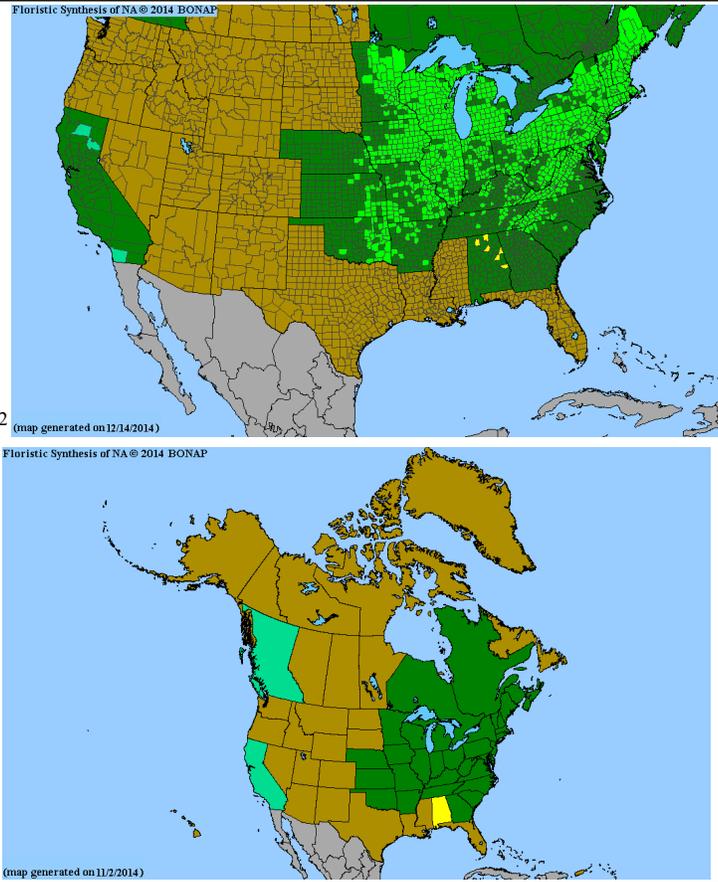


Plant Propagation Protocol for *Rubus allegheniensis*

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2021/RUAL.pdf>

TAXONOMY	
Plant Family	
Scientific Name	Rosaceae ⁸
Common Name	Rose Family ⁸
Species Scientific Name	
Scientific Name	<i>Rubus allegheniensis</i> Porter ⁸
Varieties	n/a
Sub-species	<i>Rubus allegheniensis</i> Porter var. <i>allegheniensis</i> <i>Rubus allegheniensis</i> Porter var. <i>gravesii</i> Fernald ⁹
Cultivar	n/a
Common Synonym(s)	n/a
Common Name(s)	Allegheny blackberry ⁹
Species Code (as per USDA Plants database)	RUAL ⁹
GENERAL INFORMATION	
Geographical range	 <p>Floristic Synthesis of NA © 2014 BONAP 2 (map generated on 12/14/2014) Floristic Synthesis of NA © 2014 BONAP (map generated on 11/2/2014)</p>
Ecological distribution	Damp thickets, peatlands, forest openings, ⁶ moist places, lowland boggy clearings. ³

