Control of Woody Brush

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Choices

- Girdling
- Felling
- Herbicides
Problem with sawing
Herbicides

- Foliar
- Basal
- Cut Stump
- Hack n’ Squirt
- Side Trim
Herbicides

- Foliar
- Basal
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Foliar applications
For foliar active herbicides, good coverage is critical.
How much? This is what spray to wet looks like.
Over-application of foliar herbicides
Foliar side sprays do not kill most woody species
Leaves have a waxy coating that can inhibit herbicide absorption
Foliar active herbicides generally need an adjuvant/surfactant.
When is the best time for foliar treatment?

• Deciduous woody species
  – After full leaf out through early fall but before leaves change color
  – After cutting, allow for 3-4 feet of regrowth
  – Evergreen woody species like privet can also be treated on mild winter days

• Herbaceous perennials
  – Early bloom through fall
  – 6-12+ inches of regrowth after cutting

• Herbaceous annuals
  – The smaller the better
Examples of Foliar Active Herbicides

• Glyphosate
  – Roundup, Accord, Rodeo, Razor, others

• Triclopyr amine
  – Garlon 3A, Renovate, Tahoe 3A, others

• Triclopyr ester
  – Garlon 4, Element 4, Tahoe 4E, others

• Imazapyr
  – Arsenal, Polaris, Habitat, Stalker, etc.
Keys to Success

• Target trees less than 10’ tall
• Spray to cover, but not to runoff
• Use a proper adjuvant
• Spray all sides.
Limitations of foliar treatment

- Tree size
  - Less effective on trees over 10’ tall.
- Drift

- Coverage, Coverage, Coverage!!!
Basal Application
Basal applications

- Mix the herbicide in basal oil, not water
- Spray directly on the bark from the soil surface to 12” up the stem
- Rule of thumb, treat any tree <6” diameter
- Apply any time of year, but dormant applications work best
The process can be slow
1 month
2 months
6 months
What method do I use?

**Garlon 4 Label**

**Basal Bark Treatment**
To control susceptible woody plants with stems less than 6 inches in basal diameter, mix 1 to 5 gallons of Forestry Garlon 4 in enough oil to make 100 gallons of spray mixture. Apply with knapsack sprayer or power spraying equipment using low pressure (20 to 40 psi). Spray the basal parts of brush and tree trunks to a height of 12 to 15 inches from the ground, thoroughly wetting the indicated area. Spray until runoff at the ground line is noticeable. Old or rough bark requires more spray than smooth young bark. Apply anytime, including the winter months, except when snow or water prevent spraying to the ground line.

**Streamline Basal Bark Treatment (Southern States)**
To control or suppress susceptible woody plants for conifer release, mix 20 to 30 gallons of Forestry Garlon 4 in enough oil to make 100 gallons of spray mixture. Apply with a backpack or knapsack sprayer using equipment which provides a directed straight stream spray. Apply sufficient spray to one side of stems less than 3 inches in basal diameter to form a treated zone that is 6 inches in height. When the optimum amount of spray mixture is applied, the treated zone should widen to include the stem within approximately 20 minutes. Treat both sides of

**Low Volume Basal Bark Treatment**
To control susceptible woody plants with stems less than 6 inches in basal diameter, mix 20 to 30 gallons of Forestry Garlon 4 in enough oil to make 100 gallons of spray mixture. Apply with a backpack or knapsack sprayer using low pressure and a solid cone or flat fan nozzle. Spray the basal parts of brush and tree trunks in a manner which thoroughly wets the lower stems, including the root collar area, but not to the point of runoff. Herbicide concentration should vary with size and susceptibility of species treated. Apply anytime, including the winter months, except when snow or water prevent spraying to the ground line or when stem

**Thinline Basal Bark Treatment**
To control susceptible woody plants with stems less than 6 inches in diameter, apply Forestry Garlon 4, either undiluted or mixed at 50 to 75% v/v with oil, in a thin stream to all sides of the lower stems. The stream should be directed horizontally to apply a narrow band of Forestry Garlon 4 around each stem or clump. Use a minimum of 2 to 15 milliliters of Forestry Garlon 4 or oil mixture with Forestry Garlon 4 to treat single stems and from 25 to 100 milliliters to treat clumps of stems. Use an applicator metered or calibrated to deliver the small amounts required.
What method do I use?

• Triclopyr ester (Garlon 4, Tahoe 4E, etc)
  – Basal bark – 1-5% solution, spray to runoff
  – Low volume – 20-30% solution, no runoff
  – Streamline – 20-30%, spray one side
  – Thinline – 50-100%, spray all sides
BASAL

Thin-Line

Low-Volume Banding

Low-Volume Basal

Conventional Basal
Basal Bark

• Method
  – 1-5% solution
  – Spray 12-16” up on the stem
  – Spray until mix puddles on the ground

• Old technique, requires a lot of basal oil, slow.
• It works, but we no longer recommend it.
Low Volume Basal

• Method
  – 20-30% solution
  – Spray 12-16” up on the stem
  – Do not allow runoff

• Most common technique
• Fast, lower oil requirements, very effective
Streamline Basal

• Method
  – 20-30% solution
  – Spray one side so oil wraps around stem

• This was developed for use in young pines
• The idea is to kill or suppress hardwoods so pines can grow without interference
• Not recommended for ROW industry
Thinline Basal

• Method
  – 50-100% solution (I prefer 100%)
  – Spray small band about 3” wide, 1’ from soil

• This was developed for northern climates when snow is present.

• It can be effective, but unless crew is very careful, too much herbicide will be used.
Basal limitations

• Even coverage – all the way around the stem

• Bark thickness.

• Generally we say you can basal trt trees up to 6” in diameter. Oaks, maybe not.
  • If bark is thick – spray low, not high
Triclopyr

• There are 2 types
  – Ester (Garlon 4)
  – Amine (Garlon 3A)

• Ester – oil soluble. Used for basal treatment. More active on foliar applications. More likely to drift.

• Amine – water soluble. No drift. No basal.