

**Plant Propagation Protocol for:**  
***Clematis occidentalis***  
 ESRM 412 – Native Plant Production

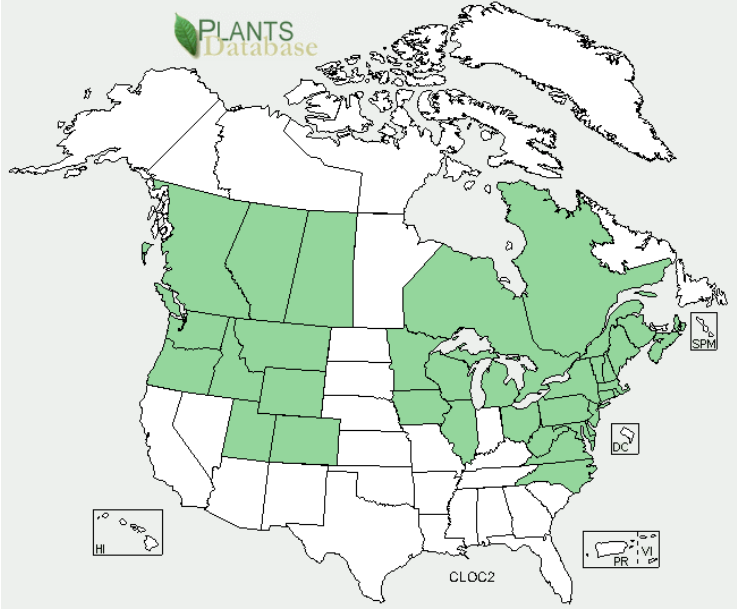


Source: [http://montana.plant-life.org/species/clematis\\_occid.htm](http://montana.plant-life.org/species/clematis_occid.htm) (left) [http://www.wildflower.org/plants/result.php?id\\_plant=CLOC2](http://www.wildflower.org/plants/result.php?id_plant=CLOC2) (right)

<b>TAXONOMY</b>	
<b>Family Names</b>	
Family Scientific Name:	<sup>1</sup> Ranunculaceae
Family Common Name:	<sup>1</sup> western blue virginsbower
<b>Scientific Names</b>	
Genus:	<sup>1</sup> <i>Clematis</i>
Species:	<sup>1</sup> <i>occidentalis</i>
Species Authority:	<sup>1</sup> Hornem.
Variety:	<sup>1</sup> <i>Clematis occidentalis</i> (Hornem.) DC. var. <i>dissecta</i> (C.L. Hitchc.) J. Pringle - western blue virginsbower <sup>1</sup> <i>Clematis occidentalis</i> (Hornem.) DC. var. <i>grosseserrata</i> (Rydb.) J. Pringle - western blue virginsbower <sup>1</sup> <i>Clematis occidentalis</i> (Hornem.) DC. var. <i>occidentalis</i> western blue virginsbower
Sub-species:	No information found
Cultivar:	No information found
Authority for Variety/Sub-species:	<sup>1</sup> C.L. Hitchc. <sup>1</sup> Rydb.
Common Synonym(s):	<sup>2</sup> <i>Atragene americana</i> Sims <i>Clematis verticillaris de Candolle</i>

	<i>C. verticillaris</i> var. <i>cacuminis</i> Fernald <i>C. verticillaris</i> var. <i>grandiflora</i> B.Boivin
Common Name(s):	<sup>2</sup> mountain clematis
Species Code (as per USDA Plants database):	<sup>1</sup> CLOC2

