

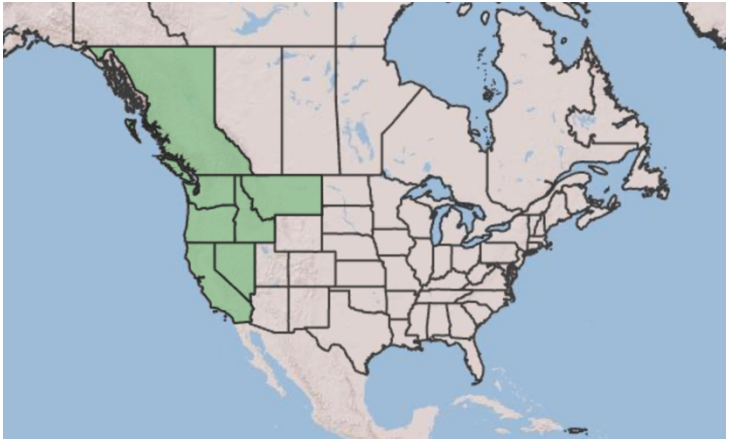
Plant Propagation Protocol for *Lupinus lyallii*.


ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2024/LULY.pdf>

Wilkinson, K.M., T.D. Landis, D.L. Haase, B.F. Daley, and R.K. Dumroese (editors).
2014. *Tropical nursery manual: a guide to starting and operating a nursery for native and traditional plants*. Agriculture Handbook 732. USDA Forest Service, Washington, DC. 376 p

TAXONOMY	
Plant Family	
Scientific Name	<i>Fabaceae</i>
Common Name	Pea
Species Scientific Name	
Scientific Name	<i>Lupinus lyallii</i> (A. Gray)
Varieties	<i>Lupinus lyallii</i> A. Gray ssp. <i>lyallii</i> var. <i>danaus</i> (A. Gray) S. Watson <i>Lupinus danaus</i> A. Gray var. <i>bicolor</i> Eastw. <i>Lupinus lyallii</i> A. Gray ssp. <i>lyallii</i> var. <i>fruticulosus</i> (Greene) C.P. Sm. <i>Lupinus lyallii</i> A. Gray ssp. <i>lyallii</i> var. <i>lyallii</i> <i>Lupinus lyallii</i> A. Gray ssp. <i>lyallii</i> var. <i>macroflorus</i> Cox <i>Lupinus lyallii</i> A. Gray ssp. <i>lyallii</i> var. <i>roguensis</i> Cox <i>Lupinus lyallii</i> A. Gray ssp. <i>lyallii</i> var. <i>villosus</i> Jeps. <i>Lupinus lyallii</i> A. Gray var. <i>lobbii</i> (A. Gray ex S. Watson) C.P. Sm.
Sub-species	<i>Lupinus lyallii</i> subsp. <i>alcis-temporis</i> (C. P. Sm.) B. J. Cox <i>Lupinus lyallii</i> subsp. <i>lyallii</i> <i>Lupinus lyallii</i> subsp. <i>minutifolius</i> (Eastw.) B. J. Cox <i>Lupinus lyallii</i> subsp. <i>subpandens</i> D. B. Dunn <i>Lupinus lyallii</i> subsp. <i>washoensis</i> (A. Heller) B. J. Cox (Washoe lupine)
Cultivar	None listed

Common Synonym(s)	<i>Lupinus lepidus</i> subsp. <i>lyallii</i> (A.Gray) Detling
Common Name(s)	Dwarf Mountain Lupine, Lyall's Lupine Lobb's Lupine, Lobb's Tidy Lupine
Species Code (as per USDA Plants database)	LULY
GENERAL INFORMATION	
Geographical range	<p>Native to British Columbia, California, Idaho, Montana, Nevada, Oregon, Washington</p> 

	 <p>Photos: 2014 Esri USDA-NRCS-NGCE & NPDT⁴</p>
Ecological distribution	Mesic to dry meadows and open, gravelly ridges and slopes in the subalpine and alpine zones. ³ Mainly in the high Sierra Nevada and Cascade Mountains ¹
Climate and elevation range	Temperate biome of 1630-2265 meters ³
Local habitat and abundance	Often associated with <i>Pinus contorta</i> , <i>P. murrayana</i> , <i>P. albicaulis</i> and <i>Tsuga mertensiana</i> . ¹
Plant strategy type / successional stage	Nitrogen fixer / early successional.
Plant characteristics	Alpine, mat-like, perennial herb with dark blue flowers, grows under 6 inches, not climbing. ¹
PROPAGATION DETAILS	
Ecotype	N/A

Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	D40 Container
Time to Grow	Weeks ²
Target Specifications	N/A
Propagule Collection Instructions	N/A
Propagule Processing/Propagule Characteristics	N/A
Pre-Planting Propagule Treatments	Pre-soak dwarf mountain lupine seed for 24 hours in warm water. ²
Growing Area Preparation / Annual Practices for Perennial Crops	Seeds are best sown in individual pots since roots aren't tolerant to disturbance. Soil should be well-drained, deep and moderately fertile with a slightly acidic pH. Should be sown in a greenhouse with full sun. ²
Establishment Phase Details	N/A
Length of Establishment Phase	Seed should germinate within 2-3 weeks ²

Active Growth Phase	N/A
Length of Active Growth Phase	N/A
Hardening Phase	Helpful to inoculate plant with Nitrogen-fixing bacteria/rhizobia to help plant form root nodules prior to out planting
Length of Hardening Phase	N/A
Harvesting, Storage and Shipping	N/A
Length of Storage	Seedlings should not be stored long, outplanted as soon as possible ²
Guidelines for Outplanting / Performance on Typical Sites	Should be outplanted in early summer as soon as plant reaches around 15 cm in height ²
Other Comments	N/A
INFORMATION SOURCES	
References	1.Cox, B. J. “A BIOSYSTEMATIC REVISION OF LUPINUS LYALLII.” <i>Rhodora</i> , vol. 76, no. 807, 1974, pp. 422–45. <i>JSTOR</i> , http://www.jstor.org/stable/23310985 . Accessed 1 May 2024.

	<p>2.Fern, Ken. “Lupinus lyallii.” <i>Temperate Plants Database</i>, 1 May 2024, temperate.theferns.info/plant/Lupinus+lyallii.</p> <p>3.“Lupinus lyallii A. Gray.” <i>Flora BC: Electronic Atlas of the Flora of BC</i>, University of British Columbia, linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Lupinus+lyallii&noTransfer=1. Accessed 1 May 2024.</p> <p>4.USDA NRCS National Plant Data Team. “Lupinus lyallii A. Gray.” <i>USDA Plants Database</i>, plants.usda.gov/home/plantProfile?symbol=LULY. Accessed 1 May 2024.</p>
Other Sources Consulted	<p>Jepson Interchange: Lupinus lyallii A. Gray. Feb 29, 2024. Retrieved from https://ucjeps.berkeley.edu/cgi-bin/get_cpn?LULY</p> <p>Smith, Charles Piper. “Reviews of Some Perennial Lupines I. Calcarati-Laxiflori.” <i>American Journal of Botany</i>, vol. 13, no. 9, 1926, pp. 521–30. <i>JSTOR</i>, https://doi.org/10.2307/2435282. Accessed 1 May 2024.</p>
Protocol Author	Margot Linn
Date Protocol Created or Updated	05/01/24