

Russian Olive Control—Frill Cut Treatment

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Introduction

The Russian olive (*Elaeagnus angustifolia* L.) is a small, thorny tree that is native to Europe. It tends to create a monoculture, reducing vegetative diversity. The encroachment of Russian olive into pastures, along ditches, and in fence lines, has made it critical for landowners to understand different options to control the spread of the trees. This fact sheet will discuss the frill cut treatment method of control.

Procedure

Frill cuts are made with a hatchet or ax in the lower trunk area of the tree. Chop through the bark, into the sap wood at a slightly downward angle so the frill cut will hold the chemical.

The number of frill cuts will depend on the size of the tree. One frill per inch of trunk diameter will allow 1 milliliter (1 ml) of chemical to be applied into each frill cut (1 ml = 1 cc). The frill cuts must go around the stem. However, care must be taken to not girdle the tree. Girdling severs the phloem all around the stem and stops the flow of plant food from the leaves to the roots. Staggered frill cuts will allow the tree to continue growing and move the chemical through the system. Trees with multiple stems must have each stem treated individually. Untreated stems will survive.

Any herbicide that is labeled for brush or tree control can be used. One milliliter (1 ml = 1 cc) of



herbicide, mixed according to the label for frill cut application, is poured or injected into each frill cut. Usually, only a concentrated solution is effective with frill cut applications.

Glyphosate (Roundup) at 41% concentration was used in a time-of-year study that indicated an effective frill cut treatment window. This study indicated a 100% kill rate from May through October (Patterson & Worwood, 2010).



Trees should be left standing for at least a year to ensure the roots have been killed. After the year, they may be left standing as a snag for migratory birds, removed with heavy equipment, or cut off at the ground and the roots left to stabilize the soil while re-vegetation efforts take place.

In the event that there are re-sprouts, they should be treated the following year. There will likely be a seed bank in the soil with viable seeds for at least 3 years. First-year seedlings can be pulled from the ground without suckering.

Conclusion

The frill cut treatment method is an effective and environmentally friendly control option for Russian olive. The greatest challenge is getting close enough to the trunk to administer the chemical. A pruning saw and loppers are helpful to clear out the small, thorny branches.

While it is labor intensive, frill cut treatment can be done effectively by one person. The upper biomass still needs to be dealt with the following year. It is a useful control option when trees are in fence lines or other places where heavy equipment or a chainsaw are ineffective.

Regardless of the control option employed, follow-up treatments are necessary in subsequent years.

References

Patterson, R.K. & Worwood, D.E. (2010). Russian Olive Control: Herbicide Rates and Timing. NACAA Journal [Online].

<http://www.nacaa.com/journal/index.php?jid=49>.

Stannard, M., D. Ogle, L. Holzworth, J. Scianna & E. Sunleaf. 2002. History, Biology, Ecology, Suppression, and Revegetation of Russian-Olive Sites (*Elaeagnus angustifolia* L.). United States Department of Agriculture Natural Resources Conservation Service Technical Notes, Plant Materials No. 47.

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