Protocol Information

USDA NRCS
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United States Department of Agriculture
Natural Resources Conservation Service

Corvallis
Plant Materials Center
Corvallis, Oregon

Family Scientific Name:	**Salicaceae**
Family Common Name:	**Willow**
Scientific Name:	***Salix orestera* Schneid.**
Common Name:	**Sierra willow**
Species Code:	**SAOR**
Ecotype:	**Crater Lake National Park, 6,500 ft elevation, along edges of streams and wet meadows near Park headquarters.**
General Distribution:	**Oregon, California and Nevada in moist meadows and stream sides.**
Propagation Goal:	**Plants**
Propagation Method:	**Vegetative**
Product Type:	**Container (plug)**
Stock Type:	**1-gallon containers**
Time To Grow:	**1 Years**
Target Specifications:	**Multi-stemmed shrubs with well-developed root system.**
Propagule Collection:	**Summer softwood cuttings; new growth collected after flowering has completed.**
Propagule Processing:	**No special processing; keep in cool, moist peat during collection and transport.**
Pre-Planting Treatments:	**none**
Growing Area Preparation/ Annual Practices for Perennial Crops:	**A "standard" potting mix of Fisons' Sunshine #1 potting mix amended with small amounts of bark compost, and Osmocote 3-month slow release**

	fertilizer plus Micromax trace elements in 1-gallon cans was used to grow these container plants. Extensive root and shoot pruning was needed for plants held over a second summer.
Establishment Phase:	**Our cuttings were rooted under mist in late summer in a light, soil-less peat and perlite mix in 1-gallon cans. Stored cuttings rooted later in the fall were also given bottom heat. Cuttings held until February for the propagation bench dropped leaves shortly after "sticking time" but rooted easily and vigorously with new bud break following soon after.**
Length of Establishment Phase:	**Fairly fast at rooting: 3 to 7 weeks depending on greenhouse temperatures and length of cold storage.**
Active Growth Phase:	**During the growing season, they were held in a shade house with drip irrigation and fertilized every 2 weeks during May and June with Peters' Triple-20 NPK at half-strength. Shoot pruning for height control and to encourage stem branching was done in June. An infestation of caterpillars one year was easily controlled with an application of *Bacillus thuringiensis*.**
Length of Active Growth Phase:	**May to July**
Hardening Phase:	**Fertilizer ceased at end of June; watering intervals gradually lengthened; and shade cloth removed in late August to encourage good stem maturity.**
Length of Hardening Phase:	**2 months**
Harvesting, Storage and Shipping:	**Plants shipped in their containers via refrigerated van to Crater Lake at the end of August of the 2nd year where they were held in a sheltered area for a few weeks of acclimation before outplanting.**
Length of Storage:	**Plants outgrow their pots after 1 season; could be root / shoot pruned; or, cuttings taken at the end of the growing season and stored in cooler to repropagate the following spring.**
Outplanting performance on typical sites:	**Root balls very well developed and would need scoring prior to outplanting. Shoot pruning not recommended at fall planting time as this could stimulate bud break.**
Other Comments:	**Where smaller transplants are acceptable, these could easily be produced in 1 year as 10 inch "cone-tainer" starts by sticking cuttings directly into cones in early spring; heading back new growth in**

early June and outplanting in September.

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 DC. 2003. Propagation protocol for vegetative production of container *Salix orestera* Schneid. plants (1-gallon containers); USDA NRCS - Corvallis Plant Materials Center, Corvallis, Oregon. In: Native Plant Network. URL: http://www.nativeplantnetwork.org (accessed 6 January 2010). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.