

Plant Propagation Protocol for *Viola vallicola*

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2022/VIVA.pdf>

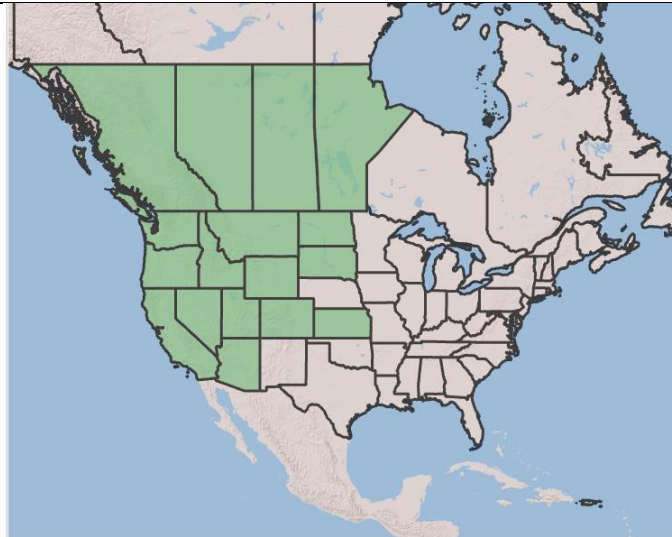


Ben Legler, 2005

TAXONOMY	
Plant Family	
Scientific Name	Violaceae
Common Name	Violet
Species Scientific Name	
Scientific Name	<i>Viola vallicola</i> A. Nelson
Varieties	var. <i>vallicola</i> A. Nelson var. <i>major</i> (Hook.) Fabijan
Sub-species	No subspecies recognized
Cultivar	No information available
Common Synonym(s)	<i>Viola nuttallii</i> Pursh ssp. <i>Vallicola</i> (A. Nelson) H. St. John <i>Viola nuttallii</i> Pursh var. <i>vallicola</i> (A. Nelson) Roy L. Taylor & MacBryde <i>Viola russellii</i> B. Boivin
Common Name(s)	Sagebrush Violet, Yellow Sagebrush Violet, Valley Violet
Species Code (as per USDA Plants database)	VIVA

GENERAL INFORMATION

Geographical range



(USDA)



(USDA)

Ecological distribution

Dry slopes: Sagebrush flats, prairie grasslands, open forests, juniper woodlands. Generally found east of the Cascade Mountain range. (Efloras)

Climate and elevation range

12"-30" precipitation annually, full sun, 400-2800m elevation, extreme temperatures ranging from subzero to over 100 °F (Efloras)

Local habitat and abundance

Prefers full sun and well drained soils. Found in open areas and commonly associated with plants of the *Artemisia* genus and amongst *Pinus ponderosa* benchlands (Wildflower Center)

Plant strategy type / successional stage

Drought tolerant
(NGA)

Plant characteristics

Rhizomatous perennial herb with stems up to 15 cm long. Sparsely hairy ovate to ovate-lanceolate leaves up to 5 cm. 3-10 cm petiole. Yellow flowers 8-15 mm long. Spherical fruit of about 5 mm. (Giblin and Knoke)

PROPAGATION DETAILS

Little propagation information found for *V. vallicola*, propagation details provided for *V. pensylvanica*, a related species in the Violaceae family