**GENERAL INFORMATION**

Geographical range (distribution maps for North America and Washington state)	 <p>The above maps: USDA PLANTS Database</p>
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Ecological distribution:	<sup>1</sup> Moderate moisture; woods, forests; in rocky soil. <sup>6</sup> Woodland, Forest Edge. <sup>7</sup> Calcareous cliffs, rock ledges, talus slopes, gravelly embankments, rocky woods, and clearings.
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Climate and elevation range	<sup>8</sup> <i>C. occidentalis</i> has been observed growing up to 1300m.
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Local habitat and abundance; may include commonly associated species	<sup>2</sup> Throughout its range, purple clematis tends to occur in rocky woodlands, in openings and areas that have experienced some sort of natural to artificial disturbance, and along edges near creeks and even in disturbed rights-of-way and in ditches along roadsides. Purple clematis has been typically found in disturbed openings, including both within disturbed, rocky, deciduous woods with quaking aspen and white and yellow birch, and also in open balsam fir and white spruce stands at sites of old burns, logging areas, or near old mining camps and along trails and thickets. On the mainland, this species has been found in similar habitats, especially along the edges of recently logged areas, and typically where rocky soils are present.
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Plant strategy type / successional stage:	No information found
Plant characteristics (life form (shrub, grass, forb), longevity, key characteristics, etc)	<sup>4,9</sup> Stems viny, climbing or trailing. Leaf blade 1-ternate, firm but not succulent; leaflets lance-ovate to triangular or suborbiculate, lobed or unlobed, margins entire or toothed. Flowers: sepals violet-blue, reddish violet, or white, lanceolate to ovate or elliptic-oblong. <sup>3</sup> <u>Plant</u> : up to 6' tall, woody vine <sup>3</sup> <u>Flower</u> : bluish, 4-parted, 1 3/4" long, petal-like sepals; solitary, mostly from the leaf axils; blooms May-June <sup>3</sup> <u>Fruit</u> : flattened, dry seeds in a dense, rounded, fluffy cluster <sup>3</sup> <u>Leaf</u> : long stalked, 3-parted, leaflets mostly with smooth or lobed edges
<b>PROPAGATION DETAILS</b>	
Ecotype	N/A
Propagation Goal:	<sup>2</sup> Plants
Propagation Method:	<sup>2</sup> Seeds <sup>?</sup> Cuttings (best method of propagation than seeds)
Product Type:	<sup>2</sup> Young cuttings. <sup>10</sup> Leaf-bud.
Stock Type:	No information found
Time to Grow:	<sup>5</sup> weeks, if taken from young cuttings and under mist.
Target Specifications:	No information found
Propagule Collection (how, when, etc):	<sup>2</sup> Leaf-bud cuttings from midsummer will also root rapidly under mist. <sup>10</sup> Generally during the growing season. For this cutting type (leaf-bud) use intermittent mist, fog, humidity tent, or contact polyethylene as an effective propagation system.
Propagule Processing/Propagation Characteristics	<sup>10</sup> Cutting length (leaf-bud): 2.0-7.5cm (1-3 in); bud may sometimes be placed 1.3-2.5 cm (0.5-1.0 in) below the surface.
Pre-Planting Propagule Treatments (cleaning, dormancy treatments, etc):	<sup>4</sup> Semi-hardwood and hard wood cuttings can be treated with 3,000 to 8,000 ppm IBA quick-dip. Internodal cuttings (leaf-bud cuttings with one leaf left intact) and the stem node inserted above the rooting medium root best with 1,000 ppm IBA quick-dip or 4,000 ppm talc. Basal cuttings can also be taken from unwanted flower stems, treated with 3,000 ppm IBA powder, set in a mix of 1 river sand: 1 perlite (v/v) and rooted under mist at 25° C (77°F). <sup>10</sup> Chemical treatment: IBA or NAA at 1,000 to 3,000 ppm.

Growing Area Preparation / Annual Practices for Perennial Crops:	No information found
Establishment Phase	No information found
Length of Establishment Phase:	No information found
Active Growth Phase:	No information found
Length of Active Growth Phase:	No information found
Hardening Phase:	No information found
Length of Hardening Phase:	No information found
Harvesting, Storage and Shipping (of seedlings):	No information found
Length of Storage:	No information found
Guidelines for Outplanting / Performance on Typical Sites:	No information found
Other Comments	<p><sup>2</sup>Beyond basic natural history studies, inventory to determine the status of occurrences and ecological and/or population monitoring coupled with experimental management may provide the best insights for long-term conservation.</p> <p><sup>5</sup>Medicinal Uses: A poultice of the pounded, dampened leaves of blue clematis has been applied by the Okanagan-Colville Indians to the feet to treat sweaty feet. They also made a tea of leaves alone or the stems and leaves and used it as a hair wash to prevent gray hair. The Navajo Indians used a cold tea of the plant as a lotion on swollen knees and ankles. The Thompson Indians used the plant as a head wash and to treat scabs and eczema.</p> <p><sup>5</sup>Other Uses: The seed floss makes an excellent tinder for starting fires, a spark from a flint will quickly ignite it. The seed floss can also be used as insulation in shoes etc.</p>

