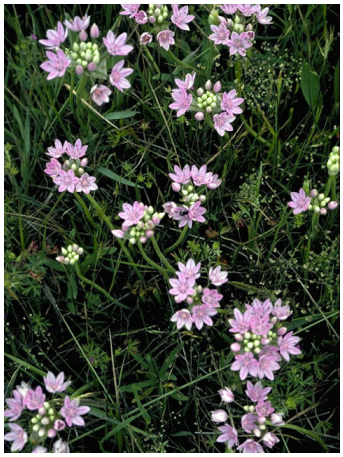
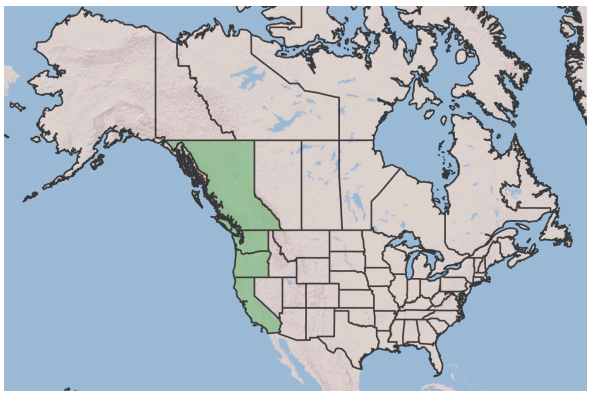
Plant Propagation Protocol for *Allium amplectens*
ESRM 412 – Native Plant Production
URL: https://courses.washington.edu/esrm412/protocols/*2022*/*ALAM2.pdf*

Photos of *Allium amplectens*[8]

TAXONOMY	
Plant Family	
Scientific Name	Liliaceae
Common Name	Lily Family
Species Scientific Name	
Scientific Name	*Allium amplectens* Hook.[6]
Varieties	None
Sub-species	None
Cultivar	None
Common Synonym(s)	*Allium attenuifolium* Kellogg[6] *Allium erratum* S. Watson[6] *Allium monospermum* Jeps.[6] *Allium occidentale* A. Gray[6]
Common Name(s)	Narrow-leaf onion, narrow leaved onion[4], slim-leaf onion[6]
Species Code (as per USDA Plants database)	ALAM2[6]

GENERAL INFORMATION	
Geographical range	 Geographic range of *Allium amplectens*[6]  County range of *Allium amplectens*[6]
Ecological distribution	Vernally moist rocky bluffs and meadows in the lowland zone. Also found on coastal bluffs, rocks faces and sandy spits.[1]
Climate and elevation range	Found in elevations less than 1800m.[2]
Local habitat and abundance	They are generally abundant in rocky dry habitats.[10] Commonly associated species not found.
Plant strategy type / successional stage	*Allium amplectens* are classified under plants that are known to be drought tolerant and can be recognized by its several water-conserving adaptations.[4] No additional information on what these adaptations entail.

Plant characteristics	Hardy bulb.[8] Perennial herb from an egg-shaped to nearly globe-shaped, scaly bulb, the outer scales brownish to grey, with a wavy, fibrous network, the inner scales red or white; flowering stems erect, 10-40 cm tall, slender, round in cross-section, smooth. The flowers are white to pink, saucer-shaped, of 6 distinct tepals, the tepals 5-9 mm long. The fruit are capsules, more or less egg-shaped, 3-lobed, with 6 low, rounded crests; seeds 6 or fewer, black.[1]
PROPAGATION DETAILS (SEED)	
Ecotype	None
Propagation Goal	Bulbs[9]
Propagation Method	Seed[9]
Product Type	Container (plug)[9]
Stock Type	Potted nursery stock[9]
Time to Grow	Not found
Target Specifications	First year bulb, typically ranging from 2-5mm in diameter.[9]
Propagule Collection Instructions	Seed may be collected from dry flower heads and rubbed free from the bracts.[9]
Propagule Processing/Propagule Characteristics	Seed may be collected from May through July. Seed can be retained on the heads well into summer, depending on the year. Approximately 580 seeds per gram.[9] Clean seed is stored in controlled conditions at 40 degrees Fahrenheit and 40% relative humidity.[7]
Pre-Planting Propagule Treatments	None, though clean dry seed was placed in dry, cold storage following collection and prior to sowing.[9] Cold, moist stratified in vermiculite at approximately 44F.[7]

