

Plant Propagation Protocol for *Carex rossii*

ESRM 412 – Native Plant Production

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

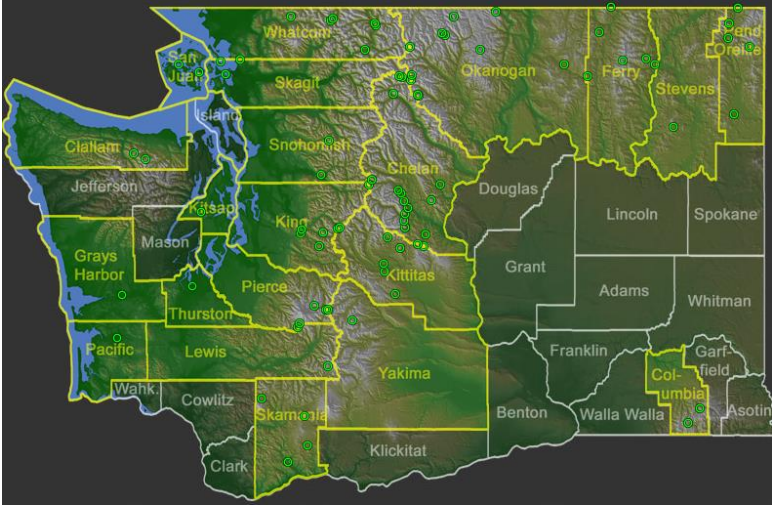


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Carex Rossii (Ross Sedge)

Source: USDA NRCS PLANTS database

TAXONOMY	
Plant Family	Cyperaceae (USDA 2016).
Common Name	Ross sedge (USDA 2016).
Scientific Name	<i>Carex rossii</i> (USDA 2016).
Species Scientific Name	<i>Carex rossii</i> Boott (USDA 2016).
Genus:	<i>Carex</i> (USDA 2016).
Species:	<i>Rossii</i> (USDA 2016).
Species authority:	Willd (Michelle, 2008).
Varieties	None identified in USDA database of plants

Sub-species	None identified in USDA database of plants
Cultivar	None identified from literature search
Common Synonym(s)	<i>Carex brevipes</i> <i>Carex deflexa</i> var. <i>bootii</i> <i>Carex deflexa</i> var. <i>rossii</i> <i>Carex diversistylis</i> <i>Carex geophila</i> (USDA 2016).
Common Name(s)	Red Fir Forest Yellow Pine Forest Subalpine Forest Lodgepole Forest Alpine Fell-fields Coastal Prairie (Michelle, 2008).
Species Code (as per USDA Plants database)	CAR05 (USDA 2016).
GENERAL INFORMATION	
Geographical range	 <p>Alaska, Western Canada, subarctic Canada, U.S, Alaska, Arizona, Minnesota (USDA 2016).</p>
	Ecological distribution

Climate and elevation range	The plant grows in regions with cool mesothermal, cool semi-arid, temperate and boreal climates. It grows under an average annual precipitation of 47.0-51.0 and grows in elevations between 1070 feet to 12500 feet. It can survive on a mean annual temperature of 6 to 7 degrees C (Michelle, 2008).
Local habitat and abundance	Ross sedge grows on Rocky Mountains, submontane to subalpine and alpine sites, steep banks. Near sea level to near timberline in pacific northwest. Its native habitats and regions of abundance are subarctic Canada and Alaska, Ontario, Michigan and West Canada (Michelle, 2008).
Plant strategy type / successional stage	It is an early-seral species on disturbed sites it is “aggressive pioneer”. It is a stand-replacing fire, grows after fire since the seeds are stored in the soil (Michelle, 2008).
Plant characteristics	Produces dense clump or a solid lump of slender stems about 40 centimeters long, has rhizomes, staminate flower spikes above the rounded pistillate spikes. Produces a three-sided fruit covered in green perigynium (Clark, 2006).
PROPAGATION DETAILS	
Ecotype	No particular information found
PROPAGATION DETAILS	
Propagation goal	Divisions are started in January and the propagation is done using vitamin B1.
Product Type	Seed, rhizomes
Time to Grow	Rhizomes are grown in the field.
Target Specifications	Has low ability to spread through seeds thus no seed planting since seedlings have low vigor (Flaig & UOW, 2007).
Propagule Collection Instructions	Rhizomes should be grow on lengths between 42 to 72 centimeters (Flaig & UOW, 2007).
Propagule Processing/Propagule Characteristics	The seeds are left to grow them rhizomes can be picked for transplanting(Flaig & UOW, 2007).

