr @ 0.5-.5 lbs/A	Arsenal 2 EC, Arsenal Powerline @ 2.0-6.0 pt/A	Most woody plants, grasses, broadleaf weeds.	Apply at full-leaf in spring or summer. Good residual.
imazamox @ 0.5-1.0 lb./A	Clearcast @ 1.0-2.0 qt/A plus surfactant	Effective on Chinese tallowtree and black willow; fair on sweetgum.	Only moderate injury on red oaks and hickory when applied at lower rate. Do not use non-selectively if injury to oaks, hickory and other hardwoods can't be tolerated.
dicamba @ 0.5-1 lb/A + 2,4-D @ 2.0-6 lbs/A	Brush Buster @ 0.5-1.0 gal per 50 gal of spray by ground or 3.0 gal/A by air	See Brush Buster label.	Apply after leaves are fully developed and until 3 weeks before frost. Dicamba and amine 2,4-D may be tank-mixed in the proportions listed under active ingredients. See label for precautions.
triclopyr @ 1.0-1.5 lbs/A + butoxyethyl 2,4-D @ 2.0-3.0 lbs/A	Crossbow @ 1.0-1.5 gal/100 gal water	Most woody plants; especially good on briars, willow, tallow.	Apply at full-leaf in spring or summer. Spray to give thorough coverage. Avoid drift to desirable vegetation.
metsulfuron methyl @ 0.04-0.16 lbs/A	Escort XP and generics @ 1-4 oz/A	Oaks, ash, elm, other woody species; kudzu, black locust, sericea lespedeza, privet.	Apply when brush is actively growing. Can be used over top of loblolly and slash pine for conifer release and preplant for site preparation. Highly effective on privet.

Active Ingredient and Rate	Formulated Product and Rate	Weeds Controlled	Remarks and Precautions
triclopyr @ 1.0-2.0 lbs/A	Garlon 4 @ 1.0-2.0 qt/A	Most woody plants and poison ivy.	Apply at full-leaf in spring or summer. Spray to give thorough coverage. Avoid drift to desirable vegetation. Can be used in 2,4-D-restricted areas.
glyphosate @ 2-5 lbs/A	glyphosate @ 2-5 qt/A or 1.0-2.0% solution	Many trees, brush, herbaceous weeds.	Apply at later summer and fall while plants are actively growing. May be aerially applied in 5-15 GPA of water. Use 10-40 GPA water for ground rig. For percent solution, spray to wet.
fosamine @ 6-12 lbs/A	Krenite @ 1 1/2-3 gal in 50-300 gal of water plus surfactant	Willow, kudzu and certain hardwoods.	Apply in the two-month period prior to fall leaf coloration. Ground application only on ditch banks. Read label for specific instructions.
sulfometuron methyl @ 0.09-0.36 lb/A	Oust XP and generics @ 2-4 oz/A	Many grass and broadleaf species.	When weeds are actively growing. Can be used over top of loblolly, longleaf and slash pine for conifer release and preplant for site preparation.
clopyralid @ 0.1-0.38 lb/A	Transline @ 0.25-1.0 pt/A	Good on legume species.	Apply at full-leaf in spring or summer. Can be used in 2,4-D restricted areas.
fluroxypyr @ 0.14-0.25 lb/A	Vista @ 0.33-1.33 pt/A	Most herbaceous weeds and certain woody plants.	Apply at full-leaf in spring or summer. Can be used in 2,4-D restricted areas.
aminocyclopyrachlor @ 0.24-0.29 metsulfuron-methyl @ 0.08-0.09 lb/A	Streamline @ 9.5-11.5 oz/A	Most woody plants; especially good on Chinese tallow, vines, briars.	Apply at full-leaf, avoid drift to desirable plants. Not for use overtop of pines for hardwood control. Can be used in 2,4-D restricted areas.
aminocyclopyrachlor @ 0.23-0.29 + metsulfuron-methyl @ 0.07-0.09 + imazapyr @ 0.32-0.40 lb/A	Viewpoint @ 16-20 oz/A	Most woody plants; also controls herbaceous weeds and grasses.	Apply at full-leaf, avoid drift to desirable plants. Not for use overtop of pines for hardwood control. Can be used in 2,4-D-restricted areas.

Table 5. Herbicides for control of poison ivy and other vines on tree trunks.

Formulated Product and Rate	Remarks and Precautions
Amitrol-T @ 3 oz/3 gallon water plus 3 tablespoons surfactant	<p>Refer to label for complete instructions. Cut vine and spray foliage around the base of tree. Do not drench soil. Apply when ivy or other vines are in full-leaf. Prevent drift. More than one application may be required.</p>
Gramoxone Max @ 7 TBS/gal water plus 1 TBS surfactant	<p>Refer to label for complete instructions. A nonselective, contact herbicide. Spray foliage of vine around base of tree after cutting vine. Do not allow drift to contact foliage of desirable plants. Thorough coverage of undesirable plants is necessary, but avoid drenching soil. If sprayed on the tree trunk, be sure that bark is well-developed and shows no green. Avoid excessive wetting. Even under favorable conditions injury may occur.</p>
Roundup Ultra @ 4-5 qt/A broadcast or a 2.0% solution spray to wet.	Apply to actively growing plants before leaves develop fall leaf color. Repeat if required. Do not allow spray to contact desirable foliage.
Vine-X - Ready to use	Product comes ready to use with built-in brush type applicator tip. Follow label instructions. Excellent on poison ivy and bush killer vine. If used correctly will not injure adjacent plants.