

Protocol Information



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United States Department of Agriculture
Natural Resources Conservation Service

Corvallis

Plant Materials Center

Corvallis, Oregon

Family Scientific Name: **Ericaceae**

Family Common Name: **Heath family**

Scientific Name: *Arctostaphylos nevadensis* Gray

Common Name: **pinemat manzanita**

Species Code: **ARNE**

Ecotype: **Crater Lake National Park, 6,300 to 6,500 ft elevation**

General Distribution: **Pacific coast states and Nevada; In the Cascades and Blue Mountains of the Pacific Northwest; growing as an understory shrub in dry woods at Crater Lake National Park.**

Propagation Goal: **Plants**

Propagation Method: **Vegetative**

Product Type: **Container (plug)**

Stock Type: **1-gallon containers**

Time To Grow: **2 Years**

Target Specifications: **Well developed, branching woody bases with well-developed root system**

Propagule Collection: **Mature, 1-year-old (current seasons growth) cuttings of good vigor and caliper should be collected as late as possible in the fall. Cuttings were collected at Crater Lake just ahead of snowfall in October; where early snowfall and road closure is not a problem cuttings should be collected even later; into November and December.**

Propagule Processing: **Cuttings were packed into moist peat in polyethylene bags and shipped to the PMC at**

Corvallis packed in snow. These were then stored in a walk-in cooler at 40°F for up to 8 weeks. Peat should be only lightly moist: if the leaf surface is too damp or wet mold can become a problem.

Pre-Planting Treatments: Cuttings were dipped into a 5% bleach solution for 10 seconds and a fresh basal cut was made just prior to dipping into Hormex #8 rooting hormone (0.8% IBA in a talcum powder base)

**Growing Area Preparation/
Annual Practices for Perennial Crops: Cuttings were placed into 5" deep mesh - bottomed propagation boxes with horticultural perlite, placed into a "minimally heated" greenhouse (ie no supplemental heat provided during the day; heating only to about 50°F at night) on bottom-heat mats set for 68 to 70°F. Very light misting was provided manually as needed to keep the perlite moderately moist; otherwise no overhead misting was used.**

Establishment Phase: Cuttings were left undisturbed for 4 months in the propagation beds. In April, the rooted cuttings were carefully lifted from the rooting medium and transplanted into 6" square pots in Sunshine "Aggregate -Plus" soil-less potting medium. Plants were then returned to the poly greenhouse for another month, then moved outdoors to a shadehouse (40% shade) in May.

Length of Establishment Phase: 5 months

Active Growth Phase: Plant were held outdoors in the shadehouse and watered by means of a drip irrigation system usually once or twice a week. In late May through July, plants were fertilized every other week with a half-strength Peters' 20-20-20 solution. These plants had few insect or disease problems; leaf spotting was only a problem if the leaves or soil surface were kept wet.

Length of Active Growth Phase: May through July

Hardening Phase: Fertilization was ended after July, and intervals between watering gradually lengthened to encourage vegetative maturity. In late August shade cloth was removed to allow plants to harden under full sun in September. Plants remained outdoors but were covered later in fall when winter rains started.

Length of Hardening Phase: August to October

Harvesting, Storage and Shipping: **Plants not shipped to Crater Lake National Park the first year were held over in cold storage in an unlit walk-in cooler at 38 to 40°F. The pots were kept fairly dry but were checked occasionally for adequate soil moisture. Plant were returned to the poly - covered greenhouse in April the following year to resume growth and placed out in the shadehouse during the dry summer season, as described above. Plants were shipped in their containers in August by refrigerated van up to Crater Lake where they were held in a shadehouse facility there for a few weeks acclimation prior to outplanting.**

Length of Storage: **Can be stored over winter in walk-in cooler or other cool dry conditions as discussed, above**

Outplanting performance on typical sites: **Roots should be well-branched at planting time - shoot growth may be pruned back once plants are completely hardened - ie just before shipping, or at planting time.**

Other Comments: **Seed propagation of this species has been difficult: a few seedlings were produced experimentally at the PMC but vegetative propagation produced much more reliable results. There have been anecdotal reports of good germination resulting from collecting the duff underneath native stands; presumably the seeds have quite a long life and eventually their complex dormancy requirements are met in a natural setting. Special thanks are owed to Ray Prag of Forestfarm Nursery, Williams, OR (www.forestfarms.com) for his advice regarding how to collect and root cuttings.**

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

Trindle, Joan D Conrod 1995 Evaluating Acid Scarification Effects on Dormant *Arctostaphylos nevadensis* Seeds in 1995 Proc. International Plant

Propagators Society, Western Region.

**Prag, Ray 1995 personal communication
(Forestfarm Nursery, Williams, OR).**

Citation:

Trindle, Joan D.C.; Flessner, Theresa R. 2002. Propagation protocol for vegetative production of container *Arctostaphylos nevadensis* Gray plants (1-gallon containers); 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.