Ecotype	N/A
Propagation Goal	Plants (RNGR, 2002)
Propagation Method	Seed (RNGR, 2002)
Product Type	Container (plug) (RNGR, 2002)
Stock Type	Plu (RNGR, 2002)
Time to Grow	4 months (RNGR, 2002)
Target Specifications	Well-developed crowns, roots and rhizomes filling soil profile in container (RNGR, 2002)
Propagule Collection Instructions	Seed capsules are explosive making seed collection difficult. Seed collected by hand, harvested in July (RNGR, 2002)
Propagule Processing/Propagule Characteristics	Dry seeds for 1-2 weeks in bins, shaking or turning seed heads. Seeds are not cleaned, and stratification can begin as soon as the seeds are dry. (RNGR, 2002)
Pre-Planting Propagule Treatments	120 days cool/moist stratification prior to germination (38F). Should be stored in cool, dry environment for up to 3 years. (RNGR, 2002)
Growing Area Preparation / Annual Practices for Perennial Crops	Propagation environment: Greenhouse; constant circulating air Sowing media: Scotts Redi-earth Plug and Seedling Mix (vermiculite and sphagnum peat moss). 2 seeds sown per cell Container type: 24 cell (2" diameter) 14" x 8.5" x 4" flat Seeds sown year round due to low variable success rates (RNGR, 2002)
Establishment Phase Details	January-August: Greenhouse kept 65°F both day and night, though ambient temperatures can reach 100°F during summer days September-December: Thermostat set to 55°F during day and night, ambient temperatures can reach up to 75°F during day. Soil kept damp with misting during germination. Newly sown trays placed on south side of greenhouse with no artificial light. (RNGR, 2002)
Length of Establishment Phase	3-5 months (RNGR, 2002)
Active Growth Phase	Soil is no longer kept consistently moist. Temperatures stay consistent for all stages of growth (seeds sown at all times of the year). Trays moved to north side of greenhouse (cooler)
Length of Active Growth Phase	5 months (RNGR, 2002)

Hardening Phase	Early to late spring, mature plants moved to a cold frame with cover to diffuse sunlight. Watered less frequently
Length of Hardening Phase	6-12 weeks (RNGR, 2002)
Harvesting, Storage and Shipping	Flats are transplanted into the field late May to early October. Those that are not transplanted in the summer stay in the greenhouse for another season. (RNGR, 2002)
Length of Storage	Can be stored in the nursery for another season if not outplanted in the summer (RNGR, 2002)
Guidelines for Outplanting / Performance on Typical Sites	Generally flower in June-July, may also flower in Autumn. Seed is ant dispersed with low germination success (RNGR, 2002)
Other Comments	Ripening seed capsules must be watched to ensure collection due to explosive nature of seed dispersal. (RNGR, 2002)

INFORMATION SOURCES

References	<p>“Propagation Protocol for Production of Container (Plug) Viola Praemorsa Plants.” Reforestation, Nurseries and Genetics Resources (RNGR). (2015). Available online at: rngr.net/npn/propagation/protocols/violaceaeviola-4085</p> <p>Giblin, D., and Knoke, D. “Viola Nuttallii Var. Vallicola.” Burke Herbarium Image Collection, https://biology.burke.washington.edu/herbarium/imagecollection/taxon.php?Taxon=Viola+nuttallii+var.+vallicola.</p> <p>“Viola Vallicola A. Nelson.” <i>ITIS Standard Report</i>, https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search+value=505722#null.</p> <p>“Viola Vallicola A. Nelson: Sagebrush Violet.” <i>USDA Plants Database</i>, USDA, https://plants.usda.gov/home/plantProfile?symbol=VIVA.</p> <p>“Viola Vallicola A. Nelson.” <i>Viola Vallicola in Flora of North America @ Efloras.org</i>, http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250100973.</p> <p>“Viola Vallicola.” <i>Lady Bird Johnson Wildflower Center – The University of Texas at Austin</i>, https://www.wildflower.org/plants/result.php?idplant=VIVAV.</p>
------------	--

	<p>“Yellow Prairie Violet (<i>Viola Nuttallii</i>).” <i>Plant Database</i>, The National Gardening Association (NGA), https://garden.org/plants/view/85989/Yellow-Prairie-Violet-Viola-nuttallii/.</p>
Other Sources Consulted	<p>Ellis, B. E., and Chen, C. H. "CLONING NATIVE PRAIRIE PLANTS BY TISSUE CULTURE."</p> <p>Zimmerman, J. H. "Propagation of spring prairie plants." Proceedings of the 2nd Midwest Prairie Conference, Parkside, WI, USA. 1972.</p>
Protocol Author	Corina Cruz
Date Protocol Created or Updated	05/04/22