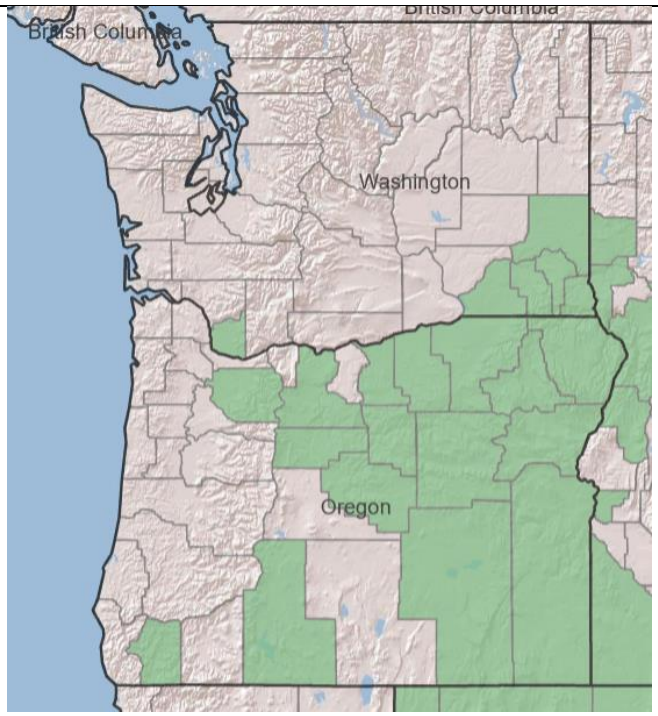
Plant Propagation Protocol for *Lomatium cous*
ESRM 412 – Native Plant Production
URL: https://courses.washington.edu/esrm412/protocols/2023/LOCO.pdf

Source: Montana Field Guide

TAXONOMY	
Plant Family	
Scientific Name	Apiaceae Lindl.
Common Name	Carrot family
Species Scientific Name	
Scientific Name	*Lomatium cous* (S. Watson) J.M. Coult. & Rose
Varieties	N/A
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	*Lomatium circumdatum* (S. Watson) J.M. Coult. & Rose *Lomatium montanum* J.M. Coult. & Rose *Peucedanum cous* S. Watson
Common Name(s)	Cous Biscuitroot, desert-parsley, cahous, cous, xáws (VASCAN) (USDA)
Species Code (as per USDA Plants database)	LOCO4
GENERAL INFORMATION	
Geographical range	Northern Nevada, Idaho, Southeastern Washington, Eastern Oregon, Montana, North Dakota, South Dakota, Alberta, Saskatchawan

	 Source: USDA
Ecological distribution	Dry rocky hills and flats, sometimes grasslands (NPS) (USDA)
Climate and elevation range	Dry climate, either lowlands or above treeline
Local habitat and abundance	Moderate abundance, found in northwestern grassland and sagebrush areas, It can also show up in areas with bunch grass and arrowleaf basalm (another edible indigenous plant)
Plant strategy type / successional stage	Stress tolerator for dry, sunny, and gravely soils (USDA)
Plant characteristics	Forb/herb (USDA) Short longevity (USDA) High drought tolerance (USDA) Medium fire tolerance (USDA) Low shade tolerance (USDA) Thick root system and bulb Yellow flowers in tight dome clusters with fern like leaves (USDA)
PROPAGATION DETAILS	
Ecotype	Some information is from the UW medical garden though it was affected by nearby plants it would not normally be next to and in a climate dissimilar to much of its natural one, no mention was made as to where the seed was gotten from. (Possee)
Propagation Goal	Tuber bulb or seed (USDA)
Propagation Method	Seeds or rhizomatic tuber (slow regrowth for post harvesting)
Product Type	Likely field grown with a reasonable depth of coarse soil, most plugs would hamper nodule/root and bulb growth
Stock Type	

