

## Plant Propagation Protocol for *Salix boothii* Dorn

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/SABO2.pdf>

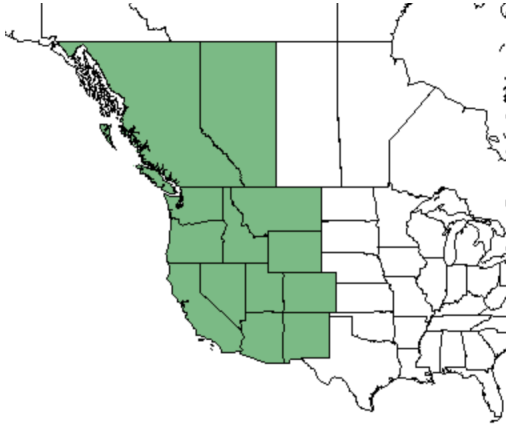


Figure 1 North American  
Distribution of Booth's Willow  
"Plants Profile for *Salix boothii*  
(Booth's Willow)."  
[plants.usda.gov](https://plants.usda.gov)

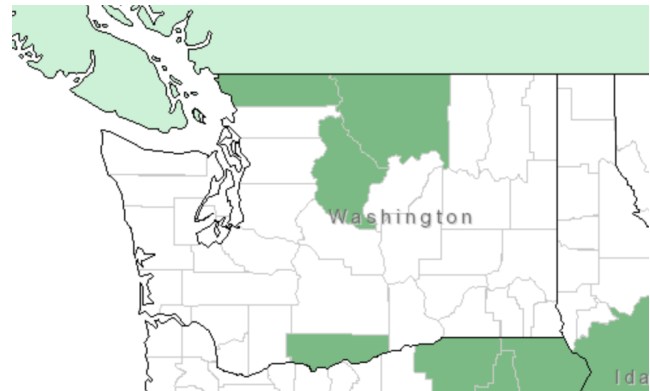


Figure 2 PNW Distribution of Booth's Willow  
"Plants Profile for *Salix boothii* (Booth's  
Willow)."  
[plants.usda.gov](https://plants.usda.gov)



Figure 3 Booth's Willow ("Plants Profile for *Salix boothii* (Booth's Willow)."  
[plants.usda.gov](https://plants.usda.gov))

<b>TAXONOMY</b>	
Plant Family	
Scientific Name	Salicaceae
Common Name	Willow Family
Species Scientific Name	
Scientific Name	<i>Salix boothii</i> Dorn
Varieties	No recognized varieties
Sub-species	No recognized sub-species
Cultivar	No recognized cultivars
Common Synonym(s)	- <i>Salix curtiflora</i> auct. non Andersson - <i>Salix myrtillifolia</i> Andersson var. <i>curtiflora</i> auct. non (Andersson) Bebb ex Rose - <i>Salix myrtillifolia</i> auct. non Andersson - <i>Salix novae-angliae</i> auct. non Andersson - <i>Salix pseudocordata</i> (Andersson) Rydb. var. <i>aequalis</i> (Andersson) C.R. Ball ex C.K. Schneid. - <i>Salix pseudocordata</i> auct. non (Andersson) Rydb. - <i>Salix pseudomyrsinites</i> Andersson var. <i>aequalis</i> (Andersson) Andersson ex C.R. Ball - <i>Salix pseudomyrsinites</i> auct. non Andersson
Common Name(s)	Booth's Willow
Species Code (as per USDA Plants database)	SABO2
<b>GENERAL INFORMATION</b>	
Geographical range	See <b>Figure 1 &amp; 2</b> for distribution maps of Booth's Willow. In the Cascades of Washington; distributed in western North America from British Columbia east to Saskatchewan, south to California, east to Arizona. (3)

