

Winter is an excellent time to control invasive shrubs using the “Cut Stump” method

James A. Reinartz

Director, University of Wisconsin-Milwaukee Field Station
3095 Blue Goose Road, Saukville, Wisconsin 53080
262/675-6844, (Fax) 262/675-0337, jimr@uwm.edu

Common buckthorn (*Rhamnus cathartica*), glossy buckthorn (*Rhamnus frangula*), and the exotic bush honeysuckles (*Lonicera tatarica*, *L. morrowii*, and *L. X bella*) are invasive, non-native, tall shrub, species that have become serious threats to the ecological integrity of many native plant communities in Wisconsin, especially southern parts of the state (Reinartz 2003). The “cut stump method” (cutting stems near the ground and applying herbicide to the freshly cut stumps) was known to be an effective method for control of all four of these species when applied during the growing season, especially in late summer and fall (Heidorn 1991, Hoffman and Kearns 1997). In the early 1990’s I found that the method of treating cut stumps of these invasive shrubs with Glyphosate herbicide was highly effective all winter long (Reinartz 1997, 2002). Since those original experiments with winter use of Roundup[®], the herbicide Triclopyr (brand names, Garlon[®], Remedy[®]), has also been found to be very effective in the winter with the cut stump method (<http://tncweeds.ucdavis.edu/products/handbook/20.Triclopyr.doc>).

There are at least five advantages that winter use of the cut stump method can offer: 1) labor is often available in winter (i.e. ***If you have a passion for killing invasives here is something that can keep you busy in the winter!***), 2) nice winter days can be a less arduous time to locate and cut these shrubs than during the heat (and biting insects) of the growing season, 3) all of these species are easily and positively identifiable in winter condition if you learn how, 4) frozen ground makes access to wetlands easier, and 5) most species are deciduous or dormant in the winter, so herbicide application is very selective and less likely to damage non-target plants. Cutting, followed by an application of Glyphosate herbicide to the cut stumps, results in excellent control of all four species when applied during the winter (December through March) period in southeastern Wisconsin.

Here is a complete, detailed, and precise description of the cut stump method I use:

- 1) **Cut stems at 2-6 inches** (5-15 cm) above the ground surface. (Never leave stems longer than 6 inches; excessive height of cut stumps can limit the effectiveness of this method.) **Cut all the stems** coming from the base or roots of the plant.
- 2) **Apply a 10% to 12.5%, active ingredient, concentration of Glyphosate herbicide** to the freshly cut stumps. The herbicide that I apply is a 3 parts water to 1 part herbicide (25% concentration) dilution of Roundup[®], which is sold in concentrations of 41% to 50% active Glyphosate ingredient before dilution.
- 3) I apply the herbicide with a spray bottle of the type sold at garden and feed stores for pesticide or fly sprays. The adjustable nozzle is set to a stream rather than a mist or spray. The nozzle tip is placed directly in contact with the cut stump and a gentle squeeze of the trigger puts a pool of the herbicide on the cut stump with no splatter or overspray. You can be very selective with this method. Placing the nozzle in contact with the stem, and being careful to avoid splatter, is actually most important during the growing season because the herbicide is non-selective and at this high concentration very little herbicide is needed to kill any plant that it contacts.
- 4) **Apply herbicide within a few minutes (seconds) of cutting the stem.** You will probably find that you can only cut a few stems at a time and still remember where they all are anyway. Some workers like to put a dye in the herbicide. (It must be a dye labeled as compatible with Roundup[®].) I find that even without a dye the Roundup[®] tends to turn the stump a brighter yellow color within several seconds.

- 5) **Apply herbicide to all of the cut stumps on that plant.** If the cut stump is very large, it is only necessary to get herbicide on the phloem (the ring just inside the bark). It is not necessary, in fact probably does not contribute at all to effectiveness, to completely cover the xylem (wood at the interior of the stem) with herbicide.

I find that we almost always achieve a kill rate of 98 to 100% using this winter application of the cut stump method. Here however are a few notes or precautions that may affect your kill rate:

- 1) I have never used the method when it was bitter cold. Temperatures have usually been in the 20°F (-7°C) to 45°F (7°C) range when I have used this treatment. This is not a major limitation since below 20°F it is generally too cold for this kind of work anyway. On long workdays we have sometimes had to keep the herbicide stock jugs in an insulated “cooler” to keep them from freezing.
- 2) Don't get lazy and start cutting stems at taller than 6 inches. After a couple work sessions where my crews did just that, we had much poorer kill rates than when plants were cut short. What this can mean is that the method will be too difficult to apply if there is a deep snow cover, since you would have to dig the stems out to treat them. (Probably a good time to take a break and go skiing.)
- 3) The least effective time for using Roundup® and the cut stump method is in the spring and early summer when the sap in the plant is moving up rather than down to the roots. When it is nearing the time for the plants to leaf-out in the spring, you should probably go find some other invasive to kill.
- 4) Don't mix large quantities of herbicide at one time. I usually mix one gallon at a time. I use a good, labeled (herbicide, concentration, mixing date), translucent plastic jug that I have pre-marked with a line at 1 quart. I pour herbicide up to the 1-quart line, and then fill the jug with clean water.

Winter application of the “cut stump method” using Glyphosate is extremely effective. This method is relatively labor efficient, particularly because it can be done during the winter months when working conditions can be pleasant and there is not a whole lot of other field work going on. The winter cut and herbicide method is also particularly selective and safe for non-target species, since the herbicide is applied when most species are dormant.

REFERENCES

- Heidorn, R. 1991. Vegetation management guideline: Exotic buckthorns, common buckthorn (*Rhamnus cathartica* L.), glossy buckthorn (*R. frangula* L.) and Dahurian buckthorn (*R. davurica* Pall.). *Natural Areas Journal* 11: 216-217.
- Hoffman, R. and K Kearns. 1997. Wisconsin Manual of Control Recommendations for Ecologically Invasive Plants. Wisconsin Department of Natural Resources. 102pp.
- Reinartz, J.A. 1997. Controlling glossy buckthorn (*Rhamnus frangula* L.) with winter herbicide treatments of cut stumps. *Natural Areas Journal* 17: 38-41.
- Reinartz, J.A. 2002. Winter season offers many advantages for treating invasive buckthorns and honeysuckles. *Ecological Restoration* 20: 286-287.
- Reinartz, J.A. 2003. IPAW working list of the invasive plants of Wisconsin – March 2003. *Plants Out of Place* 4: 1-15.