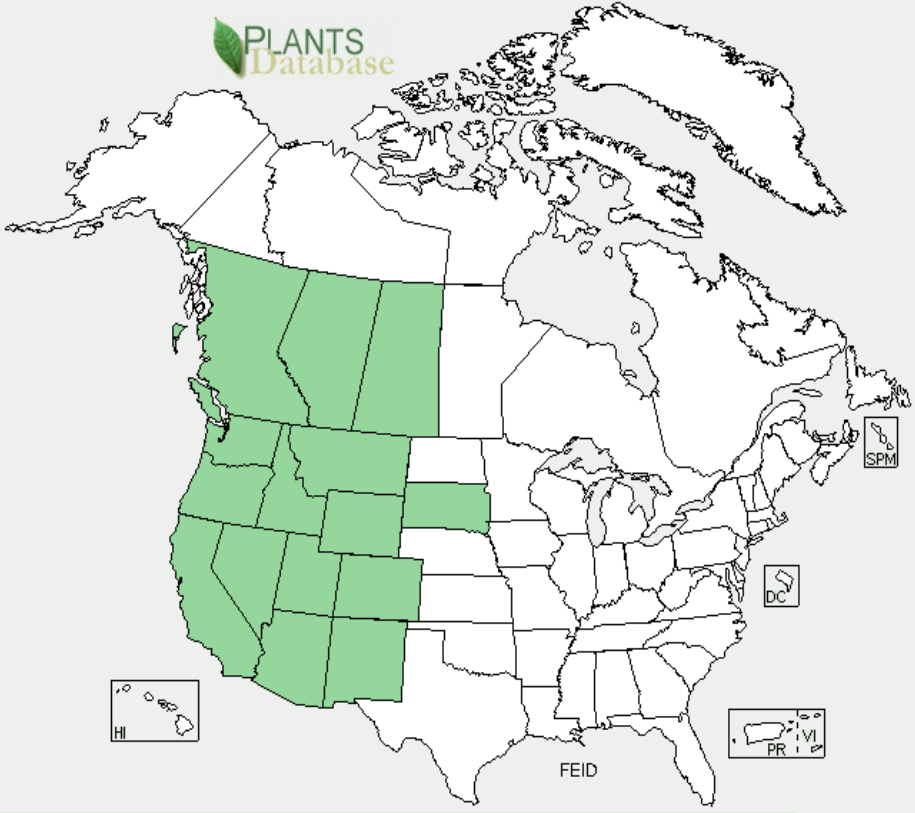
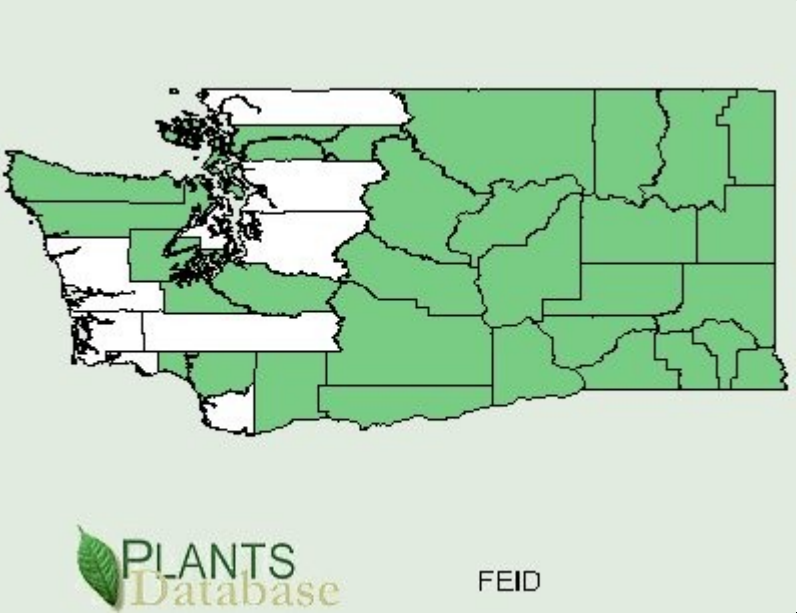


Plant Propagation Protocol for *Festuca idahoensis* Elmer
ESRM 412 – Native Plant Production



TAXONOMY	
Family Names	
Family Scientific Name:	Poaceae
Family Common Name:	Grass
Scientific Names	
Genus:	Festuca L.
Species:	Festuca idahoensis Elmer
Species Authority:	Elmer
Variety:	
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Synonym(s):	Festuca idahoensis ssp. roemerii
Common Name(s):	Idaho fescue Roemer's fescue
Species Code:	FEID
GENERAL INFORMATION	

