

***Carex macloviana* d'Urv.**
Falkland Island sedge

Family: Cyperaceae



Figure 54. Documented range of *Carex macloviana* in northern British Columbia.



Figure 55. Growth habit of *Carex macloviana* in cultivation.

***Carex macloviana* d'Urv.**
(continued)

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Background Information

Carex macloviana is a disjunct circumpolar species found north to Alaska, the Yukon and Northwest Territories, with isolated populations found in Labrador, Wyoming and Colorado, Greenland, Iceland, northern Europe, and even in the southern hemisphere in southern Chile and the Falkland Islands. It is reportedly frequent in northern British Columbia but rare in southern B.C and east of the Coast-Cascade Mountains (Douglas et al. 2001a).

Growth Form: Densely tufted with short rhizomes; sessile spikes crowded into a dense head; copper coloured to olive green perigynia; short flat leaves, 2-4 mm wide, much shorter than stem; mature plant size: 20 - 50 cm tall (MacKinnon et al. 1992).

Site Preferences: Dry to moist open forests, thickets, meadows, grassy slopes, lakeshores, clearings, and peatlands from low to high elevations throughout the northern Interior of B.C. (MacKinnon et al. 1992, Douglas et al. 1994).

Seed Information

Seed Size: Length: 3.56 mm (3.01 - 4.11 mm)
Width: 1.48 mm (1.12 - 1.89 mm)

Seeds per gram: 1,991 (range: 1,424 - 2,514)

Volume to Weight Conversion: 232.4 g/L at 87.0% purity

Germination Capacity: At 30°/20° C untreated: 66.1%
(61.3 - 75.5%)
stratified: 49.8%
At 25°/15° C untreated: 69.7%
stratified 70.0%

Germination Speed: To first germination: 25.0 days
To 50% potential: 41.5 days

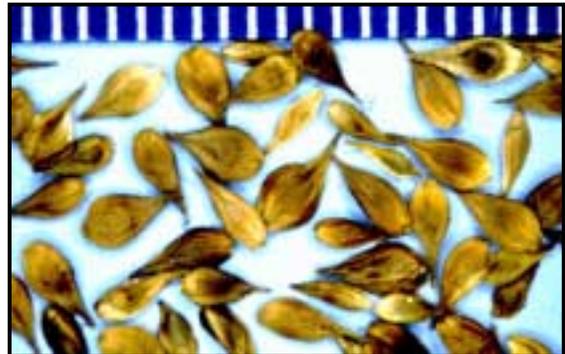


Figure 56. Seeds of *Carex macloviana*.
Rule divisions are 1.0 mm.

Seed Longevity: Link (1993) reports that two similar species (*Carex microptera* and *Carex pachystachya*) may be stored for two to many years because the hull apparently contains germination inhibitors. In our research, although two year old seeds were still viable, germination rates were beginning to decline.

Considerations for Growing

Techniques for Seed Production

Seed treatment: Stratification was not beneficial in our germination tests. For *Carex microptera*, Link (1993) suggests a 60 day soak under dark conditions.

Soil considerations: Establish on loamy, well-prepared soils, with a firm seedbed.

Stand establishment: Site should be free of all weeds. Little is known about stand establishment from seed; this species may have complex dormancy requirements, so fall seeding is recommended, and it may take two to three years to establish plots successfully from seed. As recommended by Smith and Smith (2000), we have found propagation from greenhouse-grown seedlings to be more quickly successful for all *Carex* spp.

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(continued)**

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(Techniques for Seed Production, continued)

Row spacing: Unknown; suggest 75 to 120 cm under dryland conditions, 30 to 90 cm with good irrigation.

Seeding density: Unknown at present; suggest 60-100 PLS seeds per linear metre (Smith and Smith 2000).

Seeding depth: 0.6-1.2 cm.

Stand maintenance: Regularly cultivate rows and spot spray with herbicide to keep plot weed free. Our *Carex macloviana* plot was sprayed with the selective broadleaf herbicide Banvel™ to control dicot weeds. It survived the spraying but there appeared to be reduced seed set that year. Annual fertilization with low N formulations may extend the life of the plot.

Harvesting and Seed Processing

Dates of selective harvesting in the Bulkley Valley of northwestern B.C. range from August 21st to October 18th. Timing of harvest is important as seed scatters moderately easily.

Hand clipping: Have hand tools (hand clippers or hand sickles) very sharp because movement of the seed heads easily dislodges seed and they can be lost, and seed stalks are moderately hard. Hold the seed heads over bins placed alongside the plants being clipped or place a bag over the seed heads before clipping to minimize seed loss.

Vacuum: Suitability unknown.

Seed stripper: Possibly suitable. Because the seeds shatter easily, if you are using mechanical harvesting methods, plastic between rows is recommended so the many scattered seeds can be salvaged by sweeping or vacuuming.

Combine/thresher settings: Run at 1548 rpm with 4 mm gap; seed stalks are usually not long enough to safely use with the rotary flail.

Seed cleaning: After threshing, run through a fanning mill twice. For the first run, use the following screen configuration: prescreen 4.89 mm round; top screen 2.83 mm square; bottom screen 0.5 mm square. For the second run, use these screens: prescreen 2.36 mm square; top screen 2.83 mm square; bottom screen 0.5 mm square. Then use a vacuum separator with speed and suction set to medium to remove dust and <5% of seeds.

Storage requirements: Cool dry conditions; for *Carex microptera*, Link (1993) suggests 0.6–7.2° C as the optimum temperature range for seed storage.

Considerations for Use in Revegetation

- *Carex macloviana* germinates more quickly than *Carex aenea* in lab tests, and has also shown better emergence in field trials.
- This species is reported to grow on wet to mesic soils in Alberta (Gerling et al. 1996).
- Some *Carex* species are moderately grazed by wildlife, though palatability is generally lower than that of most grasses (Hardy 1989).
- Some *Carex* species are said to have extensive root systems so are suitable for erosion control (Hardy 1989); whether *Carex macloviana* has such a root system needs to be verified.
- This species may take two to three years to establish.

