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Controlling Buckthorn on Your Property

In many Ontario locations, buckthorn seems to have reached a type of threshold, with the population now increasing at an exponential rate. This highly invasive shrub is noted for prolific seed production, high rate of germination, and rapid growth. Seedlings establish best in high light but also germinate and grow well in shade, with an ability to thrive on a variety of sites. An interesting buckthorn fact has to do with its 'alleiotrophic' characteristics; i.e. other plants are repelled from growing nearby.

The above factors make this a particularly devastating shrub as it establishes within open areas, hardwood woodlands, softwood plantations and even wetlands. Native woodland plants such as trilliums are threatened, with natural regeneration of preferred tree and shrub species tending to be dominated by buckthorn. Although some value buckthorn as a wildlife shrub,

this is a mistake. This shrub is ultimately destructive of the natural bio-diversity required to sustain our native eco-systems, including wildlife.

Description

Common buckthorn is native to Europe. It was imported to North America in the late 1700's, cultivated for hedges and wildlife habitat purposes, and is now naturalized from Nova Scotia to Saskatchewan and throughout the northern states. As buckthorn is the alternate host of oat rust, it was classified as a noxious weed and controlled through eradication efforts, extensive livestock grazing and intensive agricultural practices. As oat varieties with rust resistance were developed and land of lesser productivity abandoned for agricultural uses, buckthorn has flourished.

Buckthorn can grow 20 feet in height, with wide spreading crowns, often with more than one stem. The young brown-gray bark is smooth and shiny, with prominent small white dots (*lenticels* or pores), and can be confused with other species, e.g. cherries. Mature bark becomes scaly with horizontal lenticels. The terminal buds of many twigs are actually modified spines, soft when alive, but becoming very sharp when dead and capable of inflicting painful wounds.

Shrubs leaf out early and retain their leaves late in the growing season, with the green leaves making it very recognizable in late October – early November. The clusters of plump black fruit persist on the tree until late winter. Birds consume the fruit, usually when other food becomes scarce, with the seeds passing through their digestive system and then defecated.

Control Options

Recognize and remove isolated plants before they produce seed. ***Eradicate the most prolific seed-producers (e.g. along fence lines) first*** - a follow-up treatment is usually required for the abundant seedlings appearing in the next 1-3 years. Then concentrate on high priority areas such as the most productive area of your woodlot or your favourite natural area. Pull smaller plants as you take regular walks through your property, or take a small hand spray bottle of herbicide for precise chemical application to individual plants. For best control, a sustained neighbourhood effort is required.

Some of the mechanical control methods available for buckthorn include cutting, girdling, mowing, and plant pulling and extraction. Burning has been determined to be an ineffective method of control.

- **Cutting:** Cutting or girdling stems is a control option only when followed by an immediate application of herbicides (see below) such as glyphosate or a 2, 4-D , Mecoprop and Dicamba mixture to fresh stumps or girdled bands. A precise application of herbicide (e.g. from a small handpump bottle) allows this method to be employed at any time of the year, although the most effective time is generally considered to be early in the spring / summer, near the end of the flowering period.
- **Pulling:** When the soil is moist, small plants up to .5 metre in height can often be pulled as you take your regular walks through your property – caution they do put down a deep root system very quickly. Larger plants can be dug or pulled using a weed wrench.
- **Mowing:** Mowing can be a control option but will need to be repeated for 2-3 consecutive years. Mowing will reduce stem numbers and vigor, leading to eventual mortality for most stems, but does inhibit the development of other natural vegetation.

Caution: The small thorns are quite flexible when alive, but significantly harden and can inflict painful wounds when the plant dries out. It is best to pile the shrubs for burning when the plant material is still green, even if the burning is done at some time in the future. Check with your municipality for a burn permit.



Chemical Control Options

The use of herbicide is considered to be most effective.

- **Foliar application** of herbicides such as a mixture of 2, 4-D, Mecoprop and Dicamba have been recommended from leaf out until mid-July. If concerned about adjacent plants, glyphosate can be used late in the growing season when most native plants have already lost their leaves and are dormant. The green leaves on the still actively growing buckthorn provides easy recognition and allow for an adequate treatment at this time, lessening the risk of affecting non-target species with this non-selective herbicide. Consider using a backpack sprayer or a small ATV mounted sprayer for larger areas.
- **Basal bark treatment** any time of year, but preferable during the growing season, with 2-4 D and Dichloroprop (20 ml active ingredient) in diesel fuel painted or sprayed on the trunk.
- Other herbicides (listed by name of the active ingredient) known to be effective in the United States include Garlon 4, Garlon 3A, Ammonium Sulphate, Picloram, Hexazonone, Fosamine.

Cutting stems of larger shrubs near ground level with a chain saw and treating them with herbicide successfully curbs sprouting. Within 24 hours after cutting, a mixture of 2, 4-D, Mecoprop and Dicamba or a 20%-25% active ingredient (a.i.) glyphosate must be applied to the stumps. Resprouts need to be followed-up with a foliar spray by a hand sprayer.

Note: Refer to directions on the pesticide container label at all times. For more information on herbicides and weed control, refer to OMAF publication #75, **Guide to Weed Control**, section on Brush Control, pages 306-307. Call the Lindsay OMAF office (705-324-6125) for more information.

For more information, simply type 'glossy buckthorn' or
'common buckthorn' into your internet search engine.

This article was prepared by the **Victoria Land and Water Stewardship Council**
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