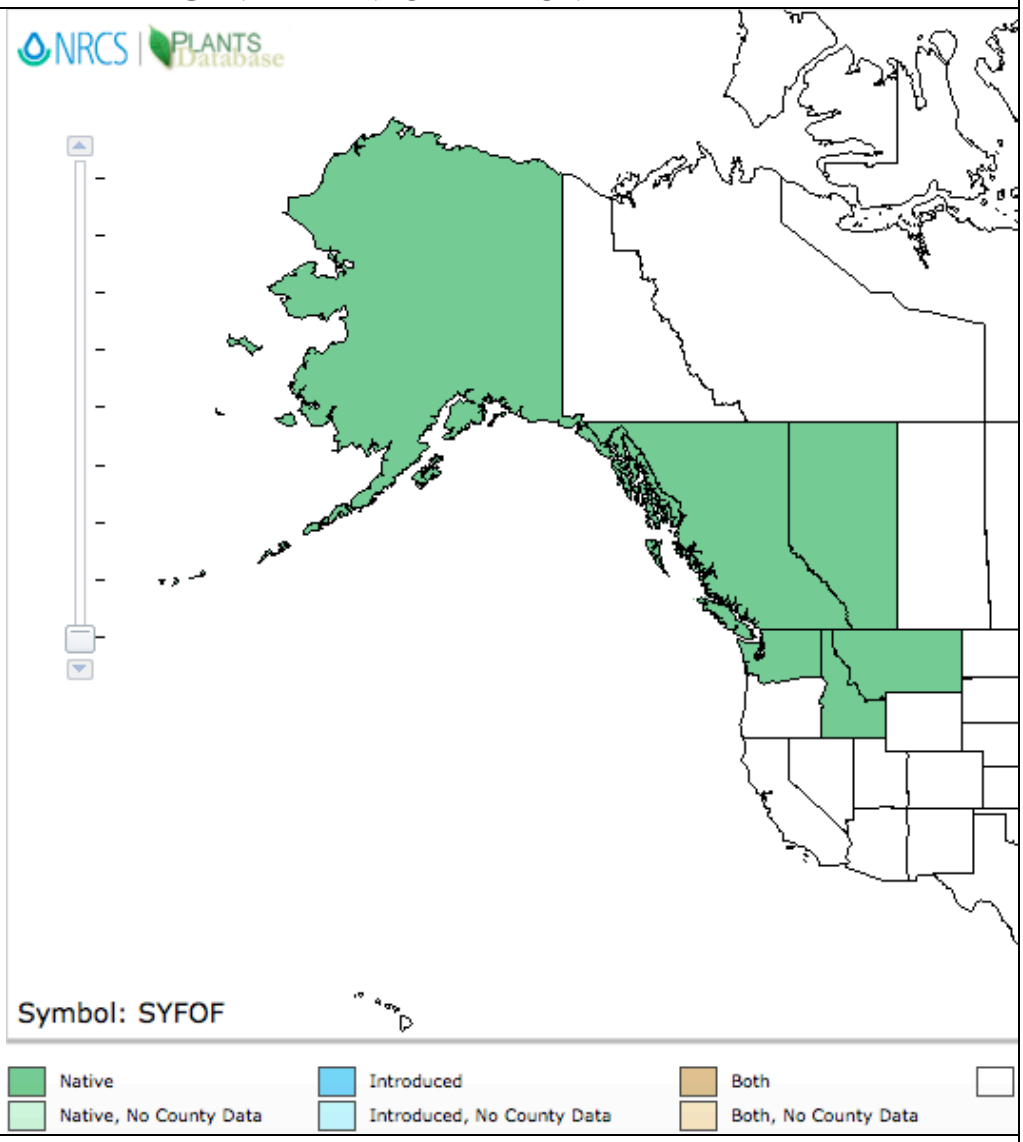
Plant Propagation Protocol for *Symphyotrichum foliaceum*

ESRM 412 – Native Plant Production

Protocol URL: https://courses.washington.edu/esrm412/protocols/*SYFOF.pdf*

 [9]

TAXONOMY	
Plant Family	Asteraceae[1]
Scientific Name	*Symphyotrichum foliaceum*
Common Name	Alpine Leafybract Aster
Species Scientific Name	*Symphyotrichum foliaceum* (Lindl. ex DC.) G.L. Nesom[1]
Scientific Name	*Symphyotrichum foliaceum* (Lindl. ex DC.) G.L. Nesom var. *foliaceum* [8]
Varieties	*Aster foliaceus* Lindl. ex DC. var. *sublinearis* D.C. Eaton & Grisc.[1] *Symphyotrichum foliaceum var. apricum*[3] *Symphyotrichum foliaceum var. canbyi*[3] *Symphyotrichum foliaceum var. foliaceum*[3] *Symphyotrichum foliaceum var. parryi*[3]
Sub-species	None
Cultivar	None
Common Synonym(s)	Aster apricus (A. Gray) Rydberg[10] Aster foliaceus subsp. apricus (A. Gray) Piper[10] Aster foliaceus var. apricus A. Gray[10] Aster subspicatus var. apricus (A. Gray) B. Boivin[10]
Common Name(s)	Leafy Aster
Species Code (as	SYFOF[2]

per USDA Plants database)	
GENERAL INFORMATION	
Geographical range	
Ecological distribution	It can be found in WA, ID, MT, western Canada and AK. It is native from AK to CA and east to MT and NM as well as some subalpine and alpine areas of New England. [2]
Climate and elevation range	It is found in low to high elevations in the mountains. [3]
Local habitat and abundance	Often associated with moist to mesic stream banks, slopes, meadows and forested areas. [4] Common sometimes locally abundant. [7]
Plant strategy type /	It is partial shade tolerant.[2]