Climate and elevation range	Occurs in USDA plant hardiness zones 3-8. ⁷ Medium water usage, sun or partial shade. ⁸ 0-1600m elevation. ¹
Local habitat and abundance	While some sources show <i>Rubus allegheniensis</i> as a species native to British Columbia ² research indicates that it was actually introduced to the region from Eastern North America. ^{3,6}
Plant strategy type / successional stage	Drought tolerant, fire tolerant, shade tolerant, adapted to fine and medium soils. ⁹ Exhibits qualities of a weed. ²
Plant characteristics	Shrub, 0.5-3m tall, 5-15mm caliper, erect with prickles. Deciduous leaves, white flowers, black oblong cluster fruits about 2cm long. ³ Short lifespan, rapid growth rate. ⁹
PROPAGATION DETAILS	
Ecotype	n/a
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	800 ml containers
Time to Grow	7 months. ⁵
Target Specifications	15 cm height, .5 cm caliper, firm root system. ⁵
Propagule Collection Instructions	Collect fruits once mature when dark purple or black. Seeds mature from August to September. ⁴
Propagule Processing/Propagule Characteristics	Separate seeds with a macerator. Put macerated fruits in water, discard floating material and seeds. Allow seeds to dry and store at 40 degrees F. ⁴
Pre-Planting Propagule Treatments	Seeds in the <i>Rubus</i> genus require both warm and cold stratification due to double dormancy, as well as usually requiring scarification. ¹⁰ Soak seeds in concentrated sulfuric acid for 3 hours to scarify. ¹⁰ Place seeds in a moist environment at 85 degrees F for 90 days then store at 40 degrees F for 120 days. ⁴
Growing Area Preparation / Annual Practices for Perennial Crops	Begin in 10x20 inch trays with 18 cells of 160 ml containers. Fill cells with a seed starting mixture of 80% peat moss and 20% perlite. ⁴
Establishment Phase Details	Sow by hand and cover with 1/4in media. Keep in a greenhouse with consistent watering, do not overwater. ⁴ Maintain temperature of 70-77 degrees F for 12 hours during the day and 60-65 degrees F for 12 hours at night. ⁵
Length of Establishment Phase	About 4 weeks. ⁵
Active Growth Phase	Fertilize with 20-10-20 NPK solution at 100 ppm. maintain moist soil. Before seeds become rootbound in 160 ml containers up-pot to 800 ml containers and fertilize with 1 gram of Osmocote fertilizer and 0.2 grams Micromax fertilizer per container. ⁵
Length of Active Growth Phase	About 20 weeks. ⁵
Hardening Phase	Fertilize with 10-20-20 NPK solution at 200 ppm at the end of Summer. Gradually reduce watering in the fall before winterization. ⁵
Length of Hardening Phase	About 8 weeks. ⁵
Harvesting, Storage and Shipping	Store in an outdoor nursery with insulation over the winter. ⁵
Length of Storage	About 20 weeks. ⁵

Guidelines for Outplanting / Performance on Typical Sites	n/a
Other Comments	Much of the propagation procedures were adapted from procedures written for <i>Rubus parviflorus</i> the thimbleberry which grows natively in the Pacific Northwest.
INFORMATION SOURCES	

References

- 1) Alice, Lawrence A, Douglas H Goldman, James A Macklin, and Gerry Moore. "Rubus Allegheniensis." Flora of North America. Flora of North America Association, November 5, 2020.
http://beta.floranorthamerica.org/Rubus_allegheniensis.
- 2) Kartesz, John T. "Rubus Allegheniensis." BONAP's Taxonomic Data Center (TDC) North American Vascular Flora. The Biota of North America Program, 2014. <http://bonap.net/tdc>.
- 3) Klinkenberg, Brian, ed. "Rubus Allegheniensis Porter." E-FLORA BC: ELECTRONIC ATLAS OF THE FLORA OF BRITISH COLUMBIA. Lab for Advanced Spatial Analysis, Department of Geography, University of British Columbia, Vancouver, 2020.
<http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Rubus%20allegheniensis&noTransfer=0>.
- 4) Leif, John W. "Propagation Protocols Plants Produced for Apostle Islands National Lakeshore." USDA, n.d.
- 5) Luna, Tara, Susan Corey, and Dale Wick. "Propagation Protocol for Production of Container (Plug) Rubus Parviflorus Nutt. Plants 160 MI Conetainers." Native Plant Network Propagation Protocol Database. Native Plant Network, 2008.
<https://nnp.rngr.net/renderNPNProtocolDetails?selectedProtocolIds=r osaceae-rubus-306>.
- 6) "Rubus Allegheniensis." Burke Herbarium Image Collection. Burke Museum Herbarium, 2021.
<http://biology.burke.washington.edu/herbarium/imagecollection/taxon.php?Taxon=Rubus%20allegheniensis>.
- 7) "Rubus Allegheniensis." North Carolina Extension Gardener Plant Toolbox. NC State University, 2021.
<https://plants.ces.ncsu.edu/plants/rubus-allegheniensis/>.
- 8) TWC Staff. "Rubus Allegheniensis." Plant Database. Lady Bird Johnson Wildflower Center - The University of Texas at Austin, July 2, 2012.
https://www.wildflower.org/plants/result.php?id_plant=RUAL.
- 9) USDA NRCS National Plant Data Team. "Rubus Allegheniensis Porter." PLANTS Database. USDA. Accessed May 26, 2021.
<https://plants.usda.gov/home/plantProfile?symbol=RUAL>.

	10) Wada, Sugae, and Barbara M. Reed. "Standardizing Germination Protocols for Diverse Raspberry and Blackberry Species." <i>Scientia Horticulturae</i> 132 (2011): 42–49. https://doi.org/10.1016/j.scienta.2011.10.002 .
Other Sources Consulted	n/a
Protocol Author	Ozi Shalom Goldstein
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