Ecological distribution	FRES20 Douglas-fir FRES23 Fir - spruce FRES26 Lodgepole pine FRES28 Western hardwoods FRES29 Sagebrush FRES37 Mountain meadows FRES44 Alpine
Climate and elevation range	5,000 - 10,000 feet elevation, requires moist conditions with full sun to thrive. Shade intolerant. (2)
Local habitat and abundance	<i>Salix boothii</i> typical habitat includes wet subalpine meadows, streambanks, lakeshores, and other riparian areas (3). They are commonly associated with species such as Geyer willow, Drummond willow, redosier dogwood, mountain big sagebrush and bearberry honeysuckle (2).
Plant strategy type / successional stage	<i>Salix boothii</i> Dorn is an early to mid successional species. It is a pioneer species on recent alluvial deposits. Will die off when shade-tolerant species or forests begin to takeover (2).
Plant characteristics	Life Form: Shrub Longevity: Unknown Seed characteristic: Height: .25-6m tall. Type: Dioecious Physical Description: Alternate, simple, narrow, elliptic leaves that are 2.6-10cm long and 0.8-3 cm wide. Yellow brown branches. See <b>Figure 3</b> for picture. Fruits: Capsules which split open to release the seeds, each of which is surrounded by a tuft of hairs; stalks 0.5-2.5 mm long (4).
<b>PROPAGATION DETAILS</b>	
Ecotype	No recognized ecotypes
Propagation Goal	Plants
Propagation Method	Vegetative
Product Type	Bareroot (field grown)

Stock Type	1 + 0
Time to Grow	1 year
Target Specifications	Height: 12 in. Caliper: 3/16 in. Root system: Root system must balance top growth. (5)
Propagule Collection Instructions	Cuttings are collected from stooling beds that are hedged to maintain juvenile wood that is straight and for ease of handling and sticking in field beds (5). Cuttings should be taken during the dormant season which is usually during fall or winter.
Propagule Processing/Propagule Characteristics	Cuttings should be taken during the dormant season (late winter). Cuttings should be 8 to 10 inch in length (5).
Pre-Planting Propagule Treatments	Cuttings can be wrapped, bundled and stored in the cooler until they are stuck into field beds (5).
Growing Area Preparation / Annual Practices for Perennial Crops	Media: Taylorsville Sandy Clay loam or other similar variants (5). Area: In a field, apply 0-45-0 (N:P:K) in April. Then apply 2 to 3 inches of compost to cutting beds prior to sowing. Apply sulphur during May. Pick weeds as needed throughout the growing season (5) Container: Planted in field Other practices: Overhead irrigation with good quality water.
Establishment Phase Details	Cuttings are stuck by hand in prepared field beds during early spring to a depth of 6 inches. Soil is firmed around stems after sticking to remove air pockets and irrigated after planting. Beds are irrigated as surface begins to dry. Rooting occurs when field soils warm in later spring and rapidly produce root growth (5)
Length of Establishment Phase	1 month after rooting (5).

Active Growth Phase	Fertilizer: Morgro 21-0-0 (N:P:K), is applied he second week of every month during the growing season (5). Root pruning: Cuttings are root pruned after they are well established in June. If excessive wilting occurs, do not prune. Irrigate heavily for 2 to 3 days prior to pruning to saturate the root zone.
Length of Active Growth Phase	4 months (5).
Hardening Phase	Hardening begins when dormancy is induced. No fertilizer is applied after dormancy induction. Irrigation frequency and duration is shortened and applied only when needed. (5).
Length of Hardening Phase	1 month (5).
Harvesting, Storage and Shipping	Harvest: Lifting window is duringmid November when cuttings are completely dormant. Cuttings are hand lifted after the beds have been undercut at a depth of 12 inches using a lifter (5). Storage and shipping: Lifted stock kept in cooler between 36 to 42 degrees F and at a relative humidity of 92 to 98% with good air circulation.
Length of Storage	No data found.
Guidelines for Outplanting / Performance on Typical Sites	Plant in well-draining soil in fens or riparian areas of elevations above 5,000 feet. Plant as an early-successional species (3).
Other Comments	Booth's willow is an important species for birds and mammals as habitat and a food source. It can also be used to provide erosion control and revegetating disturbed sites.
<b>INFORMATION SOURCES</b>	

