

## COMMON AND GLOSSY BUCKTHORN control

### Using herbicides with no residual soil activity

Common buckthorn, also called European buckthorn or Glossy buckthorn, are aggressive invasive deciduous shrubs or small trees reaching heights of over 20 feet. These plants spread from seed dispersal by birds and animals. The Buckthorns were introduced as ornamentals, for fence rows, wildlife habitat, and have spread through most of North America.

Common buckthorn leaves are oval, rounded or pointed at the tip, dark glossy green, and remain green late into fall. In the fall, small yellow-green flowers cluster at base of leaves and produce small black fruit on female trees. It has a gray to brown bark, rough when mature, inner bark is yellow and heartwood is pink-orange.

Glossy buckthorn leaves are elliptical, shiny dark green above and paler beneath. The fall color is clear yellow. It has small bell-shaped greenish-yellow flowers forming clusters at the leaf base in June and July, forming berries that turn red to black in the fall. The bark is thin and gray, which is slightly fissured and warty. These plants can exist on most soil types, wet or dry areas, and virtually excludes understory species. Buckthorn species often serve as an alternate host for rust diseases of grasses, oats, and an over-wintering host for some soybean aphids.



Common Buckthorn



Glossy Buckthorn

#### Commitment:

Elimination of this plant requires follow-up treatments for two or more years. The treated areas should be checked each year and new sprouts or seedlings treated. Establishing a thick cover of desirable trees and/or grasses will discourage new seedlings. Generally, the more southern the areas, the more difficult the eradication due to the longer growing season.

#### Timing:

*Foliar sprays:* Can be applied between June and early October, as long as the plants are actively growing and not under drought stress.

*Cut Surface Treatments:* Cut stem and stump treatments can be done any time of the year if the herbicide does not freeze when applied or the bush is not frozen.

*Basal Bark:* Apply any time of the year, including winter months. Do not apply when the bark is wet or frozen. Late winter and early spring applications often provide superior control. Summer treatments produce good control, but the applications are more difficult because of the green foliage.

The annual follow-up treatments should not be earlier than June or July because resprouting may be slowed from the last treatment.

#### Herbicides:

*For Power Driven hand spraying applications:* The frequently recommended foliage spray mixture is 1 to 2 percent spray solution. Most often used is Garlon\* 4 or Garlon 3A herbicides (Escort may be added to the Garlon 3A mix at 1.5 oz./100 gallons to improve control). Used less often is Accord® Concentrate, or Glypro\* Plus herbicides, in clear water.

A ¼ to ½ percent surfactant is required in Accord Concentrate solutions and is recommended with the other herbicides, except for Glypro Plus.

Accord Concentrate is registered for wetland sites.

Garlon 3A and Garlon 4 are selective broadleaf herbicides that do not control monocot species (grasses and sedges). Desirable plants left to grow and reproduce are competitors with resprouts and seed regenerates.

*For Backpack foliage spraying:* The spray mixture, for small infestations and follow-up spot treatments, is 2 to 3 ounces of either of the above herbicides in 1 gallon of clear water with the appropriate surfactant at the concentrations listed above.

*For Basal treatments:* Garlon 4 is mixed at 25 percent in basal oil. Various commercially prepared basal oils are available. Pathfinder\* II herbicide is a ready-to-use product for basal bark treatments, containing the same active ingredient as in Garlon 4.

*Cut Surface Treatments:* Apply Garlon 3A, Accord Concentrate, or Glypro Plus undiluted, or dilute 1 to 1 with clear water. The mixture for Garlon 4 for basal treatments may be used for cut stems and stumps.

### **Equipment:**

The power foliage spray equipment may consist of a diaphragm pump driven by a gasoline engine or a self-contained 12-volt pump unit, capable of producing 40 to 50 psi at the spray tip and a spray volume equal to or greater than the rated volume of the tip. The equipment includes a hand spray gun, 200 feet or more of hose (often on a reel), and a large volume vehicular mounted spray tank.

Routinely used spray guns are Spraying Systems Model 30 Gunjet with rollover valve. The rollover valve accommodates two spray tips such as wide angle tip for low growing plants and narrow angle for tall plants. The most used spray tips are Teejet 4010E or 8015E for low growing plants and DE-6 spray disk for tall plants.

The backpack sprayers are usually Solo Model 475 or a Swissmex SPI with diaphragm pumps. These are equipped with a spray wand having an adjustable spray tip. Spray tips producing more consistently large spray droplets may be installed such as Teejet 2503 or 4004E.

To apply basal bark treatments, the above backpack sprayers are used.

For low volume basal bark, the adjustable spray tip is adjusted to produce a medium spray, or install Teejet 1502 or 1503 flat spray tip.

For streamline basal bark (southern states) a Spraying Systems Model 30 Gunjet is installed on the backpack sprayer and a Teejet 0002 spray tip or DE-2 disk is installed into this gun.

*Cut Surface:* For cut stems and stumps, use a quart spray bottle or the backpack sprayer described above.

### **Applications:**

*For power hand spraying applications:* Adjust the spray pump to deliver optimum pressure at the spray tip for producing large spray droplets. If 200 or more feet of spray hose are used, a pump pressure of 80 to 90 psi is often required to produce 40 to 50 psi at the spraying tip. The greater the spray pressures at the spray-tip, the smaller the spray droplets.

*For backpack spraying,* adjust the spray tip to produce a heavy spray, or install a flat spray tip such as a Teejet 2503 or 4004E. Backpack spraying is efficient for minor infestations and follow-up spot treatments.

Apply the spray to all the plants' growing tips spraying to wet at least 80% of the foliage.

*Backpack basal applications:* To apply low volume basal, adjust the adjustable spray tip to produce a medium spray, or install a Teejet 1502 or 1503 spray tip so the spray angle is vertical to the ground. Spray evenly around the stem(s), moderately wetting the lower 12 inches. Smaller stems require less spray.

To apply streamline basal, spray evenly around the stem(s), moderately wetting 12 inches of stems at a convenient height.

*Cut surface treatments:* Cut stems and stumps should be treated soon after cutting, no longer than 1 hour. Spray the stems and outer one-inch of stumps to wet.

Stems or stumps cut longer than 1 hour may be treated with the basal bark herbicide mixture or with Pathfinder\* II herbicide. Thoroughly spray the stems and outer one-inch of stumps and the root collar areas to wet.

*For hand applications,* the herbicide should be applied while backing away from the treated areas to avoid contacting the wet herbicide.

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