

Plant Propagation Protocol for *Agrostis mertensii*

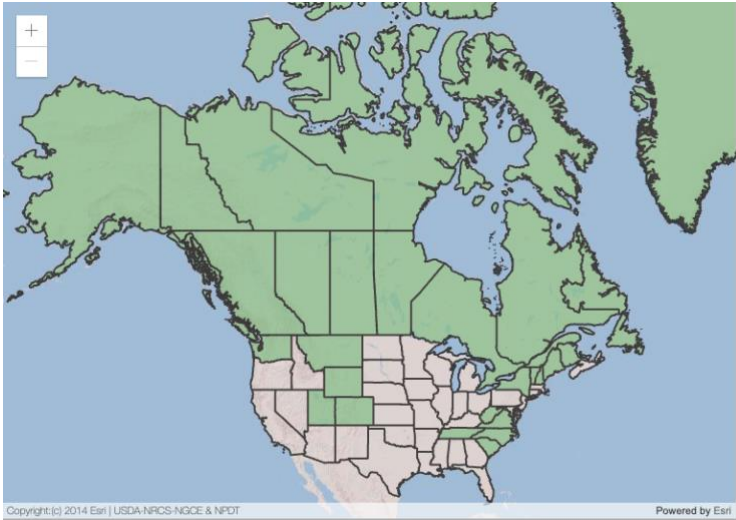

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2022/AGME3.pdf>



Photo: Arthur Haines, 2022.

TAXONOMY	
Plant Family	
Scientific Name	Poaceae
Common Name	Grass family
Species Scientific Name	
Scientific Name	<i>Agrostis mertensii</i> Trin.
Varieties	N/A
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	<i>Agrostis bakeri</i> Rydb. <i>Agrostis borealis</i> Hartm. <i>Agrostis borealis</i> Hartm. var. <i>americana</i> (Scribn.) Fernald <i>Agrostis borealis</i> Hartm. var. <i>paludosa</i> (Scribn.) Fernald <i>Agrostis idahoensis</i> Nash var. <i>bakeri</i> (Rydb.) W.A. Weber <i>Agrostis mertensii</i> Trin. ssp. <i>borealis</i> (Hartm.) Tzvelev <i>Agrostis rupestris</i> auct. non All. (Misapplied) [3]
Common Name(s)	Northern Bentgrass
Species Code (as per USDA Plants database)	AGME3
GENERAL INFORMATION	

<p>Geographical range</p>	<p>Global distribution [3]</p>  <p>Local distribution [4]</p>  <p>Range extends from Eastern Russia, North America, to Greenland and reaches as far south as North Carolina and Colorado. Some reports of specimens from arctic Europe, Scandinavia, and alpine regions of Mexico. [2]</p>
<p>Ecological distribution (ecosystems it occurs in, etc)</p>	<p>Found in Alpine and subalpine zones, various rocky and exposed high-elevation environments. [6] Also grows on banks and gravel bars in river, lake valleys, open grasslands, and alpine slopes.</p>
<p>Climate and elevation range</p>	<p>Elevation range between sea level [10] - 2330 m [1]</p>
<p>Local habitat and abundance (may include commonly associated species)</p>	<p>Grows on banks and gravel bars in river, lake valleys, open grasslands, and alpine slopes. Prefers soil conditions of rocky talus slopes and dry meadows. Associated species: <i>Dryas octopetala</i> and <i>Salix cascadenis</i>. [1]</p>
<p>Plant strategy type / successional stage</p>	<p>Perennial and cespitose. Long awn possibly aids in seed dispersal by animals.</p>

