




## Plant Propagation Protocol for *Arctostaphylos rubra*

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2024/ARRU.pdf>

TAXONOMY	
Plant Family	
Scientific Name	Ericaceae Juss.
Common Name	Heath family
Species Scientific Name	
Scientific Name	<i>Arctostaphylos rubra</i> (Rehder & Wilson) Fernald
Varieties	No varieties
Sub-species	No sub-species
Cultivar	No cultivars
Common Synonym(s)	<ol style="list-style-type: none"> <li>1. ARALR - <i>Arctostaphylos alpina</i> (L.) Spreng. var. <i>rubra</i> (Rehder &amp; Wilson) Bean</li> <li>2. ARALR2 - <i>Arctostaphylos alpina</i> (L.) Spreng. ssp. <i>rubra</i> (Rehder &amp; Wilson) Hultén</li> <li>3. ARER3 - <i>Arctous erythrocarpa</i> Small</li> <li>4. ARRUG - <i>Arctous rubra</i> (Rehder &amp; Wilson) Nakai (1)</li> </ol>
Common Name(s)	red fruit bearberry, alpine bearberry, arctic bearberry, red manzanita, ravenberry
Species Code (as per USDA Plants database)	ARRU
GENERAL INFORMATION	
Geographical range	<p>Distribution of <i>Arctostaphylos rubra</i> stretches from Alaska and British Columbia to Nova Scotia. There are also small, isolated populations in Park County, Wyoming (2).</p>  <p style="text-align: right;">(1)</p>

Ecological distribution	<p>In many areas, it grows in soils above permafrost (2). Grows in rocky or gravelly areas (3).</p>  <p>(3)</p>
Climate and elevation range	Cold, moist areas (2). Elevations up to 2500 m (3).
Local habitat and abundance	Boreal and subalpine spruce forests, tundra, and alpine shrublands (2). Near white spruce swamps in Wyoming (2).
Plant strategy type / successional stage	Drought tolerant as well as tolerant against cold winters (2). Occurs in early primary and secondary succession. It can colonize bare soil and gravel floodplains (2).
Plant characteristics	<p>Perennial shrub (1), less than 1 foot tall. Leaves are deciduous and typically 2-6 cm (2). Young flowers are yellow/green and turn white when they reach maturity (7). Flowers are in clusters of 1-6 and are 0.25 inches long (2). Bloom time is May-July (7).</p>  <p>(7)</p>
<p align="center"><b>PROPAGATION DETAILS: FROM SEED</b></p> <p>Any information for seed propagation of <i>Arctostaphylos rubra</i> that was not available is supplemented with information for propagation of <i>Arctostaphylos uva-ursi</i> and is indicated in those sections.</p>	
Ecotype	<i>Arctostaphylos uva-ursi</i> : Open lodgepole pine forest, Glacier National Park, 1100m (6)
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container
Stock Type	<i>Arctostaphylos uva-ursi</i> : 172 ml cone-tainer (6)
Time to Grow	1-2 years (2)
Target Specifications	<i>Arctostaphylos uva-ursi</i> : 3 cm tall, roots firm in container (6).

Propagule Collection Instructions	<i>Arctostaphylos uva-ursi</i> : Seeds are collected in the fall and are put in plastic bags (6). Collect by hand from plants or the ground (5)
Propagule Processing/Propagule Characteristics	<i>Arctostaphylos uva-ursi</i> : Seeds are cleaned by maceration then screened and dried. They will last up to 20 years at 3-5C in sealed containers (6). Seed density is 42,400/lb. (4).
Pre-Planting Propagule Treatments	Seedcoat needs to be scarified in a way that simulates animal stomach acid or fire. This can be done by pouring boiling water on the seeds and letting them soak in warm water, or by placing the seeds under burning straw (3). This should be followed by cold stratification for 60-90 days to break dormancy (2).
Growing Area Preparation / Annual Practices for Perennial Crops	Sown in a greenhouse in a germination flat (3).
Establishment Phase Details	Germinate at 15C until seedlings are large enough to handle (3).
Length of Establishment Phase	2-3 months (3)
Active Growth Phase	Move plants to individual containers. Grow in light shade in a greenhouse or a cold frame (3).
Length of Active Growth Phase	<i>Arctostaphylos uva-ursi</i> : 17 weeks (6)
Hardening Phase	Can be grown in a cold frame for at least their first winter to develop cold hardiness (3).
Length of Hardening Phase	<i>Arctostaphylos uva-ursi</i> : 8 weeks (6)
Harvesting, Storage and Shipping	<i>Arctostaphylos uva-ursi</i> : Harvest in September and October and store over winter in the nursery (6). Keep cool during transport (5).
Length of Storage	<i>Arctostaphylos uva-ursi</i> : 5 months (6)
Guidelines for Outplanting / Performance on Typical Sites	Can be planted in areas with moist, nutrient-poor soils (2). Plant in late spring or early summer (3).
Other Comments	
<p style="text-align: center;"><b>PROPAGATION DETAILS: VEGETATIVE</b></p> <p>Like the protocol for seed propagation, any information for vegetative propagation of <i>Arctostaphylos rubra</i> that was not available is supplemented with information for propagation of <i>Arctostaphylos uva-ursi</i> and is indicated in those sections.</p>	
Ecotype	None
Propagation Goal	Plants
Propagation Method	Vegetative
Product Type	Cuttings or divisions
Stock Type	No information found

