

Plant Propagation Protocol for [*Euonymus Occidentalis*]
ESRM 412 – Native Plant Production

TAXONOMY	
Family Names	
Family Scientific Name:	Celastraceae
Family Common Name:	Bittersweet family
Scientific Names	
Genus:	Euonymus
Species:	Occidentalis
Species Authority:	Nutt. Ex Torr.
Variety:	
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Synonym(s) (include full scientific names (e.g., <i>Elymus glaucus</i> Buckley), including variety or subspecies information)	EUOC9 <i>Euonymus occidentale</i> Nutt. ex Torr., orhth. Var.
Common Name(s):	Western Burning Bush, Western Wahoo
Species Code (as per USDA Plants database):	EUOC8
GENERAL INFORMATION	
Geographical range:	Appears widely throughout California growing more scarce as you move northward. <i>Euonymus occidentalis</i> is considered “sensitive” in Washington. ¹





A: *Euonymus occidentalis*¹



B: Northernmost siting¹

Ecological distribution (ecosystems it occurs in, etc:	Redwood Forest, Mixed Evergreen Forest, Closed-cone Pine Forest, Yellow Pine Forest ²
Climate and elevation range:	0 – 6,562 feet ¹
Local habitat and abundance; may include commonly associated species	This species prefers moist, wooded/forested areas and is sometimes found in grassy areas with some trees. In Washington, this species is often found on fine sandy loam, silty loam, and silty clay loam soils. ³
Plant strategy type / successional stage	Late successional
Plant characteristics	Deciduous shrub

	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center;"> Flowers Typical branch (3) </div> <p>A straggling shrub 7 to 16 ft (2 to 5 m) tall with non-hairy branches that have narrow, parallel, longitudinal lines, grooves, or streaks. The leaves are thin, oblong-lanceolate, serrate, acuminate, and 2 to 4 in. The flowers are in slender-peduncled, axillary, mostly 3-flowered cymes. The sepals are rounded. The petals are about ¼ in. (5 mm) long and greenish-and purplish-mottled to purplish-red. The anthers are transversely dehiscent and much longer than the filaments. The capsules are 3-lobed. A reddish-orange exterior coat covers the seeds.³</p>
PROPAGATION DETAILS	
Ecotype:	
Propagation Goal:	Plants
Propagation Method (Options: Seed or Vegetative):	Vegetative (softwood cutting) ⁴ or seed.
Product Type:	Container (plug)
Stock Type:	
Time to Grow (from seeding until plants are ready to be outplanted):	Roots in 6 weeks, grows rapidly after roots establish ⁴
Target Specifications:	
Propagule Collection:	Take cuttings from new growth in spring ⁴
Propagule Processing/Propagule Characteristics:	
Pre-Planting Propagule Treatments:	Make 4” cuttings from the tips of the new growth branches. Scrape bark from base of cutting and apply rooting hormone before planting ⁴
Growing Area Preparation / Annual Practices for Perennial Crops:	Plant in trays using Intermittent Mist ⁴ Protect smaller bushes from rabbits and other herbivores by surrounding the bush with chicken wire if planting outside ⁵
Establishment Phase:	
Length of Establishment Phase:	
Active Growth Phase:	

Length of Active Growth Phase:	
Hardening Phase:	
Length of Hardening Phase:	
Harvesting, Storage and Shipping:	
Length of Storage:	
Guidelines for Outplanting / Performance on Typical Sites:	Does poorly on very wet sites ⁶ must ensure proper drainage. Stress tolerant in urban habitats, works well as a natural barrier. ⁶
Other Comments:	In Washington, <i>Euonymus Occidentalis</i> is listed as “sensitive” by the E.P.A. ⁷
INFORMATION SOURCES	
References (full citations):	<p>1) Nuszdorfer, F C, and Paul Kuster. <i>Western Wahoo (euonymus Occidentalis Nuttall Ex Torrey) in British Columbia</i>. Nanaimo, B.C: Vancouver Forest Region, 1999.</p> <p>2) Calflora: 2011. Berkeley, California: The Calflora Database Available: <http://www.calflora.org/>. (Accessed: 05/18/2011).</p> <p>3) WA Department of Natural Resources: 2003. “<i>Euonymus occidentalis</i> Nutt. Ex Torr. Available: <http://www1.dnr.wa.gov/nhp/refdesk/fguide/pdf/euocc.pdf>. (Accessed: 05/18/2011)</p> <p>4) McGroarty, Michael J: 2010. “Burning Bush Propagation and Care” Available: <www.freeplants.com/burning_bush_propagation_and_care.htm> (Accessed : 05/18/2011)</p> <p>5) Terry, Sarah: 2010. “How to Plant & Care for Burning Bushes.” Available: <www.gardenguides.com/86741-plant-care-burning-bushes.html>. (Accessed: 05/18/ 2011)</p> <p>6) Ohio State University: 2010. “<i>Euonymus alatus</i> Burning bush or Winged Euonymus” Available: <hcs.osu.edu/hcs/tmi/plantlist/eu_alata.html>. (Accesses 05/18/2011)</p> <p>7) McFarlin, Kate. “Are there Different Types of Burning Bushes?”. Available: <http://tinyurl.com/6jkr58h> (Accessed 05/18/2011)</p>
Other Sources Consulted (but that contained no	<p>i) University of California Berkely. “Celastraceae, Euonymus” Available: <http://ucjeps.berkeley.edu/interchange/I_treat_indexes.html></p>

pertinent information) (full citations):	<p>(Accessed 05/18/2011)</p> <p>ii) Larsen F. E. "Propagating Deciduous and Evergreen Shrubs, Trees, and Vines With Stem Cuttings". Accessible: <cru.cahe.wsu.edu/CEPublications/pnw0152/pnw0152.html> (Accessed 05/18/2011)</p> <p>iii) Pacific Biodiversity Institute. "Rare Plant Survey of Lewis and Clark State Park". Accessible: <http://www.pacificbio.org/publications/vegetation/state_parks/wa_west/Lewis_Clark_Report_2004.pdf> (Accessed 05/18/2011)</p>
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