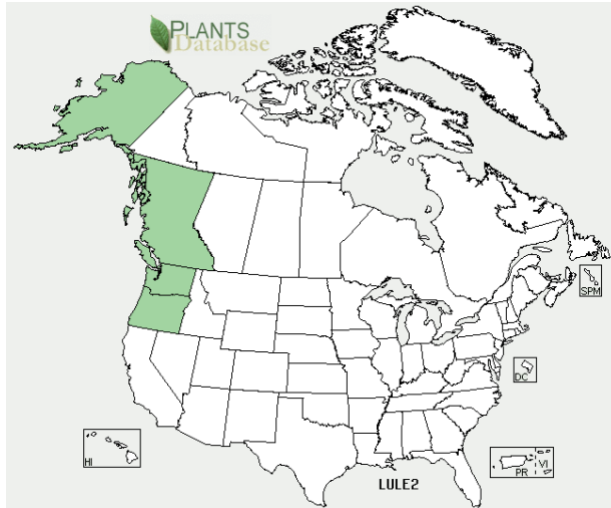


**Plant Propagation Protocol for *Lupinus lepidus* Douglas ex. Lindl.**

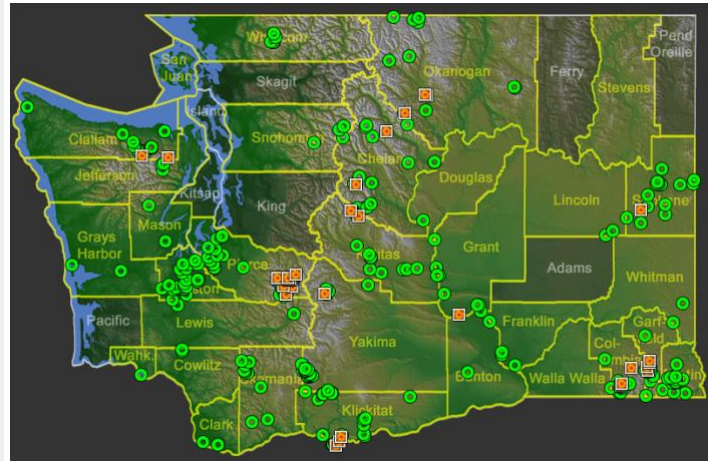
ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2025/LULE2.pdf>

**Pacific Lupine Distribution in North American and Washington State**



(USDA PLANTS Database 2025)



(Giblin)

**TAXONOMY**

<b>Plant Family</b>	
Scientific Name	<i>Fabaceae</i>
Common Name	Pea
<b>Species Scientific Name</b>	
Scientific Name	<i>Lupinus lepidus</i> Douglas ex. Lindl.
Varieties	There are no varieties of <i>L. lepidus</i> currently recognized by the USDA Plants Database – some plants that were previously recognized as varieties of pacific lupine are now considered different species.
Sub-species	There are no currently recognized subspecies of <i>L. lepidus</i> – some plants that were previously considered pacific lupine subspecies that now considered different species (USDA Plants Database, 2025; search results, <i>Lupinus lepidus</i> ).
Cultivar	N/A
Common Synonym(s)	<i>Lupinus lepidus</i> var. <i>lepidus</i>
Common Name(s)	Pacific lupine, prairie lupine, dwarf lupine (incorrectly)
Species Code (as per USDA Plants database)	LULE2
<b>GENERAL INFORMATION</b>	
Geographical range	Maps above. Oregon, Washington, Alaska, British Columbia. Evidence of presence along the southern Cascade range into

