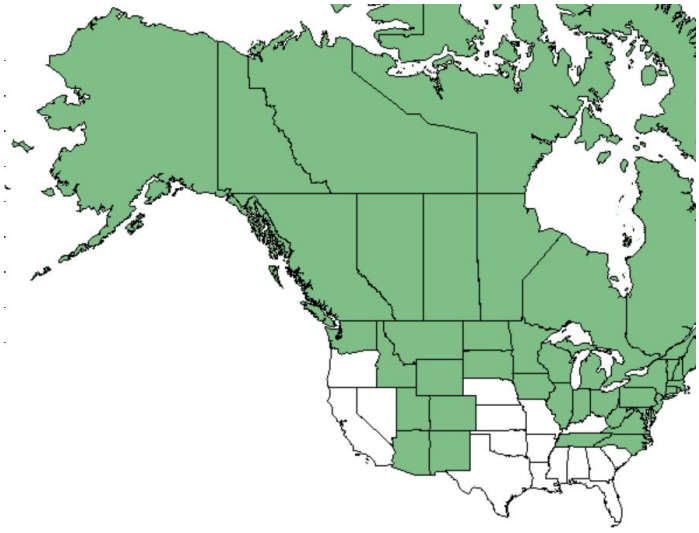
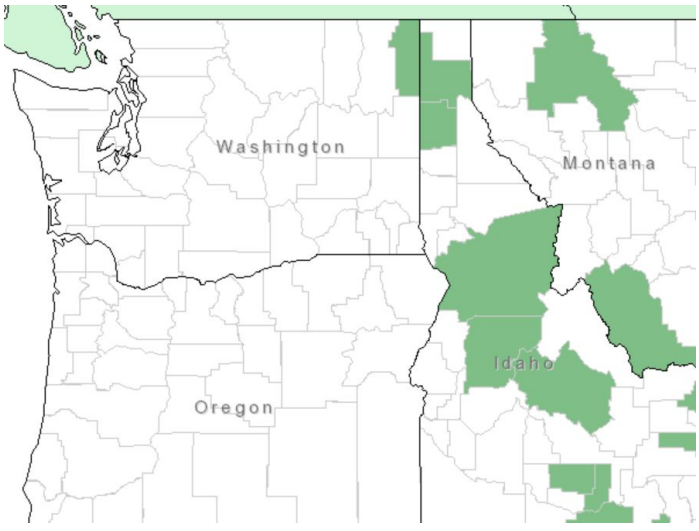
Plant Propagation Protocol for *Carex siccata*

ESRM 412 – Native Plant Production

Protocol URL: https://courses.washington.edu/esrm412/protocols/CASI12.pdf

Photo from USDA National Resources Conservation Services

TAXONOMY	
Plant Family	
Scientific Name	Cyperaceae
Common Name	Sedge Family
Species Scientific Name	
Scientific Name	*Carex siccata*
Varieties	*Carex foenea* Willd. var. *enervis* Evans & Mohlenbr; *Carex foenea* Willd. var. *foenea*; *Carex foenea* Willd. var. *tuberculata* F.J. Herm[1]
Sub-species	None.
Cultivar	

Common Synonym(s)	*Carex foenea* Willd.*; Carex aenea* Fernald; *Carex siccata* Dewey[1]
Common Name(s)	Bronze Sedge, Dryland Sedge, Fernald's Hay Sedge, Hay Sedge, Hillside Sedge[1], Straw Sedge[4]
Species Code (as per USDA Plants database)	CASI12[1]
GENERAL INFORMATION	
Geographical range	  Alaska, Canada, Northern United States, and Four Corners[1]

Ecological distribution	Preferential to dry and acidic soil[2] and uplands, but can occasionally be found in wetlands[1]
Climate and elevation range	Found between 0-3600m elevation in open, sandy forests and savannas, dry prairies, sand dunes, sandy fields, sunny rock outcrops, alpine or subalpine meadows[3]
Local habitat and abundance	Frequently occurs near or within oak and pine forests; considered common in Northwestern regions, endangered in the East[3]
Plant strategy type / successional stage	
Plant characteristics	Perennial nonhydrophyte graminoid that fruits in late spring/early summer[1,2] Perigynia varies based on regional conditions (can be veinless, tuberculate or both)[3]
PROPAGATION DETAILS	
Ecotype	Minimal information found; protocol based on techniques for growing related varieties of upland sedge (*Carex* spp.) from seeds gathered in Iowa in 2006[5]
Propagation Goal	Seedlings
Propagation Method	Seeds
Product Type	Container: Ray Leach fir cells
Stock Type	
Time to Grow	10 days to 2 weeks after sowing for germination, 2 months of growth after.
Target Specifications	Unknown.
Propagule Collection Instructions	Collect perigynia between late June and mid-July when mature.
Propagule Processing/Propagule Characteristics	Air dry in ambient air for two weeks, and hand screen using 1mm and 2mm sieves.

