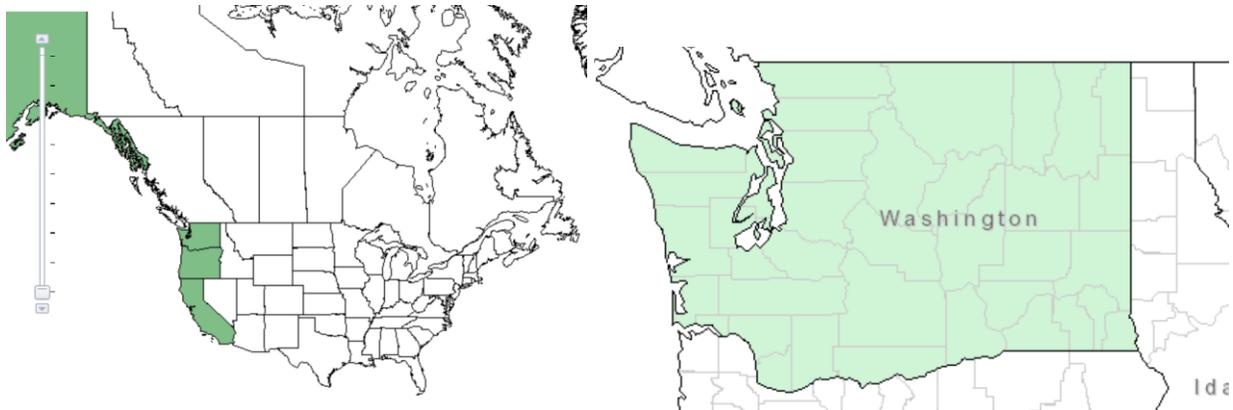


Plant Propagation Protocol for *Deschampsia beringensis*

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/DEBE2.pdf>



TAXONOMY	
Plant Family	
Scientific Name	Poaceae
Common Name	Grass
Species Scientific Name	
Scientific Name	<i>Deschampsia beringensis</i> Hultén
Varieties	
Sub-species	
Cultivar	
Common Synonym(s)	- <i>Deschampsia caespitosa</i> (L.) P. Beauv. ssp. <i>beringensis</i> (Hultén) W.E. Lawrence, orth. var. - <i>Deschampsia cespitosa</i> (L.) P. Beauv. ssp. <i>beringensis</i> (Hultén) W.E.

	Lawrence
Common Name(s)	Bering's Tufted Hairgrass, Beringian Hairgrass
Species Code (as per USDA Plants database)	DEBE2
GENERAL INFORMATION	
Geographical range	It is found natively in California, Oregon, Washington and Alaska
Ecological distribution	Little information available on Bering's tufted hairgrass. It is a sub species of <i>Deschampsia cespitosa</i> which occurs in temperate ecosystems ranging from coastal marshes to alpine meadows.
Climate and elevation range	Temperate climate that experience moisture at the beginning of the growing season
Local habitat and abundance	Local habitat for <i>Deschampsia cespitosa</i> commonly includes White-red-jack pine, Spruce-fir, Loblolly-shortleaf pine, Oak-hickory, Elm-ash-cottonwood, Maple-beech-birch, Aspen-birch, Douglas-fir, Ponderosa pine, and Western white pine.
Plant strategy type / successional stage	Tufted hairgrass has high competitive ability for high latitude revegetation.
Plant characteristics	It is a subspecies of a widespread grass known as <i>Deschampsia cespitosa</i> or tufted hairgrass. Tufted hairgrass is a perennial grass.
PROPAGATION DETAILS (Propagation of <i>Deschampsia cespitosa</i>)	
Ecotype	
Propagation Goal	Plants
Propagation Method	seed
Product Type	Container (plug)
Stock Type	10 cu. in.
Time to Grow	4 months
Target Specifications	Tight root plug in container
Propagule Collection Instructions	-Seeds ripen in late June to early July in pullman area -Collect when inflorescence begins to dry - Strip seed from inflorescence -Store harvested seeds in brown paper bag
Propagule Processing/Propagule Characteristics	-Seed is grayish brown color -For small amounts, rub to free the seed and then clean with an air column separator. -For large amounts, thresh with a hammermill and clean with air screen equipment