Time to Grow	Slow to germinate but rapid growers in native environment, likely in the span of a few years before safe outplanting. (USDA)
Target Specifications	10 inch root depth (USDA) 9.6 inch height aboveground (USDA) Foliage should be a healthy green (USDA) Blooms with yellow flowers (USDA)
Propagule Collection Instructions	Go to natural habitat via specific map on USDA database and collect in Spring, blooms in early Spring with a short lifespan Seeds are brown Little commercial availability though can buy
Propagule Processing/Propagule Characteristics	Seed/pound = 100,000 (USDA) Unknown seed longevity, moist soils can cause rot if seed is left for too long without germination
Pre-Planting Propagule Treatments	No cold stratification necessary according to USDA but the UW botanical garden recommends cold stratification with late winter early spring temperatures
Growing Area Preparation / Annual Practices for Perennial Crops	Growing media: coarse or medium soil Needs to be in a sunny area If in hoop house needs at least 105 frost free days and no less than 28 degrees Fahrenheit (USDA) Container should be open allowing lateral root nodule growth and at least 10 inches deep if for long term storage (USDA)
Establishment Phase Details	Be careful not to over water the plant Try to keep pH of soil between 6 and 8.5 (USDA)
Length of Establishment Phase	If similar to other Lomatium species then it could take anywhere around a season (3-4 months)
Active Growth Phase	Water some but not overmuch Keep in well drained soil (USDA) Keep in a sunny warm place
Length of Active Growth Phase	Relatively rapid (USDA)
Hardening Phase	Water some but not overmuch Keep in well drained soil Keep in a sunny warm place
Length of Hardening Phase	Likely short relative to other perennials given its short lifespan
Harvesting, Storage and Shipping	Nez Perce would gather the roots in early may for consumption but it is unknown what would be best for nursery seedlings (NPS)
Length of Storage	Relatively short for a perennial, not a long lifespan and rapid growing
Guidelines for Outplanting / Performance on Typical Sites	Plant 1,700-4,800 seedlings/acre (USDA) Seeds with have a slow natural spread rate (USDA)

Other Comments	There is a series of propagation possibilities but those are copy pasted from each other exactly identical to one another from a source discussing propagating it in Britain, none of these sources are particularly reputable. If you would like to try it it is in the theferns source below. The roots are edible and important to the indigenous tribes local to where they grow such as the Nez Perce, it can be dried and ground up and made into bread or boiled and eaten. For more information on how to eat and prepare it go to the naeb.brit source below. (BRIT) Fun fact: notably described and the eating of it mentioned in Lewis and Clark's journals. (Kris 2023) One should note that the Lomiatum plants are often confused with Western Water Hemlocks which are toxic not edible like the Lomiatum Overall this species has so little information and testing done on it the info on it should be taken relatively lightly and one's own tests should be done
INFORMATION SOURCES	
References	Lomatium cous - Database of Vascular Plants of Canada (VASCAN). (n.d.). https://data.canadensys.net/vascan/name/Lomatium%20cous Possee, K. (n.d.). Lomatium etc. | UW Medicinal Herb Garden Blog. https://www.uwmedicinalherbgarden.org/?p=2366 Cous Roots (U.S. National Park Service). (n.d.). https://www.nps.gov/articles/cous-roots.htm Kris. (2023, April 15). Biscuitroots - Discover Lewis & Clark. Discover Lewis & Clark. https://lewisclark.org/sciences/plants/biscuitroots/ BRIT - Native American Ethnobotany Database. (n.d.). http://naeb.brit.org/uses/search/?string=Lomatium+cous Natural Heritage Program and Montana Fish, Wildlife & Parks. (2023, May 3). *MTNHP*. https://fieldguide.mt.gov/speciesDetail.aspx?elcode=PDAPI1B0C0

	USDA Plants Database. (n.d.). https://plants.sc.egov.usda.gov/home/plantProfile?symbol=LOCO4
Other Sources Consulted	Schlessman, M. A. (1984). Systematics of Tuberous Lomatiums (Umbelliferae). *Systematic Botany Monographs*, *4*, 1–55. https://doi.org/10.2307/25027598 Soltis, P. S., & Novak, S. J. (1997). Polyphyly of the Tuberous Lomatiums (Apiaceae): cpDNA Evidence for Morphological Convergence. *Systematic Botany*, *22*(1), 99–112. https://doi.org/10.2307/2419679 *Lomatium cous - Useful Temperate Plants. (n.d.).* https://temperate.theferns.info/plant/Lomatium+cous
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