Plant characteristics	Bentgrass, tufted 10-40 cm tall, erect stems with 2-4 nodes. Leafblades 2.5-13 cm x 1 – 3 mm, flat. Rounded ligules, 1 – 3 mm long, irregularly toothed, no hairs. Inflorescences branching, purple, 3 – 12 cm long. Pointed glumes, rounded roughened by short, stiff hairs. 2 nd glume shorter than the first. Lemma equal in lengths to the second glume, 2 – 4 mm. Awn 3 – 4.4 mm long, bent. Palea 0.2 - 0.5 mm long. Anthers 0.5 – 0.7 mm long. Flowers July to August. [1,7]
PROPAGATION DETAILS	
Ecotype	No seed testing literature found.
Propagation Goal	Seeds
Propagation Method	Seeds
Product Type	Plugs
Stock Type	
Time to Grow	No information for this species
Target Specifications	10 cm tall [1,7]
Propagule Collection Instructions	Hand strip seeds from seedhead. [5]
Propagule Processing/Propagule Characteristics	According to protocol of similar species <i>Agrostis exarata</i> and <i>Agrostis hyemalis</i> : about 5,600,000 seeds/lb.[11,12] Storage duration(for <i>Agrostis hyemalis</i>), 3-5 years. [11]
Pre-Planting Propagule Treatments	Cleaning seeds using air screed cleaner [11]
Growing Area Preparation / Annual Practices for Perennial Crops	No data
Establishment Phase Details	No establishment phase data.
Length of Establishment Phase	<i>Agrostis exarata</i> seeds germinate in 2 – 4 weeks. [5]
Active Growth Phase	No data
Length of Active Growth Phase	No data
Hardening Phase	No data
Length of Hardening Phase	No data
Harvesting, Storage and Shipping	Transport to out planting site in plugs.
Length of Storage	No data
Guidelines for Outplanting / Performance on Typical Sites	No data
Other Comments	<i>Agrostis mertensii</i> is Washington State Threatened, Bureau of Land Management (BLM) sensitive, and United States Forest Service (USFS)

	sensitive. Check for seed collection restrictions and permits before collecting. [1]
INFORMATION SOURCES	
References	<ol style="list-style-type: none"> 1. “Agrostis mertensii Trin., WADNR, Accessed 05/02/2022 < https://www.dnr.wa.gov/publications/amp_nh_agme3.pdf> 2. Agrostis mertensii Trin. Washington Flora Checklist, Accessed 05/02/2022 <http://biology.burke.washington.edu/herbarium/waflora/checklist.php?Taxon=Agrostis%20mertensii> 3. “Agrostis mertensii Trin.” USDA Plant Database, Accessed 05/02/2022 < https://plants.usda.gov/home/plantProfile?symbol=AGME3> 4. “Agrostis mertensii Trin.” Burke Herbarium Image Collection, University of Washington, Accessed 04/29/2022 <https://biology.burke.washington.edu/herbarium/imagecollection/taxon.php?Taxon=Agrostis%20mertensii> 5. “Native Seed Production Manual for the Pacific Northwest”, Page 16, USDA, Corvallis PMC, accessed 04/29/2022 <https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/orpmcpu12767.pdf> 6. “Agrostis mertensii – northern bentgrass”, Native Plant Trust, Go Botany, accessed 05/02/2022 < https://gobotany.nativeplanttrust.org/species/agrostis/mertensii/> 7. Lavin and Seibert, “Grasses of Montana”, Montana State University, 2011, Page 13, Accessed 04/29/2022. < https://www.montana.edu/mlavin/herb/mtgrass.pdf> 10. Consortium of Pacific Northwest Herbaria Specimen Database (CPNWH). 2022. <i>Agrostis mertensii</i>. Website https://www.pnwherbaria.org, 09JUN2022. 11. Grabowski, Janet M.. 2001. Propagation protocol for production of Propagules (seeds, cuttings, poles, etc.) <i>Agrostis hyemalis</i> (Walt.) B.S.P. plants USDA NRCS - Coffeerville/Jamie L. Whitten Plant Materials Center Coffeerville, Mississippi. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2022/06/10). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

	<p>12. Bartow, Amy. 2015. Propagation protocol for production of Container (plug) <i>Agrostis exarata</i> plants USDA NRCS - Corvallis Plant Materials Center Corvallis, Oregon. In: Native Plant Network. URL: https://NativePlantNetwork.org (accessed 2022/06/10). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.</p>
<p>Other Sources Consulted</p>	<p>8. Native Plant Network, Propagation Protocol Database < https://npn.rngr.net/propagation/protocols?SearchableText=agrostis&getNPNScientificTitle=&getNPNFamilyScientific=&getNPNStateName=&getNPNProductType=&getNPNOrganizationName=&getNPNCompanyName=&formSubmitted=1></p> <p>9. Native Plant Revegetation Guide for Colorado, Colorado DNR, 1998 < https://cpw.state.co.us/Documents/CNAP/RevegetationGuide.pdf></p>
<p>Protocol Author</p>	<p>Sam Champlin</p>
<p>Date Protocol Created or Updated</p>	<p>05/02/2022</p>