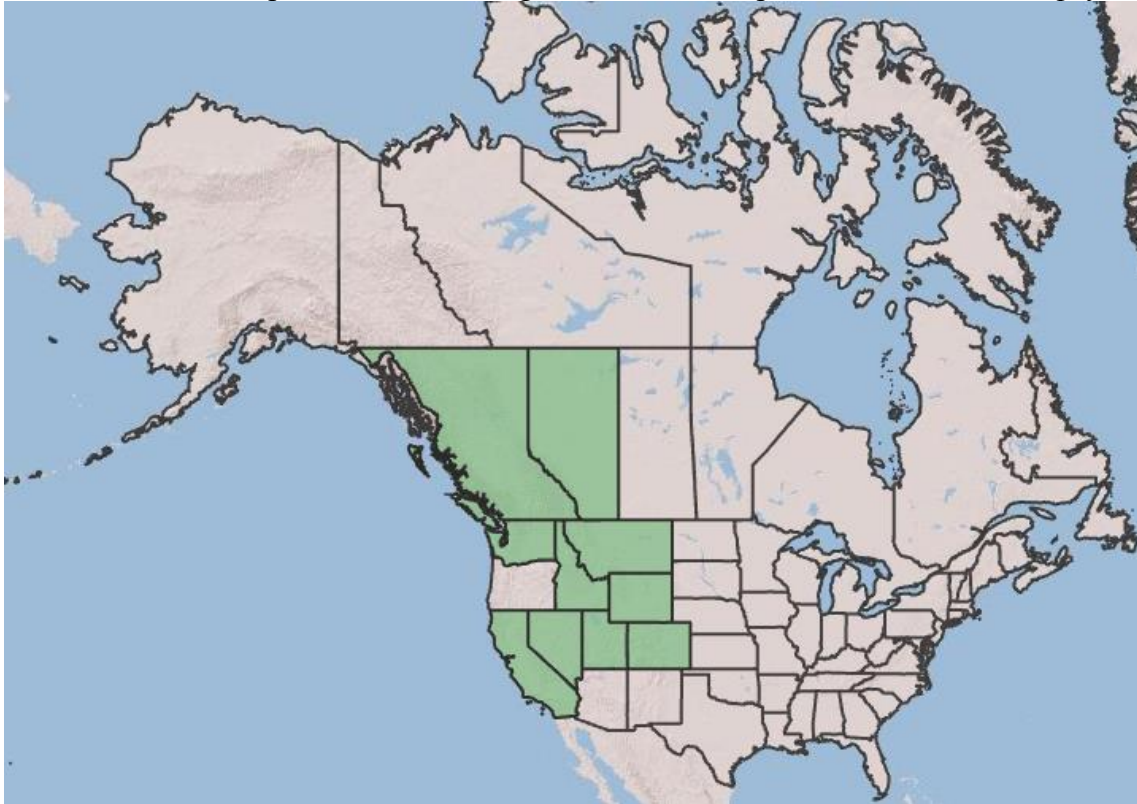


Plant Propagation Protocol for *Eucephalus engelmannii*

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2025/EUEN.pdf>



(USDA)



(USDA)

TAXONOMY

Plant Family	
Scientific Name	<i>Asteraceae</i>
Common Name	Aster Family
Species Scientific Name	
Scientific Name	<i>Eucephalus engelmannii</i> (D.C. Eaton) Greene
Varieties	
Sub-species	
Cultivar	
Common Synonym(s)	<i>Aster engelmannii</i> (D.C. Eaton) A. Gray <i>Aster elegans</i> (Nutt.) Torr. & A. Gray var. <i>engelmannii</i> D.C. Eaton
Common Name(s)	Engelmann's aster
Species Code (as per USDA Plants database)	EUEN
GENERAL INFORMATION	
Geographical range	See maps above.
Ecological distribution	Grows in open coniferous forests, montane, and subalpine meadows (<i>Eucephalus engelmannii</i> , 2020).
Climate and elevation range	500–3000m (<i>Eucephalus engelmannii</i> , 2020)
Local habitat and abundance	Grows alongside many native Pacific Northwest conifers including species of <i>Picea</i> , <i>Abies</i> , and <i>Pinus</i> . Often seen growing alongside grasses (<i>Eucephalus engelmannii</i> Search Results).

