Acer circinatum - Plant Propagation Protocol
ESRM 412 – Native Plant Production

Family Names

Family Scientific Name: Aceraceae
Family Common Name: Maples

Scientific Names

Genus: Acer
Species: circinatum
Species Authority: Pursh
Variety:
Sub-species:
Cultivar:
Authority for Variety/Sub-species:

Common Synonym

Genus:
Species:
Species Authority:
Variety:
Sub-species:
Cultivar:
Authority for Variety/Sub-species:

General Information

Common Name: Vine Maple
Species: ACCI[i]
Ecotype:
Date Entered or Updated: 04/11/2007
General Distribution: Found from northern California to southern British Columbia, Vine Maple is found in moist areas from sea level to 1500m.[ii] It is generally found in maritime climates and decreases in prevalence as elevation increases or the climate becomes more continental.[iii] As such it is not commonly found east of the Cascades.

Propagation Details

Propagation Goal: Plants
Propagation Method: Seeds
Product Type Container
Stock Type: 1-Gallon Container
Time to Grow: 1 year
Target Specifications: 1-Gallon container seedlings, compact branch stems and a well developed root structure.
Propagule Collection: Seed should be collected at the fall color change[iv] as seeds ripen in roughly Sept. – Oct.[v] Seed should be collected by shaking trees over a ground cloth, or collected manually from recently felled trees.[vi]
Propagule Processing/Propagule Seeds are formed in pairs at 180 degrees with

Characteristics:	prominent samara[vii], with 7500-12000 seeds per kilogram.[viii] Seeds should not be allowed to fully dry to avoid more pronounced dormancy.[ix]
Pre-Planting Propagule Treatments:	Seeds require a warm moist stratification (20-30˚C for 30-60 days) followed by a cold stratification (3˚C for 90-180 days) to break seed dormancy.[x] [xi]
Growing Area Preparation / Annual Practices for Perennial Crops:	Sow seeds into a sandy loam[xii] and cover with leaf mulch. [xiii]
Establishment Phase:	After the maturation of the first true leaves, transplant to containers.[xiv]
Length of Establishment Phase:	Spring.
Active Growth Phase:	After moving to one gallon containers, seedlings should be fertilized with a balanced 20-20-20 mix, applied at a suggested rate of 2lbs per 500sf of bench space weekly assuming a soilless potting mixture.[xv] Excessive top growth should be pruned to balance root/shoot ratio and ensure bud development prior to hardening.
Length of Active Growth Phase:	Summer and early Fall.
Hardening Phase:	Given the similarity between the low elevation moist conditions prevalent at most nurseries and the standard conditions where Vine Maple is grown, little hardening is necessary.[xvi] After ending fertilization in midsummer, plants should be retained under partial shade to mimic fall conditions until light levels and temperatures have naturally declined.
Length of Hardening Phase:	4-6 weeks in the Fall.[xvii]
Harvesting, Storage and Shipping:	Note that during growth and hardening, A. circinatum can be subjects to leaf spots and powdery midew and that chemical controls may be needed to supplement the provision for adequate drainage and air movement.[xviii]
Length of Storage:	Retain in poly greenhouses for spring planting.
Guidelines for Outplanting / Performance on Typical Sites:	Vine maple is subject to browsing pressure on most sites[xix] As such, root balls may need to be scored to promote lateral growth and prevent seedlings from being uprooted by browsers.
Other Comments:	Vegetative reproduction through layering is possible, although slow. Pinning bent stems of A. Circinatum in direct contact with the soil can lead to faster spread in understory conditions that would otherwise allow supported vertical growth[xx] once seedlings have been outplanted and are well established.
References:	
Protocol Developer	Brendan Impson

[i] United States Department of Agriculture. "PLANTS Profile for Acer circinatum (vine maple)." PLANTS Database. http://plants.usda.gov/java/nameSearch?keywordquery=Acer%20circinatum&mode=sciname (last accessed 4/11/07)

[ii] Flessner, T.R. et al. "Seed Source Evaluation of Four Native Riparian Shrubs for Streambank Rehabilitation in the Pacific Northwest." In Proceedings – Symposium on Ecology and Management of Riparian Shrub Communities. Sun Valley ID May 29-31, 1991. Intermountain Research Station , Ogden UT. 1991.

[iii] Klinka, K. et al. Indicator Plants of Coastal British Columbia. University of British Columbia Press, Vancouver BC 1989.

[iv] Dirr, Michael A. and Charles W. Heuser Jr. The Reference Manual of Woody Plant Propagation: From Seed to Tissue Culture. Varsity Press, Athens GA, 1987.

[v] Young, James A. and Cheryl G. Young. Seeds of Woody Plants in North America. Dioscorides Press, Portland OR, 1992.

[vi] United States Department of Agriculture. "Acer L. Maple" in Woody – Plant Seed Manual; Miscellaneous Publication No. 654. United States Government Printing Office, Washington D.C. 1948.

[vii] King County Department of Public Works. "Acer circinatum" in Northwest Native Plants; Identification and Propagation for Revegetation and Restoration Projects. Seattle, WA

[viii] Rose, Robin et al. "Acer Circinatum, Vine Maple" in Propagation of Pacific Northwest Native Plants. Oregon State University Press, Corvallis, OR 1998.

[ix] Dirr and Heuser, 1987.

[x] Rose et al. 1998.

[xi] Kruckenberg, Arthur R. Gardening with Ntive Plants of the Pacific Northwest; Second Edition. University of Washington Press, Seattle WA 1997.

[xii] Arthur Kruckenberg 1997.

[xiii] Robin Rose et al. 1998.

[xiv] Arthur Kruckenberg 1997.

[xv] Landis, Thomas D. and Edward J. Simonich. "Producing Native Plants as Container Seedlings" in The Challenge of Producing Native Plants for the Intermountain Area; Proceedings Intermountain Nursreyman's Association 1983 Conference. Intermountain Forest and Range Experiment Station, Ogden UT 1983.

[xvi] Landis and Simonich 1983.

[xvii] Landis and Simonich 1983.

[xviii] T.L Flessner et al 1991.

[xix] Tappeiner, John C. and John C. Zasada. "Establishment of Salmonberry, Salal, Vine Maple and Bigleaf Maple Seedlings in the Coastal Forests of Oregon." In the Canadian Journal of Forest Research. 1983. 23:1775-1780.

[xx] O'Dea, Mary E. et al. "Vine Maple Clone Growth and Reproduction in Managed and Unmanaged Coastal Oregon Douglas-Fir Forests" in Ecological Applications. 1995. 5:63-73.