Plant Propagation Protocol for *Lomatium bicolor*
ESRM 412 – Native Plant Production
Protocol URL: https://courses.washington.edu/esrm412/protocols/*[USDASpeciesCode.pdf]*

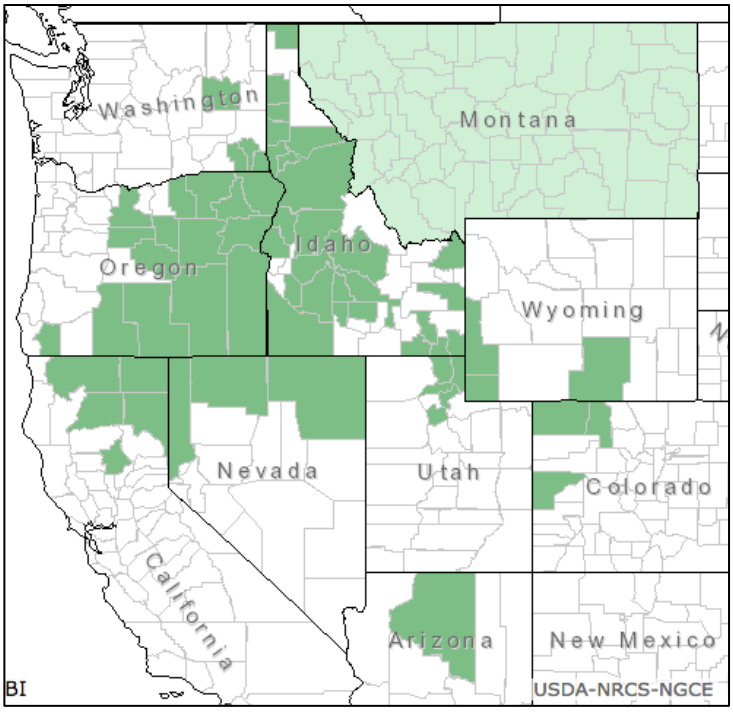
Lomatium bicolor, Wasatch desertparsley (Source: Growsier.net[1])

TAXONOMY	
Plant Family	
Scientific Name	Apiaceae
Common Name	Celery/ carrot/ parsley family
Species Scientific Name	
Scientific Name	*Lomatium bicolor* (Watson)
Varieties	*Lomatium bicolor* var. *bicolor* *Lomatium bicolor* var. *leptocarpum* (Torr. & A. Gray) Schlessman
Sub-species	N/A
Cultivar	
Common Synonym(s)	
Common Name(s)	Wasatch desertparsley, Wasatch biscuitroot[2]
Species Code (as per USDA Plants database)	LOBI – *Lomatium bicolor* LOBIB – *Lomatium bicolor* var. *bicolor* LOBIL – *Lomatium bicolor* var. *leptocarpum*

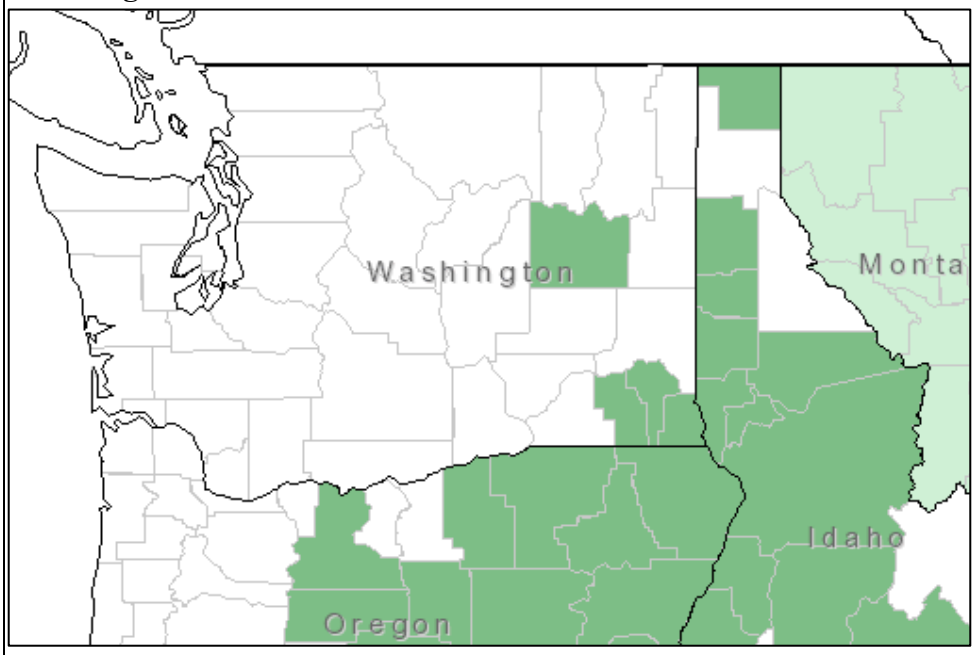
GENERAL INFORMATION

Geographical range

North America Distribution



Washington state distribution



Source: USDA Plants Database[3]