References

- (1) Plants Profile for Salix Boothii (Booth's Willow). [plants.usda.gov/core/profile?symbol=SABO2](https://plants.usda.gov/core/profile?symbol=SABO2).
- (2) *Salix Boothii*. [www.fs.fed.us/database/feis/plants/shrub/salboo/all.html](http://www.fs.fed.us/database/feis/plants/shrub/salboo/all.html).
- (3) Knoke, Don, and David Giblin. *Salix Boothii*. *Burke Herbarium Image Collection*, [biology.burke.washington.edu/herbarium/imagecollection/taxon.php?Taxon=Salix%20boothii](http://biology.burke.washington.edu/herbarium/imagecollection/taxon.php?Taxon=Salix%20boothii).
- (4) *Salix Boothii* Dorn *E-FLORA BC: ELECTRONIC ATLAS OF THE FLORA OF BRITISH COLUMBIA*, [linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Salix%2Bboothii](http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Salix%2Bboothii).
- (5) Zeidler, Scott; Justin, John. 2003. Propagation protocol for production of Bareroot (field grown) *Salix boothii* Dorn plants 1+0; Utah Division of Forestry, Fire and State Land - Lone Peak Nurse Draper, Utah. In: Native Plant Network. URL: <http://NativePlantNetwork.org> (accessed 2020/05/25). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

Other Sources Consulted	<p>(6) Dumroese, R. Kasten &amp; Wenny, David &amp; Morrison, Susan. (2003). Propagation Protocol for Container Willows and Poplars using Mini-Cuttings. <i>Native Plants Journal</i>. 4. 137-139. 10.3368/npj.4.2.137.</p> <p>(7) Salix+Boothii. <i>CNPLX</i>, <a href="http://www.cnplx.info/nplx/species?taxon=Salix%2Bboothii">www.cnplx.info/nplx/species?taxon=Salix%2Bboothii</a>.</p> <p>(8) Gallatin River Task Force. How to Harvest Willow Cuttings. <i>Gallatin River Task Force</i>, 4 Nov. 2016, <a href="http://www.gallatinrivertaskforce.org/2016/11/04/willow-cuttings/">www.gallatinrivertaskforce.org/2016/11/04/willow-cuttings/</a>.</p> <p>(9) Field Guide, Montana. Booth's Willow. <i>Montana Natural Heritage Program</i>, 25 May 2020, <a href="http://fieldguide.mt.gov/speciesDetail.aspx?elcode=pdsal020g0">fieldguide.mt.gov/speciesDetail.aspx?elcode=pdsal020g0</a>.</p> <p>(10) Salix Boothii. <i>Consortium of Pacific Northwest Herbaria</i>, <a href="http://www.pnwherbaria.org/data/results.php?DisplayAs=WebPage&amp;ExcludeCultivated=Y&amp;GroupBy=ungrouped&amp;SortBy=Year&amp;SortOrder=DESC&amp;SearchAllHerbaria=Y&amp;QueryCount=1&amp;IncludeSynonyms1=Y&amp;SciName1=Salix%2Bboothii&amp;Zoom=4&amp;Lat=55&amp;Lng=-135&amp;PolygonCount=0">www.pnwherbaria.org/data/results.php?DisplayAs=WebPage&amp;ExcludeCultivated=Y&amp;GroupBy=ungrouped&amp;SortBy=Year&amp;SortOrder=DESC&amp;SearchAllHerbaria=Y&amp;QueryCount=1&amp;IncludeSynonyms1=Y&amp;SciName1=Salix%2Bboothii&amp;Zoom=4&amp;Lat=55&amp;Lng=-135&amp;PolygonCount=0</a>.</p>
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