Plant strategy type / successional stage	Late successional, grows in the shade (<i>Eucephalus engelmannii</i> , 2020).
Plant characteristics	Perennial forb, flowers between July and August (<i>Eucephalus engelmannii</i> , 2020). Grows between 50-150 cm tall. Leaves grow between 5-10 cm long, and flowers are 1.5-2.5 cm long. Petals are white and pink (Knoke).
PROPAGATION DETAILS	
Ecotype	Mt Hood National Forest, Oregon (Riley, 2018)
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	262 ml container
Time to Grow	18 weeks (Riley, 2018)
Target Specifications	Root system: firm plug in container (Riley, 2018).
Propagule Collection Instructions	Collect and place seed into paper bags (Riley, 2018).
Propagule Processing/Propagule Characteristics	No information found.
Pre-Planting Propagule Treatments	Sow seeds in q-plugs before stratification. Stratify seeds at 2 °C for 30 days, keep seeds moist and check for mold during stratification (Riley, 2018).
Growing Area Preparation / Annual Practices for	Greenhouse growing facility. Cover q-plugs with nursery grit, and transplant seedlings around 3 weeks after they are taken out of stratification.

Perennial Crops	
Establishment Phase Details	After germination (~2 weeks), 12-2-14-6Ca-3Mg fertilizer is added at 75-100 ppm for 2 weeks (Riley, 2018).
Length of Establishment Phase	3 weeks (Riley, 2018)
Active Growth Phase	Based on weather and physiological needs, 20-9-20, 20-18-18, or 17-5-24 is added at 100-150 ppm every week (Riley, 2018).
Length of Active Growth Phase	10 weeks (Riley, 2018)
Hardening Phase	Move seedlings outside around early September, fertilizer use stops (Riley, 2018).
Length of Hardening Phase	2 to 3 weeks (Riley, 2018)
Harvesting, Storage and Shipping	Store seedlings outside and water well before shipping (Riley, 2018).
Length of Storage	No information found.
Guidelines for Outplanting / Performance on Typical Sites	Outplant during fall (Riley, 2018).
Other Comments	(Riley, 2018) is a propagation protocol for <i>Eucephalus ledophyllus</i> , information from this source pertains to this species.

INFORMATION SOURCES

References	<p><i>Eucephalus engelmannii</i>. (2020). Flora of North America. http://dev.floranorthamerica.org/Eucephalus_engelmannii</p> <p><i>Eucephalus engelmannii</i> (Engelmann's aster). (2025). Lady Bird Johnson Wildflower Center. https://www.wildflower.org/plants/result.php?id_plant=EUEN</p> <p><i>Eucephalus engelmannii</i> Search Results. (n.d.). Consortium of Pacific Northwest Herbaria Database. Retrieved May 26, 2025, from https://www.pnwherbaria.org/data/results.php?SourcePage=search.php&submit=</p>
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	<p>+Search+&TaxonomicGroup=&Family=&Genus=Eucephalus&Species=engelmannii</p> <p>Knoke, D., & David, G. (n.d.). <i>Eucephalus engelmannii</i>. Burke Herbarium Image Collection. Retrieved May 26, 2025, from https://burkeherbarium.org/imagecollection/taxon.php?Taxon=Eucephalus%20engelmannii</p> <p>Riley, L., & Klocke, A. (2018). <i>Propagation protocol for production of Container (plug) Eucephalus ledophyllus Plants 262 ml (16 in3) container</i>. Native Plant Network; USDA. https://nprn.rngr.net/renderNPNProtocolDetails?selectedProtocolIds=asteraceae-eucephalus</p> <p>USDA plants database <i>Eucephalus engelmannii</i> (D.C. Eaton) Greene plant profile. (n.d.). Retrieved May 26, 2025, from https://plants.usda.gov/plant-profile/EUEN</p>
Other Sources Consulted	<p><i>Eucephalus engelmannii</i> (D. C. Eaton) greene. (n.d.). The University and Jepson Herbaria; University of California, Berkeley. Retrieved May 26, 2025, from https://ucjeps.berkeley.edu/cgi-bin/get_cpn?EUEN</p> <p><i>Eucephalus engelmannii</i> (D.C. Eaton) Greene. (n.d.). E-Flora BC: Electronic Atlas of the Flora of British Columbia ; Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia, Vancouver. Retrieved May 26, 2025, from https://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Eucephalus+engelmannii</p> <p>Giblin, D. (2020). <i>Washington flora checklist: Eucephalus engelmannii</i>. https://burkeherbarium.org/waflora/checklist.php?Taxon=Eucephalus%20engelmannii</p> <p>Greene, E. (n.d.). <i>Eucephalus engelmannii</i> (D.C. Eaton) Greene. Tropicos. Retrieved May 26, 2025, from https://www.tropicos.org/name/50008624</p> <p>Thompson, D. (1977). <i>Taxonomic studies of the Eucephalus complex of Aster in the Pacific Northwest</i> [Oregon State]. https://ir.library.oregonstate.edu/downloads/k930c103f</p>
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