
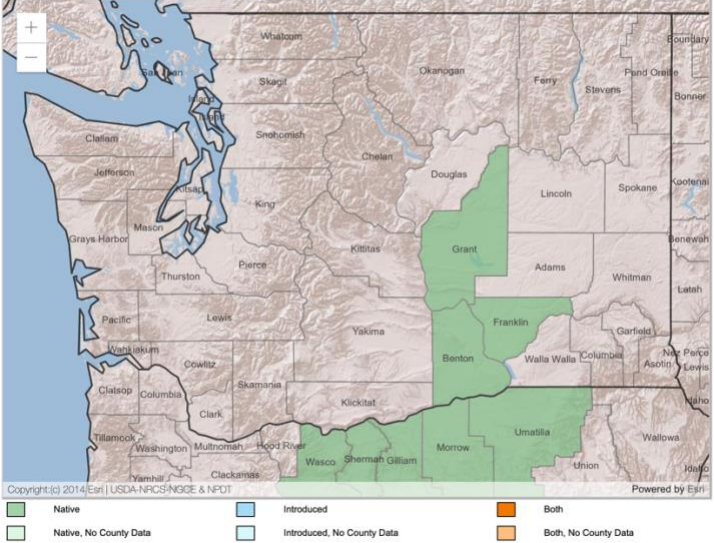
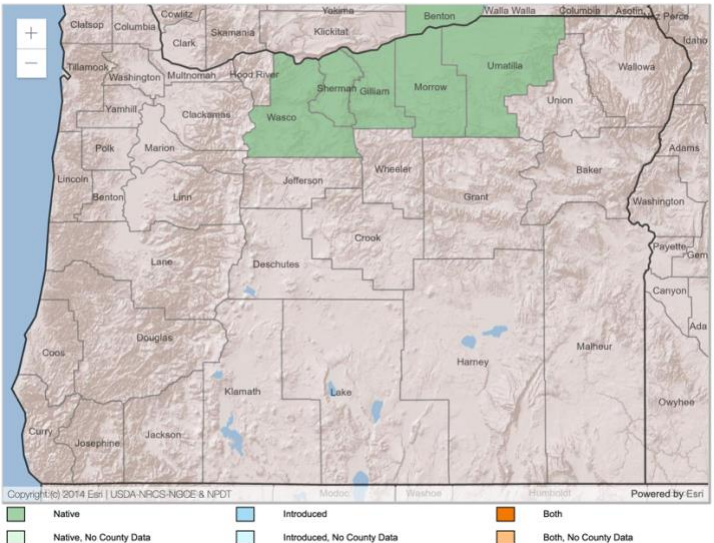


Plant Propagation Protocol for *Allium robinsonii*


ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2023/ALRO.pdf>

TAXONOMY	
Plant Family	
Scientific Name	Liliaceae Juss
Common Name	Lily family
Species Scientific Name	
Scientific Name	<i>Allium robinsonii</i> L.F. Hend.
Varieties	N/A
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	N/A
Common Name(s)	Robinson's onion
Species Code (as per USDA Plants database)	ALRO
GENERAL INFORMATION	
Geographical range	 <p>Copyright: (c) 2014 Esri USDA-NRCS-NGOE & NPOT Powered by Esri</p> <p> <input checked="" type="checkbox"/> Native <input type="checkbox"/> Introduced <input type="checkbox"/> Both <input type="checkbox"/> Native, No County Data <input type="checkbox"/> Introduced, No County Data <input type="checkbox"/> Both, No County Data </p> <p>Native Status:</p> <p> <input checked="" type="radio"/> L48 <input type="radio"/> AK <input type="radio"/> HI <input type="radio"/> PR <input type="radio"/> VI <input type="radio"/> NAV <input type="radio"/> CAN <input type="radio"/> GL <input type="radio"/> SPM <input type="radio"/> NA </p> <p>National Distribution¹</p>

	 <p style="text-align: center;">Washington State Distribution¹</p>  <p style="text-align: center;">Oregon Distribution¹</p>
Ecological distribution	Occurs on lower terraces and bottoms of the Columbia River from Vantage, Kittitas. Co., WA to the mouth of the John Day River, Sherman Co., OR. Also present on bald-ridges and knobs above Thirteenmile Creek, Ferry Co., WA. ³
Climate and elevation range	Grows in temperate biomes. ⁵ Grows on open slopes from 90-330m. ⁷ Also found in elevation ranges from 50-200m. ²
Local habitat and abundance	Pollinators like bees and <i>Apis mellifera</i> are part of the dispersal mode of <i>A. robinsonii</i> . ³

	<p>Sand and gravel near the Columbia River. Some lithosol benches.⁶</p> <p>Grows on talus and other well drained soils as well as open slopes. Subsurface water in most sites during much of the growing season.⁷</p>
Plant strategy type / successional stage	Weedy/colonizer plant, does well in gravelly soil and is okay on disturbed land. ³
Plant characteristics	<p>Perennial forb/herb.¹</p> <p>Umbel few- to many-flowered with white to pale pink tepals and pink mid-nerve; reddish/magenta anthers. 3-celled capsule, crested with 3 low processes on fruits. Flat, recurved, leaves longer than the scape that break off at the ground at maturity. Ovoid bulbs that are solitary or clustered with gray/brown outer coats and no pattern.⁶</p> <p>Flowers are 7-9mm. Umbels are deciduous with scape, 5-12 flowered, and hemispheric. Renewal bulbs form within the coat of the parent bulb. Bulbs are ovoid and 1-2cm x 8-15mm, 1 to 3 bulbs grow with no underground rhizomes. Flowers from April-May.²</p> <p>Seed coat is dull with smooth cells.²</p>

