

HIGH VOLUME FOLIAR HERBICIDE TREATMENTS FOR LATE SEASON ASIAN BUSH HONEYSUCKLE CONTROL. Ronald A. Rathfon, Department of Forestry and Natural Resources, Purdue University, Dubois, IN 47527.

Amur honeysuckle phenology provides important windows of opportunity for effecting targeted control in high quality native plant communities. It leafs out in early spring, well in advance of most native vegetation and retains its foliage late into the fall, after most native plants have gone dormant. This study tested seven different high volume foliar herbicide treatments as late fall controls for Amur honeysuckle in southern Indiana.

Treatments included:

Herbicide Type and Concentration

1. 1% glyphosate (3 lb ae/100 gal) as GlyproPlus®
2. 2% glyphosate (6 lb ae/100 gal)
3. 4% glyphosate (12 lb ae/100 gal)
4. 0.125% imazapyr (0.25 lb ae/100 gal) as Arsenal®
5. 0.25% imazapyr (0.5 lb ae/100 gal)
6. 0.5% imazapyr (1 lb ae/100 gal)
7. 1% glyphosate + 0.125% imazapyr

Application Timing

1. 7 Nov
2. 14 Nov
3. 21 Nov

Three replications of each herbicide x treatment timing combination were each randomly assigned to 25 ft. x 100 ft. plots containing a dense stand of Amur honeysuckle. Plots averaged 4730 shrubs/acre with shrub heights ranging from <1 ft. to 15 ft. The treatment plots were located within forest edge habitat where forest and pasture interface. Treated shrubs were tallied by height classes: <4.5 ft., 4.5 – 8 ft., and >8 ft. Herbicide was applied using a 50 gal., 3-point hitch mounted sprayer with a PTO-driven 6-roller pump. Foliage was sprayed to the point of runoff to achieve complete coverage.

For purposes of this study, control is defined as complete mortality of the above ground portion of the shrub with no resprouting two years following treatment. In the week of Nov. 7, all the glyphosate alone treatments achieved almost 100% control. Among imazapyr treatments, only the 0.5% concentration achieved >90% control, with 0.25% imazapyr controlling 87% of treated shrubs. Adding imazapyr to glyphosate provided 90% control and could not improve on using glyphosate alone at this date. However, it provided more control than 0.125% imazapyr treatment (66%). The week of Nov. 14, 1% glyphosate control dropped precipitously to only 30%. 2% glyphosate achieved over 85% control, while 4% glyphosate was still able to control 100% of treated shrubs. Because of rainy conditions, the imazapyr alone treatments were not applied the week of Nov. 14. The 1% glyphosate + 0.125% imazapyr treatment only provided 47% control. The week of Nov. 21, none of the treatments achieved satisfactory control. The 2% glyphosate and 0.5% imazapyr treatments achieved the highest level of control, approaching 70%. 4% glyphosate controlled only 52% of shrubs. Shrub size did not affect the performance of any glyphosate treatments the week of Nov 7. The larger the shrubs, the lower the control rates where imazapyr was applied on Nov 7, except for the

highest rate, 0.5%. By Nov 21, all herbicide treatments were decreasingly effective as shrub size increased.

1% glyphosate can provide 100% control as a foliar treatment for controlling Amur honeysuckle when applied in the fall, as late as the first week in November in southern Indiana. Glyphosate can remain effective as a foliar treatment for controlling Amur honeysuckle through the second week in Nov in southern Indiana when applied at higher concentrations (2% - 4%). Foliar herbicide applications for controlling Asian bush honeysuckle are unreliable when applied after the 2nd week in Nov in southern Indiana, regardless of herbicide product or concentration. Imazapyr foliar treatments only achieve high rates of Amur honeysuckle control at a minimum 0.5% concentration rate applied in early Nov. Lower concentration rates of imazapyr may be applied at this time when most shrubs are in smaller size classes. Amur honeysuckle susceptibility to foliar herbicide treatment will vary in Indiana by latitude, with effective treatments being applied later in the fall the further south you go in normal weather years. Weather in September and October will cause variation in bush honeysuckle phenology and thus susceptibility to foliar herbicide treatments from year-to-year.