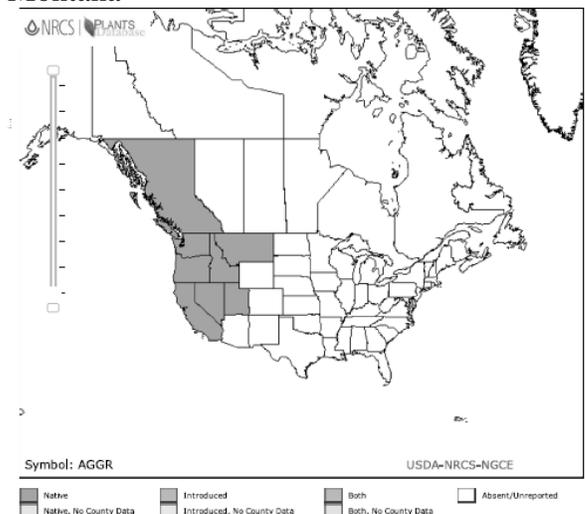
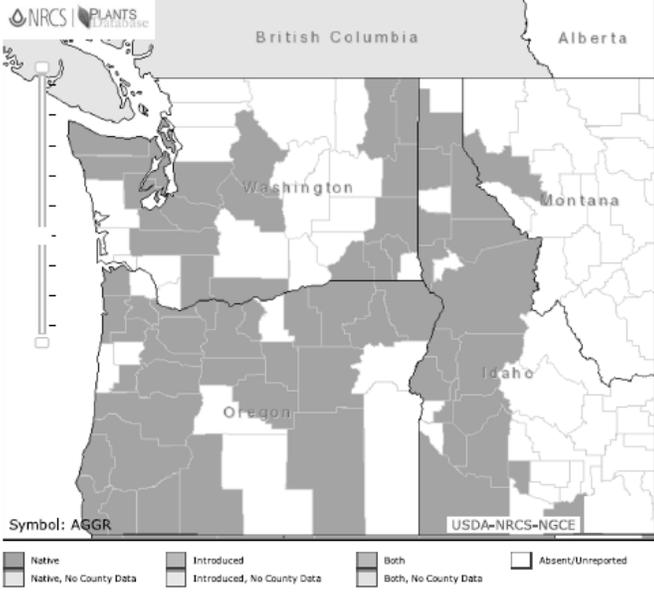


Plant Propagation Protocol for *Agoseris grandiflora*

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/AGGR.pdf>

TAXONOMY	
Plant Family	
Scientific Name	Asteraceae
Common Name	Sunflower family
Species Scientific Name	
Scientific Name	<i>Agoseris grandiflora</i> (nutt.) Greene.
Varieties	var. <i>grandiflora</i> var. <i>leptophylla</i>
Sub-species	
Cultivar	
Common Synonym(s)	<i>Troximon graniflorum</i> nutt. <i>Agoseris plebeja</i> (Greene) Greene <i>Agoseris laciniata</i> (Nutt.) Greene <i>Agoseris grandiflora</i> (Nutt.) Greene var. <i>leptophylla</i> G.I. Baird
Common Name(s)	Bigflower agoseris, grassland agoseris, goat-chicory, grand mountain dandelion, large-flower false-dandelion, mountain dandelion, shortbeak agoserisor, California dandelion
Species Code (as per USDA Plants database)	AGGR
GENERAL INFORMATION	
Geographical range	<p>British Columbia to California: Nevada, Utah, Idaho, and Montana</p>  <p>Symbol: AGGR</p> <p>USDA-NRCS-NGCE</p> <p>Legend: Native Introduced Both Absent/Unreported</p>

	 <p style="text-align: right;">6</p>
Ecological distribution	Mostly in dry areas. Meadows, open lowlands, and moderate elevations. Washington, north and central Idaho, south to California. ²
Climate and elevation range	Low to moderate elevation ¹
Local habitat and abundance	Meadows and prairies ¹
Plant strategy type / successional stage	Wetland indicator ⁶
Plant characteristics	Forb/Herb. Low growing grass. Yellow flower, with green foliage. ³
PROPAGATION DETAILS	
Ecotype	Pullman area
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	Ray Leach Super Cell cone-tainers
Time to Grow	3 months
Target Specifications	Firm plug in container
Propagule Collection Instructions	After the pappus has expanded, collect seeds by cutting the inflorescence. Seed is wind disseminated. ⁴
Propagule Processing/Propagule Characteristics	Keep seeds at room temperature until cleaning, in paper bags. Hand remove pappus, then clean seeds with air column separator, and store in conditions of 40 degrees f. and 40% humidity. 273,665 seeds/lb ⁴
Pre-Planting Propagule Treatments	none
Growing Area Preparation / Annual Practices for Perennial Crops	Sow seeds in January, and keep a layer of pea gravel over medium to prevent seeds from floating. Medium should be watered thoroughly. ⁴
Establishment Phase Details	Keep medium moist until germination.

