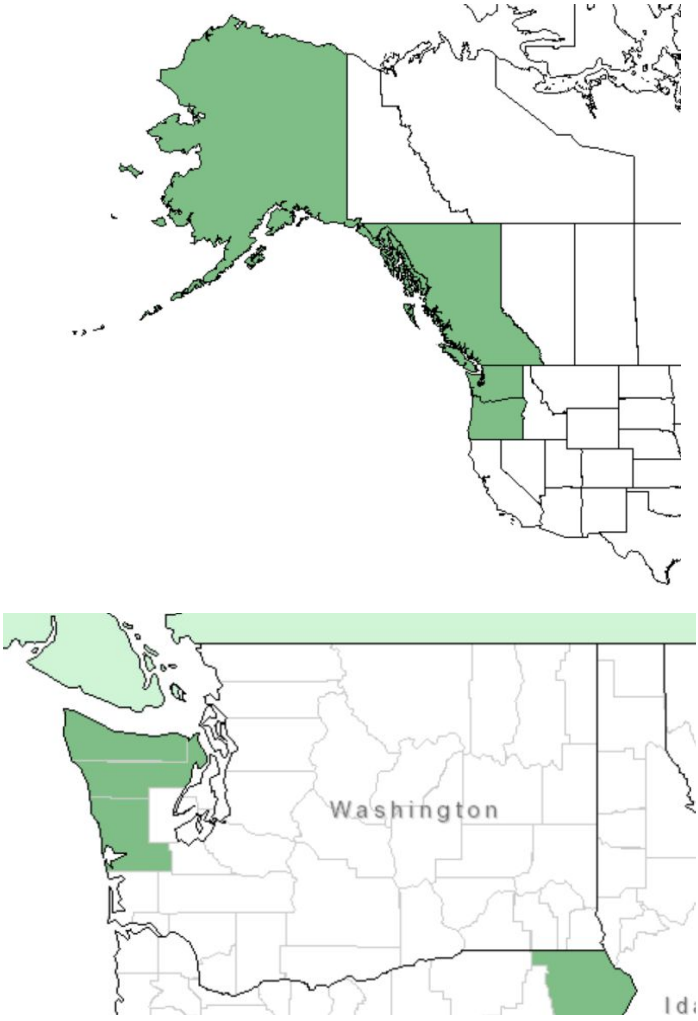


Plant Propagation Protocol for *Agrostis aequivalvis*

ESRM 412 – Native Plant Production

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

TAXONOMY	
Plant Family	
Scientific Name	Poaceae
Common Name	Grass Family
Species Scientific Name	
Scientific Name	<i>Agrostis aequivalvis</i> (Trin.) Trin. ¹
Varieties	None.
Sub-species	None.
Cultivar	
Common Synonym(s)	<i>Podagrostis aequivalvis</i> (Trin.) Scribn. & Merr. ¹ <i>Agrostis aequivalvis</i> var. <i>obliqua</i> Griseb. ⁶
Common Name(s)	Arctic bentgrass, Northern bentgrass, Alaska bentgrass ² Rough Bentgrass ¹²
Species Code (as per USDA Plants database)	AGAE ¹
GENERAL INFORMATION	

<p>Geographical range</p>	 <p>Alaska, British Columbia, Oregon, and Washington¹</p>
<p>Ecological distribution</p>	<p>River banks, lake shores, forest edges²</p>
<p>Climate and elevation range</p>	<p>In British Columbia, located in Pacific Maritime ecozone characterized by cool temperatures and high precipitation^{2,3} Found in bogs with high moisture and low pH levels⁴</p>
<p>Local habitat and abundance</p>	<p>Terrestrial and fresh water ecosystems⁵ Frequently occurs near other species of bentgrass, bromes, sedges, and fescues⁷</p>
<p>Plant strategy type / successional stage</p>	<p>Stress-tolerator that is resistant to shade and nitrogen rich environments, as well as low pH environments^{4, 9}</p>

Plant characteristics	Perennial; grass grows in tufts from rhizomes less than 2 cm long; stems can be 25-70 cm tall. Leaves are smooth sheaths with blades 4-18 cm long, 1-2.5 mm wide, flat; ligules are 0.5-2 mm long. Flowers are open and loose, between 5-15 cm long. ⁸
PROPAGATION DETAILS	
Ecotype	Seed collected in Alaska: Prince William Sound, Perry Islands ¹⁰
Propagation Goal	Seedlings
Propagation Method	Seed
Product Type	Container: propagation tanks ¹¹
Stock Type	
Time to Grow	100 days ¹¹
Target Specifications	22 cubic inches ¹¹
Propagule Collection Instructions	Collect from mid August to early September before natural dispersal occurs ¹²
Propagule Processing/Propagule Characteristics	2.7 oz/hr by hand collection or 127 lb/acre ¹² Can be stored 5-7 years in cool, dry environment.
Pre-Planting Propagule Treatments	Cold/moist stratification is necessary to break dormancy. Soaking with aeration may be beneficial. ¹¹
Growing Area Preparation / Annual Practices for Perennial Crops	Plant seeds on surface of soil that is moist up to four inches below the surface ^{11,12} Tanks can include deepots submerged $\frac{3}{4}$ by water ¹¹
Establishment Phase Details	Surface soil is kept warm and moist for 14-16 days with misting for 2-3 minutes every hour during daylight conditions of 70-80F ^{11,12}
Length of Establishment Phase	Two growing seasons (approximately 6 months) ¹²

