

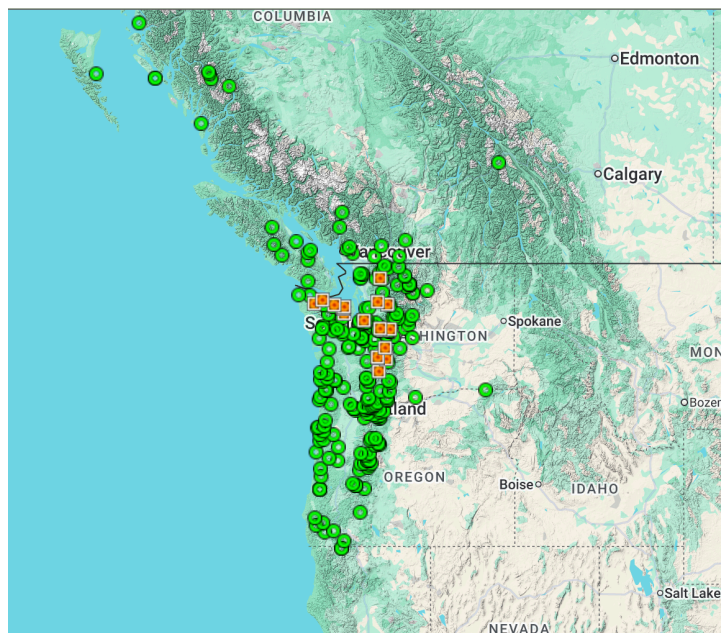
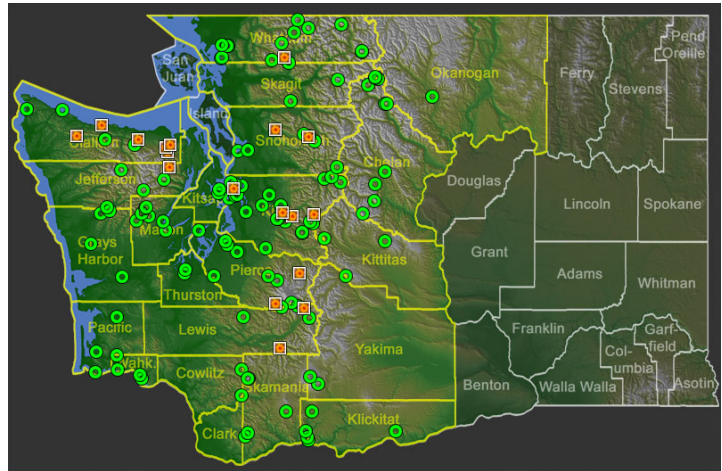
Plant Propagation Protocol for [*Aruncus dioicus*]

ESRM 412 – Native Plant Production

URL: [https://courses.washington.edu/esrm412/protocols/2026/\[ARDI8\]](https://courses.washington.edu/esrm412/protocols/2026/[ARDI8])

TAXONOMY	
Plant Family	Rosaceae
Common Name	Rose Family
Species Scientific Name	<i>Aruncus dioicus</i>
Scientific Name	<i>Aruncus dioicus</i> (Walter) Fernald
Varieties	<i>Aruncus dioicus</i> (Walter) Fernald var. <i>acuminatus</i> (Rydb, Hara) <i>Aruncus dioicus</i> (Walter) Fernald var. <i>vulgaris</i> (Maxim, Hara) <i>Aruncus dioicus</i> (Walter) Fernald var. <i>pubescens</i> (Rydb) <i>Aruncus dioicus</i> var. <i>astilboides</i> (Maxim.) Hara <i>Aruncus dioicus</i> var. <i>insularis</i> Hara <i>Aruncus dioicus</i> var. <i>kamtschaticus</i> (Maxim.) Hara
Sub-species	<i>Aruncus acuminatus</i> (Rydb.)
Cultivar	None
Common Synonym(s)	<i>Aruncus sylvester</i> <i>Actaea dioica</i>
Common Name(s)	Goat's Beard, Bride's feathers
Species Code (as per USDA Plants database)	ARDI8
GENERAL INFORMATION	

Geographical range



(Source: Burke Herbarium)

Ecological distribution

Most commonly found in riparian ecosystems with mesic soils. (USDA)

Climate and elevation range

Common in low to middle elevations (10-1500m), enjoys wet coastal climates. (Pojar & Mackinnion, 2014) (Flora of North America)

