

## **Buckthorn Stump and Seedling Management**

*Herbicide information follows but there are other management tools that can be used in conjunction with herbicide control. Please consult your Forester for help with your particular project:*

### **Stump Treating/ Basal Bark Treating**

Buckthorn and other hardwood tree stumps must be treated with herbicide to prevent resprouting. In most instances I recommend Garlon 4 Ultra and Bark Oil Blue. A big advantage is when using Garlon 4 Ultra/Bark Oil Blue you can treat all year because it does not freeze but is just as effective during the growing season. The only exception might be during sap flow during April- early May; which is less than ideal for herbicide uptake by any tree.

Rate: 1 (25%) part Garlon 4 Ultra to 3 (75%) parts Bark Oil Blue. Diesel or Kerosene can be substituted but I strongly recommend the BOB. It is possible to use a rate as light as 1:4 (20% Garlon and 80% Bark Oil Blue) in order to use less herbicide for a lower cost and potentially lower environmental impact.

It works well to use this in a 1 quart pressurized squirt bottle. Carry it while cutting and treat the stumps as they are cut. Note, over time the oil can eat away at the O-rings and seals that are found in the cheaper pumps at garden stores. You can still get a month or more out of them though. Sprayers designed for herbicide use will hold up better with the oils used in this spray mix. I also like to add a little spray indicator dye to better tell what was sprayed. It is possible to use a backpack sprayer to treat stumps once the cutting is completed.

With this oil based formula you can also treat in late winter, after snow melt, the stumps of trees that were cut in deep snow earlier in winter and not treated. It is preferable to treat stumps soon after cutting though to avoid misses.

There are specific situations where a different stump herbicide is appropriate, like a glyphosate and water mix. Consult with your Forester about how that is best used.

### **Foliar Application**

This recommendation is for fall foliar (sprayed on the leaves) application. The best time is in October when we have that differential in plant activity between the buckthorn and our native species. Trees on the edge of woods will begin to drop leaves in the fall a few days before those deeper in the woods. Hard frosts speed up the dormancy process. The advantage to this time of year is better targeting due to easier visibility and reduced non-target damage, since most natives have gone dormant. Keep an eye on your woods to determine the point when most of the native plants are turning brown or changing to their fall colors.

Rate: Roughly 1 gallon of Garlon 4 Ultra per acre (up to about 5 quarts per acre max), mixed with water and Choice and Liberate, or Weathergaurd (check labels for rates). Add dye for easier visibility. Hi-Light is a common brand of dye. When basing the rate on gallons per acre you need to know your sprayer rate. **Backpacks are often about 30-50 gallons per acre and are often the best tool for most small or light projects. I have used 2.5 oz. per gallon of water on the low side and up to about 3.5 oz.**

per gallon on the high side with a backpack sprayer. Some ATV boom or boom-less sprayers are 20-30 gallons per acre. Know the volume of your spraying system, they all vary! Find out how to calibrate it if you don't know. There are contractors available with the equipment and experience to do the spraying too. Your DNR Forester can point you to a couple if you wish. Spot spraying individual buckthorn plants is preferred over a total overspray. Use the lightest effective rate and do not aim for 100% control from a single spray. Around 70% control indicates that herbicide was not over applied and that non-target damage will be less than if complete control is achieved with a single application. Multiple years of fall applications are necessary!

If a site was previously cut but the seedlings not managed well and now the average height is up to about 8' you can recut in June and then foliar spray in fall after they resprout. Remember though, stems over about 1" to maybe 1.5" diameter should be stump treated rather than foliar sprayed. You must spray from above for good control. If the stems are taller than your spray system you will have poor results.

Disclaimer: This reflects my personal experience. Natural systems are variable and your particular situation may be better served by modifying the approach once you see what is or isn't working on your site. Always consult and follow label directions on any herbicide and associated products.

Sincerely,  
Jake Froyum  
CFM Forester  
MN DNR Division of Forestry