Pre-Planting Propagule Treatments	Cold, moist stratification is typical, but germination can occur from fresh seed on occasion. Stratification should occur in sterile sand at 40℉ for 4 weeks.
Growing Area Preparation / Annual Practices for Perennial Crops	Transplantation into polyweed barrier spaced 8 inches apart, located on a silty clay loam.
Establishment Phase Details	Winter frosts were avoided based on previous weather patterns, and transplants were exposed to regular rain and cool temperatures.
Length of Establishment Phase	3 months.
Active Growth Phase	Weeds were controlled by barrier, which was left in place until seed collection the following July. Hand weeding was completed for annual weeds that came up.
Length of Active Growth Phase	1 year (one growing season).
Hardening Phase	Not applicable for this propagation style.
Length of Hardening Phase	
Harvesting, Storage and Shipping	Harvested with a combine in an “upstream” motion, cropping low on the stem to preserve seed. Material was hand-screened and resulting seeds typically had high dormancy, which could be beneficial for storage and shipping (not covered).
Length of Storage	Unknown.
Guidelines for Outplanting / Performance on Typical Sites	Outplanting is generally successful due to establishment and growth phases occurring outside of a greenhouse setting.
Other Comments	
References	1. Plants Profile for Carex siccata (dryspike sedge). (n.d.). Retrieved May 15, 2018, from

	https://plants.usda.gov/core/profile?symbol=CASI12 2. Plant Database. (n.d.). Retrieved May 15, 2018, from https://www.wildflower.org/plants/result.php?id_plant=CASI12 3. Carex siccata in Flora of North America @ efloras.org. (n.d.). Retrieved May 15, 2018, from http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242357540 4. Carex foenea Willd. (n.d.). Retrieved May 15, 2018, from https://gobotany.newenglandwild.org/species/carex/foenea/ 5. Housel, G. A., & Smith, D. D. (2010). Upland Sedge (Carex spp.) Propagation for Seed Increase. Retrieved May 15, 2018, from https://tallgrassprairiecenter.org/sites/default/files/pdfs/upland_sedge_prop_winona_napc.pdf
Other Sources Consulted	NatureServe Explorer. (n.d.). Retrieved May 15, 2018, from http://explorer.natureserve.org/servlet/NatureServe?sourceTemplate=tabular_report.wmt&loadTemplate=species_RptComprehensive.wmt&selectedReport=RptComprehensive.wmt&summaryView=tabular_report.wmt&elKey=881687&paging=home&save=true&startIndex=1&nextStartIndex=1&reset=false&offPageSelectedElKey=881687&offPageSelectedElType=species&offPageYesNo=true&post_processes=&radiobutton=radiobutton&selectedIndexes=639312 Carex siccata Dewey. (n.d.). Retrieved May 15, 2018, from https://gobotany.newenglandwild.org/species/carex/siccata/ Carex siccata (Dry-spike Sedge). (n.d.). Retrieved May 15, 2018, from https://www.minnesotawildflowers.info/grass-sedge-rush/dry-spike-sedge

	Carex Siccata. (n.d.). Retrieved May 15, 2018, from http://biology.burke.washington.edu/herbarium/imagecollection.php?&Genus=Carex&Species=siccata Carex siccata Dewey. (n.d.). Retrieved May 15, 2018, from http://www.swbiodiversity.org/seinet/taxa/index.php?taxon=Carex siccata Standley, L. (2011). Field Guide to Carex of New England. [online] Rhodora.org. Available at: http://www.rhodora.org/specialpublications/pdf/Standley-Field-Guide-Carex-of-New-England.pdf [Accessed 4 Jun. 2018].
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