## INFORMATION SOURCES

References (full citations):	<p><sup>1</sup> USDA- <i>Natural Resources Conservation Service</i>. Accessed on May 9<sup>th</sup> 2012. Available: <a href="http://plants.usda.gov/java/profile?symbol=CLOC2">http://plants.usda.gov/java/profile?symbol=CLOC2</a></p> <p><sup>2</sup> Michigan Natural Features Inventory. Accessed on May 10<sup>th</sup> 2012. Available: <a href="http://mnfi.anr.msu.edu/abstracts/botany/Clematis_occidentalis.pdf">http://mnfi.anr.msu.edu/abstracts/botany/Clematis_occidentalis.pdf</a></p> <p><sup>3</sup> Robert W. Freckmann Herbarium. Accessed on May 14<sup>th</sup> 2012. Available: <a href="http://wisplants.uwsp.edu/scripts/detail.asp?SpCode=CLEOCCvOCC">http://wisplants.uwsp.edu/scripts/detail.asp?SpCode=CLEOCCvOCC</a></p> <p><sup>4</sup> Flora of North America. Accessed on May 14<sup>th</sup> 2012. Available: <a href="http://www.efloras.org/florataxon.aspx?flora_id=1&amp;taxon_id=233500400">http://www.efloras.org/florataxon.aspx?flora_id=1&amp;taxon_id=233500400</a></p> <p><sup>5</sup> Plant-Life. Accessed on May 15<sup>th</sup> 2012. Available: <a href="http://montana.plant-life.org/species/clematis_occid.htm">http://montana.plant-life.org/species/clematis_occid.htm</a></p> <p><sup>6</sup> Lady Bird Johnson: Wildflower center. Accessed on May 15<sup>th</sup> 2012. Available: <a href="http://www.wildflower.org/plants/result.php?id_plant=CLOC2">http://www.wildflower.org/plants/result.php?id_plant=CLOC2</a></p> <p><sup>7</sup> US Forest Service: celebrating wildflowers. Accessed on May 16<sup>th</sup> 2012. Available: <a href="http://www.fs.fed.us/wildflowers/plant-of-the-week/clematis_occidentalis.shtml">http://www.fs.fed.us/wildflowers/plant-of-the-week/clematis_occidentalis.shtml</a></p> <p><sup>8</sup> Plant Diversity Website. Accessed on May 12<sup>th</sup> 2012. Available: <a href="http://www-personal.umich.edu/~rburnham/SpeciesAccountspdfs/ClemocciRANUFIN AL.pdf">http://www-personal.umich.edu/~rburnham/SpeciesAccountspdfs/ClemocciRANUFIN AL.pdf</a></p> <p><sup>9</sup> Huxley, Anthony (Chief Editor). <i>Dictionary of Gardening: The New Royal Horticultural Society</i>. [A-C] New York: THE STOCKTON PRESS, 1992. Print.</p> <p><sup>10</sup> Hartmann and Kester. <i>Plant Propagation: principles and practices</i>. 8th edition. NJ: Pearson Education, Inc, 2011. Print.</p>
Other Sources Consulted (but that contained no pertinent information) (full citations):	<p>Kozloff, Eugene N. <i>Plants of Western Oregon, Washington &amp; British Columbia</i>. Portland, Oregon: Timber Press, 2005. Print.</p> <p>Filbert. M, Richter A. and Robson K. <i>Encyclopedia of Northwest Native Plants for Gardens and Landscapes</i>. Timnber Press, Inc: 2008. Print.</p>

	<p>Pojar and Mackinnon. <i>Plants of the Pacific NorthWest Coast: Washington, Oregon, British Columbia &amp; Alaska</i>. B.C Canada: Lone Pine Publishing, 1994.</p> <p>Frye T., Rigg B.G. <i>Northwest Flora</i>. Seattle: printing department University of Washington.</p> <p>Chachulsky, C., Haase, D., Rose R. <i>Propagation of Pacific Northwest Native Plants</i>. Corvallis, Oregon: Oregon State University Press, 1998. Print.</p> <p>Dirr, Michael A. and Heuse, Charles W (JR). <i>The Reference Manual of Woody Plant Propagation: from Seed to Tissue Culture</i>. 2<sup>nd</sup> Edition. Cary, North Carolina: Varsity Press Inc, 2006. Print</p> <p>Gilkey M., Dennis J. <i>HANDBOOK OF NORTHWESTERN PLANTS</i>. Oregon State University. Corvallis, Oregon: 1980.</p> <p>Bean, W.J. <i>Trees &amp; Shrubs: hardy in the British Isles</i>. 8<sup>th</sup> edition, Vol. IV. Ri-Z. New York: St. Martin's Press, Inc, 1981. Print.</p>
Protocol Author	Carlos Camara
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