

FOLLOW HERBICIDE AND PERMIT LAWS

Follow all directions on the label—the label is the law. Take common sense precautions; wear the recommended personal protective equipment and use secondary containment (a bucket or tub) beneath containers when mixing or storing herbicides. **A permit is needed from EGLE (call 800-662-9278) when spraying herbicides in standing water, in inland areas, or below the ordinary high-water mark on the Great Lakes.** Call the Oakland County CISMA at (248) 660-0716 for specific treatment advice at your location.



HERBICIDES FOR BITTERSWEET CONTROL

Learn more about solution percentages to mix at: bit.ly/Treating-Woody-Invasives

GLYPHOSATE (NON-SELECTIVE, SYSTEMIC HERBICIDE)

Glyphosate can be used for foliar spray or cut stump treatments. It is non-selective, which means it will harm/kill whatever plants it is sprayed on.

TRICLOPYR (SELECTIVE, SYSTEMIC HERBICIDE)

Triclopyr targets broadleaf and woody plants in two basic formations: salt/amine (triethylamine salt-soluble in water) and ester* (butoxyethyl ester-not soluble in water).

*Ester, the non-soluble formulation of Triclopyr, may be extremely toxic to fish and aquatic invertebrates.

FIND MORE INFORMATION

The Oakland County Cooperative Invasive Species Management Area (CISMA) is a partnership of local cities, villages, townships, county agencies and conservation organizations working to control invasive species. More information is available from your municipality and at:

OAKLAND COUNTY CISMA WEBSITE:

www.OaklandInvasiveSpecies.org

OAKLAND COUNTY CISMA FACEBOOK PAGE:

www.Facebook.com/OCCISMA

AMERICAN + ORIENTAL BITTERSWEET COMPARISON:

bit.ly/Bittersweet-Comparison

BUGWOOD.ORG'S BITTERSWEET BROCHURE

bit.ly/Bugwood-Bittersweet-Brochure

INVASIVE BITTERSWEET MANAGEMENT VIDEO

bit.ly/Bittersweet-Management

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ORIENTAL BITTERSWEET

A HOMEOWNER'S GUIDE TO SMALL-SCALE CONTROL

WWW.OAKLANDINVASIVESPECIES.ORG
WWW.FACEBOOK.COM/OCCISMA





DON'T LET THIS

TURN INTO THIS



ENVIRONMENTAL EFFECTS

Oriental bittersweet (*Celastrus orbiculatus*) is an invasive vine commonly found in southeast Michigan. Without natural competitors, this plant strangles native trees and shrubs, girdling and suffocating the trunks. As vines mature, they block light and weigh down the tree canopy, breaking branches and up-rooting trees. Wildlife are unable to survive when native plants are choked out and their food and shelter is killed by Oriental bittersweet. It is important to remove bittersweet sprouts before the vines can strangle trees and produce berries.

IDENTIFICATION

Oriental bittersweet (*Celastrus orbiculatus*) is a woody, perennial vine that can climb up to 60 feet and has a large root system. The vines twine around plants, trees or structures. Leaves alternate on each side of the vine and are oval in shape. Flowers and fruit are arranged in clusters where the leaves attach to the vines. Bright red berries emerge from yellow-orange outer shells on female plants in the fall and can persist over the winter.



SIMILAR NATIVE VINE

American bittersweet (*C. scandens*) is a closely related species native to Michigan. This protected species is distinguished from Oriental bittersweet by the fruit and flower placement on the vines. American bittersweet has clustered berries at the terminal end of the stem whereas Oriental bittersweet has berries and flowers spread along the stem in clusters.

ORIENTAL BITTERSWEET



AMERICAN BITTERSWEET

TREATING ORIENTAL BITTERSWEET

There are multiple treatment options for invasive Oriental bittersweet. These include both chemical and non-chemical options.

NON-CHEMICAL CONTROL METHODS

HAND-PULLING SEEDLINGS

Small seedlings can be uprooted by hand. They should be placed in an area where they will not resprout, or placed in sealed bags in the garbage.

CUTTING

Bittersweet vines can be cut near the ground to kill any vegetation above the cut. Cut vines will take some time to fall down from the trees on their own. Note: this method will not kill the vine below the cut, and it will regrow.

TREATING ORIENTAL BITTERSWEET

CHEMICAL CONTROL METHODS

FOLIAR SPRAY - AUGUST OR SEPTEMBER

Herbicide is sprayed onto the foliage of the plant. This is the most common method used to treat large patches, often done by contractors.

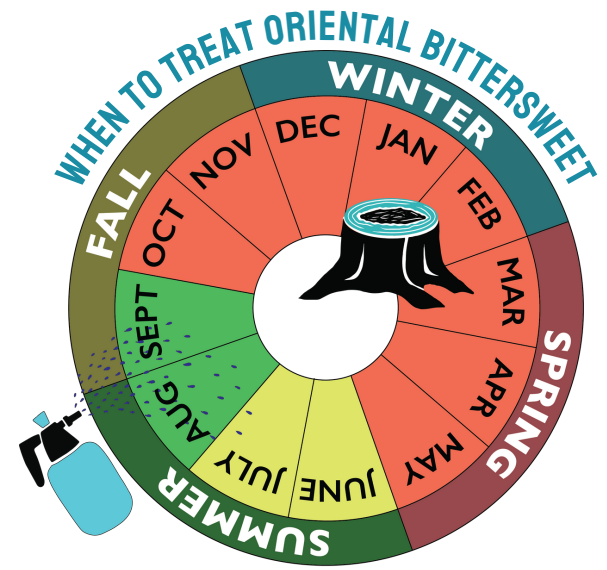
Note: keep in mind that herbicides used on bitter-sweet can negatively affect the trees beneath it.

CUT-STUMP TREATMENT - ANYTIME EXCEPT SPRING

Herbicide is applied to the outer rings of a cut stump within a few minutes of making the cut.

BASAL BARK - ANYTIME EXCEPT SPRING

Herbicide is applied with an oil carrier to the entire circumference of the lower 15 inches of bark.



SUMMER: Ask contractors for bids, sign contract. Begin treatment in late summer or fall.

FALL: Complete foliar spray before bittersweet leaves change color. Begin cut stump treatments.

WINTER: Cut stump treatments, especially of any bittersweet growing on trees.