

**Plant Propagation Protocol for *Balsamorhiza rosea***

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2026/BARO2.pdf>



Left: United States distribution

Right: County level distribution (Oregon and Washington)

Source: USDA Plants database

<b>TAXONOMY</b>	
<b>Plant Family</b>	
Scientific Name	<i>Asteraceae</i> Bercht. & J. Presl
Common Name	Aster family
<b>Species Scientific Name</b>	
Scientific Name	<i>Balsamorhiza rosea</i> A. Nelson & J.F. Macbr
Varieties	
Sub-species	
Cultivar	
Common Synonym(s)	<i>Balsamorhiza hookeri</i> var. <i>rosea</i>
Common Name(s)	Rosy balsamroot
Species Code (as per USDA Plants database)	BARO2
<b>GENERAL INFORMATION</b>	
Geographical range	Central Eastern Washington and Northern Oregon. Specifically Washington counties: Douglas, Spokane, Grant, Benton, Yakima, and Walla Walla. Specifically Oregon counties: Umatilla. See attached maps for more distribution information (USDA, NRCS, 2026).
Ecological distribution	Generally in dry, open, and rocky terrains east of the Cascade mountain range (Knoke & Giblin, n.d.).
Climate and elevation range	Mainly found on dry, windy ridgetops around 300-400 meters high (Barkley, n.d.; Brenner et al., 1997).
Local habitat and abundance	Often in a large cluster of itself along with <i>B. careyana</i> (Barkley, n.d.).
Plant strategy type / successional stage	Their small size is partially due to their stems growing flat to conserve water (Brenner et al., 1997).

	They are drought tolerant once they are established and could be considered a 'stress-tolerator' ("How to Grow Rosy Balsamroot," n.d.).
Plant characteristics	Herb/Forb  In April, they bloom small bright yellow flowers that eventually turn dark red (Brenner et al., 1997).  They are perennial, flowering annually (USDA, NRCS, 2026).
<b>PROPAGATION DETAILS: FROM SEED</b>	
Ecotype	No existing experimentally derived protocol for <i>Balsamorhiza rosea</i> . This protocol is mainly based on existing protocols for a close relative that it often hybridizes with, <i>Basamorhiza sagittate</i> .
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	Seedling
Time to Grow	~5 months to transplant ~3 years to full reproductive growth
Target Specifications	Flowering at full reproductive maturity. Should be transplanted before full taproot develops as this will cause difficulty (Skinner, 2004).
Propagule Collection Instructions	Collect after peak flowering July-September (Tilley & St. John, 2012). Flowers will be found in arid land scapes east of the Cascades.
Propagule Processing/Propagule Characteristics	Cold stratification. Germination usually occurs around 0C - 10C (Baskin & Baskin, 2002).
Pre-Planting Propagule Treatments	Natural stratification is usually replicated as seeds experience cold temperatures following Summer/Fall months (Gucker & Shaw, 2018).
Growing Area Preparation / Annual Practices for Perennial Crops	Potting media should be used with a light layer of pea gravel on top to optimize growth/germination. Seeds can be planted ~1 cm deep in soil. Propagation should be performed outside in order to avoid over watering, and to let the plants experience temperature changes (Tilley & St. John, 2012).4/27/2026 3:21:00 AM
Establishment Phase Details	Germination usually begins in March (Skinner, 2004).
Length of Establishment Phase	Around 3 weeks (Skinner, 2004).
Active Growth Phase	This occurs in cool, warming Spring temperatures. Taproots grow quickly (Skinner, 2004).
Length of Active Growth Phase	1-2 months (Knoke & Giblin, n.d.; Skinner, 2004).
Hardening Phase	NA, plants are grown outside.
Length of Hardening Phase	NA, plants are grown outside.

Harvesting, Storage and Shipping	Important to do this before the taproot forms and the plant becomes established as this can be extremely difficult. The taproot is what enables them to be extremely stress-tolerant but also makes for difficult transplanting (Skinner, 2004).
Length of Storage	Should be done before the 5 month range, when plants are well established (Knoke & Giblin, n.d.).
Guidelines for Outplanting / Performance on Typical Sites	NA
Other Comments	NA
<b>INFORMATION SOURCES</b>	
References	<p>Barkley, T. (n.d.). <i>Flora of North America</i> (Vol. 21). (Original work published 2006)</p> <p>Baskin, J., &amp; Baskin, C. (2002). <i>Propagation protocol for production of Container (plug) Balsamorhiza sagittata (Pursh) Nutt. Plants.</i></p> <p>Brenner, B., Camp, P., &amp; Cunderla, B. (1997). <i>Washington watchable wildflowers: A Columbia Basin guide</i>. U.S. Department of the Interior, Bureau of Land Management. <a href="https://www.biodiversitylibrary.org/page/54914482">https://www.biodiversitylibrary.org/page/54914482</a></p> <p>Gucker, C., &amp; Shaw, N. (2018). <i>ARROWLEAF BALSAMROOT</i>. How to Grow Rosy Balsamroot. (n.d.). <i>LizPlants</i>. Retrieved <a href="https://lizplants.com/grow/balsamorhiza-rosea">https://lizplants.com/grow/balsamorhiza-rosea</a></p> <p>Knoke, D., &amp; Giblin, D. (n.d.). <i>Balsamorhiza rosea</i>. <i>Burke Herbarium Image Collection</i>. Retrieved <a href="https://burkeherbarium.org/imagecollection/taxon.php?Taxon=Balsamorhiza%20rosea#:~:text=Carr,Leaves:">https://burkeherbarium.org/imagecollection/taxon.php?Taxon=Balsamorhiza%20rosea#:~:text=Carr,Leaves:</a></p> <p>Skinner, D. (2004). <i>Propagation protocol for production of Container (plug) Balsamorhiza sagittata (Pursh) Nutt. Plants.</i> <a href="https://npr.rngr.net/renderNPNProtocolDetails?selectedProtocolIds=asteraceae-balsamorhiza-2170">https://npr.rngr.net/renderNPNProtocolDetails?selectedProtocolIds=asteraceae-balsamorhiza-2170</a></p> <p>Tilley, D., &amp; St. John, L. (2012). <i>ARROWLEAF BALSAMROOT Balsamorhiza sagittata (Pursh) Nutt. Aberdeen Plant Materials Center.</i></p> <p>USDA, NRCS. (2026). <i>The PLANTS Database</i> [Dataset]. <a href="http://plants.usda.gov">http://plants.usda.gov</a></p>
Other Sources Consulted	NA
Protocol Author	Isobel Read
Date Protocol Created or Updated	04/25/2026