Length of Establishment Phase	2 weeks
Active Growth Phase	After germination, plants will develop rapidly. Keep watered every other day and fertilized once a week with fertilizer containing micronutrients. ⁴
Length of Active Growth Phase	60 days
Hardening Phase	Move plants to a cold frame in late March-early April
Length of Hardening Phase	2-4 weeks
Harvesting, Storage and Shipping	
Length of Storage	
Guidelines for Outplanting / Performance on Typical Sites	
Other Comments	Species can be sown either in spring or fall. Emergence from fall seedlings is much higher, but spring seedlings will still develop well ⁶

INFORMATION SOURCES

References	<p>Citation:</p> <p>1 Flora of the Pacific Northwest. Hitchcock and Cronquist. University of Washington Press. 1973.</p> <p>2 MacKinnon, A., and Jim Pojar. <i>Plants of the Pacific Northwest Coast</i>. Vancouver, British Columbia: Partners, 2016. Print.</p> <p>3 Munz, Philip A. <i>A Flora of Southern California</i>. Berkeley, CA: U of California, 1974. N. pag. Print.</p> <p>4 "Native Plant Network — Reforestation, Nurseries and Genetics Resources." <i>Reforestation, Nurseries and Genetics Resources</i>. N.p., n.d. Web. 20 May 2017.</p> <p>5 <i>Plants Profile for Agoseris Grandiflora (bigflower Agoseris)</i>. N.p., n.d. Web. 20 May 2017.</p> <p>6 USDA, NRCS. 2001. The PLANTS Database, version 3.1. (http://plants.usda.gov) National Plant Data Center, Baton Rouge, LA. 70874-4490.</p>
Other Sources Consulted	Lyons, C. P. <i>Trees, Shrubs and Flowers to Know in British Columbia and Washington</i> . Edmonton: Lone Pine Pub., 1995. Print.

	<p>Rose, Robin, Caryn E. C. Chachulski, and Diane L. Haase. <i>Propagation of Pacific Northwest Native Plants</i>. Corvallis: Oregon State UP, 1998. Print.</p> <p>Young, James Albert, and Cheryl G. Young. <i>Collecting, Processing and Germinating Seeds of Wildland Plants</i>. Portland, OR: Timber, 1995. Print.</p> <p>Young, J. A., and C. G. Young. <i>Seeds of Woody Plants in North America. - Revised and Enlarged Edition</i>. Portland, Or.: Dioscorides, 1992. Print.</p>
Protocol Author	Robert Franco, updated by Tara Van Corbach
Date Protocol Created or Updated	05/27/06, updated 05/23/2017

Plant Data Sheet

Species (common name, Latin name)

Bigflower agoseris, *Agoseris grandiflora*



©Gary A. Monroe, Ball Canyon, Sierra Co., CA, June 14, 2003.

Range

Washington, north and central Idaho, Oregon and California

Climate, elevation

Low elevation

Local occurrence

Pullman area

Habitat preferences

Open places such as meadows and praries.

Plant strategy type/successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)

Forb/herb. National Wetland Indicator. Low-growing grass.

Associated species

May be collected as: (seed, layered, divisions, etc.)

Seeds are collected by cutting the inflorescence after the pappus has expanded. Seed is wind disseminated and shatters soon after ripening.

Seed germination (needs dormancy breaking?)

Wind disseminated. Usually breaks once ripe. No cold stratification required.

Seed life and Recommended Seed Storage Conditions

Seed is stored in paper bags at room temperature until cleaned. For small amounts, the pappus can be removed by hand. With larger amounts, a hammermill is effective for removing the pappus. Seed is then cleaned with an air column separator or air screen equipment. Cleaned seed is stored in controlled conditions at 40 degrees F. and 40% relative humidity.

Propagation recommendations (plant seeds, vegetative parts, cuttings, etc.)

Seeds are sown in January.

Soil or medium requirements (inoculum necessary?)

Adapted to fine, medium and coarse textured soils. Anaerobic tolerance is low. pH between 5.8 and 7.3. Medium moisture use. Minimum 8 inch root depth.

Installation form (form, potential for successful outcomes, cost)

273,665 seeds per pound. Moderate spread rate. Medium seed vigor.

Care requirements after installed (water weekly, water once etc.)

Plants should be watered deeply every other day.

Normal rate of growth or spread; lifespan

Plants develop quickly after germination and the active growth phase is around 60 days.

Sources cited

1. USDA – NRCS: http://nativeplants.for.uidaho.edu/network/view.asp?protocol_id=2151
2. USDA – NRCS, VegSpec: <http://plants.usda.gov/java/nameSearch?keywordquery=agoseris+grandiflora&mode=sciname>

Data compiled by Robert Franco 5/27/06