

Oriental Bittersweet

Oriental Bittersweet is a rapidly spreading, highly invasive non-native woody vine that came to the US from Eastern Asia in the 1860's as an ornamental plant. It often grows to lengths of 60 ft. Vines over 2 inches in diameter have been found in central Indiana. The alternate, elliptical leaves are light green in color and 2-5 inches long. Small, inconspicuous, axillary flowers develop in the spring. Fruits are round and green when young and ripen to yellow and split to reveal showy, scarlet berries that persist into winter. Oriental bittersweet is commonly found in about half of Indiana's counties in old home sites, fields, woodland, along rivers and streams and road edges. Some shade tolerance allows it to also grow in open forests. Prolific vine growth allows it to encircle trees and girdle them. Vines can completely cover other vegetation and shade, out-compete and kill even large trees. It can be dispersed widely and quickly due to birds eating the berries and spreading the seeds. It has also been shown to hybridize with American bittersweet, potentially leading to a loss of genetic identity.

There are separate female (fruiting) and male (non-fruiting) plants. The fruits are three-valved, yellow, globular capsules that at maturity split open to reveal three red-orange, fleshy arils each containing one or two seeds. The abundance of showy fruits have made Oriental bittersweet extremely popular for use in floral arrangements.

Because Oriental bittersweet can be confused with our native American bittersweet which is becoming less and less common, it is imperative that correct identification be made before any control is begun. American bittersweet produces flowers (and fruits) in single terminal panicles at the tips of the stems; flower panicles and fruit clusters are about as long as the leaves; the leaves are nearly twice as long as wide and are tapered at each end. Oriental bittersweet produces flowers in small axillary clusters that are shorter than the subtending leaves and the leaves are very rounded. Comparing the two, American bittersweet has fewer, larger clusters of fruits whereas Oriental bittersweet is a prolific fruiter with lots and lots of fruit clusters emerging at many points along the stem. Unfortunately, hybrids of the two occur which may make identification more difficult.

Manual, mechanical and chemical control methods are all effective in removing and killing Oriental bittersweet. Employing a combination of methods often yields the best results and may reduce potential impacts to native plants, animals and people. The method selected depends on the extent and type of infestation, the amount of native vegetation on the site, and the time, labor and other resources available. Whenever possible and especially for vines climbing up trees or buildings, a combination of cutting followed by application of concentrated systemic herbicide to rooted, living cut surfaces is likely to be the most effective approach. For large infestations spanning extensive areas of ground, a foliar herbicide may be the best choice rather than manual or mechanical means.

Systemic herbicides like triclopyr and glyphosate are absorbed into plant tissues and carried to the roots, killing the entire plant within about a week. This method is most

effective if the stems are first cut by hand or mowed and herbicide is applied immediately to cut stem tissue. Herbicide applications can be made any time of year as long as temperatures are above 55 or 60 degrees Fahrenheit for several days and rain is not expected for at least 24 hours. Fall and winter applications will avoid or minimize impacts to native plants and animals. Repeated treatments are likely to be needed. Basal bark, cut stem and foliar applications have all been effective as control methods. Additional instructions on these methods can be found on the internet. When using any chemical always follow label directions.

Small infestations can be hand-pulled but the entire plant should be removed including all the root portions. If fruits are present, the vines should be bagged in plastic trash bags and disposed of in a landfill. Always wear gloves and long sleeves to protect your skin from poison ivy and barbed or spined plants. For climbing vines, first cut the vines near the ground at a comfortable height to kill upper portions and relieve the tree canopy. Try to minimize damage to the bark of the host tree. Rooted portions will remain alive and should be pulled, repeatedly cut to the ground or treated with herbicide. Cutting without herbicide treatment will require vigilance and repeated cutting because plants will resprout from the base.

Alternative Plants

American Bittersweet (*Celastrus scadens*) Although American Bittersweet may seem to be an obvious first choice it is not recommended and should only be used in areas that are completely clear of oriental bittersweet because of the concern for hybridization. Purchase plants from a reputable nursery and verify your purchase. Very attractive for birds.

Virginia creeper (*Parthenocissus quinquefolia*)

This alternative attracts birds throughout the winter. This option works well as an ornamental, it is one of few vines that when it grows against a building doesn't cause damage to the building.

Virgin's Bower (*Clematis virginiana*)

This native perennial plant is a woody vine up to 20' long. Its stems can twine about fences and adjacent vegetation and they branch occasionally. These stems are initially green or dull red, but they eventually turn brown and woody. This plant is visited by various bees, wasps and flies.

Trumpet Honeysuckle (*Lonicera sempervirens*)

The native trumpet honeysuckle vine is one of the most beautiful honeysuckle vines in the world. It has a multitude of coral to crimson and yellow, trumpet shaped flowers that are very fragrant. It is extremely attractive to our native ruby throated hummingbirds and to all butterfly species.



A large Oriental Bittersweet vine on a tree along White River in Marion County.



Oriental Bittersweet fruit growing continuously along the plant stems from the axils of the plant leaves. Fruit of the native American Bittersweet grows in larger clusters and only at the ends of branches.

Photos by HHRCD

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