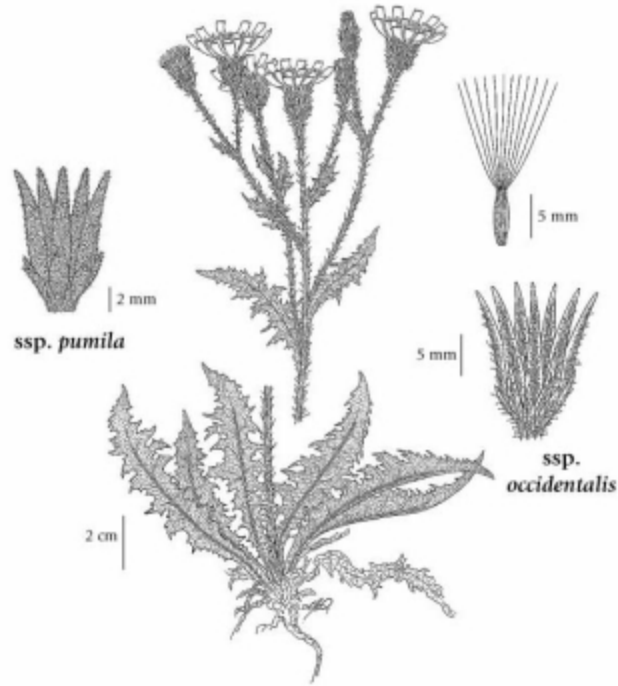


Plant Propagation Protocol for *Crepis occidentalis*

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/CROC.pdf>



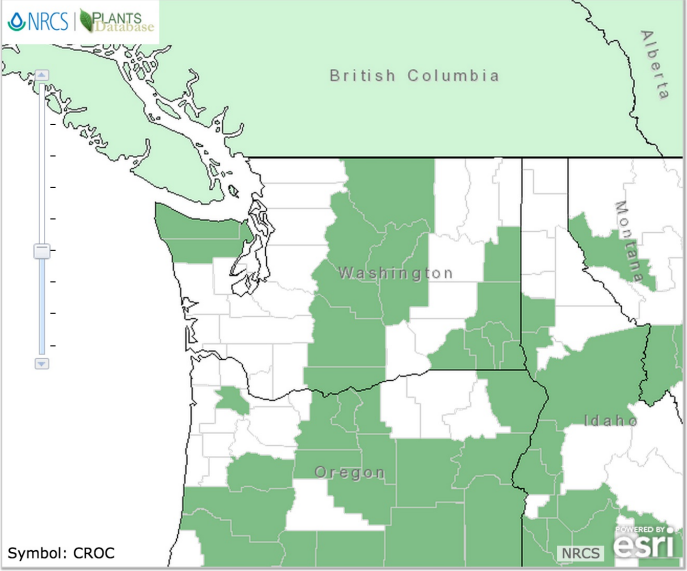
Crepis occidentalis ssp. *costata*

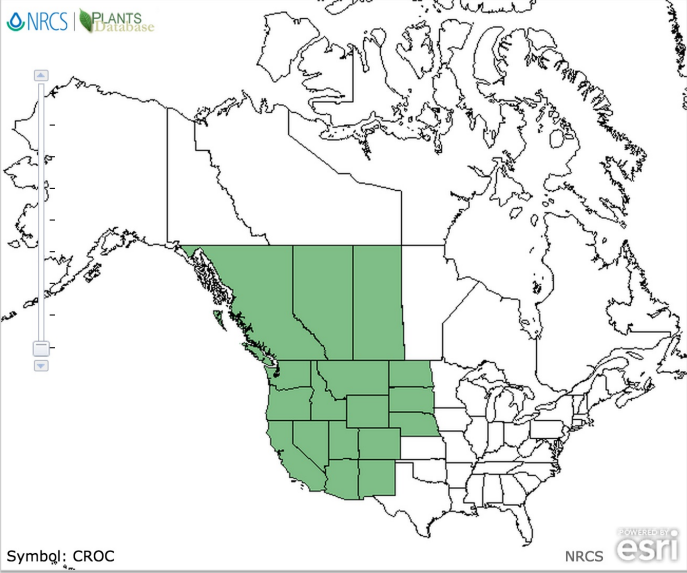
(Image: [The Illustrated Flora of British Columbia](#))

