MORE INVASIVE PLANTS OF THE SUGARBUSH *reprinted from Farming, the Journal of Northeast Agriculture November, 2010*

Whether you are driving on a rural road or paddling down a creek, it is hard not to notice an invasion of alien plants occurring everywhere. In the northeast, vast stands of Japanese Knotweed (some people call it "bamboo"), for example, now choke many riverbanks, while Poison Parsnip, which looks like a robust yellow Queen Ann's lace, continues its spreads along roadsides and into adjoining meadows. For forest landowners, the invasion by these plants can be subtle. Species like common buckthorn and Oriental Honeysuckle usually start on the edges, and then gradually work their way deeper into the woods. Destroying these invasive plants before they are established in your sugarbush is critical, as they reproduce rapidly and will out-compete native vegetation, such as young sugar maples.

Last year I wrote about the general threat of invasive plants to sugarbushes; this summer I saw how some of these invasions were progressing in southern VT. In early August I visited several sites with Windsor County Forester Jon Bouton, after hearing from sugarmakers in the area that their lands were becoming infested. We concluded that people were experiencing mixed success in dealing with the problem. Where landowners knew which plants to look for, and where the plants were relatively few and small, it was possible to keep ahead of them. Isolated barberry and honeysuckle plants 1 or 2 feet tall, for example, can often be ripped out of the ground by hand, root and all and hung on a branch to die. In some sugarbushes, the alien plants seemed to be winning.

Alden Dana, who sugars and farms in the Southeastern Vermont town of Weathersfield, remembers when he could look from the house across several fields to his sugarbush. Today, huge bushes of multi-flora rose, some 12 feet high, as well as sprawling clusters of Japanese barberry make this view impossible. Multi-flora rose was once considered to be useful as a "living fence" and farmers were encouraged to plant it to keep livestock in place. This turned out to be misguided advice. In recent years Alden and crew have been spending more and more time clearing fields and sugarbush of plants that stick with thorns, trip with vines, and block the sunlight from the few remaining maple seedlings. He has removed rock walls in order to get at the stems in hedgerows, he has cut and mowed and sprayed herbicide, but it looks like a battle that could go on forever. Barberry in particular seemed to be everywhere. Even if he could remove all of these plants, the root remnants, buried seeds, and droppings from birds feasting on his neighbors plants would re-colonize the land.

Willis Wood, also of Weathersfield, showed us where his rich sugarbush soils were host to an herbaceous invasive plant, garlic mustard, which required a different approach. Garlic mustard lives for two years. In the first year, it produces a low carpet of leaves that look somewhat like violets. The plants we saw were scattered across several acres of his sugarbush. In year two, a tall shoot emerges from some of these plants; it produces flowers in May and June and quickly generates seed pods. If the plant is not pulled before it goes to seed, hundreds of new plants will emerge the next year. Willis and family were pulling the second year stems every spring; however, just to keep this plant in check, spring pulling will probably have to be done forever, as it is easy to miss a few plants, and seeds are viable in the soil for up to 5 years. While this isn't the case with any Vermont sugarbush I have visited yet, there are already many reports of forests being overrun with dense carpets of this plant. Garlic mustard is known to produce chemicals that harm the mycorrhizal fungi on tree roots; which could threaten the health of our trees.

The last site we visited in Windsor County was a sugarbush on a hillside where most of the sap was collected using buckets. Many of the maples had honeysuckle and barberry bushes growing nearby, but we also found an invasive plant that is currently uncommon in Vermont and had not been previously reported in a Vermont sugarbush. Along one of the woods roads was a dense patch about 12' in diameter of black swallow-wort, a vine that spreads by underground stems and can grow so thickly that it obliterates native vegetation, earning its nickname "dog strangling vine." This plant has small dark purple flowers and produces pods that look like skinny milk-weed pods. Once opened, the seeds from these pods are dispersed by wind, animals, machinery, etc and will root in a variety of habitats, including semi-open woodlands typically found in maple bucket operations. Locating and removing this weed from its position in a road was timely—in a few years it could have spread to dozens of locations around the sugarbush.

Sugarmakers who haven't seen or recognized invasive plants on their lands should take note of what has happened in this Windsor County town, because this problem is moving north. As I advised in an earlier column, identifying and removing plants when they are few and small is the only way to keep from having a permanent infestation, one that will be a constant annoyance and expense. Both mechanical (pulling, cutting etc.) and chemical (herbicides) methods have been developed to keep invasive plants in check, but these methods only work if landowners know what to look for and take prompt action when needed. For further information including pictures of many invasive woodland plants and suggested methods for control, there are many useful sites on the internet, such as http://na.fs.fed.us/fhp/invasive_plants/weeds/

and http://www.nature.org/wherewework/northamerica/states/vermont/volunteer/art21110.html

Forester Jon Bouton (left) and Sugarmaker Alden Dana contemplate a huge multi-flora rose bush.

First-year leaves of garlic mustard. These will be replaced by tall flowering plants in the second year.

A Black swallow-wort vine and seed pod in a southern Vermont sugarbush