Family Scientific Name: **Cyperaceae**
Family Common Name: **Sedge**
Scientific Name: *Carex mertensii* Prescott ex Bong.
Common Name: **Merten's sedge**
Species Code: **CAME6**
Ecotype: Mount Rainier National Park, 4,200 to 4,400 ft elev.
General Distribution: Pacific Northwest and northern California, north to Alaska, Idaho and Montana. In our collection, plants were found in open areas growing with *Lupinus latifolius* and other forbs along roadsides.

Propagation Goal: **Seeds**
Propagation Method: **Seed**
Product Type: **Propagules (seeds, cuttings, poles, etc.)**
Stock Type: **Seed**
Time To Grow: **2 Years**
Target Specifications: Clean seed with no noxious weeds; seed weights averaged 1,565,500 seed / lb.

Propagule Collection: Seeds hand-stripped from individual plants into cloth or paper sacks; or seed heads clipped with hand pruners where plants were more abundant.

Propagule Processing: Dried seed heads very chaffy; if whole heads are collected, seed can be threshed using a geared-down hammermill with 1/16th screen; run through an oat dehuller one or more times; then through an office clipper (air screen machine) with #8 top screen, 1/20" round bottom screen, and medium air flow. Some workers at the PMC found that chaff was
irritating to skin and eyes: gloves, goggles, and dust masks were needed especially to clean larger quantities of seed.

Pre-Planting Treatments: **None** - our lots showed 53 to 63% germination.
Growing Area Preparation/Annual Practices for Perennial Crops: Fine, weed-free seed bed. Due to lack of available herbicides to suppress weedy grasses, our best results were obtained by carbon-banding. In this method, seed was sown in spring with a Hege precision seeder, at 30 " rows, 100 seeds / ft row; overspraying the seed with an activated charcoal slurry (carbon-banding) followed by a field application of diuron broad spectrum pre-emergent herbicide at 2.2 lbs ai / acre (experimental use only). Equipment for applying the carbon slurry was provided on loan from the Agricultural Research Service (ARS) in Corvallis. The system consists of a tank with mechanical agitator to keep the charcoal in solution, and an impeller pump connected to tubing with large-diameter nozzles directed over the seeding row to deposit the slurry in a 1/8 to 1/4 inch band directly over the seeded row. The system is front-mounted on the tractor while seeding equipment is pulled behind.

Establishment Phase: **Irrigation applied in May through July of first year.** Weed control was provided by hand-hoeing, shallow rototilling between rows, and spot applications of glyphosate herbicide. Seedling emergence was somewhat slow and spotty; initial vigor is only fair.

Length of Establishment Phase: **3 months**
Active Growth Phase: Continued weed control as needed - in subsequent years, early spring weed control was important to reduce competition from weedy grasses and broadleaves. Low rates of ammonium nitrate (25 lbs N / ac) were applied in late winter; and three applications of propiconazole fungicide for rust control were made from late March to early May, before flowering and seed set.

Length of Active Growth Phase: **April to June; seeds ready to harvest in June of 2nd year.**
Hardening Phase: Fields become summer-dormant after harvest.
Length of Hardening Phase: **Na**
Harvesting, Storage and Shipping: Seed heads were hand-clipped into sacks or pails and taken to a warm, dry poly greenhouse to be
spread out on tarps to dry. Mechanical harvesting would be feasible with larger plots; as seed ripened fairly uniformly at Corvallis. Unlike seed threshing and cleaning operations; none of the staff noticed any irritating effects from handling and clipping the plants at harvest time.

Length of Storage: Not determined; our seeds stored well for a few years in cool (40°F) dry conditions at Corvallis.

Outplanting performance on typical sites: Observational plots at Mt. Rainier National Park were seeded in fall of 1992, and establishment and growth monitored over 3 years. The site chosen was a disturbed soil (former trail / parking area) near the trailhead to Owyhigh lakes off of Highway 410. In each plot, seeds were fall- sown at the rate of 35 PLS / sq ft onto bare native soil in untreated and amended plots (amendment consisted of the addition of organic matter (peat moss), 9-month Slow-release N-P-K fertilizer, and straw-blanket erosion control blanketing). Initial seedling emergence was not affected by plot treatment (average seedling count per square foot 19.5 in both plots); but plant vigor as measured by percent cover was significantly higher in amended plots (35% vs. 3.5%). Fall height and vigor was enhanced by soil amendment in the first year. After 3 years, plants on the amended plots were much denser, larger and more vigorous in both spring and fall stand ratings.

Other Comments: This is another species which is fairly easily collected in small to moderate amounts from native stands. Field seed increase is feasible if larger amounts of seed are needed; plot survival at Corvallis was good.

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Citation: