Don’t get off base with basal bark treatment

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Technical aspects to cover

• Targets
• Tools
• Oil carriers
• Herbicides
• Timing
• (Non) target injury
Quiz Time!

Clicker Directions

• Completely anonymous
• Select the answer using the keypad
• You can change your answer by pressing a different button
• DO NOT TAKE MY CLICKERS!
I use basal bark treatment for invasive plant control

A. Frequently
B. Occasionally
C. Rarely
D. Never
E. What is basal bark treatment?
## Where Basal Bark Treatment is Used

<table>
<thead>
<tr>
<th>Invasive Plant Type</th>
<th>Backpack Foliar</th>
<th>Cut stump</th>
<th>Basal Bark</th>
<th>Hack and Squirt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herbaceous</td>
<td>Yes</td>
<td>Rarely</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Vines</td>
<td>Yes &lt;8 ft</td>
<td>Yes, on large vines</td>
<td>Yes, on woody vines</td>
<td>Rarely</td>
</tr>
<tr>
<td>Shrubs</td>
<td>Yes &lt;8 ft</td>
<td>Yes</td>
<td>Yes</td>
<td>Rarely</td>
</tr>
<tr>
<td>Trees</td>
<td>Yes &lt;8 ft</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Target density is one important key to selecting the application method.

- Woody Plant Height (ft)
- Basal Bark
- Broadcast Treatments
- Handgun or boom – powered sprayer
- Backpack - Directed foliar
Tree anatomy and the target area of basal bark treatment

- Rays
- Pith
- Earlywood (springwood)
- Latewood (summerwood)
- Sapwood
- Heartwood
- Cambium
- Outer bark (rhytidome)
- Inner bark (phloem)
Note the five major portions of the tree trunk.

Tree anatomy and the target area of basal bark treatment.
The goal of BBT is to get the herbicide into the sapwood (aka xylem) of the tree

A. True
B. False
Note the five major portions of the tree trunk.

- Basal bark target area
- Sapwood
- Heartwood
- Cambium
- Outer bark (rhytidome)
- Inner bark (phloem)
Basal bark does not work on trees greater than 4 inches in diameter

A. True
B. False
Tree target size

<6 inches diameter at breast height (DBH)
Bark thickness is the more critical issue

Smooth, thin bark easier to penetrate

Ridged, plat bark tougher to penetrate

James H. Miller, USDA Forest Service, Bugwood.org

Chris Evans, University of Illinois, Bugwood.org
What about multi-stemmed clumps?
For multi-stemmed clumps, you must treat every stem for good control

A. True
B. False
Treat the lower 12-18 inches of every stem
Treat the lower 12-18 inches of every stem
What about basal treatment in this situation?
Backpacks, spray bottles and spray tips for basal bark treatment

- Dedicate for basal work
  - Viton seals critical
  - Ease of repair
  - Comfort and safety
- Get rid of the plastic wand
Brass tip shut off wand - ULV brass wand
Spray tips

Spraying Systems  5500-X3 to X8 brass ConeJet adjustable spray tip

Teejet 2503 flat fan spray tip
Yes, you can use these too...
and these...
...but don’t expect them to last very long.
Basal application is best done with low pressure

A. True
B. False

Low pressure <20 PSI is best
It is illegal to use diesel as the oil carrier for basal bark treatment

A. True
B. False
Oil Mixture Sprays for Basal Treatment
Prepare oil-based spray mixtures using either a commercially available basal oil, kerosene diesel fuel, or No. 1 or No. 2 fuel oil. Substitute other oils or diluents only as recommended by the oil or diluent’s manufacturer. When mixing an oil mixture, read and follow the use directions and precautions on the manufacturer’s product label. Add Garlon 4 Ultra to the required amount of oil in the spray tank or mixing tank and mix thoroughly. If the mixture stands over four hours, reagitation is required.
Oil Carriers Available

- Diesel
- Kerosene
- Bark oil
- Vegetable oil
- Mineral oil
- Methylated seed oil
- Crop oil concentrate
Glyphosate and triclopyr amine are effective basal bark herbicides

A. True
B. False
Water soluble herbicides do not penetrate bark very well
Milestone and Clearcast are labeled for basal bark treatment

A. True
B. False

“The basal oil should be compatible with a water soluble herbicide...”
Recommended Low Volume Basal Treatment Products (Generics available for some)

- Triclopyr ester formulation (oil soluble)
  - Garlon 4 (10-30% v/v), (20% v/v is the standard)
  - Pathfinder II (100%)

- Imazapyr
  - Chopper (6-9%v/v)
    - Max use rate: 64 oz/A

- Aminocyclopyrachlor
  - Method 240SL (10-20% v/v)
    - Max use: 18 fl oz/A
The max labeled rate of Garlon 4 you can use for basal treatment is:

A. 2 qt/A (2 lb ae/A)
B. 1 gal/A (4 lb ae/A)
C. 2 gal/A (8 lb ae/A)
D. 3 gal/A (12 lb ae/A)
Basal Bark, Dormant Stem and Cut Surface Treatments

Individual plant treatments such as basal bark and cut surface applications may be used on any use site listed on this label at a maximum use rate of **8 lb ae of triclopyr per acre**. These types of applications are made directly to ungrazed parts of plants and, therefore, are not restricted by the grazing maximum rate of 2 lb ae of triclopyr per acre.
Exceeding the max label rate for Garlon 4 is almost impossible due to the low amount applied per tree

A. True
B. False
Garlon 4 at 20% v/v

• Max label rate = 2 gallons product/A
  • = 7570 ml herbicide
  • = 37,850 ml herbicide/oil mix

• For 5 ml of mix per 1 inch of root collar treated in a 12 inch wide band, a four inch diameter tree would require 20 ml of herbicide oil mix

• 37,850/20 = 1,892 trees/A
REALITY:

5 ml mix/inch x 30 inches = 150 ml mix

37,850 / 150 = 252 trees like this
When can I do basal bark treatment?

- Most of the year is fine
- Late summer through fall often most effective
- Avoid heavy sap flow period in late winter/spring
- Avoid treating wet stems

https://possiblythemostgrumpy.wordpress.com/2015/08/27/10-the-seasons/
Which is a greater non-target damage issue for triclopyr ester basal bark treatments?

A. Soil residual activity
B. Volatility
C. Neither cause damage
D. Both cause equal damage

[Bar chart showing: 0% for Soil residual activity, 0% for Volatility, 0% for Neither cause damage, 0% for Both cause equal damage]
Wrap up and Questions?

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