Time to Grow	One year (3)
Target Specifications	No information found
Propagule Collection Instructions	Cuttings of side shoots, 5-8 cm with heel, done in late summer to early winter. Divisions done in early spring (3).
Propagule Processing/Propagule Characteristics	No information found
Pre-Planting Propagule Treatments	<i>Arctostaphylos uva-ursi</i> : Treat cuttings with rooting hormone (5).
Growing Area Preparation / Annual Practices for Perennial Crops	<i>Arctostaphylos uva-ursi</i> : Plant in sandy medium (5)
Establishment Phase Details	Pot the divisions, keep in a lightly shaded area in a cold frame or greenhouse (3)
Length of Establishment Phase	No information found
Active Growth Phase	No information found
Length of Active Growth Phase	No information found
Hardening Phase	No information found
Length of Hardening Phase	No information found
Harvesting, Storage and Shipping	No information found
Length of Storage	No information found
Guidelines for Outplanting / Performance on Typical Sites	No information found
Other Comments	
<b>INFORMATION SOURCES</b>	
References	<ol style="list-style-type: none"> <li>1. <i>Arctostaphylos rubra</i> (Rehder &amp; Wilson) Fernald. USDA plants database. (n.d.-a). <a href="https://plants.usda.gov/home/plantProfile?symbol=ARRU">https://plants.usda.gov/home/plantProfile?symbol=ARRU</a></li> <li>2. <i>Arctostaphylos rubra</i>. Fire Effects Information System (FEIS). (n.d.). <a href="https://www.fs.usda.gov/database/feis/plants/shrub/arcrub/all.html">https://www.fs.usda.gov/database/feis/plants/shrub/arcrub/all.html</a></li> <li>3. <i>Arctostaphylos rubra</i>. Temperate Plants Database. (n.d.). <a href="https://temperate.theferns.info/plant/Arctous+rubra">https://temperate.theferns.info/plant/Arctous+rubra</a></li> <li>4. <i>Arctostaphylos uva-ursi</i> (L.) Spreng. USDA plants database. (n.d.-b). <a href="https://plants.usda.gov/home/plantProfile?symbol=ARUV">https://plants.usda.gov/home/plantProfile?symbol=ARUV</a></li> </ol>

	<ol style="list-style-type: none"> <li>5. <i>Arctostaphylos Uva-ursi</i>. Garry Oak Ecosystems Recovery Team (GOERT). (n.d.). <a href="https://goert.ca/species/arctostaphylos-uva-ursi/">https://goert.ca/species/arctostaphylos-uva-ursi/</a></li> <li>6. Luna, Tara; Evans, Jeff; Wick, Dale. 2008. Propagation protocol for production of Container (plug) <i>Arctostaphylos uva-ursi</i> (L.) Spreng plants 172 ml conetainer; USDI NPS - Glacier National Park West Glacier, Montana. In: Native Plant Network. URL: <a href="https://NativePlantNetwork.org">https://NativePlantNetwork.org</a> (accessed 2024/05/21). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.</li> <li>7. <i>Plant database</i>. Lady Bird Johnson Wildflower Center - The University of Texas at Austin. (n.d.-a). <a href="https://www.wildflower.org/plants/result.php?id_plant=ARRU">https://www.wildflower.org/plants/result.php?id_plant=ARRU</a></li> </ol>
Other Sources Consulted	<ol style="list-style-type: none"> <li>1. <i>Plant fact sheet</i>. USDA. (n.d.). <a href="https://plants.usda.gov/DocumentLibrary/factsheet/pdf/fs_aruv.pdf">https://plants.usda.gov/DocumentLibrary/factsheet/pdf/fs_aruv.pdf</a></li> <li>2. <i>Trees and Shrubs; Arctostaphylos uva-ursi</i>. Forest Service National Website. (n.d.). <a href="https://www.fs.usda.gov/detailfull/umatilla/learning/nature-science/?cid=stelprdb5251290">https://www.fs.usda.gov/detailfull/umatilla/learning/nature-science/?cid=stelprdb5251290</a></li> <li>3. WY Field Guide. (n.d.). <a href="https://fieldguide.wyndd.org/?species=arctous+rubra">https://fieldguide.wyndd.org/?species=arctous+rubra</a></li> </ol>
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