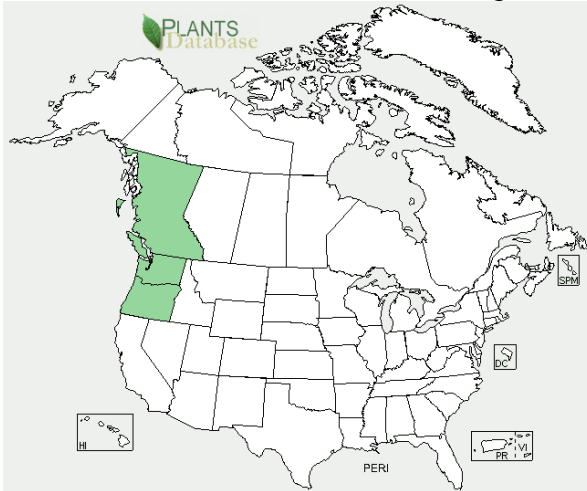
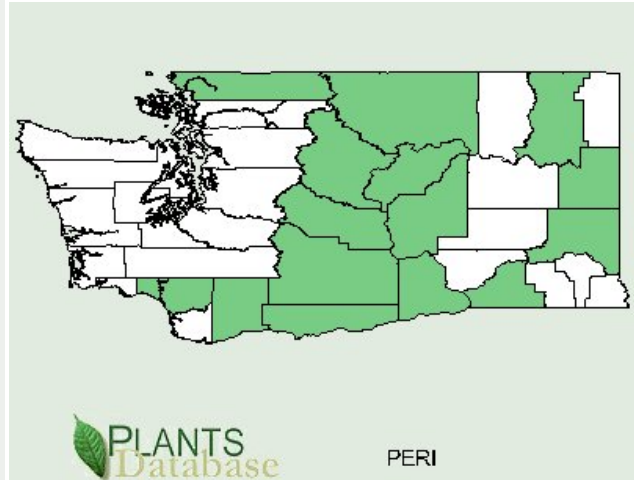


Plant Propagation Protocol for *Penstemon richardsonii* Douglas ex Lindl.
 ESRM 412 – Native Plant Production
 Spring 2011

North America Distribution Map



Washington State Distribution Map



Source: USDA PLANTS Database

TAXONOMY	
Family Names	
Family Scientific Name:	Scrophulariaceae
Family Common Name:	Figwort Family
Scientific Names	
Genus:	<i>Penstemon</i>
Species:	<i>richardsonii</i>
Species Authority:	Douglas ex Lindl. (John Lindley who validated the name first suggested by David Douglas) ¹
Variety:	<i>Penstemon richardsonii</i> var. <i>richardsonii</i> <i>Penstemon richardsonii</i> var. <i>curtiflorus</i> <i>Penstemon richardsonii</i> var. <i>dentatus</i>
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	(D.D. Keck) Cronquist
Common Synonym(s):	
Common Name(s):	Cut-leaf Beardtongue or Richardson's Penstemon
Species Code:	PERI
GENERAL INFORMATION	
Geographical range:	Oregon, Washington, and British Columbia, typically east of the Cascades and along the Columbia and Snake Rivers ² (See maps above).
Ecological distribution:	Dry open rocky places, rock slides to cliff faces ² in the shrub steppe. ³
Climate and elevation range	Dry and open, at lower elevations in the Columbia

	River Gorge, and extending up the Okanogan Valley. ⁴
Local habitat and abundance; may include commonly associated species	Commonly found in arid, rocky soils or in the crevices of cliffs ⁴ or talus at low elevations. ³
Plant strategy type / successional stage:	With a taproot, it is a drought stress tolerator. It colonizes among rocks, cliffs and talus, independent of other plants. ⁶ It has been known to be a colonizer after disturbances, both natural and man-made, such as rockslides, and graded roadsides. ⁵
Plant characteristics:	It is a taprooted, ⁴ perennial, sub-shrub. ⁶ It has many upright, slender, brittle ² hairless stems, .2-.8m tall ³ but it is distinctly shrubby at the base. ⁴ The leaves are lanceolate with strongly serrate to dentate margins. Inflorescence is sticky ³ and consists of a narrow raceme or open branched panicle of red to violet pubescent, tubular flowers ⁷ with hairy staminodes. ⁴
PROPAGATION DETAILS	
Seed Propagation	
Ecotype:	N/A
Propagation Goal:	Plants
Propagation Method:	Seed
Product Type:	Container
Stock Type:	N/A
Time to Grow:	1 year (not specific to <i>P. richardsonii</i>) ⁸
Target Specifications:	N/A
Propagule Collection:	Allow the seed pods to dry on the plants and then crack them open to harvest the seeds ⁹ after they have bloomed (May to August). ²
Propagule Processing/Propagule Characteristics:	Hardy to -14.9° C. ⁸
Pre-Planting Propagule Treatments:	No specific directions were given for cleaning seeds. Typically <i>P. richardsonii</i> can be sown outdoors, but if it is to be sown indoors, scarification is recommended. ⁹
Growing Area Preparation / Annual Practices for Perennial Crops:	Seeding mix is recommended for penstemons in general, ¹⁰ although one source cites preferred pH for <i>P. richardsonii</i> of 6.6-8.5 pH. ⁹ If seeding in the winter, a cold frame is suggested. ^{9, 10}
Establishment Phase:	Sow directly outdoors in the Fall or Spring ⁸ or in a cold frame for winter sowing. ⁹ No further special treatments are recommended.
Length of Establishment Phase:	1-4 months (not specific to <i>P. richardsonii</i>) ⁸
Active Growth Phase:	N/A
Length of Active Growth Phase:	3-15 months (not specific to <i>P. richardsonii</i>) ⁸
Hardening Phase:	N/A
Length of Hardening Phase:	N/A

