

Plant Propagation Protocol for [Insert Species]

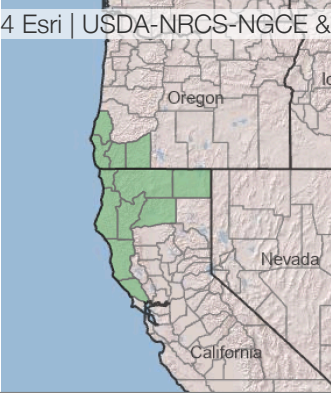
ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2026/CACR29.pdf>



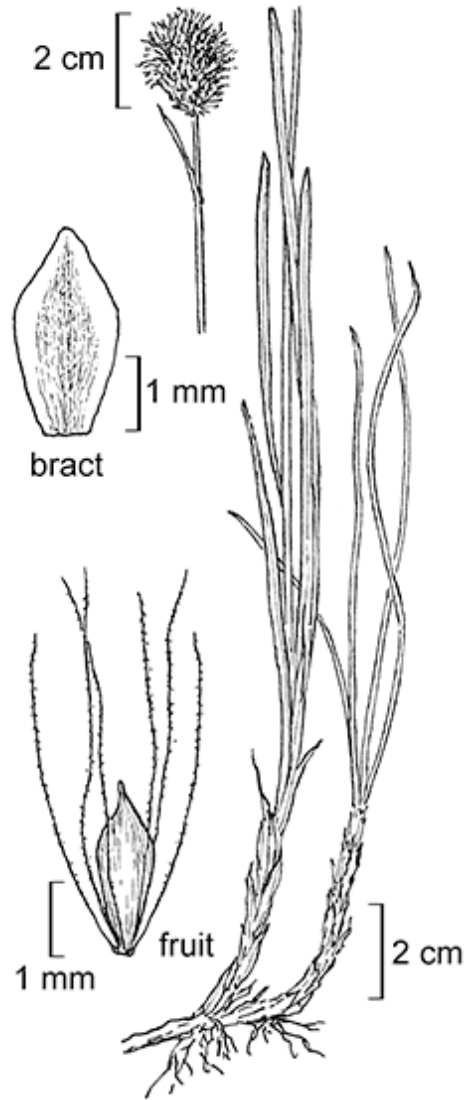
Calliscirpus criniger(4)

TAXONOMY	
Plant Family	
Scientific Name	Cyperaceae Juss. (1)
Common Name	Sedge family (1)
Species Scientific Name	
Scientific Name	<i>Calliscirpus criniger</i> (A. Gray) C.N. Gilmour, J.R. Starr & Naczi (1)
Varieties	N/A
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	Eriophorum crinigerum (A. Gray) Beetle — ERCR4 (1) Scripus criniger A. Gray — SCCR6 (1)

Common Name(s)	Fringed cottongrass (1) Long-hair Barbed-bulrush (2)
Species Code (as per USDA Plants database)	CACR29 (1)
GENERAL INFORMATION	
Geographical range	<p>Copyright:(c) 2014 Esri USDA-NRCS-NGCE & NPDT</p> <p>Native to California and Oregon and Can be found in some other Parts of western US (1)</p> 
Ecological distribution	Fringed cottongrass are commonly found in riparian zones in forested wetland habitats like wet meadows, stream banks, and seepage slopes. (2,3)
Climate and elevation range	Found between 0-12000 ft (3) 300-1900 m (6)
Local habitat and abundance	OBL wetland classification (5) bogs and seeps slopes
Plant strategy type / successional stage	Re-sprout form rhizomes, wetland habitat, wetland disturbances, post flood re-sprout regimes, early-mid successional (7)

Plant characteristics

Monocot, perennial, graminoid (1)
Can grow up to 40 inches and retains a white/green/
brown color once bloomed (2)



Calliscirpus criniger

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PROPAGATION DETAILS: FROM SEED

