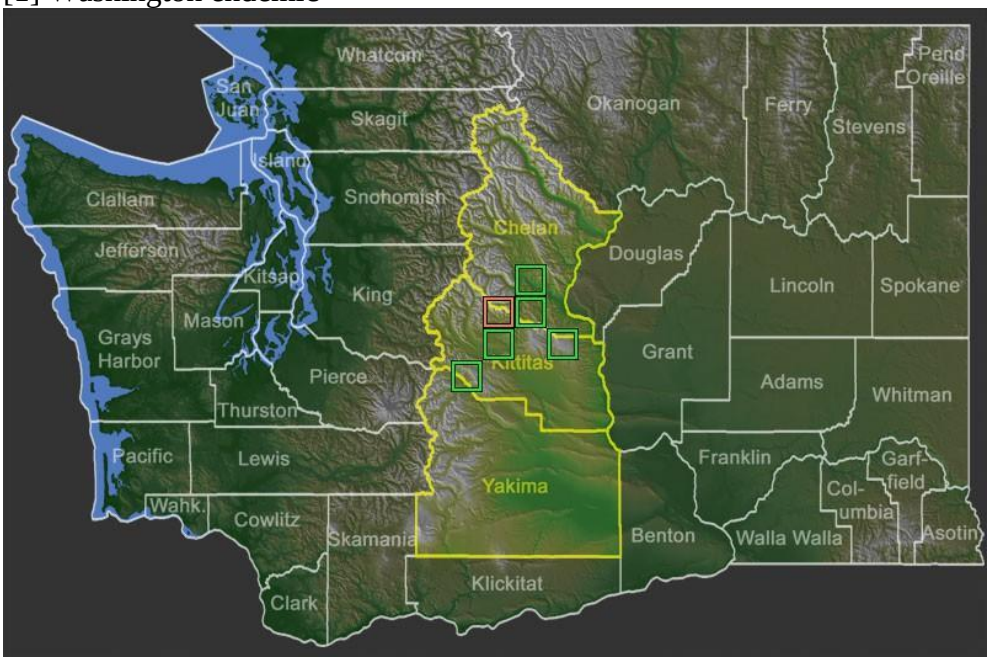
Plant Propagation Protocol for *Chaenactis thompsonii*
ESRM 412 – Native Plant Production
URL: https://courses.washington.edu/esrm412/protocols/*2022*/*CHTH.pdf*

Photo: Joe Arnett, 2012

TAXONOMY	
Plant Family	
Scientific Name	Asteraceae
Common Name	Aster Family
Species Scientific Name	
Scientific Name	*Chaenactis thompsonii* Cronquist.
Varieties	N/A
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	N/A
Common Name(s)	Thompson's pincushion
Species Code (as per USDA Plants database)	CHTH Global Conservation Status: G3 [9]

GENERAL INFORMATION	
Geographical range	[1] Washington endemic 
Ecological distribution	Washington endemic, alpine zone of the Wenatchee Mts, found on dry, rocky ridges and slopes. Exclusively found in serpentine and peridotite substrates. [2,8,10]
Climate and elevation range	Occurs at elevations of 880 - 2130 m. [2]
Local habitat and abundance	Associated species include: Poa, Agropyron and buckwheat sp., Douglasia nivalis, Achillea millefolium, and Lipinus sp. and other serpentine endemics. [2]
Plant strategy type / successional stage	Strong indicator of serpentine substrates in the alpine zone. [2,10]
Plant characteristics	Slightly wooly perennial, taproot, 10 - 30 cm tall. Discoid head, few solitary inflorescences on each stem. Involucre 10-14 mm, narrow bracts. Pink or whitish perfect, disk flowers, sagittate anthers, hairy style. Fruits: achene. Flowers June to August. [1,2,8]
PROPAGATION DETAILS	
Ecotype	No seed testing studies found
Propagation Goal	Seeds* [3]
Propagation Method	Seed* [3]
Product Type	Seed* [3]
Stock Type	N/A
Time to Grow	2 Months* [3]
Target Specifications	Seedling plants, root systems filling growing container*[5]

