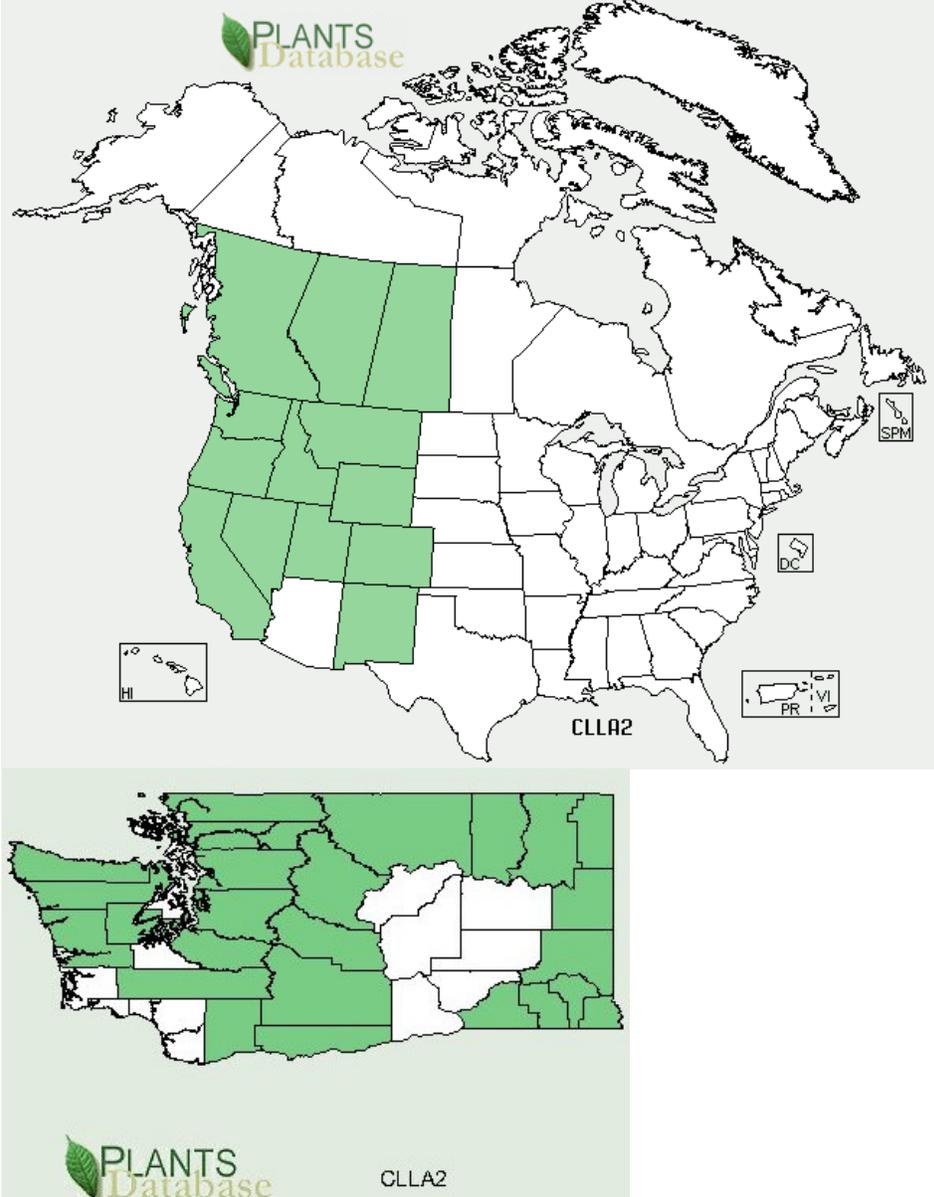


Plant Propagation Protocol for *Claytonia lanceolata* Pursh
 ESRM 412 – Native Plant Production