	California and eastern towards the Rocky Mountains in Idaho and Wyoming (Oregon Flora - Leaflet Map 2025).
Ecological distribution	From open lowland prairies to alpine ridges, tolerating rocky arid environments and drought (Giblin).
Climate and elevation range	Low – high elevations on either side of Cascade range (Giblin).
Local habitat and abundance	Prefers well-draining soil (sand, gravel), 10-15in precipitation ( <i>Lupinus lepidus</i> Douglas ex. Lindl. 2025).
Plant strategy type / successional stage	Early successional species, colonizer, stress tolerant. First species to colonize Mount St. Helens post eruption (Lambert 2003).
Plant characteristics	Perennial forb. Low growing and mat forming with multiple erect stems. Active rapid growth spring-summer, conspicuous blue-purple flowers with white banners. Flowers in late spring/early summer. Nitrogen-fixing root nodules likely aid in early successional stages in soil with poor nutrient content. Fruits are hairy pods of ranging colors (green-brown) containing multiple seeds (2-12).
<b>PROPAGATION DETAILS</b>	
<b>1. Plug Propagation</b>	
Ecotype	Not applicable
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container
Stock Type	Container
Time to Grow	Within one year – around 8 months (Lambert 2003).
Target Specifications	Hardy plugs to tolerate outplanting.
Propagule Collection Instructions	Collect by hand June- August after flowering when seed pods have browned on plant. Place seed pods in paper bags to dry (Lambert 2003).
Propagule Processing/Propagule Characteristics	Store under cool, dry conditions. Keep safe from rodents and insects. Due to hard seed coat, lupine seeds can be safely stored under proper conditions for multiple years (Lambert 2003).
Pre-Planting Propagule Treatments	Remove seeds from dry pods by hand, thresh and screen. Hard seed coats must be scarified, and seeds must be imbibed. Scarification can include shaking seeds in jar with coarse sand, hand-scarify with sandpaper, or place in rock tumbler for multiple hours. Next, imbibe with hot water until water has cooled. Seeds that sink are ready to be sown, those that float should be dried, re-scarified, and soaked again (Lambert 2003).
Growing Area Preparation / Annual Practices for Perennial Crops	Use a soil mix of potting soil, sand, and gravel (should be a mix of fine and coarse particles, optimizing for good draining). Use low-nitrogen fertilizer (not very necessary). Sow seeds into small containers that are deeper than they are wide (at least 3in) (Lambert 2003).

Establishment Phase Details	Watering: water daily, misting lightly. Do not let soil medium become soggy.
Length of Establishment Phase	Not documented
Active Growth Phase	Seedlings develop long, sensitive roots. Special care must be paid attention to roots when transplanting.
Length of Active Growth Phase	Not documented
Hardening Phase	Do not let soil medium become soggy. Otherwise, no special care required.
Length of Hardening Phase	Not documented
Harvesting, Storage and Shipping	Keep in greenhouse until out planting.
Length of Storage	Not documented
Guidelines for Outplanting / Performance on Typical Sites	Pay specific attention to delicate roots. Plant with 1-2 foot centers (Lambert 2003).
Other Comments	Due to similar characteristics across lupine species, a dichotomous key is likely the best way to determine if a specimen is pacific lupine.

## PROPAGATION DETAILS

### 2. Direct seeding

Ecotype	N/A
Propagation Goal	Plants, seed
Propagation Method	Seed
Product Type	Bareroot (Robson et. al 2008, pp.248).
Stock Type	Bareroot
Time to Grow	For autumn sowing, plants are typically ready for out planting by late spring when they look like “miniature lupines” (Nicholls 2002).
Target Specifications	Medium -full sized adult plant
Propagule Collection Instructions	Same as for plug propagation
Propagule Processing/Propagule Characteristics	Same as for plug propagation
Pre-Planting Propagule Treatments	Same as for plug propagation
Growing Area Preparation / Annual Practices for Perennial Crops	Clear seeding area of weeds/ potential competing plants. Avoid treating soil with fertilizer, or only use a fertilizer with low nitrogen content (Lambert 2003).
Establishment Phase Details	Watering: water daily during dry periods, misting lightly. Avoid creating soggy soil.
Length of Establishment Phase	7-10 days (Nicholls 2002).

Active Growth Phase	Young plants are vulnerable to dying off from winter frosts especially once the stem reaches 2-3cm before true leaves appear – protect from harsh frosts if possible.
Length of Active Growth Phase	Not documented
Hardening Phase	Not documented
Length of Hardening Phase	Not documented
Harvesting, Storage and Shipping	N/A
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	Pay specific attention to sensitive and delicate roots. Plant with 1-2 foot centers (Lambert 2003).
Other Comments	Slugs and snails are pest concerns in lower elevations, while alpine pests consist of aphids and spider mites (Nicholls 2002).
<b>INFORMATION SOURCES</b>	
References	See below
Other Sources Consulted	See below
Protocol Author	Emmaline Sampson-Eves
Date Protocol Created or Updated	21 May 2025

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