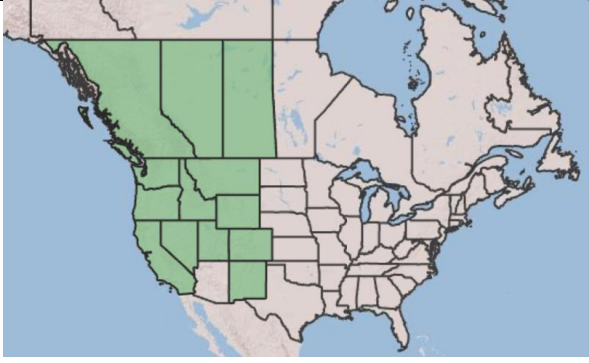
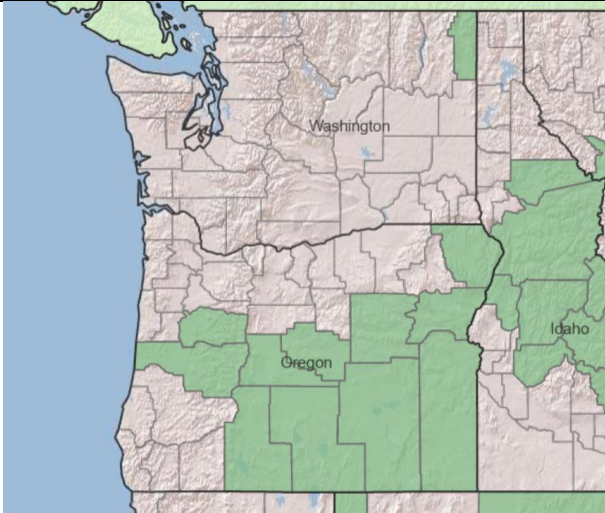


Plant Propagation Protocol for *Antennaria corymbosa* E.E. Nelson

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2026/ANCO.pdf>

TAXONOMY	
Plant Family	
Scientific Name	Asteraceae Bercht. & J. Presl
Common Name	Aster family
Species Scientific Name	
Scientific Name	<i>Antennaria corymbosa</i> E.E. Nelson
Varieties	none
Sub-species	None
Cultivar	none
Common Synonym(s)	ANAC6 - <i>Antennaria acuta</i> Rydb. ANDIC - <i>Antennaria dioica</i> (L.) Gaertn. var. <i>corymbosa</i> (E.E. Nelson) Jeps. ANHY2 - <i>Antennaria hygrophila</i> Greene ANNA2 - <i>Antennaria nardina</i> Greene
Common Name(s)	flat-top pussytoes
Species Code (as per USDA Plants database)	ANCO
GENERAL INFORMATION	
Geographical range	 <p align="right">(USDA)</p>

	 <p>(USDA)</p> <p>Resides in North America, specifically native to western Canada and Western United States. Specific areas include British Columbia, Alberta, Saskatchewan, California, and New Mexico.² Also Colorado, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.³</p>
Ecological distribution	Moist, cool areas such as mount meadows and riverbanks. ² Also in the Rocky Mountains, the Sierra Nevada, mountains of the Great Basin ⁹ , Blue and Wallowa Mountains, Cascades, Eastern Cascade Slopes and Foothills. ⁷
Climate and elevation range	Elevation between 1900-3200 meters. ⁵ Tolerates annual precipitation of 19-71 inches, with a wet season of 3 to 8 months. Temperature range is 46°F to 65°F, with handling a December low of 10°F and a July high of 81°F. Hardiness zones are between 5b to 7a. Soil preferences are between 4.8-7.6 pH. ⁶
Local habitat and abundance	Streamsides, willow thickets, moist meadows in subalpine and alpine forests. ¹⁰
Plant strategy type / successional stage	Well-adapted to survive in harsh, cool environments. ⁶ Prefers loamy soils. ²
Plant characteristics	<p>Small perennial herb with stems 6-15 centimeters tall, slender, and horizontal stolons of 1-10 centimeters. Each stem holds a cluster of 3-7 flower heads. The inflorescences are cyme-like. Involucre are 4-5.2 mm, densely hairy proximally. Phyllaries are wide with acute tips or blunt, white, and spotted of black and brown near the base. Pistillate corolla is 2.5-3.5 mm and the staminate is 2-3.2 mm. Fruits are around 0.5-1mm. The leaves are basal, 18-22 mm, spoon-shaped, 1-veined, thin, and a gray tomentose.⁵ It also typically forms low-growing mats reaching up to 6 inches in height.⁶</p> <p>The species is dioecious, producing different flower heads similar in appearance.² Though no information was found on what this would imply for its propagation methods, congener <i>Antennaria microphylla</i> indicates that species can be reproduced through wind dispersal of seeds or</p>

