

## Asiatic or Oriental Bittersweet, *Celastrus orbiculatus*

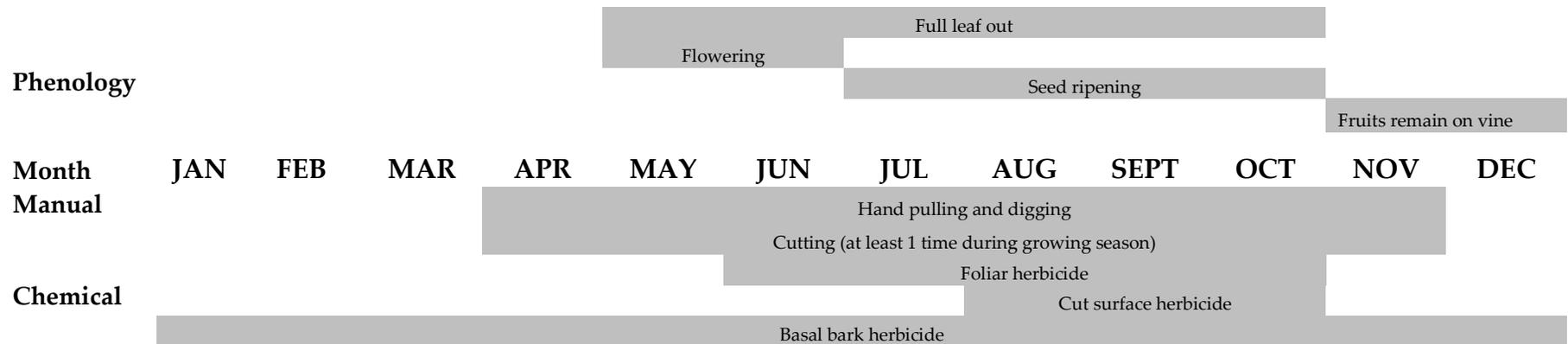
### Species Biology and Phenology:

**Habitat:** Asiatic bittersweet is a cold hardy, deciduous vine. It prefers open woods and disturbed areas. It grows best in partial to full sun, and is shade and flood. It is an aggressive vine that can that can grow rapidly, sometimes greater than 10 feet/year, on vertical structures of various diameters.

**Reproductive Strategy:** Oriental bittersweet primarily reproduces by seed but can also reproduce asexually (runners, roots, root fragments and root crown can all sprout). Plants are dioecious meaning that male and female flowers exist on separate plants. Insects, primarily bees, and wind pollinate the flowers. Flowers bloom May through June and then fruits are produced in July and October. A plant typically produces >350 fruits and each fruit contains between 3-6 seeds. The seeds have a high germination rate (90%) and remain viable for less than one year. Fruits remain on vine well into the winter.

**Dispersal:** Asiatic bittersweet's seeds are primarily dispersed by birds and mammals. Humans contribute to the plants seed dispersal by using the plant in wreaths. The seeds can also be moved by water.

### Species Phenology and Treatment Options:



## Treatment Methods:

Category	Method	Method Description	Considerations
MANUAL	Manual treatment can be moderately effective for treatment of Asiatic bittersweet.		
	Hand Pulling	<ul style="list-style-type: none"> <li>• Pull entire plant by the base of the stem</li> <li>• Be sure to remove entire root system and runners, otherwise they will resprout</li> <li>• If feasible and fruit is present, bag and dispose of fruits to prevent seed dispersal</li> <li>• Put all pulled vegetation in plastic garbage bags and let plants fully decompose or dispose of in a landfill</li> </ul>	<ul style="list-style-type: none"> <li>• Effective on small plants before the vine begins to climb</li> <li>• Most effective if done when soil is wet</li> <li>• <b>Extreme caution needs to be taken to remove all roots and runners. Remaining portions of roots system not removed can resprout aggressively. Roots and runners can be quite extensive and very difficult to pull, especially on larger vines</b></li> </ul>
	Cutting	<ul style="list-style-type: none"> <li>• Cut vine with clippers or hand saw</li> <li>• Cut at least 1 time during growing season (mid April-mid October)</li> <li>• Repeat for 3-5 years</li> </ul>	<ul style="list-style-type: none"> <li>• Can be used for larger vines</li> <li>• Cutting will need to be repeated annually for several years</li> </ul>
CHEMICAL	Active ingredients commonly used in herbicides: Triclopyr. Glyphosate and imazapyr can be used for foliar applications but are not as effective as triclopyr		
	Foliar Application	<i>If foliar spraying only:</i> <ul style="list-style-type: none"> <li>• Foliar spray when plant is fully leafed out</li> <li>• Spray leaf surfaces with low volume backpack sprayer</li> </ul>	<i>Low Volume Backpack Sprayer</i> <ul style="list-style-type: none"> <li>• Herbicides (active ingredient): triclopyr with surfactant, glyphosate with surfactant, imazapyr with surfactant</li> <li>• Used to target large, dense infestations of Asiatic bittersweet</li> </ul>
		<i>If foliar wiping:</i> <ul style="list-style-type: none"> <li>• Foliar wipe when plant is fully leafed out</li> <li>• Wear a heavy, chemical resistant rubber glove with a cloth glove over the rubber glove</li> <li>• Apply the herbicide to coat the surface of the leaves</li> </ul>	<i>Foliar Wipe</i> <ul style="list-style-type: none"> <li>• Herbicides (active ingredient): triclopyr or glyphosate or imazapyr with surfactant</li> <li>• Used for infestations that have desirable, native vegetation that will be damaged by drift of a foliar spray or for small infestations</li> </ul>
Cut Surface	<ul style="list-style-type: none"> <li>• Cut stems in late summer to early fall</li> <li>• Apply herbicide immediately after cutting the exposed surface using a sponge, brush, hand-held squirt bottle or directly pouring</li> <li>• Apply herbicide to at least the outer 20% of the surface</li> </ul>	<ul style="list-style-type: none"> <li>• Herbicides (active ingredient): triclopyr with surfactant</li> <li>• Used for large vines and infestations where drift to desirable, native vegetation will be damaged by a foliar application</li> </ul>	

	Basal Bark	<ul style="list-style-type: none"> <li>• Use a low pressure, low volume backpack sprayer or hand held squirt bottle</li> <li>• Apply herbicide around the entire circumference of the lower 8-18" of individual stems of the plant and include the root collar</li> <li>• Do not spray to the point of runoff</li> </ul>	<ul style="list-style-type: none"> <li>• Herbicides (active ingredient): triclopyr in an oil or oil-water mixture</li> <li>• Recommended for scattered or light infestations of large vines</li> <li>• Used to target bittersweet plants and minimize drift to desirable species</li> </ul>
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