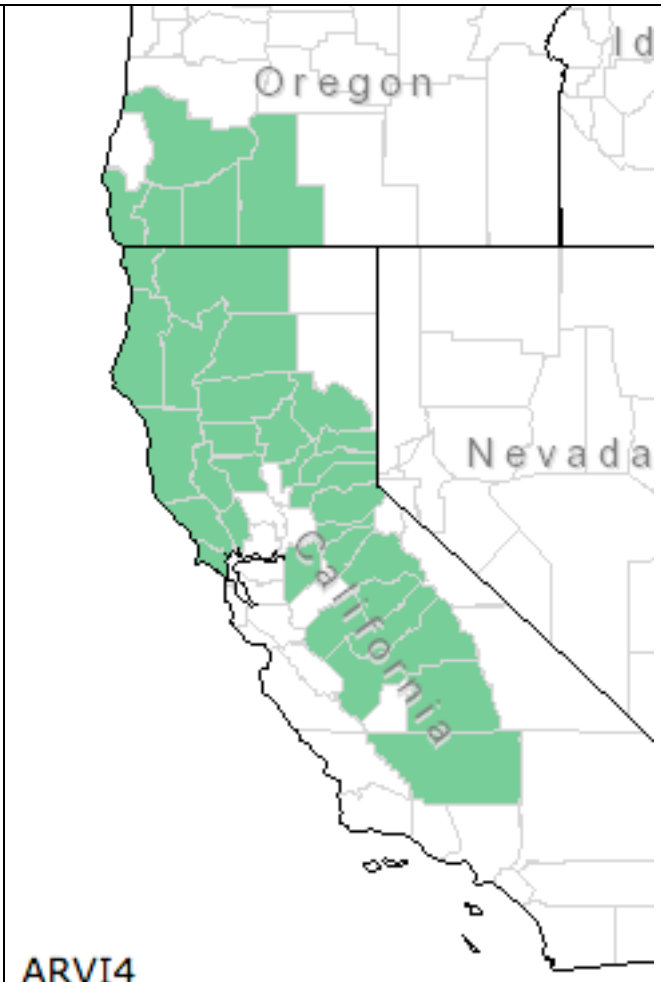
Plant Propagation Protocol for *Arctostaphylos viscida*
ESRM 412 – Native Plant Production
Protocol URL: https://courses.washington.edu/esrm412/protocols/ARVI4.*pdf*

TAXONOMY	
Plant Family	
Scientific Name	Ericaceae
Common Name	Heath
Species Scientific Name	
Scientific	*Arctostaphylos viscida*
Varieties	None
Sub-species	*Arctostaphylos viscida* subsp. *mariposa* (Dudley) Wells, Mariposa manzanita *Arctostaphylos viscida* subsp. *pulchella* (Howell) Wells, sticky whiteleaf manzanita *Arctostaphylos viscida* subsp. *viscida*, sticky whiteleaf manzanita (Fryer, 2015)
Cultivar	None
Common Synonym(s)	*Arctostaphylos mariposa* Dudley *Arctostaphylos pulchella* Howell *Arctostaphylos serpentinicola* J.B. Roof (Fryer, 2015)
Common Name(s)	Sticky whiteleaf manzanita (USDA, 2017). Mariposa manzanita
Species Code (as per USDA Plants database)	ARVI4
GENERAL INFORMATION	

Geographical range	 (USDA, 2017).
Ecological distribution (ecosystems it occurs in, etc)	Grows in Mediterranean climates of California and southwest Oregon; Common Chaparral species (Jensen, 2013). Also found in Oak woodlands and mixed-conifer forests (Fryer, 2015).
Climate and elevation range	500-5,000' (Jensen, 2013).
Local habitat and abundance	*Quercus wislizeni* (interior live oak) *Ceanothus cuneatus* (wedgeleaf ceanothus) *Ceanothus leucodermis* (Chaparral whitethorn) *Quercus chrysolepis* (canyon live oak) *Quercus kelloggii* (California black oak) *Pinus sabiniana (*gray pine) *Pinus ponderosa (*ponderosa pine) *Aesculus californica (*California buckeye) *Quercus garryana (*garry oak) (Fryer, 2015).

