Use of Herbicide in the Eradication of Honeysuckle (Wisconsin)

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During the past few years, I have encountered considerable disagreement among land managers and experienced volunteers regarding the best procedures for eradicating stands of invasive honeysuckle (*Lonicera* spp.) on restoration sites. Specifically, some practitioners have commented that glyphosate was ineffective and that triclopyr, a more expensive herbicide, should be used for treatment of cut stumps. Moreover, some of these people claimed that treating cut stems with herbicide during the spring, when the bushes were leafing, is ineffective. Since most of these statements were based on casual observations, I decided to set up a controlled experiment to test 1) whether glyphosate was effective, and 2) whether season of treatment had any effect on herbicide efficacy.

This study began in January 2003. I selected a study site within the Pleasant Valley Conservancy in Dane County, Wisconsin, that had **many** large, multi-stemmed honesuckle bushes. Air photos indicated that the site had been colonized by honeysuckle at least 20 years earlier. I used wooden stakes to mark 39 bushes, most of which had numerous stems of various sizes. Often, as many as 10 to 15 stems arose as a single bush. On some of the oldest bushes, the thickest stems were about 3 inches (7.5 cm) in diameter.

I used two herbicides: glyphosate (Glyphomax™) at a concentration of 20 percent and tryclopyr (Garlon™ 4) at a concentration of 15 percent in an oil-based diluent. To distinguish the chemicals, I added a red dye to the glyphosate and blue to the triclopyr. I cut the honeysuckle stems with either a hand loppers or handsaw, taking care to make the cuts straight and smooth.

As I cut each bush, I also counted the number of stems. As soon as all stems on a bush had been cut, I **used a hand spray bottle to treat** them with herbicide, counting again to be sure that all cut stems were treated.

Treatments were carried out in 1) early January, during full dormancy; 2) mid-April, when the leaves were just starting to expand; 3) late April, when the leaves were fully expanded; and 4) mid-May, when the bushes were in flower. I left one cut bush untreated as a control, although my experience had shown that resprouting almost always occurs in the absence of herbicide treatment. I monitored the shrubs at intervals throughout the 2003 growing season until early September. I found that glyphosate and tryclopyr were equally effective. Thus, there seems to be no advantage to using one rather than the other--except that glyphosate is considerably less expensive.

Likewise, I found that season of treatment made little difference. Bushes cut in January never resprouted in the spring, nor did they resprout throughout the duration of the experiment. Likewise, none of the bushes cut in May resprouted. Bushes cut during both April treatments showed an interesting phenomenon. Ten days after cutting and herbicide application, most developed small shoots, either from the roots or from cut stems. However, a month later, all of these shoots had died and disappeared. It is possible that the resprouting was a wound response to the cutting, but that the shoots died within the few weeks that it took for the herbicide to kill the roots.

Therefore, it appears (within the limits of this short-term, unreplicated experiment) that honeysuckle may be cut and treated at any time of the year. I can only assume that those who argued against cutting and treating honeysuckle in the spring had not monitored treatments far

enough into the growing season **or perhaps had not made sure that all cut stems were treated**.

Readers should be aware that I took care to ensure that every cut stem was treated with herbicide by counting the stems as they were cut, and again as they were treated. Many small stems are often hard to find among the litter after they have been cut. In addition, the dye that I added to the herbicide mixtures helped me see that no cut stems were missed and that I had treated the entire circumference of each cut surface.