successional stage	
Plant characteristics	This is a perennial herb that blooms from July to September. The flowers are single headed with a yellow flower and rose-purple to blue-violet petals surrounding it, making it have appearance of a sunflower. It will grow 10-60 cm tall.
PROPAGATION DETAILS	
Ecotype	Mt Rainier National Park; 3,700 to 4,900 feet elevation; along highway 410. [5]
Propagation Goal	Plants[5]
Propagation Method	Seeds[2]
Product Type	Container (plug)[5]
Stock Type	1-year plugs[5]
Time to Grow	1 year
Target Specifications	Single healthy crown; roots well-established. [5]
Propagule Collection Instructions	Seeds hand-collected by pinching off mature heads in late August and early September at Mt Rainier; fairly slow as plants were thinly scattered in native stands. In most collection years moderate to heavy insect predation was apparent. X-ray examination of test lots showed up to 17% of seed was empty and others showed signs of insect damage. [5]
Propagule Processing/Propagule Characteristics	Mothballs placed in paper sacks containing seed heads seemed to help drive off thrips and other insect pests, protecting seed from further predation while drying. Open sacks dried on warm, dry greenhouse bench. Heads first gently rubbed to remove fuzz; then scalped with office clipper, 1/4 to 1/16" screen and low air flow to remove debris. [5] Approximately 1,000,000 seeds per pound.[6]
Pre-Planting Propagule Treatments	None[2]
Growing Area Preparation / Annual Practices for Perennial Crops	3 to 5 seed sown into Ray Leach SC-10 super cells filled with Fisons Sunshine #1 potting mix, amended with 3-month slow-release Osmocote NPK fertilizer and small amounts of Micromax trace elements. Placed into greenhouse at moderate temperatures. [5] Using slow release fertilizer is very effective, but you have to be conscious of when you mix your soil and account for that time when calculating when the

	nutrients will be fully released. Some drawbacks include unknown release date of nutrients, and no control of when the nutrients stop releasing, so going from height growth to dormancy can be difficult. [6]
Establishment Phase Details	No special procedures needed, emergence was rated as "fair". [5]
Length of Establishment Phase	6 to 8 weeks [5]
Active Growth Phase	Plants thinned to one per cone when needed. No special procedures needed during 1st growing season. [5]
Length of Active Growth Phase	May through June at the Corvallis PMC. [5]
Hardening Phase	Plants remained in cones and were removed to a shadehouse to overwinter at Corvallis. No special procedures needed. [5]
Length of Hardening Phase	1 month[5]
Harvesting, Storage and Shipping	Cones can be shipped in fall or early spring to be transplanted before active crown growth starts. [5]
Length of Storage	6-8 months[5]
Guidelines for Outplanting / Performance on Typical Sites	Small test plots established easily from transplants at the Corvallis PMC but growth was not very vigorous and weed competition could be a problem. Supplemental irrigation was needed in May and June. In the favorable conditions of their native habitat we would expect these transplants to flourish. [5]
Other Comments	A small test plot at Corvallis PMC did produce some seed, but plants were not as vigorous as native stands, and very little seed was produced this way. Weed competition was a serious problem; there are no selective herbicides available to keep broadleaf weeds at bay. Seed maturity was much earlier (June to early July) at the PMC and seeds ripened unevenly. [5]

INFORMATION SOURCES	
References	1. "Symphyotrichum Foliaceum- Plant Profile." *USDA Plant Database*. Natural Resource Conservation Service, n.d. Web. 2. Staff, TWC. "NPIN: Native Plant Database." *Lady Bird Johnson Wildflower Center*. Wildflower Center, n.d. 3. Giblin, David. "WTU Herbarium Image Collection - Burke Museum." *WTU Herbarium Image Collection - Burke Museum*. Burke Museum, n.d 4. "Alpine Leafybract Aster." *Electronic Atlas of the Flora of British Columbia*. E-Flora BC, n.d. Web. 5. Trindle, Joan D.C.; Flessner, Theresa R. 2003. Propagation protocol for production of container *Symphyotrichum foliaceum* (DC.) Nesom plants (1-year plugs (10); USDA NRCS - Corvallis Plant Materials Center, Corvallis, Oregon. In: Native Plant Network. URL: http://www.nativeplantnetwork.org (accessed 6 January 2010). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery. 6. R. Kasten Dumrose, Thomas D. Landis, Tara Luna. June 2012. Raising Native Plants in Nurseries: Basic Concepts. USDA USFS, Rocky Mountain Research Station. General Technical Report, RMRS-GTR-274 7. Jim Pojar, Andy MacKinnon. 2004, ed 10. Plants of the Pacific Northwest Coast (WA, OR, BC & AK). B.C. Forest Service Research Program, Lone Pine Publishing. 8. Semple, John. "ITIS Standard Report Page: Aster Foliaceus Var. Foliaceus." *ITIS Standard Report Page: Aster Foliaceus Var. Foliaceus*. N.p., n.d. Web. 18 May 2015. 9. Xavier, Franz. "Leafy Aster Symphyotrichum Foliaceum (Aster Foliaceus)." *ENature: FieldGuides: Species Detail*. N.p., n.d. Web. 18 May 2015. 10. "Symphyotrichum Foliaceum Var. Apricum (A. Gray) G.L. Nesom." - *Database of Vascular Plants of Canada (VASCAN)*. VASCAN, n.d. Web. 18 May 2015.
Other Sources Consulted	
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