TAXONOMY	
Family Names	
Family Scientific Name:	Portulacaceae (USDA 2010)
Family Common Name:	Purslane
Scientific Names	
Genus:	<i>Claytonia</i>
Species:	<i>lanceolata</i>
Species Authority:	Pursh
Varieties:	<i>C. lanceolata</i> var. <i>chrysantha</i> <i>C. lanceolata</i> var. <i>idahoensis</i> <i>C. lanceolata</i> var. <i>lanceolata</i> <i>C. lanceolata</i> var. <i>pacifica</i> <i>C. lanceolata</i> var. <i>peirsonii</i> <i>C. lanceolata</i> var. <i>sessilifolia</i> (USDA 2010; Tropicos 2010)
Sub-species:	<i>C. lanceolata</i> subsp. <i>chrysantha</i> (Tropicos 2010)
Cultivar:	NA
Authority for Variety/Sub-species:	Authority for <i>C. caroliniana</i> var. <i>peirsonii</i> - Munz & I.M. Johnst.; <i>C. lanceolata</i> subsp. <i>chrysantha</i> - Greene; <i>C. lanceolata</i> var. <i>idahoensis</i> - R.J. Davis; <i>C. lanceolata</i> var. <i>pacifica</i> - McNeill; <i>C. lanceolata</i> var. <i>piersonii</i> - Munz & I.M. Johnst; <i>C. lanceolata</i> var. <i>sessilifolia</i> - A. Nelson (Tropicos 2010; USDA 2010).
Common Synonym(s):	<i>Claytonia caroliniana</i> var. <i>peirsonii</i> , <i>Claytonia sessilifolia</i> (Tropicos 2010)
Common Name(s):	lanceleaf spring beauty, western spring beauty, spring beauty, Indian potato (FNA 2010; LBJWC 2009; USDA 2010)
Species Code:	CLLA2
GENERAL INFORMATION	

<p>Geographical range:</p>	 <p>(USDA 2010)</p>
<p>Ecological distribution:</p>	<p>Sagebrush ecosystems, from montane foothills to alpine slopes (FNA 2010; LBJWC 2009; Plants for a Future 2010)</p>
<p>Climate and elevation range</p>	<p>Ranges from 500-3,000 m in elevation in areas that are moist in spring (FNA 2010; LBJWC 2009; Plants for a Future 2010)</p>
<p>Local habitat and abundance:</p>	<p>Spring-moist areas, especially where snow persists. Associated with <i>Artemisia spp.</i> (FNA 2010; LBJWC 2009)</p>
<p>Plant strategy type / successional stage:</p>	<p>NA</p>

Plant characteristics :	Perennial dicot herb, corm root formation and opposite lanceolate leaves. Flowers are on raceme and white to deep pink with darker veination, very early in spring (CWNP 2010; USDA 2010).
PROPAGATION DETAILS	
Ecotype:	For detailed propagation protocol, the similar species <i>C. megarhiza</i> is used, which has similar geographic range and growing site but later bloom time. (USDA 2010). <i>C. megarhiza</i> ecotype is Alpine fellfield from Glacier National Park, MT (Evans, Luna, Wick 2008).
Propagation Goal:	Plants
Propagation Method:	Seed and vegetative (corms) (Evans, Luna, Wick 2008; LBJWC 2009)
Product Type:	Container (plug) (Evans, Luna, Wick 2008)
Stock Type:	160ml conetainer (Evans, Luna, Wick 2008)
Time to Grow:	8 months from seedling to outplanting (Evans, Luna, Wick 2008)
Target Specifications:	Healthy plants with four to six mature leaves (of 2 cm), with firm plug root system. (Evans, Luna, Wick 2008)
Propagule Collection:	Collect seeds in late summer once capsules have turned tan and seeds are shiny black (Evans, Luna, Wick 2008). Corm propagation can be by division of offsets in spring or fall (Plants for a Future 2010).
Propagule Processing/ Propagule Characteristics	Hand clean seeds, removing flower debris, by hand. Store <i>C. megarhiza</i> as long as five years in cool dry conditions (Evans, Luna, Wick 2008). Density unknown. Specific corm processing unknown.
Pre-Planting Propagule Treatments:	Seed dormancy is physiological, broken by five months of cold moist stratification with 20% germination at 21°C (Evans, Luna, Wick 2008).
Growing Area Preparation / Annual Practices for Perennial Crops:	Sow seeds in outdoor nursery or shaded cold frame as soon as ripe (Evans, Luna, Wick 2008; Toogood 1999). Sow seeds directly into 6:1:1 milled sphagnum peat to perlite to vermiculite mixture with controlled release fertilizer and Micromax fertilizer (at 1 g and 0.2 g respectively per 172 ml conetainer. Allow for winter stratification of seeds, with germination is spring (Evans, Luna, Wick 2008). Can also be sown on peat compost in cold frame at 10°C (Plants for a Future 2010). Water seedlings thoroughly in early morning (Evans, Luna, Wick 2008).