TAXONOMY	
Plant Family	
Scientific Name	Asteraceae
Common Name	Sunflower family
Species Scientific Name	
Scientific Name	<i>Crepis occidentalis</i> Nutt.
Varieties	
Subspecies	<i>Crepis occidentalis</i> Nutt. subsp. <i>conjuncta</i> (Jeps.) Babc. & Stebbins

	<p><i>Crepis occidentalis</i> Nutt. subsp. <i>costata</i> (A. Gray) Babc. & Stebbins</p> <p><i>Crepis occidentalis</i> Nutt. subsp. <i>occidentalis</i></p> <p><i>Crepis occidentalis</i> Nutt. subsp. <i>pumila</i> (Rydb.) Babc. & Stebbins</p>
Cultivar	
Common Synonym(s)	<p><i>Crepis occidentalis</i> Nutt. subsp. <i>typica</i> Babc. & Stebbins</p> <p><i>Psilochenia occidentalis</i> Nutt.</p>
Common Name(s)	largeflower hawksbeard, western hawksbeard, grey's hawksbeard
Species Code (as per USDA Plants database)	CROC

GENERAL INFORMATION

Geographical range	<p>Occurring chiefly east of the Cascades crest in Washington; southern British Columbia to California, east to the Great Plains of Canada and the U.S.³</p>  <p>Symbol: CROC</p>
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Ecological distribution	E.g. sagebrush-grassland habitats ⁴ .
Climate and elevation range	
Local habitat and abundance	Dry, open places, mostly in the foothills and plains ³ . Also occurs in woodlands ⁶ .
Plant strategy type / successional stage	The <i>Crepis</i> genus exhibits high germinability and survival, favorable responses to fire, and wide distribution ⁴ .
Plant characteristics	<p>Life form: forb/herb⁵. General: Perennial from a taproot and short, woody base. The herbage is densely grey-woolly, especially when young, with milky juice³. Flowers: yellow, achenes narrow toward summit⁸. The achenes are spindle-shaped and brown³. They are food for wildlife, especially birds⁸. Leaves: Long, toothed with backward-pointing segment³.</p>
PROPAGATION DETAILS	
Ecotype	USFS, Boise National Forest, Lucky Peak Nursery, Boise, Idaho: 2842 ft. elevation ¹
Propagation Goal	Seeds ¹
Propagation Method	Seed ¹

Product Type	Propagules (seeds, cuttings, poles, etc.) ¹
Stock Type	
Time to Grow	
Target Specifications	
Propagule Collection Instructions	
Propagule Processing/Propagule Characteristics	Between 800,000 seeds/lb (Plant Detail) and 100,000 seeds/lb ¹ .
Pre-Planting Propagule Treatments	<p>“METHOD OF CLEANING: Seed lot is first processed using a Westrup Model LA-P Laboratory Clipper/De-awner, to remove seed from flower head. Seed is then air-screened, using an office Clipper with a top screen: 1/14 x 1/2 slot and a bottom screen: 1/18 round, medium speed, medium air. Lot is finished using an air column separator, Oregon Seed Blower, to remove remaining non viable seed and inert material</p> <p>STORAGE: Cold Storage, 33-38 Degrees Fahrenheit”¹.</p>
Growing Area Preparation / Annual Practices for Perennial Crops	
Establishment Phase Details	
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	

Other Comments	Very small seed lots present a cleaning and testing challenge. Different types of equipment, designed for smaller lots, are used, results may not be typical ¹ .
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INFORMATION SOURCES