Plant strategy type / successional stage	One of the first plants to appear after fire, successional (Fryer, 2015).
Plant characteristics	Shrub, mature at 50-60 years, can live well beyond 90. Single stemmed, ranges from 4 feet to 10 feet with tall spreading branches. Leaves, pedicels, and fruits are often glandular-viscid (sticky) but varies depending on location. White foliage and deep red branches (Bensen, 1930); (Peck, 1961).
PROPAGATION DETAILS	
Ecotype	None
Propagation Goal	Plants
Propagation Method	Vegetative (methods for seed propagation not well known or reliable).
Product Type	Propagules
Stock Type	1 Gallon containers
Time to Grow	For *Arctostaphylos nevadensis* : 2 years (Trindle, 2002). Subsequent references with this citation refer to protocol for this species. Propagation of *Arctostaphylos* is similar amongst species (Hart, 2006).
Target Specifications	Plants with well-developed root systems, woody bases and branching (Trindle, 2002). Use mature, woody cuttings from prior season terminal shoots, 2-4 cm long (Hart, 2006); (GOERT, 2017).
Propagule Collection Instructions	Collect cuttings during late fall or the winter (Trindle, 2002).
Propagule Processing/Propagule Characteristics	Place cuttings into polyethylene bags with moist peat and transported: Store in 40°F for no longer than 8 weeks. Medium should be lightly moist, to much moisture can cause mold (Trindle, 2002).
Pre-Planting Propagule Treatments	Treat cuttings with standard IBA liquid hormone solution 1 hormone: 15 water (v/v) for 10 seconds prior to inserting into 1 peat: 10 perlite rooting mix (Hart, 2006). Cuttings may be dipped into 5% bleach just before fresh basal cutting is made and hormone applied (Trindle, 2002).
Growing Area Preparation / Annual Practices for Perennial Crops	Place trays into a polythene enclosure and moved into a shade house. Mist trays and heat using heating mat. Once cuttings are rooted, they are transferred to a liner pot containing 1 sand: 7 peat : 7 perlite. Once established in liner, plants are transferred into 1 gal pots containing pre-mixed potting medium of 4-milled redwood bark chips: 1 washed and bleached sand (v/v) and base fertilizer ingredient (Hart, 2006).
Establishment Phase Details	Cuttings are left undisturbed for 4 months before they are carefully transplanting into Sunshine “Aggregate-

	plus" soil-less potting medium. Returned to greenhouse for one more month, and then into 40% shade (Trindle, 2002).
Length of Establishment Phase	5 months
Active Growth Phase	Fertilize with 20-20-20 solution at half strength twice a week. Held in shade house and watered via drip irrigation twice per week (Trindle, 2002).
Length of Active Growth Phase	May through July
Hardening Phase	Reduce watering after July and end fertilization. Shade cloth removed in August for full sun hardening through September. Cold hardened through winter, but covered during rains (Trindle, 2002).
Length of Hardening Phase	August through October
Harvesting, Storage and Shipping	Plants can be held in storage at 38-40 °F through winter and returned to greenhouse the following year (Trindle, 2002).
Length of Storage	Stored overwinter in walk-in cooler.
Guidelines for Outplanting / Performance on Typical Sites	Roots should be well established and branching. Shoots can be pruned back as needed for shipping (Trindle, 2002).
Other Comments	Seed propagation is very difficult and vegetative propagation is much more reliable and better understood (Trindle, 2002).
INFORMATION SOURCES	
References	Benson, Gilbert Thereon. *The Trees and Shrubs of Western Oregon*. Stanford University, CA: Stanford UP, 1930. Print. Dirr, Michael A., and Charles W. Heuser. *The Reference Manual of Woody Plant Propagation: From Seed to Tissue Culture: A Practical Working Guide to the Propagation of over 1100 Species, Varieties, and Cultivars*. Portland: Timber, 2011. Print. Fryer, Janet L. 2015. Arctostaphylos viscida, sticky whiteleaf manzanita. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Missoula Fire Sciences Laboratory (Producer). \ [2017, May 27]. "GOERT: Garry Oak Ecosystems Recovery Team." GOERT : For Gardeners & Restoration Practitioners : Propagation Guidelines. N.p., n.d. Web. 29 May 2017.

	Hart, Lucy. "Propagation and Cultivation of Arctostaphylos in Relation to the Environment in Its Natural Habitat." International Plant Propagators' Society International Plant Propagators' Society 55 (2006): 291-95. Print. Jensen, Edward C., and David A. Zahler. *Shrubs to Know in Pacific Northwest Forests*. Corvallis, Or.: Oregon State U Extension Service, 2013. Print. Jepson, Willis L. *Manual of the Flowering Plants of California.* Place of Publication Not Identified*:* Reprint Services, 1994. Print. Peck, Morton Eaton. A Manual of the Higher Plants of Oregon. Portland, OR: Oregon State U, 1961. Print. Trindle, Joan D.C.; Flessner, Theresa R. 2002. Propagation protocol for vegetative production of container Arctostaphylos nevadensis Gray plants (1-gallon containers); USDA NRCS - Corvallis Plant Materials Center, Corvallis, Oregon. In: Native Plant Network. URL: http://www.nativeplantnetwork.org (accessed 30 December 2009). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery. USDA, NRCS. 2017. The PLANTS Database (plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.
Other Sources Consulted	Stuckey, Colleen. The Wild Garden: Hansen's Northwest Native Plant Database. N.p., 2012. Web. 19 May 2017. Young, James A., and Cheryl G. Young. Seeds of Woody Plants in North America. Fairfield, OH: Dioscorides, 2016. Print.
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