Plant Propagation Protocol for *Gaultheria hispidula*
ESRM 412 – Native Plant Production
Protocol URL: https://courses.washington.edu/esrm412/protocols/GAHI2.pdf

Gaultheria hispidula range map, USDA PLANTS Database


Photo by Ian Shackleford
https://www.fs.fed.us/wildflowers/plant-of-the-week/gaultheria_hispidula.shtml

TAXONOMY	
Plant Family	
Scientific Name	*Ericaceae*
Common Name	Heath
Species Scientific Name	
Scientific Name	*Gaultheria hispidula* (L.) Muhl. ex Bigelow
Varieties	
Sub-species	
Cultivar	
Common Synonym(s)	*Chiogenes hispidula* (L.) Torr. & A. Gray
Common Name(s)	Creeping snowberry, moxie, moxie plum, maiden hair berry, tea berry, pearlberry, capillaire.
Species Code (as per USDA Plants database)	GAHI2
GENERAL INFORMATION	
Geographical range	Throughout Canada, Pacific Northwest, and northeastern U.S. (see above for range map).
Ecological distribution	Found in bogs and wetland forests.
Climate and elevation range	Elevations in which it occurs can vary, but it is generally found in lowland forests and bogs. These low, open areas are often cold and may support plant communities that are generally northern in distribution. In the more northern parts of its range, the species are sometimes found in upland habitats[iii].

Local habitat and abundance	Often grows on ground near bases of trees or on decaying logs in coniferous forests. Commonly uses hemlock as a substrate[iii]. Sometimes associated with sphagnum moss.
Plant strategy type / successional stage	Has medium anaerobic tolerance and medium drought tolerance. Shade tolerant. Adapted to fine, medium, and course textured soils[v]. Fond of acidic habitats[vi].
Plant characteristics	Creeping or trailing perennial evergreen shrub. Leaves are round and 5 to 10 millimeters long. Woody stems and underside of leaves are covered with brown bristles. White, four-parted flowers develop in spring and become small white, egg-shaped berries that ripen in mid to late summer[vi]. Berries have a wintergreen flavor, similar to the wintergreen plant (*Gaultheria procumbens*) but is more concentrated in the snowberry.
PROPAGATION DETAILS	
Ecotype	
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	N/A
Time to Grow	Typically outplanted after first winter
Target Specifications	About 25mm tall
Propagule Collection Instructions	Blooms in spring, with an active growth period through summer. Flowers become white berries and seeds ripen around late summer.
Propagule Processing/Propagule Characteristics	The typical fruit contains many seeds that are light orange-yellow, irregularly wedge-shaped, 0.7-1 mm long, 0.5-0.7 mm wide, wingless, not tailed, lineolate or lineate. Seeds are relatively small at 3,000,000 per pound[iii].
Pre-Planting Propagule Treatments	The seed requires a period of cold stratification. Pre-chill for 4 to 10 weeks and then surface-sow in a lime-free compost in a shady part of the greenhouse and keep the compost moist[vii].
Growing Area Preparation / Annual Practices for Perennial Crops	Can be grown in a shady area of a greenhouse, unheated. Vented containers. Requires moderate watering; keep soil moist. Lime-free compost, slightly acidic.
Establishment Phase Details	
Length of Establishment Phase	Around 1 to 2 months.
Active Growth Phase	N/A
Length of Active Growth Phase	N/A
Hardening Phase	N/A
Length of Hardening Phase	N/A

Harvesting, Storage and Shipping	N/A
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	Plants typically do well once established. A low growing subshrub, growing up to 40 cm long. Blooms mid-spring.
Other Comments	*Gaultheria hispidula* is considered endangered in Maryland and New Jersey, threatened in Connecticut and Rhode Island, rare in Pennsylvania, sensitive in Washington, and presumed extirpated in Ohio. Collection in these areas may be limited.
PROPAGATION DETAILS	
Ecotype	
Propagation Goal	Plants
Propagation Method	Vegetative
Product Type	Bareroot
Stock Type	N/A
Time to Grow	N/A
Target Specifications	N/A
Propagule Collection Instructions	Plants spread by asexual reproduction from stems rooting at the nodes as the plant creeps across the substrate[i].
Propagule Processing/Propagule Characteristics	Each node has the capacity of developing a new plant, usually starting as roots and then developing new stems which become viable plants.
Pre-Planting Propagule Treatments	N/A
Growing Area Preparation / Annual Practices for Perennial Crops	Downed logs, stumps, moss, mud, or bare ground. Prefers moist, acidic environments.
Establishment Phase Details	
Length of Establishment Phase	2 to 4 weeks for roots to develop at nodes
Active Growth Phase	N/A
Length of Active Growth Phase	Spring to summer is the active growing season[iii].
Hardening Phase	N/A
Length of Hardening Phase	N/A
Harvesting, Storage and Shipping	N/A
Length of Storage	N/A
Guidelines for Outplanting /	Grows into a mat of stems and leaves up to 1 meter in diameter and 10 centimeters high. If left undisturbed, can grow indefinitely.

Performance on Typical Sites	Susceptible to fires, but fires are somewhat rare in their moist and cold environments[iii]. Flowers every spring.
Other Comments	Small cranberry (*Vaccinium oxycoccos*) grows in similar habitats and is sometimes associated with creeping snowberry. Its small, strongly reflexed flowers are very different from the campanulate flowers of creeping snowberry. Vegetatively, they are superficially similar in appearance and could be confused. Small cranberry lacks the coarse bristles on the leaf undersides, which are prominent on the creeping snowberry[iii].
INFORMATION SOURCES	
References	See below
Other Sources Consulted	Bergeron, Yves, and Andre Bouchard. "Use of Ecological Groups in Analysis and Classification of Plant Communities in a Section of Western Quebec." *Vegetatio*, vol. 56, no. 1, 1984, pp. 45–63., doi:10.1007/bf00036136. "Gaultheria Hispidula - (L.) Muhl. Ex Bigelow." *Plants For A Future*, pfaf.org/user/Plant.aspx?LatinName=Gaultheria%2Bhispidula.
Protocol Author	Kalina Bevelhimer
Date Protocol Created or Updated	05/08/20

References:

[i] "*Gaultheria hispidula* (Creeping Snowberry)." *Minnesota Wildflowers*, www.minnesotawildflowers.info/shrub/creeping-snowberry.

[ii] "*Gaultheria hispidula* (L.) Muhl. Ex Bigelow." *Dnr.wa.gov*, www.dnr.wa.gov/publications/amp_nh_gahi2.pdf.

[iii] Hays, Michael. "Conservation Assessment for Creeping Snowberry (*Gaultheria hispidula*)." *Usda.gov*, USDA Forest Service, Eastern Region, Sept. 2001.

[iv] "Plant Database: *Gaultheria hispidula*." *Lady Bird Johnson Wildflower Center - The University of Texas at Austin*, 26 Nov. 2012, www.wildflower.org/plants/result.php?id_plant=gahi2.

[v] "Plants Profile for *Gaultheria hispidula* (Creeping Snowberry)." *USDA PLANTS Database*, plants.usda.gov/core/profile?symbol=GAHI2.

[vi] Shackleford, Ian. “Plant of the Week: Creeping Snowberry (*Gaultheria hispidula*).” *U.S. Forest Service*, USDA, www.fs.fed.us/wildflowers/plant-of-the-week/gaultheria_hispidula.shtml.

[vii] Sheat. W. G. *Propagation of Trees, Shrubs and Conifers.* MacMillan and Co 1948