

Protocol Information



USDA NRCS
Corvallis Plant Materials Center
3415 NE Granger Ave
Corvallis, Oregon 97330
(541)757-4812

United States Department of Agriculture
Natural Resources Conservation Service

Corvallis

Plant Materials Center

Corvallis, Oregon

Family Scientific Name: **Asteraceae**

Family Common Name: **Composites; aster family**

Scientific Name: ***Artemisia ludoviciana* Nutt.**

Common Name: **white sagebrush; sagewort**

Species Code: **ARLU**

Ecotype: **Our collections were from Mt Rainier National Park near Cayuse Pass to Tipsoo Lake; 4,700 to 5,000 ft**

General Distribution: **Widespread across north America; dry, open places. In Mt Rainier NP, at mid to sub alpine elevations especially in disturbed places**

Propagation Goal: **Seeds**

Propagation Method: **Seed**

Product Type: **Propagules (seeds, cuttings, poles, etc.)**

Stock Type: **Seed**

Time To Grow: **3 Years**

Target Specifications: **Clean seed free of noxious weeds; 60 % germination or better with appropriate pre chill.**

Propagule Collection: **Seeds hand-stripped at maturity, or larger amounts cut with hand sickle on collected into cloth seed bags. Easily collected, often occurs in dense stands.**

Propagule Processing: **Air-dry seeds in cloth sacks; if seed heads harvested with sickle, they should be run through a thresher with very low air flow to avoid losing the small, light seeds. Then cleaned with an Office clipper (air screen machine); 1/12" screen, followed by 1/13 to 1/18" screen as needed.**

Pre-Planting Treatments: **Germination was improved with 14 day moist prechill (cold moist stratification) at 3 to 5°C; fall-sowing resulted in good seedling emergence after natural stratification at test plots at Mt. Rainier.**

Growing Area Preparation/
Annual Practices for Perennial Crops: **Fine, firm seedbed; seed can be shallowly drilled with Planet junior in rows or broadcast and raked in; early spring.**

Establishment Phase: **Supplemental irrigation may be needed if soil surface becomes very dry during or shortly after seedling emergence. Some hand weed control needed during establishment.**

Length of Establishment Phase: **2 months**

Active Growth Phase: **After initially slow seedling establishment, plants grew rapidly - no seed was produced during the first year. Fall and spring fertilization of low rates (50 lbs / acre) N and (15 lbs / acre) S were applied to maintain plots. A heavy infestation of caterpillars was easily controlled by a single application of the bacterial insecticide called Dipel (*Bacillus thuringiensis*) and plants recovered quickly.**

Length of Active Growth Phase: **May - July**

Hardening Phase: **In August and September, powdery mildew was noted. Clipping back foliage in late summer to crown level had a slight influence on advancing regrowth the following spring.**

Length of Hardening Phase: **2 months**

Harvesting, Storage and Shipping: **Cleaned seed held in cool dry storage conditions**

Length of Storage: **not determined**

Outplanting performance on typical sites: **Seedling emergence from fall-sown test plots using 1-year-old seed at Mt Rainier was excellent. Seed was sown on a test plots on site of bare, disturbed soil. Plant growth and vigor as measured by canopy cover and stand rating % in early fall was greatly enhanced by soil amendment which included the incorporation of organic matter (peat) and straw erosion control blanketing.**

Other Comments: **The small seed increase block at the Corvallis PMC (0.1 acre) thrived and produced seed for over 4 years; however seeds are also easily collected in native stands and this may be the most economical for small to medium sized projects.**

Due to changing labels, laws, and regulations, the

authors and USDA NRCS assume no liability for pesticide information. Any use of a pesticide contrary to current product label instructions is neither legal nor recommended.

The use of manufacturer and trade names in this document is for clarification only. No discrimination is intended and no endorsement is given by the USDA NRCS.

References: **Corvallis Plant Materials Center Technical Report: Plants for Woodland and Rangeland Reclamation and Erosion Control 1980 - 1997 (includes Annual Reports to Mount Rainier National Park from 1990 – 1996).**

Link, Ellen, ed. 1993. Native Plant Propagation Techniques for National Parks Interim Guide; Compiled by Rose Lake Plant Materials Center 7472 Stoll Road East Lansing, MI 48823.

USDA, NRCS. 2001. The PLANTS Database, Version 3.1 (<http://plants.usda.gov>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

Citation:

Flessner, Theresa R.; Trindle, Joan D.C. 2003. Propagation protocol for production of *Artemisia ludoviciana* Nutt. seeds (Seed); USDA NRCS - Corvallis Plant Materials Center, Corvallis, Oregon. In: Native Plant Network. URL: <http://www.nativeplantnetwork.org> (accessed 30 December 2009). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.