Regional endemic range in northeast Utah, the Bear River and Caribou ranges of eastern Idaho, and the mountains of far-western Wyoming, with a disjunct population reported in Gunnison County, Colorado[4]

Ecological distribution	Drying adobe, sagebrush scrub [5]; open slopes, flats, meadows and swales, from the lowlands to moderate elevations in the mountains[6]; most commonly found in meadows, forests, and deserts but also found in rocky, riparian, and grassland habitats.[7]
Climate and elevation range	Temperate, arid climates; 1000-2250 m.[5]
Local habitat and abundance	Highest densities typically found in summer months at altitudes of 2,000-6000 ft. (~600-1800 m)[7]
Plant strategy type / successional stage	Stress-tolerator
Plant characteristics	Forb/ herb[3]; leaves usually all basal, occasionally with 1-2 stem leaves on larger specimens; leaves ternate-pinnately 2-several time dissected into linear, elongate, unequal segments 0.5-2 mm. wide and 1-5 cm. long[6]. Flowers: small, few; calyx lobes generally 0; corolla yellow; petals wide, yellow, white, or purple, tips narrowed; stamens 5; pistil 1, ovary inferior, 2-chambered[2]
PROPAGATION DETAILS (Adapted from propagation methods of *Lomatium dissectum*)	
Ecotype	N/A
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	N/A
Time to Grow	1 yr.
Target Specifications	Tight root plug in container
Propagule Collection Instructions	*L. dissectum* seed matures in July to early August; wildland seed disarticulates readily and is easily hand collected; very clean collections can be made by shaking ripened inflorescences over a bag or tarp[8]. Fruit maturation is uniform within an inflorescence[9].
Propagule Processing/Propagule Characteristics	42,000-100,000 seeds/lb; seeds have been stored for up to 18 months[9]
Pre-Planting Propagule Treatments	Extended seed stratification is required for successful propagation; dormant fall seeding is required[8]. Cold, moist stratification is needed[10]. Minor screening of chaff can produce high purity; additional screening can be done with an air-screen cleaner[8] Plants grow in early spring into summer and go dormant in mid-summer, giving the appearance of mortality[8]

Growing Area Preparation / Annual Practices for Perennial Crops	Upon first signs of germination, seeds should be sown in Styrofoam conetainers filled with a 50% peat and 50% vermiculite mixture. Containers should be watered when soil saturation levels fall below 80%. Small amounts of fertilizer suitable for seedlings may be added periodically[9].
Establishment Phase Details	Containers can remain outside, water during the fall and sparingly during dry spells in the winter and spring. Germination begins in March and may occur over 2-3 weeks[10]. True leaves started to develop 14 days after germination[9].
Length of Establishment Phase	6-7 months[10]
Active Growth Phase	Plants watered as needed while outside and fertilized once a week with a water soluble, complete fertilizer[10]. Above ground growth is slow as young plants invest significant resources to produce a substantial taproot. During the first year of establishment, most plants will only produce a few leaves[8].
Length of Active Growth Phase	3-4 months[10]
Hardening Phase	Plants usually go dormant in July or August and do not require further hardening[10].
Length of Hardening Phase	See "Hardening Phase" above
Harvesting, Storage and Shipping	Storage: Cold Storage, 33-38 Degrees Fahrenheit[11]
Length of Storage	Unable to determine
Guidelines for Outplanting / Performance on Typical Sites	Most plants will not produce flowers or fruit during the first 3 to 4 years of growth. Good weed control can be achieved through the use of weed barrier fabric and hand roguing. Highest seed yields have been achieved with the use of supplemental irrigation[8].
Other Comments	N/A
INFORMATION SOURCES	
References	See below
Other Sources Consulted	N/A
Protocol Author	Carter Johnson
Date Protocol Created or	04/25/18

Updated	

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