Growing Area Preparation / Annual Practices for Perennial Crops	Directly sow seed into 1.5" deep flats containing a potting mixture of approximately 1:1:1:2 sand:pumice:peat moss:fir bark mixture. Place flats in an outdoor cold frame from late-fall though spring. Seedlings can transplanted into various sized pots ranging from D-pots to 3x4" plastic containers using the same potting mixture. Better growth may be obtained during the first year by avoiding transplanting (seed directly into larger containers rather than flats).[9]
Establishment Phase Details	Initial germination is observed within 2 weeks; for seed dormancy treatment cold, moist stratified in vermiculite at approximately 44F. For seed sown in outdoor cold-frames germination rates of 14% (Dye Creek) and 37% (Vina Plains) were observed. Small bulbs (2-6mm in diameter) will be produced within 6-8 months.[9]
Length of Establishment Phase	Transplantable sprouts were established within approximately 3-4 weeks.[9]
Active Growth Phase	Active growth was observed following the onset of autumn rains (seed swelling) until drying down (die-back and dormancy) occurred inlate spring/early summer. The length of the active growth phase can be somewhat controlled with irrigation, but this species requires summer dormancy. The active growth phase can be somewhat extended by misting plants after the last rain in spring, additional monitoring is necessary to prevent rot.[9]
Length of Active Growth Phase	6-8 months (late fall - early summer).[9]
Hardening Phase	Dormancy can be induced by letting pots dry-down and then placing in dry storage until the following fall rains. Plants should be allowed to go dormant by early summer.[9]
Length of Hardening Phase	None
Harvesting, Storage and Shipping	Individuals go dormant following spring-summer dry down and die back. Dormant individuals were placed in dry storage at 60-70 degrees Farenheit.[9]
Length of Storage	3-5 months.[9]

Guidelines for Outplanting / Performance on Typical Sites	None
Other Comments	Transplanted seedlings can show some sign of stress, when seedlings are transplanted earlier, they show more vigorous growth. Seed sown directly in the field showed above and below ground growth rates equal to, or better than seed grown under controlled conditions in well-drained potting soils. Heavier native soils may provide better growing conditions when kept moist compared to well-drained potting soils whose moisture and temperature may fluctuate more readily.[9]
INFORMATION SOURCES	

References	1. *Flora BC: Electronic atlas of the flora of british columbia*. E. (n.d.). Retrieved May 24, 2022, from http://linnet.geog.ubc.ca/Atlas/Atlas.aspx?sciname=Allium+amplectens 2. McNeal, D. W. (n.d.). *The Jepson Herbarium*. Allium amplectens. Retrieved June 9, 2022, from https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=12506 3. *Narrow leaved onion, allium amplectens*. California Native Plant Society. (n.d.). Retrieved May 24, 2022, from https://calscape.org/Allium-amplectens-() *4*. Pettinger, A., & Costanzo, B. (2003). *Native plants in the Coastal Garden: A guide for gardeners in the Pacific Northwest*. Timber Press. 5. *Plant database*. Lady Bird Johnson Wildflower Center - The University of Texas at Austin. (n.d.). Retrieved May 24, 2022, from https://www.wildflower.org/plants/result.php?id_plant=ALAM2 6. *Plant Profile for Allium amplectens (narrowleaf onion)*. USDA plants database. (n.d.). Retrieved May 24, 2022, from https://plants.usda.gov/home/plantProfile?symbol=ALAM2 7. *Garry Oak Ecosystems Recovery Team (GOERT)*. Allium Amplectens. (n.d.). Retrieved May 24, 2022, from https://goert.ca/species/allium-amplectens/ *8*. Powell, E. (2004). *The gardener's A-Z guide to growing flowers from seed to bloom*. Storey Pub. 9. *Reforestation, nurseries and genetics resources*. RNGR. (n.d.). Retrieved May 24, 2022, from https://rngr.net/renderNPNProtocolDetails?selectedProtocolIds=liliaceae-allium-3094 *10*. Robson, K. A., Richter, A., & Filbert, M. (2008). *Encyclopedia of northwest native plants for gardens and landscapes*. Timber Press.
Other Sources Consulted	
Protocol Author	Valerie Storozhev
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