	<ul style="list-style-type: none"> -Process seeds with a hammermill to facilitate seed flow through cleaning equipment -Clean seeds are stored at 40 degrees Fahrenheit and 40% humidity
Pre-Planting Propagule Treatments	<ul style="list-style-type: none"> -Dormancy can be encountered and may vary by ecotype - Laboratory germination is best with gibberillic acid and a 5 day prechill at 5 degrees centigrade (Chirco & Turner 1986). - Cold storage and light may enhance germination (Walsh 1995). - Seed from an Oregon alpine source required cool, moist stratification (Kaye 1997), while seed from a Colorado alpine environment germinated best at alternating temperatures without pretreatment (Sayers & Ward 1966). -Light also enhances germination - Seed from western Oregon requires no stratification (Rose et al 1998).
Growing Area Preparation / Annual Practices for Perennial Crops	<ul style="list-style-type: none"> -In January sow seeds into 10 cu. in. Ray Leach Super cell conetainers -Use Sunshine #4 and cover lightly -Add thin layer of pea gravel to prevent seeds from floating when watering deeply
Establishment Phase Details	<ul style="list-style-type: none"> -Keep medium moist until germination occurs -Germination is expected to begin within 7 days of seeding and be complete within 12 days
Length of Establishment Phase	2 weeks
Active Growth Phase	<ul style="list-style-type: none"> -Water plants deeply every other day -Fertilize once a week with a complete, water soluble fertilizer containing micro-nutrients. -Plants may need to be watered daily during final period of active growth phase
Length of Active Growth Phase	3 months
Hardening Phase	<ul style="list-style-type: none"> -Move plants to the cold frame in late March or early April depending on the weather conditions. -Water every other day if weather is cool and every day if weather is hot and dry
Length of Hardening Phase	2-4 weeks
Harvesting, Storage and Shipping	
Length of Storage	
Guidelines for Outplanting /	

Performance on Typical Sites	
Other Comments	This is a propagation protocol for tufted hair grass. Bering's tufted hairgrass is a sub species of this plant, but there is currently very little information available about this sub species.
INFORMATION SOURCES	
References	<ul style="list-style-type: none"> • Skinner, Dave. "Native Plant Network." <i>Reforestation, Nurseries and Genetics Resources</i>, npn.rngr.net/renderNPNProtocolDetails?selectedProtocolIds=poaceae-deschampsia-3143. • "Plants Profile for Deschampsia Beringensis (Bering's Tufted Hairgrass)." <i>Plants Profile for Taxodium Ascendens (Pond Cypress)</i>, USDA, plants.usda.gov/core/profile?symbol=DEBE2. • "UCJEPS: Jepson Interchange: Taxon Not Found." <i>Guide Page for Fucus Gardneri Silva</i>, ucjeps.berkeley.edu/cgi-bin/get_cpn.pl?Deschampsia%2Bberingensis&expand=1. • "ITIS Standard Report Page: Deschampsia Beringensis." <i>ITIS Standard Report Page: Cichlidae</i>, www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=512182#null. • "Deschampsia Beringensis - Hulten ." NatureServe, Explorer., explorer.natureserve.org/servlet/NatureServe?searchName=Deschampsia%2Bberingensis. • "Deschampsia Cespitosa." <i>US Forest Service</i>, www.fs.fed.us/database/feis/plants/graminoid/descses/all.html.
Other Sources Consulted	<ul style="list-style-type: none"> • "Calflora: Deschampsia Cespitosa Ssp. Beringensis." <i>Calflora: Darlingtonia Californica</i>, www.calflora.org/cgi-bin/species_query.cgi?where-calreclnum=11592. • "Deschampsia Beringensis - Berings Tufted Hairgrass -- Discover Life." <i>Pholcus Phalangioides Image</i>, www.discoverlife.org/mp/20q?search=Deschampsia%2Bberingensis. • ", Deschampsia Cespitosa Ssp. Beringensis." <i>California Native Plant Society</i>, calscape.org/Deschampsia-cespitosa-ssp.-beringensis-(). • "Bering Hairgrass (Deschampsia Beringensis)." <i>INaturalist.org</i>, www.inaturalist.org/taxa/161696-Deschampsia-beringensis.
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