


Mima Mounds Natural Area Preserve, Thurston Co., WA, 28.6.2000, Photo © Markku Savela

Prairie lupine (*Lupinus lepidus var.lepidus*)

Prairie lupine is a small perennial lupine of diverse form and habitat in the Pacific Northwest. It ranges from matted low growing forms to erect plants ranging from 10-35 cm high.[1] The palmately compound leaves have 5-7 oblanceolate leaflets. The leaflets range from 1-4 cm long and are noticeably hairy on both surfaces.[2] The flowers are dark blue to purple, sometimes white in color with a lighter banner. The banner is well reflexed from the keel and is not hairy on its surface.[3]

There are five known varieties of *Lupinus lepidus*. Variety *lepidus* is best described by it's extended racemes growing above the longest leaves and the length of it's flowers between 11-13mm long.[1]

Range

Prairie lupine (var. *lepidus*) is distributed in the lowlands west of the Cascade Mountains from southern British Columbia to northwestern Oregon.[1]

Climate, elevation

Prairie lupine may be found in lowland areas growing in arid climates (40-65 inches of annual precipitation) at elevations below 600 feet.[4]

Local occurrence

South Puget Sound prairies (Thurston, Pierce, Grays Harbor, and Lewis counties).[4]

Habitat preferences

Prairie lupine occurs in lowlands on gravelly to sandy soils, often on flat or mounded plains of recessional glacial outwash.[4]

Plant strategy

Lupinus lepidus var. lobbii was the first plant to colonize the devastated slopes of Mount St. Helens[5] Seeds are probably dispersed by explosive dehiscence (bursting of the seed pods) and rolling, or by erosion and deposition.[6]

Associated species

Species associated with Prairie lupine include houndstongue hawkweed (Hieracium cynoglossoides), cutleaf microseris (Microseris laciniata), spike goldenrod (Solidago spathulata), white-top aster (Aster curtus), and slender cinquefoil (Potentilla gracilis). Long-stolon sedge (Carex pensylvania), field woodruch (Luzula campestris), Idaho fescue (Festuca idahoensis), California danthonia (Danthonia californica) and common camas (Camassia quamash).[4]

Collect as seed


Hairy pods range from 10-20 cm long with 2-12 seeds.[2]

Collection guidelines

Seed can be hand collected from June to August, but collecting is slow due to the small size of the plant. Seeds should be dried in the pods in paper bags. Remove the seeds from the pods by hand thresh and screen.[7]

Cuttings can also be taken from the side shoots of hardened stems in the spring[7]

Seed germination

Seed requires scarification. Shake in jar half-filled with coarse sand, scarify with sand paper[7], or rock tumbler for two hours.
After scarification, soak in hot water until the water has cooled (approximately 3 hours). Seeds that sink have absorbed enough water to be sown. Those that do not sink should be dried, scarified and soaked in water again.

Seed life

Lupine seeds have a hard seed coat, and because related lupine species are known to have long-lived dormant seed banks (e.g. *L. arboreus* was germinated in a seed bank study after 45 years), it is likely that prairie lupine seeds are also long-lived and can be stored at low moisture and

temperature levels for several years.

Seed storage
Store air-dried seed under cool, dry conditions. Protect from small mammals and rodents.

Propagation
Plant seeds singularly in long narrow pots (at least 3") and transplant from pots into the field within the same year (about 8 months).

Lupine seedlings have very sensitive roots and suffer from root damage when handled excessively. Sensitivity to the root system is especially needed when transplanting from nursery containers into the field.

Soil requirements
Sow lupine seeds in potting soil mixture of coarse and fine particles. Like other legumes prairie lupine has root nodules which house bacteria which fix nitrogen, providing fertilizer for the plant. Potting soil can be inoculated by mixing a small amount of soil from the seed collection site in the potting mix. Use low nitrogen fertilizer and no humus.

Planting density
1-2 foot centers

Care requirements
Seedlings develop very long roots and should be transplanted with sensitivity restricting damage during transplanting.
Mist lightly, daily with restricted water.

Rate of growth
Rate of growth is variable. First year growth is limited due to resources needed to develop large root systems, particularly in rocky soils.

Data compiled by Amy Lambert, May 2, 2003

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[1] Slichter, Paul, website: http://ghs.gresham.k12.or.us/science/ps/nature/gorge/5petal/pea/prairie.htm

[2] Gilkey and Dennis 1980. Handbook of Northwest Plants. Corvallis,OR:Oregon State University Bookstores,Inc. as cited Rose,R., Caryn E.C.Chachulski and Diane L.Hasse 1998. Propagation og Pacific Northwest Native Plants. Oregon State University Press.

[3] Hitchcock,C.L., and A. Cronquist. 1973.Flora of the Pacific Northwest; An Illustrated Manual. Seattle, WA:University of Washington Press. 730p.

[4] Chapell, Chris 2002. Unpublished data Puget-Georgia-Willamette Ecoregion plant data

[5] Goroff, Iza, North American Rock Garden Society website: http://www.nargs.org/potm/potm_jan01.html

[6] website: http://sacramento.fws.gov/es/plant_spp_accts/clover_lupine.htm, prepared by Endangered Species Division, Sacramento Fish & Wildlife Office, U.S. Fish & Wildlife Service

[7] Foster, C.O. 1997. Plants-a-Plenty: How to Multiply Outdoor and Indoor Plants Through Cuttings, Crown and Root Divisions, Grafting, Layering and Seeds. Emmaus, PA. Rodale Press as cited in Rose, R., Caryn E.C.Chachulski and Diane L.Hasse 1998. Propagation of Pacific Northwest Native Plants. Oregon State University Press.