



Herbicide Prescriptions for Controlling Competing Vegetation in Christmas Tree Plantings in Kentucky

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The following herbicide prescriptions have been developed using results from herbicide trials at Robinson Forest, operational test sites in the inner and outer Bluegrass Regions of Kentucky and from specimen label information. Use of these prescriptions should not be completed without reading herbicide labels and following all safety precautions and following all label instructions.

PRE-PLANT - Site Preparation for Planting

Grass, annual, and perennial control

- 2 quart glyphosate (Accord, Roundup) per treated acre (ground application). Use 0.5% non-ionic surfactant. Apply 10-40 gallons of solution per treated acre. Treat in September prior to leaf-fall of target species.

Grass and pre-emergent control

- 2 quart glyphosate (Accord, Roundup) and 2 ounces Oust per treated acre. Use 0.25% non-ionic surfactant. Apply 20 gallons of solution per treated acre. Spray in spring after grass has started to green but prior to planting

POST-PLANT - Release of Planted Seedlings

Grass Control

- 1.4 pints Vantage per treated acre. Spray in 20 gallons solution per treated acre. Overspray pines, spruces, and firs during the growing season when grass is young (usually less than inch tall) and actively growing.

Annual Broadleaf Control

During 1st Growing Season of Plantation

- 1 ½ ounces Oust per treated acre. Overspray pines prior to budbreak (March-April). For late season control of annuals apply after final bud-set. (Oust will not be effective in suppressing broom-sedge). Spray in 20 gallons solution per treated acre.

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After 1st Year

- 1 ½ ounces Oust per treated acre. Overspray pines prior to budbreak (March-April). For late season control of annuals apply after final bud-set. (Oust will not be effective in suppressing broom-sedge). Spray in 20 gallons solution per treated acre.

- 2 quarts Princep Liquid per treated acre in fall or spring prior to candle elongation. Spray in 20-25 gallons solution per treated acre. Can be used overspraying Christmas trees or deciduous trees.

Broom-sedge Control

- Vantage at 1.4 pints per treated acre when broom-sedge is 6 inches tall. Pines can be oversprayed anytime during the growing season.

Broom-sedge, grass, and broadleaf control

- A split treatment of Oust at 1 oz. per treated acre prior to candle flush coupled with a second spraying using a tank mix of 1 oz. Oust and 1.4 Vantage per treated acre when broom-sedge is less than 1 foot in height will control broom-sedge and early and late season broadleaf competitors.

Woody Plant, Shrub, Vine, and Bramble Control

- In pines, firs, and spruces which have been established for more than one year.

Hand-Held Application: Mix a 2% Roundup solution in water. Do not use a surfactant. Spray foliage of target species until wet, try to avoid drenching Christmas trees. Some contact is acceptable. Spray after September 1 and prior to leaf-fall of target species.

Ground (Boom) Application: Spray 1 ½ quarts of Roundup per treated acre after September 1 and prior to leaf-fall of target species. Spray a minimum of 5 gallons of solution per treated acre (20-25 gallons/acre would be acceptable). Do not use a surfactant.

Escort at 2 oz. per treated acre can be applied to areas where brambles (blackberries) and other woody shrubs and vines are well established. Spraying should be directed towards target species avoiding drenching of Christmas trees during the late fall. Spraying should not be done during active growth periods.

NOTES ON SELECTED HERBICIDES DISCUSSED ABOVE

OUST

1. Spraying should **NOT** be done overtop of trees or within the rooting zone when candles are elongating. Eastern white pine is particularly sensitive. Use of Oust during candle elongation of eastern white pine can lead to bent leaders and stunted needle growth.
2. Spray should **NOT** be directed towards wet needles from dew or rain. Eastern white pine is particularly sensitive. This can lead to injury or death of the contact needles.
3. Oust can **NOT** be stored in solution overnight. Hydrolysis of the active ingredient will occur rendering the product ineffective.
4. Oust will settle in the bottom of spray tanks and must be agitated. This can be accomplished by return line agitators in boom spraying apparatus or through normal walking motions when using backpack equipment.

VANTAGE

1. Vantage has the same active ingredient as Poast. However, Vantage has the crop oil premixed and only the addition of water is needed to develop the spraying solution.
2. Vantage is subject to **photo-degradation** and tanks containing solutions should be covered or shielded from direct sunlight if left for more than 1 day.

ESCORT

1. Escort should **NOT** be applied to actively growing plants, especially during candle elongation. Eastern white pine is particularly sensitive. Yellowing, shorting, and needle death can be expected if pine foliage receives a wetting during this period. Terminal candle bending can also occur.
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APPLICATION INFORMATION

All herbicides discussed above were applied in 20-25 gallons of solution per treated acre in overtop band or strip patterns or directed side-band applications. A Solo 435 Backpack Hand-held sprayer fitted with a 10 PSI regulator and Solo AN 2.5 spray tip (fan pattern, floodjet design) positioned to spray a 3' wide band at 3 feet per second was used for hand applications. Boom sprays were administered with a TeeJet 8004 (even flat fan) nozzle at 30-35 PSI positioned to spray a 3' wide band at 2-2.5 MPH.