Harvesting, Storage and Shipping:	N/A
Length of Storage:	N/A
Guidelines for Outplanting / Performance on Typical Sites:	N/A
Other Comments:	Recommendations are all quite general and suggest that propagation is very easy under a variety of conditions.
Vegetative Propagation	
Ecotype:	N/A
Propagation Goal:	Plants
Propagation Method:	Vegetative
Product Type:	Stem or stem-tip cuttings
Stock Type:	N/A
Time to Grow:	1 year (not specific to <i>P. richardsonii</i>) ⁸
Target Specifications:	N/A
Propagule Collection:	Any section of the stem will root and the cutting can be taken any time the plant is in growth (Softwood). ⁸
Propagule Processing/Propagule Characteristics:	N/A
Pre-Planting Propagule Treatments:	Rooting hormone can be used, but is not specifically recommended.
Growing Area Preparation / Annual Practices for Perennial Crops:	Rooting mix is recommended for penstemons cuttings in general, but they also can be rooted in sphagnum moss. They can also be rooted directly in a jar of water. ¹⁰
Establishment Phase:	Softwood cuttings should be sown in summer or early fall. If rooting in water, keep out of strong sunlight, to reduce the growth of algae. ¹⁰
Length of Establishment Phase:	1-4 months (not specific to <i>P. richardsonii</i>) ⁸
Active Growth Phase:	N/A
Length of Active Growth Phase:	3-15 months (not specific to <i>P. richardsonii</i>) ⁸
Hardening Phase:	N/A
Length of Hardening Phase:	N/A
Harvesting, Storage and Shipping:	N/A
Length of Storage:	N/A
Guidelines for Outplanting / Performance on Typical Sites:	N/A
Other Comments:	N/A
INFORMATION SOURCES	
References:	See Below
Other Sources Consulted:	ⁱ Eugene Kozloff, <i>plants of Western Oregon, Washington & British Columbia</i> , (Portland: Timber Press, 2005). ⁱⁱ Robin Rose et al., <i>Propagation of Pacific Northwest Native Plants</i> , (Corvallis: Oregon State University Press, 1998). ⁱⁱⁱ Lauren Springer and Rob Proctor, <i>Passionate</i>

	<i>Gardening: Good Advice for Challenging Climates</i> , (Golden: Fulcrum Publishing, 2000).
Protocol Author:	Hollis Crapo
Date Protocol Created or Updated:	05/16/11

¹ R.K. Brumitt and C.E. Powell editors, *Authors of Plant Names*, (Great Britain: Whitstable Litho Ltd., 1992).

² Dee Strickler, *Northwest Penstemons*, (Columbia Falls: The Flower Press, 1997).

³ Mark Turner and Phyllis Gustafson, *Wildflowers of the Pacific Northwest*, (Portland, Timber Press, 1996).

⁴ C. Leo Hitchcock et al., *Vascular Plants of the Pacific Northwest, part 4*, (Seattle: University of Washington Press, 1984).

⁵ Robert J. Meinke, "Assessment of the Genus *Penstemon* (Scrophulariaceae) Within the Interior Columbia River Basin of Oregon and Washington" (Assessment for the Department of Botany and Plant Pathology, Oregon State University, 1995), found at <http://www.icbemp.gov/science/meinke2.pdf>.

⁶ David Way and Peter James, *The Gardener's Guide to Growing Penstemons*, (Portland, Timber Press, 1998).

⁷ "E-Flora BC: Electronic Atlas of the Plants of British Columbia, *Penstemon richardsonii* Douglas ex Lindl. var. *richardsonii*," Department of Geography University of British Columbia, Accessed, May 16, 2011, <http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Penstemon%20richardsonii%20var.%20richardsonii>

⁸ Jim Arbury et al., *The Complete Book of Plant Propagation*, (Newtown: The Taunton Press, 1997).

⁹ "PlantFiles: Richardson's Penstemon, *Penstemon richardsonii*," Dave's Garden, Accessed May 16, 2011, <http://davesgarden.com/guides/pf/go/70722/>

¹⁰ Alan Toogood, editor, *The American Horticultural Society: Plant Propagation*, (New York: DK Publishing, inc., 1999).