Plant Propagation Protocol for *Lupinus sericeus*
ESRM 412 – Native Plant Production

TAXONOMY	
Family Names	
Family Scientific Name:	Fabaceae
Family Common Name:	Pea
Scientific Names	
Genus:	Lupinus
Species:	*Lupinus sericeus*
Species Authority:	Pursh
Common Name(s):	Silky lupine
Species Code (as per USDA Plants database):	LUSE4
GENERAL INFORMATION	
Geographical range (distribution maps for North America and Washington state)	Silky lupine occurs east of the Cascade Range from British Columbia south to California and Arizona and east to Alberta, Montana, South Dakota, Colorado, and New Mexico. (Hitchcock and Cronquist 1973)
Ecological distribution (ecosystems it occurs in, etc):	Found in dry open areas of grassland, or in sunny openings in forested areas (1a).
Climate and elevation range	Silky lupine has been found to 10,000 feet (3,030 m) elevation in Colorado and Utah (FEIS database)
Local habitat and abundance; may include commonly associated species	East of the Cascades, silky lupine occurs as a significant component of the herbaceous layer in ponderosa pine savannas, shrub-steppe, and grassland communities. (FEIS database) Lupinus sericeus is palatable to wild animals, but domestic animals do not fare as well when they consume the plant. It affects their nervous systems. Native Americans used Lupinus sericeus in eye medicines (1a.). Some species commonly associated with silky lupine include Gambel oak (*Quercus gambelii*), common snowberry (*Symphoricarpos albus*), ninebark (*Physocarpus malvaceus*), serviceberry (*Amelanchier* spp.), mountain-mahogany (*Cercocarpus* spp.), arrowleaf balsamroot (*Balsamorhiza sagittata*), western yarrow (*Achillea millefolium*), heartleaf arnica (*Arnica cordifolia*), pinegrass (*Calamagrostis rubescens*), bluebunch wheatgrass (*Pseudoroegneria spicata*), Sandberg bluegrass (*Poa secunda*), Idaho fescue (*Festuca idahoensis*), prairie junegrass (*Koeleria cristata*), and sedges (*Carex* spp.). (FEIS database)
Plant strategy type /	Silky Lupine has deep roots, so it is able to sprout easily after

successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)	fires or other disturbances occur (1a). Seral species. Tolerant of partial shade but prefers full sun. Occurs in open, climax ponderosa pine systems throughout its range and in openings within late-seral Douglas-fir forests in Idaho. (FEIS database)
Plant characteristics (life form (shrub, grass, forb), longevity, key characteristics, etc)	The latin term "sericeus" means "silky". This particular species of Lupine has a pubescance that makes its surface feel soft and "silky" to the touch (1a.).
PROPAGATION DETAILS	
Propagation Method (Options: Seed or Vegetative):	Seed
Propagule Collection (how, when, etc):	Collect seedpods when they turn tan, before dehiscence. Pods are generally mature from July into August depending upon location. (FEIS database; Hosokawa, et al. 2001)
Pre-Planting Propagule Treatments and Propagule Processing/Propagule Characteristics	Silky lupine seeds are protected by a hard seed coat and need germination pretreatments of scarification and stratification. One method for achieving germinable seeds is as follows: Seeds are placed in a hot water scarification bath and allowed to cool overnight to imbibe. Seeds are wrapped in moist paper towels and placed under refrigeration at 3 degrees C for a 30-day stratification. (Hosokawa, et al. 2001)
Growing Area Preparation / Annual Practices for Perennial Crops (growing media, type and size of containers, etc):	Seeds should be inoculated with *Rhizobium* specific to *Lupinus* spp. and can be planted for container production in a soilless mix of peat, perlite, vermiculite and sand with a controlled release fertilizer. (Hosokawa, et al. 2001) Silky lupine grows best on sites with dry, sandy, loamy, sandy-loam, and clayey-loam soils. (FEIS database)
Length of Storage (of seedlings, between nursery and outplanting):	Seeds can remain viable from 20 to 60 years in sealed containers at 3 to 5 C. (Hosokawa, et al. 2001)
Guidelines for Outplanting / Performance on Typical Sites (eg, percent survival, height or diameter growth, elapsed time before flowering):	Plant in dry, rocky, sandy, or loamy soils (1a) Silky lupine does not transplant well, so direct seeding after inoculation with *Rhizobium* is recommended. If container grown seedlings are used, they should be transplanted the first year if possible and can be installed in the spring or fall. (Hosokawa, et al. 2001) Container grown seedlings are large enough for transplanting after 1 growing season.
INFORMATION SOURCES	
References (full citations):	FEIS database: Accessed on 5/9/03,

	www.fs.fed.us/database/feis/plants/forb/lupser Franklin, J. F. and C. T. Dyrness. 1973. Natural Vegetation of Oregon and Washington. Oregon State University Press, Corvallis Hitchcock, C. L. and A. Cronquist. 1973. Flora of the Pacific Northwest: an illustrated manual. University of Washington Press, Seattle. Hosokawa, J., D. Wick, and T. Luna. 2001. Propagation protocol for production of container Lupinus sericeus Pursh. plants (172 ml conetainers); Glacier National Park, West Glacier, Montana. In: Native Plant Network. URL: http://www.nativeplantnetwork.org (accessed 9 May 2003). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.
Other Sources Consulted (but that contained no pertinent information) (full citations):	1a. Montana Fish, Wildlife and Parks. Silky Lupine. May6,2009. http://fwp.mt.gov/education/kids/lewisAndClark/plants/silky.html
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