Plant Propagation Protocol for *Lomatium salmoniflorum*

ESRM 412 – Native Plant Production

URL: https://courses.washington.edu/esrm412/protocols/*2026*/*LOSA2.pdf*

TAXONOMY	
Plant Family	
Scientific Name	Apiaceae
Common Name	Carrot
Species Scientific Name	
Scientific Name	*Lomatium salmoniflorum* (J.M. Coult. & Rose) Mathias & Constance[2]
Varieties	N/A
Sub-species	N/A
Cultivar	
Common Synonym(s)	
Common Name(s)	Salmonflower biscuitroot, Salmon River desert-parsley, Salmon-flowered lomatium[1]
Species Code (as per USDA Plants database)	LOSA2
GENERAL INFORMATION	
Geographical range	Native to the Northwestern U.S., Occurring in southeastern Washington, northeastern, Oregon, and western Idaho along the Snake and Clearwater rivers[2,3.4]
Ecological distribution	Dry, open, rocky slopes, often in open Ponderosa pine woodlands at moderate elevations. [2,3,4]
Climate and elevation range	Climate is semiarid with cool, wet winters and hot, dry summers. Elevation range is roughly 150-1,200m[2,3]
Local habitat and abundance	Found on sparsely vegetated, rocky hillsides and cliff faces. Usually near *Artemisia tridentata, Poa secunda,* and *Balsamorhiza sagittata*. This is a rare and imperiled species[3,4]
Plant strategy type / successional stage	Early-spring; adapted to dry, rocky sites after snowmelt[3,4]
Plant characteristics	Perennial herb from a thickened taproot. Stems are 30-140cm tall, branching from the base. Leaves are basal the finely dissect fernlike, 15-35cm wide; Flowers yellow to salmon colored. Fruits elliptic oblong 8-15mm long with corky thickened lateral wings.[1,2,3,4]

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PROPAGATION DETAILS: FROM SEED	
Ecotype	Snack River drainage; dry, rocky slope ecotype adapted to early spring emergence[3]
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Containers
Stock Type	Deep container to accommodate developing taproot.[5]
Time to Grow	10-12 months[4,5]
Target Specifications	Tight root plug with a well developed taproot and 2-4 true leaves; seedling dormant in the summer[4,5]
Propagule Collection Instructions	Collect fruits (schizocarps) in late June to July when the umbels turn dry and brown. Strip seeds by hand or shake over a bag/tarp; the fruit disarticulates readily.[4,5]
Propagule Processing/Propagule Characteristics	Air dry collected material, then rub over a screen to free seeds. Use an air column separator to remove chaff. Reported seed count for a related species (*L. dissectum*) is roughly 45,000 seeds/lb.[3,4,5,6]
Pre-Planting Propagule Treatments	Extended cold, moist stratification is required to break dormacy. Sow seeds in fall, place outdoors over winter or artificially stratify at 4° C for 60-90 days. Seeds of many *Lomatium* species require cold stratification.[3,4,5]
Growing Area Preparation / Annual Practices for Perennial Crops	Use deep container cells with a well-drained, low organic medium. After sowing, cover seeds lightly (1-

	2mm) and apply a thin layer of pea gravel to prevent floating. Water deeply and place outside in a protected site.[4,5,6]
Establishment Phase Details	Containers remain outside. They are watered during the fall and sparing during dry spells in the winter and spring. Germination begins in march and may occur over 2-3 weeks.[4,5,6]
Length of Establishment Phase	6-7 Months.[4,5,6]
Active Growth Phase	Plants are watered as needed while outside and fertilized once a week with a water soluble, complete fertilizer. They are moved to the lath house or shaded area in June.[4,5,6]
Length of Active Growth Phase	3-4 months.[4,5,6]
Hardening Phase	Plants usually go dormant in July or August and do not require further hardening.[4,5,6]
Length of Hardening Phase	>1 month.[5]
Harvesting, Storage and Shipping	Plants are stored in the lath house over winter with no protection except snow cover. Regrowth will begin in early March as soon as temperatures begin to warm. Avoid prolonged freezing of the root zone.[4,5,6]
Length of Storage	Plants can be stored 5-6 months (dormant period from late summer to outplanting the following spring. Seeds can be stored for 3-4 years.[4,5,6]
Guidelines for Outplanting / Performance on Typical Sites	Outplant in early spring as dormacy breaks. Choose well-drained, sunny to partially shaded slopes with rocky or sandy soil. Avoid heavy clay soils. Long term survival in restoration settings is considered good when competition from invasive grasses is controlled.[4,5,6]
Other Comments	Limit information is available on this species due to its rare and imperiled nature. It ranks on the Global conservation scale as a G3 (vulnerable-At moderate risk of extinction or collapse due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors). Ensure that ethical practices are observed when harvesting seeds. It is encouraged that seeds only be harvested for restoration, research, or preservation purposes. [7,8]
INFORMATION SOURCES	
References	1. Thompson, J. N., & Pellmyr, O. (1989). Origins of variance in seed number and mass: Interaction of sex expression and herbivory in

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Other Sources Consulted	1. U.S. Dept. of Agriculture, Forest Service (2008). *The Woody Plant Seed Manual* (Handbook 727)
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