Geographical range:	 
Ecological distribution:	Idaho fescue is the dominant native bunchgrass of Puget prairies. Mesic to dry grassland in the steppe to subalpine zones. Open pine and poplar forests; exposed bench lands in meadows. (1) (2)
Climate and elevation range	Idaho fescue occupies very diversified habitats. Collections show altitudinal variation in Idaho fescue habitat extending from 300 m to 4,000 m (984 ft. to 13,120 ft.). Although it may be found at any elevation between these extremes, it is most prevalent from about 1,524 to 2439 m (5,000 to 8,000 ft.) in Montana, from 2,341 to 3049 m (7,000

	to 10,000 ft.) in Utah and Colorado, and from 915 to 2,341 m (3,000 to 7,000 ft.) in California and the Northwest. (3) (4)
Local habitat and abundance:	Major component of three sub-communities: oak -Idaho fescue; oak-Idaho fescue- <i>Cerastium arvense</i> ; and oak-Idaho fescue- <i>Trifolium microcephalum</i> . (2)
Plant strategy type / successional stage:	Late successional to climax. Less common in open forests. Shade tolerant. (2) (5)
Plant characteristics:	<p>Perennial, densely tufted grass from fibrous roots; stems 30-100 cm tall, with visible nodes.</p> <p>Leaves: Sheaths conspicuous at the base of the stems, persisting for more than one year, remaining entire, not shredding into fibres; blades (5) 8-25 (35) cm long (adjacent plants may have conspicuously longer or shorter leaves), 1-3.5 mm wide (flat) or 0.4-0.8 mm wide (folded), hexagonal near the midleaves, with three to five nerved; ligules 0.1-0.6 mm long.</p> <p>Flowers: Inflorescence an open panicle, (5) 7-20 (25) cm long, the branches (1.5) 3-7 cm long; spikelets (two) three to seven (nine)-flowered, (5.8) 7.5-17 (19) mm long; lower glumes 2-5 (6) mm long, the upper ones (3) 4-8 mm long; lemmas (5) 6-8 (10) mm long, awned, the awns 2-6 (7) mm long; rachillas zig-zag, visible between the florets; anthers (2.5) 3.2-4 (4.5) mm long; ovary tops smooth.</p> <p>Idaho fescue is one of the most common and widely distributed grasses in the Western States. (1) (2) (5)</p>
PROPAGATION DETAILS	
Ecotype:	
Propagation Goal:	Plant
Propagation Method:	Seed
Product Type:	Container (plug)
Stock Type:	
Time to Grow:	4 months
Target Specification:	Tight root plug in container
Propagule Collection:	Seed ripens in mid-July. It is collected when the inflorescence begins to dry and the seed is in the soft to hard dough stage but before it shatters from the inflorescence. Seed can be stripped from the inflorescence or entire heads may be clipped. Harvested seed is stored in paper bags at room temperature until cleaned. Larger amounts are dried on tarps in a shed and threshed with a plot thresher, then stored in bags in an unheated room until cleaned. (6)
Propagule Processing/Propagation Characteristics:	Small amounts are rubbed to free the seed, then cleaned with an air column separator. Larger amounts are threshed with a hammermill or a plot thresher, then cleaned with air screen equipment. Clean seed is stored in controlled conditions at 40 degrees Fahrenheit and 40% relative humidity. Seed is light brown in color. 450,000-520,000 seeds/lb. (7)

Pre-Planting Propagule Treatments:	Seed germinates readily without pretreatment. Maximum germination of seed from 4 eastern Oregon sites occurred at temperatures between 20 & 25 degrees Celsius. Maximum germination reported with alternating temperatures of 15/20 degrees Celsius. Idaho fescue seed may have a short after-ripening requirement. (8) (9)
Growing Area Preparation / Annual Practices for Perennial Crop:	In January seed is sown in the greenhouse in 10 cu. in. Ray Leach Super cell conetainers filled with Sunshine #4 and covered lightly. Head space of ¼ to ½ inch is maintained in conetainers to allow deep watering. A thin layer of coarse grit is applied to the top of the planting soil to prevent seeds from floating during watering. Conetainers are watered deeply. (6)
Establishment Phase (from seeding to germination):	Medium is kept moist until germination occurs. Germination usually begins in 6-7 days and is complete in 12-14 days.
Length of Establishment Phase:	2 weeks
Active Growth Phase:	Plants are watered deeply every other day and fertilized once per week with a complete, water soluble fertilizer containing micronutrients.
Length of Active Growth Phase:	60-75 days
Hardening Phase:	Plants are moved to the cold frame in late March or early April, depending on weather conditions. They are watered every other day if the weather is cool, and every day during hot, dry spells.
Length of Hardening Phase:	2-4 weeks
Harvesting, Storage and Shipping:	Transplanting is done in early May by using an electric drill and portable generator to drill 1.5 inch diameter holes at the planting site. Survival in seed increase plantings without competing vegetation averages 85%. Transplanting into sites with existing vegetation reduces survival and vigor depending on weather conditions following planting. Freezer storage. (10)
Length of Storage:	NA
Guidelines for Outplanting / Performance on Typical Sites:	Row spacing of 30 to 36 inches is recommended to facilitate weed control and rouging of off-types. Plant 4 PLS pounds of seed per acre for these row plantings. (11)
Other Comments:	
INFORMATION SOURCES	
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Other Sources Consulted:	
Protocol Author:	Galen Cheney
Date Protocol Created or Updated:	05/18/11