

Plant Propagation Protocol for *Eriogonum microthecum* Nutt.

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2023/ERIM4>



(Shebs)

TAXONOMY	
Plant Family	
Scientific Name	Polygonaceae
Common Name	Knotweed, Smartweed-buckweed
Species Scientific Name	
Scientific Name	<i>Eriogonum microthecum</i> Nutt.
Varieties	<i>Eriogonum microthecum</i> Nutt. var. <i>crispum</i> (L.O. Williams) S. Stokes <i>Eriogonum microthecum</i> Nutt. var. <i>effusum</i> (Nutt.) Torr. & A. Gray <i>Eriogonum microthecum</i> Nutt. var. <i>alpinum</i> Reveal <i>Eriogonum microthecum</i> Nutt. var. <i>ambiguum</i> (M.E. Jones) Reveal <i>Eriogonum microthecum</i> Nutt. var. <i>expansum</i> S. Stokes <i>Eriogonum microthecum</i> Nutt. var. <i>corymbosoides</i> Reveal <i>Eriogonum microthecum</i> Nutt. var. <i>johnstonii</i> Reveal <i>Eriogonum microthecum</i> Nutt. var. <i>lapidicola</i> Reveal

	<i>Eriogonum microthecum</i> Nutt. var. laxiflorum Hook. <i>Eriogonum microthecum</i> Nutt. var. confertiflorum (Benth.) Torr. & A. Gray <i>Eriogonum microthecum</i> Nutt. var. microthecum <i>Eriogonum microthecum</i> Nutt. var. idahoense (Rydb.) S. Stokes <i>Eriogonum microthecum</i> Nutt. var. panamintense S. Stokes <i>Eriogonum microthecum</i> Nutt. var. simpsonii (Benth.) Reveal <i>Eriogonum microthecum</i> Nutt. var. foliosum (Torr. & A. Gray) Reveal <i>Eriogonum microthecum</i> Nutt. var. friscanum (M.E. Jones) S. Stokes
Sub-species	<i>Eriogonum microthecum</i> Nutt. ssp. ambiguum (M.E. Jones) Munz <i>Eriogonum microthecum</i> Nutt. ssp. confertiflorum (Benth.) S. Stokes <i>Eriogonum microthecum</i> Nutt. ssp. laxiflorum (Hook.) S. Stokes <i>Eriogonum microthecum</i> Nutt. ssp. intermedium S. Stokes <i>Eriogonum microthecum</i> Nutt. var. macdougalii (Gandog.) S. Stokes
Cultivar	
Common Synonym(s)	<i>Eriogonum microtheca</i>
Common Name(s)	Slender Buckwheat, Alpine slender buckwheat, San Bernardino buckwheats, Johnston's buckwheat, Panamin, sand buckwheat
Species Code (as per USDA Plants database)	ERMI4
GENERAL INFORMATION	

Geographical range	<p>(USDA)</p>
Ecological distribution	sandy desserts to lower mountain slopes (WTU Herbarium)
Climate and elevation range	Dry climate, 3,600-10,800 feet elevation (American Southwest)
Local habitat and abundance	Found in sandy deserts to lower montane slopes (PFAF). Mainly found with sagebrush (WTU Herbarium).
Plant strategy type / successional stage	Perennial (WTU Herbarium). Drought resistant. Not weedy (PFAF).
Plant characteristics	Shrub (USDA). Evergreen, growing from 1 ft to 3 ft. Leaves are present all year, and flowers are from July to August. Hermaphrodite plant. (PFAF). Most have taproots, and one main stem (NM State).
PROPAGATION DETAILS	
Ecotype	Malheur County, Oregon, 1411 m
Propagation Goal	plants
Propagation Method	seed
Product Type	container (plug)
Stock Type	
Time to Grow	0 (failed)
Target Specifications	Plant with leaves
Propagule Collection Instructions	Seed maturation occurs indeterminately over 2-3months. an indicator of seed maturity of paper dry perianth and the seeds are hard. When mature, the seeds will easily dehisce. It is important to prevent premature collecting by checking for mature filled fruit. seed is collected by clipping the inflorescences or hand striping into containers.

Propagule Processing/Propagule Characteristics	The seed is dried and then placed in a freezer for 48 hours to remove pests. store seeds in a brown glass jar at room temperature. Inflorescence is ground on a rubbing board, larger debris removed, then materials are sieved until just the seeds remain. seeds are then hand examined with a microscope to remove insect damaged seeds. 14% viability of seeds determined after cleaning and evaluation. Insect damage found on 5-10% of seeds.
Pre-Planting Propagule Treatments	Seeds put in germination containers with moist paper towels. Place the container in the germination chamber. The chamber environment has 12 hr light and 12hr darkness, at a temperature of 22 degrees Celsius. Germination occurs after two days.
Growing Area Preparation / Annual Practices for Perennial Crops	Upon germination, seeds are sown. They are sown into well irrigated styrofoam containers with 50% peat and 50% vermiculture mix. Greenhouse temperature is set at 27 degrees celsius. Fertilizer is added in small amounts periodically.
Establishment Phase Details	True leaves began to establish after 16 days, however upon planting in containers, the seedlings did not survive.
Length of Establishment Phase	16 days
Active Growth Phase	N/A
Length of Active Growth Phase	0
Hardening Phase	N/A as germinants did not survive
Length of Hardening Phase	0
Harvesting, Storage and Shipping	N/A
Length of Storage	18 months
Guidelines for Outplanting / Performance on Typical Sites	Preferred a sunny spot in loose lean gritty well-drained soil, mostly dry. requires protection in small amounts from the winter wet. Root disturbance is resented among established plants. (PFAF).
Other Comments	Seed is best sown in autumn when the seed is ripe. The optimal location would be a sandy compost located in a greenhouse. If seed has been stored, you can sow it in early spring in a warm greenhouse. ideal to grow seedlings in a greenhouse for the first winter. Plant after the last frost. plants are sensitive to root disturbance, so when separating, be careful, and grow in dim light until the roots are established (PFAF).
INFORMATION SOURCES	
References	see below
Other Sources Consulted	none
Protocol Author	Jacqueline (Jacquie) Stark

References:

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