



Plant Propagation Protocol for *Valeriana columbiana*

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2026/VACO2.pdf>

TAXONOMY	
Plant Family	
Scientific Name	Valerianaceae Batsch
Common Name	Valerian
Species Scientific Name	
Scientific	<i>Valeriana columbiana</i> Piper
Varieties	N/A
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	N/A
Common Name(s)	Wenatchee valerian
Species Code (as per USDA Plants database)	VACO2
GENERAL INFORMATION	
Geographical range	<p>On each map, green indicates native status.</p> <p>North American distribution map (USDA):</p>  <p>Washington State distribution map (USDA):</p>

	
Ecological distribution	Occurs east of the Cascades crest, where endemic to the Wenatchee Mountains and adjacent areas (Burke Herbarium).
Climate and elevation range	<p>Mid-elevations in the mountains (Burke Herbarium).</p> <p>Occurs between 2,000 and 8,000 feet, with the most common elevation around 6,000 ft. (Wildflower Search).</p>
Local habitat and abundance	Rocky, open slopes, often on basalt (Burke Herbarium). Noted to occur along coarse ridgelines and slopes as well as in subalpine meadows and <i>Pinus ponderosa</i> forests (PNW Herbaria)
Plant strategy type / successional stage	Competitor strategy; out-competes other plants in harsh, rocky environments by using rhizomes to persist in shallow soils (Burke Herbarium).
Plant characteristics	<p>General: Fibrous-rooted perennial from a stout, branched rhizome, the unbranched stem short-hairy below, 1-5 dm. tall.</p> <p>Leaves: Leaves opposite, usually glabrous; basal leaves petiolate, the blades well-defined, broad, without lobes, wavy margined, up to 5.5 cm. long and 3.5 cm. wide; cauline leaves sub-sessile, 1-4 pairs, pinnatifid, with the terminal lobe up to 6 cm. long and 2.5 cm. wide, the 1-2 pairs of lateral lobes usually smaller.</p> <p>Flowers: Inflorescence compact, terminal, 3-6 cm. wide; calyx enlarging and spreading, with 11-16</p>

	<p>plumose, bristle-like segments; flowers all perfect; corolla united, white, 11-18 mm. long, the 5 lobes about as long as the tube; stamens 3, equaling the corolla lobes; ovary inferior, with two of the three cells vestigial.</p> <p>Fruits: Fruit an achene, 5-7 mm. long, glabrous, narrowly lanceolate.</p> <p>Source: Burke Herbarium</p>
PROPAGATION DETAILS: FROM SEED	
Ecotype	N/A
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	
Time to Grow	Similar plants in genus <i>Valeriana</i> (<i>V. sitchensis</i>) have growing times between 8 and 12 months (Luna, Evans, and Wick; Flessner)
Target Specifications	Well-developed rhizome, or caudex with many healthy fibrous roots supporting a healthy crown of basal foliage.*
Propagule Collection Instructions	Collect seeds when achenes turn tan (likely late spring to mid-summer) and are able to be easily separated from the receptacle.*
Propagule Processing/Propagule Characteristics	Similar plants in genus <i>Valeriana</i> (<i>V. sitchensis</i> , <i>V. edulis</i>) stored seeds for 5 or more months under both refrigerated and non-refrigerated conditions. (Butler; Flessner)
Pre-Planting Propagule Treatments	Seeds of similar species (<i>V. sitchensis</i>) were cleaned using a hammermill followed by an office clipper. Many species within genus <i>Valeriana</i> require cold moist stratification to overcome physiological dormancy. For <i>V. sitchensis</i> , this practice involved sowing seeds in "1020" flats in Sunshine #3 seedling starter mix and placing the seeds in a walk-in cooler at 35°F for a period of 7-12 weeks (Flessner).

Growing Area Preparation / Annual Practices for Perennial Crops	Propagation of similar species within genus <i>Valeriana</i> utilize varied media and container options, including a 3:1 mix of Sunshine #1 and “Black Gold” organic potting soil in 4” square pots (Flessner), Fafard Germinating Mix (superfine) in a 4x8 flat (Butler), and a 6:1:1 milled sphagnum peat, perlite, and vermiculite mix in 172 mL cone-tainers (Luna, Evans, and Wick).
Establishment Phase Details	Common practice with species within genus <i>Valeriana</i> include lightly covering the seeds with media to allow light access (Butler).
Length of Establishment Phase	Propagation of similar species within genus <i>Valeriana</i> (<i>V. sitchensis</i> , <i>V. edulis</i>) had establishment phases lasting 2 to 4 weeks (Luna, Evans, and Wick; Butler).
Active Growth Phase	Fertilized with 20-10-20 liquid NPK at 100ppm weekly during the growing season (Luna, Evans, and Wick).* Keep good drainage to allow development of fine, fibrous roots (Flessner).*
Length of Active Growth Phase	Active growth phases of similar species within genus <i>Valeriana</i> (<i>V. sitchensis</i>) last between 2 and 3 months (Luna, Evans, and Wick; Flessner).
Hardening Phase	Protocols developed for similar species (<i>V. sitchensis</i>) describe ceasing fertilizer use about a month before the end of the active growth season as well as decreasing the amount of water and increasing sun exposure just before the end of the active growth season (Luna, Evans, and Wick). Overwintering of <i>V. sitchensis</i> was described to take place in an outdoor nursery under insulating foam cover and snow (Luna, Evans, and Wick) or storage in moist soil in a walk-in cooler (Flessner).
Length of Hardening Phase	Hardening phases of similar species within genus <i>Valeriana</i> (<i>V. sitchensis</i>) last around 4 weeks (Luna, Evans, and Wick; Flessner).

Harvesting, Storage and Shipping	Similar species in genus <i>Valeriana</i> (<i>V. sitchensis</i>) were either shipped in their containers for outplanting in early fall or overwintered and repotted into larger pots (6" square pots or 1-gallon cans) by the following spring (Luna, Evans, and Wick; Flessner).
Length of Storage	Similar species in genus <i>Valeriana</i> (<i>V. sitchensis</i>) were stored for 5 months (Luna, Evans, and Wick).
Guidelines for Outplanting / Performance on Typical Sites	N/A
Other Comments	<p>*Information adapted from protocols prepared for <i>Valeriana sitchensis</i>, a related but much more common and widespread species than <i>Valeriana columbiana</i> that is native to the Pacific Northwest (Luna, Evans, and Wick; Flessner).</p> <p>Vegetative propagation of genus <i>Valeriana</i> is also common, done by transplanting roots or runners or by division of rhizomes, however very little information about this method is available for species that occur in similar climates/habitats to <i>V. columbiana</i>, so it has not been included (OMAFRA).</p>
INFORMATION SOURCES	
References	See below
Other Sources Consulted	See below
Protocol Author	Emma Bastien
Date Protocol Created or Updated	05/18/26

References:

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