	can be spread vegetatively through stolons. ¹² <i>Antennaria plantaginifolia</i> indicates that female flowers have numerous thread-like fluffy white styles at the top while males have brown stamens that protrude from the center of each flower. They bloom for several weeks to be pollinated by bees and other pollinators. Seeds are then held in achenes with short white hairs after flowering that are also dispersed through wind. ¹³
PROPAGATION DETAILS: VEGETATIVE	
Ecotype	Moist meadows, and stream sides; 6,000-10,500 ft. elevation. ⁴
Propagation Goal	other propagules ⁴
Propagation Method	Vegetative
Product Type	Propagules (seeds, cuttings, poles, etc.) ⁴
Stock Type	Division ⁴
Time to Grow	None as they are divisions.
Target Specifications	Data not available at date of publication.
Propagule Collection Instructions	Collected Yosemite National Park. ⁴
Propagule Processing/Propagule Characteristics	No information available. Also, no information available for vegetative propagation method of similar species. However, information from congener <i>Antennaria microphylla</i> indicate that dry seedheads can processed in hammermill using #5 (0.08 in diameter holes) screen. Large debris can be removed from processed material using hand sieves. Remaining material can be run over fanning mill with medium wind to remove chaff. ⁸
Pre-Planting Propagule Treatments	All divisions were placed into Vitamin B-1 solution for 15 minutes to help prevent transplant shock. ⁴
Growing Area Preparation / Annual Practices for Perennial Crops	Collection and reestablishment were carried out by Yosemite National Park. ⁴
Establishment Phase Details	Division propagation started in January. Plants were placed into cold frame for 7 days, then moved into a lath-house. While in greenhouse, it was in excellent health but when placed in the lathouse plants slowly died back until all of them were dead. The cause of the majority of loss of plants before and after division is due to planting above the crown. ⁴
Length of Establishment Phase	No information available. However, information from congener <i>Antennaria howellii</i> indicate 4 weeks. ¹¹
Active Growth Phase	No information available. However, information from congener <i>Antennaria howellii</i> indicate that once seedlings are established, plant develop shoot and root growth 2-4 weeks after germination. Plants are fertilized biweekly during the growing season with 20-20-20 liquid NPK fertilizer at 100 ppm. Plants are mat-forming and quickly fill containers during the rapid growth stage. Plants can be produced in 8 weeks following germination. ¹¹
Length of Active Growth Phase	0 to 2 months. ⁶

Hardening Phase	plants are fertilized with 10-20-20 liquid NPK in early fall. Pots are then leached with water, and irrigation is gradually reduced throughout September and October. ¹¹
Length of Hardening Phase	No information available. However, information from congener <i>Antennaria howellii</i> indicate 4 weeks. ¹¹
Harvesting, Storage and Shipping	No information available. However, information from congener <i>Antennaria howellii</i> indicate that total time to harvest is 4 months with harvest date being in July. Plants are overwintered in the outdoor nursery under insulating foam cover and snow. ¹¹
Length of Storage	No information available. However, information from congener <i>Antennaria howellii</i> indicate 5 months. ¹¹
Guidelines for Outplanting / Performance on Typical Sites	No information available.
Other Comments	

INFORMATION SOURCES

References	<p>¹<i>Antennaria corymbosa</i> E.E. Nelson. USDA plants database. (n.d.). https://plants.sc.egov.usda.gov/plant-profile/ANCO</p> <p>²<i>Flat-top pussytoes, Antennaria corymbosa</i>. Calscape - California Native Plant Society. (n.d.). https://calscape.org/Antennaria-corymbosa-(Flat-top-Pussytoes)</p> <p>³Marcus, J. A. (n.d.). <i>Antennaria corymbosa (flat-top pussytoes)</i>. Lady Bird Johnson Wildflower Center - The University of Texas at Austin. https://www.wildflower.org/plants/result.php?id_plant=ANCO</p> <p>⁴Dyer, Dave. 2001. Propagation protocol for production of Propagules (seeds, cuttings, poles, etc.) <i>Antennaria corymbosa</i> other propagules USDA NRCS - Lockeford Plant Materials Center Lockeford, California. In: Native Plant Network. URL: https://NativePlantNetwork.org(accessed 2026/05/09). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.</p> <p>⁵Randall J. Bayer 2017, <i>Antennaria corymbosa</i>, in Jepson Flora Project (eds.) <i>Jepson eFlora</i>, Revision 5, https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=889, accessed on May 18, 2026.</p> <p>⁶<i>Plant characteristics and Associations - Antennaria corymbosa</i>. Calflora. (n.d.). https://www.calflora.org/entry/plantchar.html?crn=376</p>
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	<p>⁷<i>Antennaria corymbosa</i> E.E. Nelson. Oregonflora. (2026). https://oregonflora.org/taxa/index.php?tid=2779&taxon=406</p> <p>⁸Scianna, Joe. 2003. Propagation protocol for production of Container (plug) <i>Antennaria microphylla</i> Rydb. plants 10-cubic-inch conetainers; USDA NRCS - Bridger Plant Materials Center Bridger, Montana. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2026/06/06). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.</p> <p>⁹<i>Antennaria corymbosa</i> E. E. Nelson. <i>Antennaria corymbosa</i> in Flora of North America @ efloras.org. (2006, June 30). http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250066070</p> <p>¹⁰Giblin, D. (n.d.). <i>Antennaria corymbosa</i>. <i>Antennaria corymbosa</i> - burke herbarium image collection. https://burkeherbarium.org/imagecollection/taxon.php?Taxon=Antennaria+corymbosa</p> <p>¹¹Luna, Tara; Evans, Jeff; Wick, Dale; Hosokawa, Joy. 2008. Propagation protocol for production of Container (plug) <i>Antennaria howellii</i> (Fern.) Bayer. plants 172 ml container; USDI NPS - Glacier National Park West Glacier, Montana. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2026/06/05). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.</p> <p>¹²Matthews, Robin F. 1993. <i>Antennaria microphylla</i>. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: https://www.fs.usda.gov/database/feis/plants/forb/antmic/all.html [2026, June 6].</p> <p>¹³Washington, B. (2026, March 23). <i>Plantain-leaved pussytoes, antennaria plantaginifolia</i>. Virginia Native Plant Society. https://vnps.org/plantain-leaved-pussytoes-antennaria-plantaginifolia/</p>
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