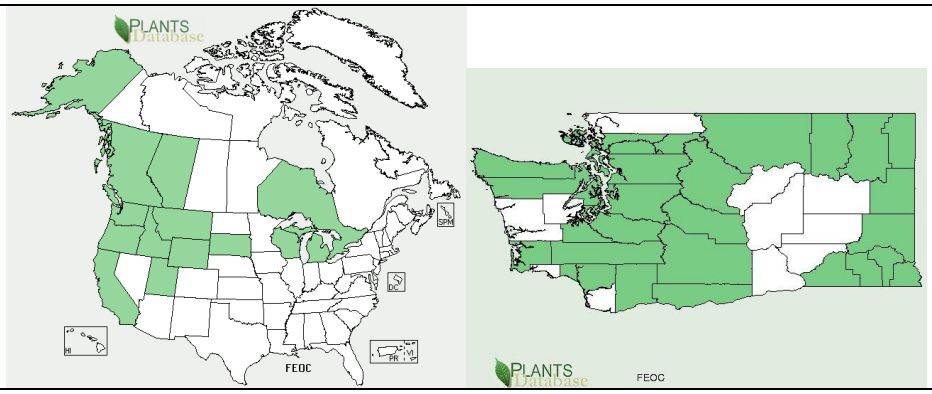
Plant Propagation Protocol for *Festuca occidentalis*
ESRM 412 – Native Plant Production
Spring 2014
http://courses.washington.edu/esrm412/protocols/FEOC.pdf

TAXONOMY	
Family Names	
Family Scientific Name:	Poaceae
Family Common Name:	True grasses
Scientific Names	
Genus:	*Festuca*
Species:	*Occidentalis*
Species Authority:	Hook.
Variety:	
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Synonym	*Festuca ovina* var. *polyphylla* Vasey ex Beal
Common Name:	Western fescue
Species Code	FEOC
GENERAL INFORMATION	
Geographical range	
Ecological distribution	*F. occidentalis* and *F. idahoensis* were not widely accepted as distinct species until 1983. *F. occidentalis* occupies a different ecological role, occurring

	primarily in areas of partial or greater shade. It has been observed in meadows, forest openings and edges, rocky slopes and clearings. Tolerance ranges from a minimum of 355 mm and a maximum of 1,143 mm annual precipitation, minimum temperatures to -42 C and pH of 6.0 to 7.5. (1) (2) (3)
Climate and elevation range	*F. occidentalis* is common at low to middle elevations. It has been documented in California from 30 m to 3,413 m elevation, but elevation is typically less than 1900 m. (2) (5) (6)
Local habitat and abundance; may include commonly associated species	Frequently observed as part of *Pseudotsuga menziesii* forest. (1)
Plant strategy type / successional stage	
Plant characteristics	Tufted perennial bunchgrass, with a small number of slender stems ranging from 25 cm to 100 cm in height. Leaves: Inrolled, hair-like, lax, soft, mostly basal, in large tufts; no auricles; short ligules to 0.5 mm long, fringed at tip. Flowers: Inflorescence an open panicle that usually droops at the top and is 7 cm to 20 cm long; spikelets 3 to 5 flowered; lemmas about 5 mm long, that taper to a slender awn about 4 mm to 10 mm long. (2) (3) (4)
PROPAGATION DETAILS	
Ecotype	
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type:	
Time to Grow	Unknown
Target Specifications	Root plug in container
Propagule Collection	Harvesting dates unknown; July 31 to September 7 has been reported for northwestern British Columbia. Similar species *F. idahoensis* typically ripens in mid-July. Seed can be collected by using clippers to remove heads. Dry outdoors in the sun, or indoors in a warm, dry area. (3) (7)
Propagule Processing / Propagule	If using a thresher, use rotary flail and hold seed heads against flail until seed is removed. Run through fanning mill using 2.5 x 19 mm prescreen, 1.8 x 12.7 mm top slot, 1.2 x 7.1 mm bottom slot. Run through fanning mill a second time using

	1.2 x 7.1 mm prescreen, 1.8 x 12.7 mm top slot, bottom slot blank. Store seed in cool, dry conditions. Average seed length 3.84 mm, width 1.3 mm. Longevity unknown. (3) Seed density: Variously reported as 3,056 seeds per gram (1,386,000 seeds per pound) (3), 600,000 seeds per pound (8), and 350,000 seeds per pound (9).
Pre-Planting Propagule Treatments	No pre-germination seed treatment is recommended. (3) (8)
Growing Area Preparation / Annual Practices for Perennial Crops	Container: Unknown, but similar species *F. idahoensis* has been grown with success in 10 cu. in Ray Leach Super cell conetainers (7) Media: Sunshine #2 with perlite added to 30 percent of volume (11) Seeding depth to 0.6 cm maximum. (3) Fertilization applied immediately after seed was sown at 295 kg/ha of 18-18-18 NPK granular fertilizer, plots lightly raked after seed and fertilizer applied. (10) For other container types, seeding at as high as 3000 PLS/m2 will result in significantly greater initial establishment than 375 to 750 PLS/sq. m, but by the end of year 2 coverage % will converge. (10). Linear seeding density 131-246 PLS per m (3)
Establishment Phase	Unknown, but similar species *F. idahoensis* requires medium kept moist until germination occurs. Germination typically begins in 9 days and reaches 50 percent potential at 10 days. (3)
Length of Establishment Phase	Unknown, but for similar species *F. idahoensis* is 2 weeks (7)
Active Growth Phase	Regularly cultivate rows and spot spray with herbicide to keep plot weed free. Similar species *F. idahoensis* benefits from watering every other day. (3) (7)
Length of Active Growth Phase	Unknown, but for similar species *F. idahoensis* is 60 to 75 days (7)
Hardening Phase	Unknown, but for similar species *F. idahoensis* plants are moved to the cold frame in March or April. Watering every other day during cool weather and every day during hot. (7)
Length of Hardening Phase	Unknown, but for similar species *F. idahoensis* is 2 to 4 weeks. (7)
Harvesting, Storage and Shipping	Unknown
Length of Storage (of seedlings, between	Unknown

nursery and outplanting	
Guidelines for Outplanting / Performance on Typical Sites	Thrives on silt loam to sandy loam soils that receive a minimum of 18 inches of mean annual precipitation. (9) Drill seeding rate 8 pounds per acre (9) Row spacing suggested to be 40 to 90 cm (3) Plant longevity is typically only 2 to 3 years, so longer-lived plants must be included in any revegetation plant mix to take the place of F. occidentalis (3)
Other Comments	

INFORMATION SOURCES

References

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