Ecotype

The seed(s) used in the referenced protocol were from a slew of places including Mt Hood, Umpqua, Willamette National Forests, Oregon; Mt Baker-Snoqualmie National Forest, Washington. (5)

Propagation Goal

Plants (5)

Propagation Method	Seed (5)
Product Type	Container (plug) (5)
Stock Type	107 ml container (5)
Time to Grow	10 weeks (5)
Target Specifications	The desired characteristics that set the propagules up for successful outplanting include a well developed crown and a plug that is firm in the container. (5)
Propagule Collection Instructions	Collect seeds once plant is fully bloomed by late summer. Phenology observations indicate that bloom time is throughout all three summer months. (2)
Propagule Processing/Propagule Characteristics	N/A
Pre-Planting Propagule Treatments	Mix seeds with sand before sowing directly into containers. The seeds are small in size, so the mixing with sand helps create a more even distribution of seeds in the containers before adding them to a growing medium consisting of 40:20:20:20 % peat:composted fir bark:pumice with Nutricote controlled release fertilizer(18N:6P2O5:8K2O with minors; 140-d release rate at 21C) at the rate of 0.5 gram Nutricote per 107 ml container. Seal racks of these containers with plastic bags to store them in a 1-3 degree celsius refrigerator for 60 days. Monitor the cells weekly ensuring adequate moisture throughout the stratification process. (5)
Growing Area Preparation / Annual Practices for Perennial Crops	This protocol utilizes a greenhouse growing facility which holds necessary equipment and conditions for ideal propagation. Once the dormancy period has been broken, remove prepared racks from stratification facilities and set up in greenhouse in mid-July. Maintain the same medium as previously created. Since plants are starting the germination process in the hottest part of the year, ensuring sufficient moisture is essential. Lightly irrigate cells multiple times per day. (5)
Establishment Phase Details	Germination for this propagation test was uniform and completes in one to two weeks. Once germinated, plants should be fertilized with soluble 12-2-14-6Ca-3Mg at 100 ppm for 1 week. (5)

Length of Establishment Phase	One to two weeks (5)
Active Growth Phase	The plants grow rapidly during this phase. Apply soluble fertilizer 20-9-20 NPK at 150 ppm every week for eight weeks. (5)
Length of Active Growth Phase	Eight weeks (5)
Hardening Phase	No dry down—reducing water availability to induce plant dormancy— is required. Seedlings can be moved to an outdoor growing space in mid
Length of Hardening Phase	Two weeks (5)
Harvesting, Storage and Shipping	Once these plants are harvested in mid October, they should be out planted during this autumn season. If needed, storage is preferred in an outdoor growing area. If plants are to be shipped, ensure they are well irrigated prior to shipping them in containers. (5)
Length of Storage	Out plant ASAP after harvesting—within the autumn season (5)
Guidelines for Outplanting / Performance on Typical Sites	Flowers typically have 6 3-9mm bristles (6)
Other Comments	This protocol is mainly derived from propagation methods for <i>Scirpus microcarpus</i> . These methods are found in a 2020 Oregon state protocol for a plant that is in the same family as the target species. Also some may say same genus because of the debated genus of what is currently known as <i>Calliscirpus criniger</i> but formerly also a part of the <i>scirpus</i> genus as seen in the synonyms section of the taxonomy information.

INFORMATION SOURCES

References (see full citations below)	<ol style="list-style-type: none"> 1. Usda plants database 2. Lady bird Johnson 3. Berkeley 4. Cal photos 5. Scirpus Microcarpus 6. Oregon Flora 7. Wetland succession
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Other Sources Consulted	https://nwwildflowers.com/flora/?t=Eriophorum+crinigerum https://oregonflora.org/taxa/index.php?taxon=3480 https://nwwildflowers.com/flora/?t=Eriophorum+crinigerum
Protocol Author	Elena Rheingans
Date Protocol Created or Updated	05/11/26

References

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