

Protocol Information



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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: ***Anaphalis margaritacea* (L.) Benth.**

Common Name: **western pearly everlasting**

Species Code: **ANMA**

Ecotype: **Seed was collected at both Mt Rainier and Crater Lake National park, at elevations ranging from 2500 to 7,000 feet. Seed was plentiful in most years at both parks.**

General Distribution: **Widely distributed across north America, including several subspecies. Occurs at low to subalpine elevations; often a pioneer species on open slopes and meadows, roadcuts and gravelly soils.**

Propagation Goal: **Plants**

Propagation Method: **Seed**

Product Type: **Container (plug)**

Stock Type: **1-year plugs**

Target Specifications: **Several crown buds; roots well-developed and filling container.**

Propagule Collection: **Seeds are easily collected from mature native stands; entire flowering heads were picked into cloth sacks and air dried. Avoid collecting herbage along with flower heads as it will be more difficult to thresh later. Initial seed viability ranged from 47 to 64%, with no pretreatment needed.**

Propagule Processing: **The tiny seeds (8- to 11,000,000 per pound) can be threshed from well-dried flower heads using a**

geared-down hammermill or stationary thresher for large quantities. Moisture or dampness in the material or equipment will make cleaning nearly impossible. Seed can be cleaned with an air-screen; we used a 3/16" screen for scalping and a 1/18 to 1/22" bottom screen with very low air flow.

Pre-Planting Treatments: **None needed**

Growing Area Preparation/
Annual Practices for Perennial Crops: **Seed were thinly surface-sown in Ray Leach SC-10 super cells filled with Fisons' Sunshine #1 amended with 3-month slow-release Osmocote NPK fertilizer and small amounts of Micromax trace elements. Containers sown in late April to early May were ready to ship by late August. The tiny seeds may be "thinned down" by mixing with very fine sand, or cream-of-wheat cereal (works well) to avoid seeding too heavily.**

Establishment Phase: **Flats were kept in a warm greenhouse (65 to 85°F day; 50 to 65°F night) with surface kept lightly moist until germination; usually within 10 to 14 days. Once germinated, the surface should NOT be kept overly moist as this will encourage damping off. If seedling emergence is too heavy (more than about 5 seedlings per cone) they should be hand thinned by mechanical disturbance or a quick tweezing, so that adequate crowns can develop.**

Length of Establishment Phase: **2 to 3 weeks**

Active Growth Phase: **Plants were kept in the greenhouse until early June, or when it became too hot in the poly house to keep adequate soil moisture. They were then moved out to an outdoor shade house (40% shade cloth). These plants could probably withstand full sun, but the shade house kept the cones a little cooler, and easier to keep properly watered. Since the crown growth rapidly covers the cone surface, overhead watering becomes difficult after about 4 or 5 weeks, and standing water on the leaves encouraged leaf and crown rot. Instead, we constructed shallow watering troughs with plastic sheeting folded over concrete blocks and 2 x 4's, and sub-irrigated the cones about once every 5 to 7 days. The cones should be allowed to become fairly dry and light between watering; and should not be left in standing water for more than a few hours - long enough to fill the soil profile.**

Length of Active Growth Phase: **8 to 10 weeks.**

Hardening Phase: **Shade cloth is removed in August; and time intervals between irrigations are lengthened. By this time the roots should have filled the containers, and some lateral bud development should be visible on crowns.**

Length of Hardening Phase: **2 to 4 weeks**

Harvesting, Storage and Shipping: **Cones were sub-irrigated 2 days before shipping in refrigerated vans at 40 to 45°F, up to a holding facility at the park where they were held an additional 2 weeks prior to outplanting in September.**

Length of Storage: **Container plants can be overwintered as long as they are not subjected to mechanical damage from freeze / thaw cycles, or to excess moisture which encourages crown rot.**

Outplanting performance on typical sites: **The first year of outplanting at Crater Lake, some of the cones "frost-heaved" so that the crowns were pushed up a few inches above the soil surface, causing some mortality. If cones cannot be planted deeply enough to avoid this, the roots can be clipped back by about 2 inches without affecting survival. The small crowns will be inconspicuous in spring and easily overlooked by hikers and visitors, so some means of fencing or marking the planting to keep visitors off will be needed.**

Other Comments: **Direct reseeding is also a viable method of reestablishment; although the plants will be very small the first year and in a high-traffic area could be easily trampled. A study by Wood and Morris (1990) showed that reestablishment from natural seeding in a pumice soil at Mt. St. Helens depended primarily on subsurface moisture availability, and that *A. margaritacea* could colonize a wide range of habitats on the pumice plains.**

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).**

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Citation:

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