References	<ol style="list-style-type: none"> 1. Barner, Jim 2009. Propagation protocol for production of <i>Crepis occidentalis</i> Nutt. seeds; USDA FS - R6 Bend Seed Extractory, Bend, Oregon. In: Native Plant Network. URL: http://www.nativeplantnetwork.org (accessed 12 May 2015). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery. 2. Klinkenberg, Brian. (Editor) 2014. E-Flora BC: <i>Electronic Atlas of the Plants of British Columbia</i>[eflora.bc.ca]. Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia, Vancouver. [Accessed: 5/10/2015 7:52:36 PM] <http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Crepis%20occidentalis> 3. Knoke, Don, and David Giblin. "<i>Crepis Occidentalis</i>." Burke Museum of Natural History, n.d. Web. 10 May 2015. <http://biology.burke.washington.edu/herbarium/imagecollection.php?Genus=Crepis&Species=occidentalis>. 4. Pyke, David A. "Born of Fire—Restoring Sagebrush Steppe." <i>Research & Development Data Archive</i> (n.d.): n. pag. U.S. Department of the Interior U.S. Geological Survey. Web. 17 May 2015. <http://fresc.usgs.gov/products/fs/fs-126-02.pdf>. 5. "Plant Detail: <i>Crepis Occidentalis</i>." Native Seed Network, n.d. Web. 10 May 2015. <http://www.nativeseednetwork.org/viewtaxon?taxon_code=CROC>. 6. Schneider, Al. "Southwest Colorado Wildflowers, <i>Crepis</i>." N.p., n.d. Web. 17 May 2015. <http://www.swcoloradowildflowers.com/Yellow%20Enlarged%20Photo%20Pages/psilochenia.htm>.
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	<p>7. Wick, Dale; Evans, Jeff.; Luna, Tara. 2008. Propagation protocol for production of container <i>Crepis nana</i> Rich. plants (160 ml containers); USDI NPS - Glacier National Park, West Glacier, Montana. In: Native Plant Network. URL: http://www.nativeplantnetwork.org (accessed 12 May 2015). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.</p> <p>8. Young, James A., and Cheryl G. Young. <i>Collecting, Processing, and Germinating Seeds of Wildland Plants</i>. Portland, Or.: Timber, 1986. Print.</p>
Other Sources Consulted	<p>B.C. Conservation Data Centre. 2015. Species Summary: <i>Crepis occidentalis</i> ssp. <i>costata</i>. B.C. Minist. of Environment. Available: http://a100.gov.bc.ca/pub/eswp/ (accessed May 17, 2015).</p> <p>The Burke Museum of Natural History and Culture, Herbarium. http://biology.burke.washington.edu/herbarium. Retrieved May 15, 2015</p> <p>CalPhotos: <i>Crepis occidentalis</i>. University of California, Berkeley, n.d. Web. 17 May 2015. <http://calphotos.berkeley.edu/cgi/img_query?where-taxon=Crepis+occidentalis>.</p> <p>CPNWH Search Results: <i>Crepis occidentalis</i>. Consortium of Pacific Northwest Herbaria, n.d. Web. 17 May 2015. <http://www.pnwherbaria.org/data/results.php?DisplayAs=WebPage&ExcludeCultivated=Y&GroupBy=ungrouped&SortBy=Year&SortOrder=DESC&SearchAllHerbaria=Y&QueryCount=1&IncludeSynonyms1=Y&Genus1=Crepis&Species1=occidentalis&State1=Washington&Zoom=4&Lat=55&Lng=-135&PolygonCount=0>.</p> <p>USDA, ARS, National Genetic Resources Program. <i>Germplasm Resources Information Network - (GRIN)</i> [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov/4/cgi-bin/npgs/html/taxon.pl?12196 (10 May 2015)</p>

Protocol Author	Delaney Quick
Date Protocol Created or Updated	05/17/15