Local habitat and abundance

Goat's Beard prefers moist soils so it will be found around ravines, rivers and lake edges. It can also thrive in a closed canopy, mixed conifer/ hardwood forest. (USDA, Burke Herbarium)

Plant strategy type / successional stage	Finding goat's beard in an open, early seral forest is uncommon. It is usually late successional, unless colonizing a recent disturbance such as a landslide. No pressing competition dynamics between native or non-native species. (USDA, Burke Herbarium)
Plant characteristics	<i>Arnica dioica</i> is a robust perennial, grows from stout, creeping rhizomes and can reach about 1-2m tall. It's leaves are large, 3 times compound, with sharp toothed leaflets. Flowers are white and about 1mm wide, with male and female plants separated. (Pojar & Mackinnon, 2014)
PROPAGATION DETAILS: FROM SEED	
Ecotype	Seeds sources from riparian area in mixed White Spruce / Paper Birch woodland. Susitna Valley, Alaska. (Moore, Ross. 2004)
Propagation Goal	Ecologically viable plants (Moore, Ross. 2004)
Propagation Method	Grown from Seeds (Moore, Ross. 2004)
Product Type	Container (plug) (Moore, Ross. 2004)
Stock Type	Grown in plugs with rootainers (Moore, Ross. 2004)
Time to Grow	Approximately 1 growing season from sowing to hardened outplant-ready plug; strong root systems reported after 1 year (Moore, Ross. 2004)
Target Specifications	Plants with multiple leaves and a firm root plug. (Moore, Ross. 2004)
Propagule Collection Instructions	Collect mature seed July-November from female plants; mature inflorescences shaken into collection bags/containers before dispersal (Mytty, 2003)
Propagule Processing/Propagule Characteristics	During physiological dormancy, viability is reported between 86-97% depending on accession and ecotype. (Gianni et al., 2017)

Pre-Planting Propagule Treatments	Cold-stored seed is washed in running water for 24 hours. After washing, the seed is Fall-sown in 10.5 in3 Spencer-Lemaire rootainers with a well-drained upland soil mix. These are stored in a cooler exposed to outside winter temperatures. In the Spring, the trays are moved to the greenhouse for germination. (Moore, Ross. 2004)
Growing Area Preparation / Annual Practices for Perennial Crops	Sown into rootainers with well-drained upland soil mix; greenhouse germination followed by outdoor hardening; moderate shade and constant moisture recommended. (Moore, Ross. 2004)
Establishment Phase Details	Germination occurred in greenhouse post cold stratification. Germination exceeded 80% after 6 weeks. (Moore, Ross. 2004)
Length of Establishment Phase	Germination took 6 weeks (Moore, Ross. 2004)
Active Growth Phase	Best seedling growth in 35% percent shade saw high biomass accumulation. Growth decreased significantly in 75% shade treatment. Constant moisture is very important during the growth phase. (Lee et al. 2019)
Length of Active Growth Phase	Spring through midsummer (typically 3-5 months) sees highest photosynthetic rate and biomass accumulation (Lee et al. 2019) (USDA plants)
Hardening Phase	Containers move outdoors in June to acclimate to the general climate. (Moore, Ross. 2004)
Length of Hardening Phase	Typically 1-2 months (Moore, Ross. 2004)
Harvesting, Storage and Shipping	Likely the hardened container plugs used for restoration out planting
Length of Storage	Inferred short term greenhouse storage.
Guidelines for Outplanting / Performance on Typical Sites	Best performance likely in riparian areas, moist woodlands, and in mesic soils. Plants are fairly drought sensitive when first out planting so maintain moderate shade and a nearby water source. (Calflora, USDA)
INFORMATION SOURCES	
Protocol Author	Nathan Wolford
Date Protocol Created or Updated	5/19/26

References:

Gianni, S., Aiello, N., Lombardo, G. S., & Fusani, P. (2019). Seed germination requirements of Buck's beard [*Aruncus dioicus* (Walter) Fernald (Rosaceae)]. *Plant Biosystems - An International Journal Dealing with All Aspects of Plant Biology*, 153(1), 5–11. <https://doi.org/10.1080/11263504.2018.1436611>

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New York Botanical Garden. (1905). *North American flora* (Vol. 22, Issue 3, p. 256). New York Botanical Garden. <https://www.biodiversitylibrary.org/page/750237>

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