Plant Propagation Protocol for *Liparis loeselii* (L.) Rich.
ESRM 412 – Native Plant Production
Spring 2012

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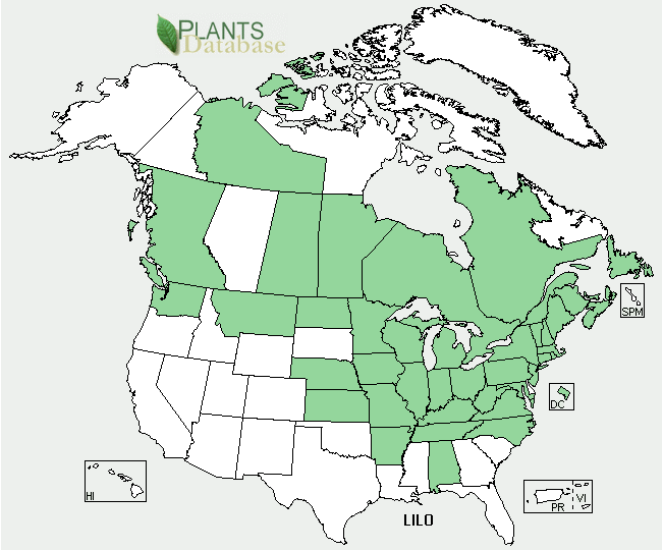
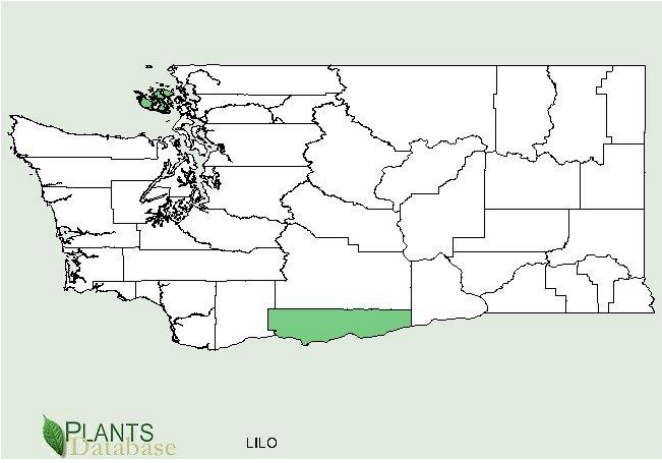
TAXONOMY	
Family Names	
Family Scientific Name:	Orchidaceae
Family Common Name:	Orchid family
Scientific Names	
Genus:	*Liparis*
Species:	*loeselii*
Species Authority:	(L.) Rich.
Variety:	
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Synonym(s):	*Leptorchis loeselii* (L.) MacMillan *Liparis correana* (Barton) Sprengel *Malaxis correana* W. Barton *Malaxis longifolia* W. Barton *Ophrys loeselii* L.
Common Name(s):	yellow widelip orchid, bog twayblade, yellow twayblade, loesel's twayblade, fen orchid
Species Code:	LILO
GENERAL INFORMATION	
Geographical range	Nova Scotia to Alabama, very sporadically to Saskatchewan, North Dakota, and Iowa. Also occurs in Europe. Dispersed in WA, occurring in the Eastern

	Cascades and Puget Trough in Klickitat and San Juan counties (2, 9, 11).  Northwest Distribution  Washington Distribution Source: USDA PLANTS Database
Ecological distribution:	Damp evergreen forest, wet meadows, bogs, fens, and sand-dunes (4, 6, 8).
Climate and elevation range	Found at low to mid elevations in temperate regions.
Local habitat and abundance	This species occurs around springs, bogs, and wet sunny places within Douglas fir dominated forests in WA. Commonly associated species include red alder (*Alnus rubra*), salmonberry (*Rubus spectabilis*), hardhack (*Spirea douglasii*), adder's tongue (*Ophioglossum vulgatum*), skunk cabbage (*Lysichitum americanum*), mountain alder (*Alnus incana*), bog willow (*Salix pedicellaris*), mud sedge (*Carex limosa*), slender sedge (*Carex lasiocarpa*), roundleaf sundew (*Drosera rotundifolia*), common buckbean *(Menyanthes trifoliata*), swamp laurel (*Kalmia*

	occidentalis), trailing St. John's wort (*Hypericum anagalloides*), marsh cinquefoil (*Potentilla palustris*), and Baltic rush (*Juncus balticus*) *L. loeselli* is listed as endangered in Washington State. (11).
Plant strategy type / successional stage	*L. loeselii* is a short-lived perennial that has the ability to thrive in unproductive, nutrient poor soils. It is considered to have a "stress-tolerant" plant strategy and can produce a large number of propagules. *L. loeselii* is a seral species of early successional communities and requires disturbance for the establishment of new populations (7).
Plant characteristics	Forb with two large erect basal leaves that have parallel venation and are 5-15 cm long. Flower stalk is 7-23 cm tall; flowers white to yellowish-green; inflorescence is a several-flowered, terminal, loose raceme, and is 1.5-2.5 mm. long. Flowers have 3 narrowly lanceolate sepals spreading, 5-7 mm. long; 2 smaller petals narrower than the sepals, 4-5 mm. long; third petal lip, 4-5 mm. long that is curved downward. Stamens and style are fused to form a column 2.5 mm. long, very broad at the base. Fruit is a capsule (2, 4, 6, 8).
PROPAGATION DETAILS	
Ecotype:	N/A
Propagation Goal:	Plants
Propagation Method:	Vegetative (by division) (3).
Product Type	N/A
Stock Type:	N/A
Time to Grow:	N/A
Target Specifications :	N/A
Propagule Collection:	N/A
Propagule Processing/Propagule Characteristics:	*Liparis loeselii* produces large numbers of dustlike seeds. Seeds are 0.4 mm long by 0.1 mm wide, and can have as many as 4,000 seeds per capsule. *L. loeselii* seeds are morphologically dormant (7).
Pre-Planting Propagule Treatments:	In nature, *L. loeselii* have a symbiotic relationship with an epiphytic fungus that is necessary for germination. The fungus digests the seed coat and outer embryo cells, providing nutrition to the undifferentiated inner cells, which begin to differentiate into the embryonic structure or protocorm (7).
Growing Area Preparation / Annual Practices for Perennial Crops:	N/A
Establishment Phase:	N/A
Length of Establishment Phase:	N/A
Active Growth Phase:	N/A
Length of Active Growth Phase:	N/A

Hardening Phase:	N/A
Length of Hardening Phase:	N/A
Harvesting, Storage and Shipping:	N/A
Length of Storage :	N/A
Guidelines for Outplanting:	N/A
Other Comments:	*L. loeselii* prefers sterile, alkaline and moist conditions for cultivation (6).
INFORMATION SOURCES	
References:	See below
Other Sources Consulted:	See below
Protocol Author:	Ellen Sherck
Date Protocol Created or Updated:	05/16/12

References

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Images

1. USDA, NRCS. 2012. The PLANTS Database. Available: http://plants.usda.gov. (Accessed: May 13th, 2012).
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Other Sources Consulted

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