	
<i>A. robinsonii</i> flowers and bulb. ¹³	
PROPAGATION DETAILS	
Ecotype	N/A
Propagation Goal	Bulbs
Propagation Method	Vegetative
Product Type	Container
Stock Type	Deepots
Time to Grow	6 months. ⁴
Target Specifications	Small/medium plants, 60cm tall. ¹⁰
Propagule Collection Instructions	<p>Often dispersed by wind, scapes break off at ground level at around the time that the seeds mature, and the capsules dehisce. The scape and umbel blow like a tumbleweed.³</p> <p>Hand pulling is not effective for collecting the bulblets as the foliage will break and the bulblets can be left underground, so plants must be dug out to keep the bulblets intact.¹²</p> <p>Lift the bulbs and detach the foliage.⁹</p>
Propagule Processing/Propagule Characteristics	1 to 3 bulbs per plant. ²

Pre-Planting Propagule Treatments	<p>Store in a dark, dry place. Susceptible to decay.⁴</p> <p>Seeds are small and may require cold-moist stratification.¹⁴</p>
Growing Area Preparation / Annual Practices for Perennial Crops	<p>Prepare 2 to 3 pounds of 8-8-8 fertilizer per 100 feet of row.⁴</p> <p>Use a substrate with good drainage. Different mixes can be composed depending on the climate they are grown in. If in an alpine climate, mix 5 parts peat, 1 part sand, 4 parts topsoil, and 1 part organic matter. If in a continental climate, mix 4 parts peat, 2 parts sand, 4 parts topsoil, and 1 part organic matter. If in a Mediterranean climate, mix 3 parts peat, 3 parts sand, 4 parts topsoil, and 1 part organic matter.¹⁰</p> <p>Grow in a cold greenhouse safe from wind, then when the last frost has passed, they will be ready to be outplanted. Ensure direct sunlight can be used.¹⁰</p> <p>Perennial plants are subject to undergoing vegetative rest for a period of several months and do not need water at this time.¹⁰</p> <p>Avoid planting in cold exposed or waterlogged conditions to avoid bulb rot.⁹</p>
Establishment Phase Details	<p>Water about once every 1 to 2 weeks with 2 to 3 glasses of water, being sure to let the soil dry out before watering again. When watering, try not to water excessively, but be sure that the water percolates down through the soil.¹⁰</p>
Length of Establishment Phase	<p>If seeds collected and stored in fridge, germination should occur within 12 weeks.⁹</p>
Active Growth Phase	<p>Continue watering about once every 1 to 2 weeks with about 2 to 3 glasses of water, letting the soil dry out in between watering. Let soil saturate with water, but do not water excessively.¹⁰</p> <p><i>Allium</i> grown from seed takes several years to reach flowering size.⁹</p>
Length of Active Growth Phase	<p><i>Allium</i> varieties can be outplanted at around 4-8 weeks after initial planting.⁹</p>
Hardening Phase	<p>Preventative treatments such as insecticides and systemic fungicides can be used to help prevent aphids or fungal diseases.¹⁰</p>

	<i>A. robinsonii</i> does not do well in the cold and will see foliage die off. ¹⁰
Length of Hardening Phase	N/A
Harvesting, Storage and Shipping	Store in a dark, dry place after the foliage breaks off and the top starts to turn yellow. ⁴
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	Flowering occurs in April through May. ²
Other Comments	<p>Its global conservation status is G3.¹</p> <p>Ranked N3 in the U.S. as a vulnerable species.⁷</p> <p><i>A. robinsonii</i> is recommended to be assessed on account of its rarity.³</p> <p>Not of concern in WA for conservation.⁶</p> <p>Habitat loss leading to declining numbers and extirpation in Oregon.³</p> <p>Fourth Corner Nurseries has propagated <i>A. robinsonii</i> within the last 30 years and may have more specific information on how they did so.¹¹</p>
INFORMATION SOURCES	
References	See below
Other Sources Consulted	See below
Protocol Author	Nora Boe
Date Protocol Created or Updated	05/27/23

References:

¹ USDA Plants Database. (n.d.). Plants.sc.egov.usda.gov. Retrieved May 31, 2023, from <https://plants.sc.egov.usda.gov/home/plantProfile?symbol=ALRO>

² *Allium robinsonii* in Flora of North America @ efloras.org. (n.d.). Wwww.efloras.org. Retrieved May 27, 2023, from http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242101395

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- ¹³ *Allium robinsonii* – *Flora of Eastern Washington and Adjacent Idaho*. (2019, December 24). Flora of Eastern Washington and Adjacent Idaho. <https://inside.ewu.edu/ewflora/allium-robinsonii/>
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