	Corm growing method unknown.
Establishment Phase:	Mature leaves will develop three weeks after germination in April (Evans, Luna, Wick 2008).
Length of Establishment Phase:	Two to four weeks from seeding to germination (Evans, Luna, Wick 2008) Corm establishment unknown.
Active Growth Phase:	Five weeks after germination, plants have four to six mature leaves with taproot rooted tightly in containers. Let seedlings dry between watering (Evans, Luna, Wick 2008).
Length of Active Growth Phase:	Eight weeks (Evans, Luna, Wick 2008)
Hardening Phase:	Seedlings can be pricked out of pots and into cold frame for the first winter. Plant out in late spring to early summer of following year, after last frosts (Plants for a Future 2010). <i>C. megarhiza</i> have been planted out in their first year as well (Evans, Luna, Wick 2008).
Length of Hardening Phase:	About eight months (Evans, Luna, Wick 2008).
Harvesting, Storage and Shipping (of seedlings):	NA
Length of Storage:	Seedlings can be stored for at least one year (Evans, Luna, Wick 2008).
Guidelines for Outplanting / Performance on Typical Sites:	NA
Other Comments (including collection restrictions or guidelines, if available):	Some self-sowing will occur (Toogood 1999). Needs lime-free soil (Plants for a Future 2010).
INFORMATION SOURCES	
References:	United States Department of Agriculture (USDA). 2010. "Plants Profile: Claytonia lanceolata Pall. Ex Pursh". http://plants.usda.gov/java/profile?symbol=CLLA2

	<p>Flora of North America (FNA). 2010. "Claytonia lanceolata Pursh". http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242415734</p> <p>Lady Bird Johnson Wildflower Center (LBJWC). 2009. "Native Plant Database". http://www.wildflower.org/plants/result.php?id_plant=CLLA2</p> <p>Plants for a Future. 2010. "Claytonia lanceolata- Pursh". http://www.pfaf.org/database/plants.php?Claytonia+lanceolata</p> <p>Tropicos.org. 2010. "Missouri Botanical Garden". http://www.tropicos.org/NameSearch.aspx?name=Lithospermum%20ruderales</p> <p>Evans, J., Luna, T., Wick, D. 2008. "Propagation protocol for production of container Claytonia megarhiza (Gray) Parry plants (160 ml container)". USDI NPS - Native Plant Network.</p> <p>Central Washington Native Plants (CWNP). 2010. "Claytonia lanceolata var. lanceolata". http://www.cwnp.org/photopgs/cdoc/cllanceolata.html</p> <p>Toogood, A. 1999. "American Horticultural Society: Plant Propagation". New York: DK Publishing, Inc., pg. 193.</p>
Other Sources Consulted:	Clarke, G., Toogood, A. 1990. "The Complete Book of Plant Propagation". Great Britain: Ward Lock Limited.
Protocol Author:	Lauren Clark
Date Protocol Created or Updated:	05/11/2010

Note: This template was modified by J.D. Bakker from that available at: <http://www.nativeplantnetwork.org/network/SampleBlankForm.asp>