Pre-Planting Propagule Treatments	The seeds are not passed through cold stratification; the plant cannot survive the temperature of 25 degrees Celsius and below (Clark, 2006).
Growing Area Preparation / Annual Practices for Perennial Crops	The plant is no seeded, so no seed treatment required (Michelle, 2008).
Establishment Phase Details	Ross edge regeneration is through the rhizomes (Michelle, 2008).
Length of Establishment Phase	Seedbed is prepared in autumn, manure can be added
Active Growth Phase	Seeds are planted in December and likely to get ready for transplant in March (Flaig & UOW, 2007).
Length of Active Growth Phase	20 to 41 years when they are 41-72cm high, at this time the rhizomes are strong and are ready for making new edges (Michelle, 2008).
Hardening Phase	30 weeks (Flaig & UOW, 2007).
Length of Hardening Phase	The Ross Sledge does not grow at temperatures below 25 degrees Celsius during winter. During spring, the rhizomes grow strong, and no further vertical growth takes place. In late spring hardening off begins (Clark, 2006).
Harvesting, Storage, and Shipping	Late winter and early spring (Michelle, 2008).
Length of Storage	Harvesting time depends on the purpose or use of the edge, for brooding, nesting or forage. Cutting off the rhizomes and leaves stored in silage for future use. They can be dried as hay bound together for shipping (Clark, 2006).
Guidelines for Out-planting / Performance on Typical Sites	The seedlings need to be planted immediately to avoid withering (Michelle, 2008)..
Other Comments	The soil needs to be well-drained, moderately acidic. The temperature should be above -13°F. The land should be well light (Flaig & UOW, 2007).
INFORMATION SOURCES	Breaking the seed dormancy is necessary, but propagation using seed is less successful. Rhizomes are the best propagation method of Ross Sedges.

	<p>A well are viable for more than 5 years in dry lands Fire cannot destroy the seed. Birds and predators can damage the seeds. The edge can be infested with aphids, thrips (Michelle, 2008).</p>
References	<p>Clark, P. (2006). Date and plant community effects on Ross sedge forage quality. <i>Journal of Range Management</i>, 56(1). http://dx.doi.org/10.2458/azu_jrm_v56i1_clark</p> <p>Michelle, A. (2008). <i>Carex rossii</i>. <i>Fs.fed.us</i>. Retrieved 22 June 2016, from http://www.fs.fed.us/database/feis/plants/graminoid/carros/all.html</p> <p>Flaig, J. H., & University of Wyoming. (2007). <i>A vascular plant inventory of the eastern San Juan Mountains and vicinity in southern Colorado</i>. Laramie, Wyo: University of Wyoming.</p> <p>United States Department of Agriculture. (2016). <i>Plants Profile for Carex rossii (Ross' sedge)</i>. (2016). <i>Plants.usda.gov</i>. Retrieved 22 June 2016, from http://plants.usda.gov/core/profile?symbol=CAR05</p>
Other Sources Consulted	<p>Clark, P. (2006). Date and plant community effects on elk sedge forage quality. <i>Journal of Range Management</i>, 56(1). http://dx.doi.org/10.2458/azu_jrm_v56i1_clark</p> <p>Dibble, A. (1993). Back's Sedge, <i>Carex backii</i> (Cyperaceae). <i>Maine Naturalist</i>, 1(1), 33. http://dx.doi.org/10.2307/3858196</p> <p>HILL, G. & HENRY, G. (2010). Responses of High Arctic wet sedge tundra to climate warming since 1980. <i>Global Change Biology</i>, 17(1),</p>

	<p>276-287.</p> <p>http://dx.doi.org/10.1111/j.1365-2486.2010.02244.x</p> <p>Holloway, P., Sparrow, S., & Willison, M. (2013). GERMINATION OF WATER SEDGE, CAREX AQUATILIS, AND COTTON SEDGE, ERIOPHORUM ANGUSTIFOLIUM, FROM ARCTIC COASTAL WETLANDS, PRUDHOE BAY, ALASKA©. <i>Acta Hortic.</i>, (1014), 317-320. http://dx.doi.org/10.17660/actahortic.2013.1014.71</p> <p>Huntington's 'In Brush, Sedge, and Stubble' In <i>Brush, Sedge, and Stubble</i></p> <p>A Picture Book of the Shooting-Fields and Feathered Game of North America Dwight W. Huntington. (1899). <i>The Auk</i>, 16(1), 89-89. http://dx.doi.org/10.2307/4069291</p>
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