Propagule Collection Instructions	Bend the seed head into a bag and shake the seed into the bag. Produces little contamination.
Propagule Processing/Propagule Characteristics	Sifting through 0.6 - 1-2 cm sifter to remove pappus. [3] Dry seeds prior to storage. Cold storage 33-38 Degrees Fahrenheit.[3] 321,7000 to 450,000 seeds per pound.* [3,7] Longevity of seeds unknown
Pre-Planting Propagule Treatments	n/a
Growing Area Preparation / Annual Practices for Perennial Crops	Sow 100 seeds per seed flat and cover with ⅛" chicken grit* [5]
Establishment Phase Details	2 months for first seedlings to emerge* [5] Seedlings transplanted to 5.5'' containers at 4 months* [5,7]
Length of Establishment Phase	1 month* [3] 4 months* [5] Another serpentine species from the same region, *Douglasia nivalis,* requires roughly 4 months.** [6]
Active Growth Phase	Media allowed to dry between waterings, weak fertilizer applied once a month, seedlings grow outside from summer to fall.* [5]
Length of Active Growth Phase	6 months* [5] or 3-4 months* [3]
Hardening Phase	n/a
Length of Hardening Phase	n/a
Harvesting, Storage and Shipping (of seedlings)	n/a
Length of Storage	n/a
Guidelines for Outplanting / Performance on Typical Sites	n/a
Other Comments	This is a serpentine endemic. Propagation methods are primarily from the common North American cosmopolitan congener: *Chaenactis douglasii.* Methods for propagating this species might not be suitable for *Chaenactis thompsonii*, but due to a lack of studies these are the methods to be attempted to propagate this species.
INFORMATION SOURCES	
References (full citations)	1. Giblin, D.E. & B.S. Legler (eds.). 2003+. *Chaenactis thompsonii*. In: WTU Image Collection Web Site: Vascular Plants, MacroFungi, & Lichenized Fungi of Washington State. University of Washington Herbarium. Accessed 24 May 2022. http://biology.burke.washington.edu/herbarium/imagecollection.php.

2. “Chaenactis thompsonii Cronquist., WADNR, Accessed 05/22/2022 <https://www.dnr.wa.gov/publications/amp_nh_chth.pdf>

3. Tilley, Derek 2010. Propagation protocol for production of Chaenactis douglasii (Hook.) Hook. & Arn. seeds; USDA NRCS - Aberdeen Plant Materials Center, Aberdeen, Idaho. In: Native Plant Network. URL: http://www.nativeplantnetwork.org (accessed 10 November 2010). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.

4. Barner, Jim. 2009. Propagation protocol for production of Propagules (seeds, cuttings, poles, etc.) *Chaenactis douglasii* (Hook.) Hook. & Arn. seeds USDA FS - R6 Bend Seed Extractory Bend, Oregon. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2022/05/24). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

5. DeBolt, Ann M.; Barrash, Kris. 2013. Propagation protocol for production of Container (plug) *Chaenactis douglasii* (Hook.) Hook. & Arn. plants 2.875 inch x 5.5 inch plant band (container); Idaho Botanical Garden Boise, Idaho. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2022/05/20). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

6. Luna, Tara; Wick, Dale; Hosokawa, Joy. 2008. Propagation protocol for production of Container (plug) *Douglasia montana* Gray plants 160 ml containers; USDI NPS - Glacier National Park West Glacier, Montana. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2022/05/24). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

7. Parkinson, Hilary; DeBolt, Ann. 2005. Propagation protocol for production of Container (plug) *Chaenactis douglasii* (Hook.) H. & A. plants USDA FS - Rocky Mountain Research Station Boise, Idaho. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2022/05/24). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

8. Hitchcock C.L., Cronquist A. 1973. Flora of the Pacific Northwest. Seattle (WA): University of Washington Press.

	9. USDA NRCS National Plant Data Team. (2022). *Chaenactis thompsonii* Cronquist. . [Accessed May 24 2022],https://plants.usda.gov/home/plantProfile?symbol=CHTH 10. Kruckeberg, A.R., Leuthy, C. 1991. The Wenatchee Mountains. Bulletin of the American Rock Garden Society. 49: 165-168.
Other Sources Consulted	n/a
Protocol Author	Samuel Champlin
Date Protocol Created or Updated	05/24/22

*based on propagation protocols for congener *Chaenactis douglasii.*
**based on propagation protocols from associated species, *Douglasia nivalis* a serpentine endemic.