Active Growth Phase	Weed control is necessary and no irrigation is applied during pollination ¹² Flooding may be done to reduce fungus growth and promote root growth ¹¹
Length of Active Growth Phase	Two to three growing seasons (6-9 months) ¹²
Hardening Phase	Temperature is gradually decreased to match outplanting conditions.
Length of Hardening Phase	Variable.
Harvesting, Storage and Shipping	Harvest in late July to late August, combination of storage and shipping to be less than 15 days ¹²
Length of Storage	Maximum of 15 days of cold storage of stock.
Guidelines for Outplanting / Performance on Typical Sites	Plants should have established roots and rhizomes before outplanting occurs. ¹¹
Other Comments	

INFORMATION SOURCES

References	<p>[1] "Plants Profile for Agrostis Aequivalvis (Arctic Bentgrass)." Plant Profiles , USDA, plants.usda.gov/core/profile?symbol=AGAE.</p> <p>[2] "Plant Detail: Agrostis Aequivalvis." Native Plant Database, Evergreen, nativeplants.evergreen.ca/search/view-plant.php?ID=03520.</p> <p>[3] Bernhardt, Torsten. "Pacific Maritime." Canadian Biodiversity: Ecozones: Pacific Maritime, canadianbiodiversity.mcgill.ca/english/ecozones/pacificmaritime/pacificmaritime.htm.</p> <p>[4] Washington State Wetland Rating System. Department of Ecology, 2014, fortress.wa.gov/ecy/publications/documents/1406029.pdf.</p> <p>[5] "Agrostis Aequivalvis ." Agrostis Aequivalvis, www.iucnredlist.org/details/biblio/64262084/0.</p> <p>[6] "The Plant List - A Working List for All Plant Species." Agrostis Aequivalvis (Trin.) Trin. - The</p>
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	<p>Plant List, www.theplantlist.org/tpl/record/kew-389066.</p> <p>[7] Vascular Plant List. Washington Native Plant Society, www.wnps.org/plant_lists/counties/skamania/documents/Mt.Adams3.pdf.</p> <p>[8] "E-Flora BC: Electronic Atlas of the Flora of British Columbia." E-Flora BC Atlas Page, linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Podagrostis aequivalvis&redblue=Both&lifeform=6.</p> <p>[9] "Indicator Plants of Coastal British Columbia." Google Books, 1 Jan. 1989, books.google.com/books?id=K9vrfmER2Q0C&pg=PA69&lpg=PA69&dq=agrostis aequivalvis succession&source=bl&ots=VteQaAy7aC&sig=hRX3tVdaBJmVZesn1aNXWQnQsCw&hl=en&sa=X&ved=0ahUKEwjpwG_hNbaAhUD92MKHSNkBi0Q6AEIPDAD#v=onepage&q=agrostis aequivalvis succession&f=false.</p> <p>[10] Curt Gerald Carlbom. A BIOSYSTEMATIC STUDY OF SOME NORTH AMERICAN SPECIES OF AGROSTIS L. AND PODAGROSTIS (GRISEB.) SCRIBN. & MERR. . Oregon State University, June 1967, ir.library.oregonstate.edu/downloads/0k225f59w.</p> <p>[11] J. Chris Hoag. DESCRIPTION, PROPAGATION, AND ESTABLISHMENT OF WETLAND - RIPARIAN GRASS AND GRASS-LIKE SPECIES. Natural Resources Conservation Service, Oct. 2011, www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/idpmctn10749.pdf.</p> <p>[12] "Poaceae (Agrostis)." Reforestation, Nurseries and Genetics Resources, rngr.net/hpn/propagation/protocols/poaceae-agrostis-1372.</p>
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Other Sources Consulted	<p>Agrostis Aequivalvis - Arctic Bentgrass -- Discover Life, Discover Life, www.discoverlife.org/20/q?search=Agrostis aequivalvis.</p> <p>"Arctic Bentgrass - Agrostis Mertensii - Common Names." Encyclopedia of Life, eol.org/pages/1113996/names/common_names.</p>
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