Plant Propagation Protocol for *[Insert Species]*

ESRM 412 – Native Plant Production

URL: https://courses.washington.edu/esrm412/protocols/*[2024]*/*[VISE5.pdf]*

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TAXONOMY	
Plant Family	
Scientific Name	*Violaceae* Batsch
Common Name	Violet Family
Species Scientific Name	
Scientific Name	*Viola septentrionalis* Greene
Varieties	N/A
Sub-species	N/A
Cultivar	
Common Synonym(s)	*Viola sororia* Willd.
Common Name(s)	Northern woodland violet (6) Northern blue violet (8) Woolly blue violet (10)
Species Code (as per USDA Plants database)	VISE5
GENERAL INFORMATION	
Geographical range	Occurring east of the Cascades crest in northeastern Washington; Yukon Territory to California, east to the Rocky Mountains, northern Great Plains, Great Lakes region, and northeastern North America. (1)
Ecological distribution	Dry to moist forest openings, thickets, meadows, and stream banks at middle elevations. (1)
Climate and elevation range	Mesic to moist open forests in the montane zone (2)

	Elevation: 0–3000 m (11)
Local habitat and abundance	Mesic to dry-mesic hardwood forests and forest edges. Generally, on mid to upper slopes or tops of hills. (9)
Plant strategy type / successional stage	N/A
Plant characteristics	Rhizomes: Thick, fleshy Stems: Acaulescent; caudex frequently branching; stolons absent Leaves: Basal, petioles sparsely hirsute, blades 2-3cm wide, ovate to reniform, base distinctly cordate, apex obtuse to acute, sparsely hirsute, margin uniformly toothed Inflorescence: Flowers solitary; peduncles usually shorter than to equalling leaves; cleistogamous flowers on ascending or erect peduncles Flowers: Perfect, zygomorphic; calyx 5-memrous, lanceolate to ovate, long ciliate nearly to tip, auricles divergent and conspicuous; corolla 5-merous, spurred and lateral petals subequal, all petals bearded at base, spur blunt, deep violet to purple; stamens 5; ovary superior Fruits: capsule 3-valved, yellowish, glabrous. (3)
PROPAGATION DETAILS: FROM SEED	
Ecotype	N/A
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (Plug)
Stock Type	
Time to Grow	Active Growth Period- 3 months (7)
Target Specifications	Well-developed crowns, roots and rhizomes filling soil profile in container. (12)
Propagule Collection Instructions	Successful seed collection depends on a short window of 1 to 3 d between seed maturity and when seeds are ballistically dispersed up to 5 m away from the parent plant. As soon as fruits begin to point upward, collect capsules while they are still closed. After collection, leave them to split open and release seeds in a controlled space to avoid seed loss. (4)

Propagule Processing/Propagule Characteristics	Healthy mature seeds will be smooth, brown to mahogany in color, and shiny.
Pre-Planting Propagule Treatments	120 days cool(38F)/moist stratification prior to germination. (12)
Growing Area Preparation / Annual Practices for Perennial Crops	Produce plugs in greenhouse to be later out planted into field rows the following spring. Use Leach Stubby Cone-tainers (118 ml [7 in3]) sized containers. You can use standard growing medium is Sunshine #1, a soilless, peat-based media amended with approximately 2.2 kg/m3 (3.7 lb/yd3) of slow-release nitrogen fertilizer. Sown trays are irrigated, wrapped in a plastic bag, and placed in a walk-in cooler for 4 mo at 1 to 3 °C (33 to 37 °F) (5)
Establishment Phase Details	From Jan. until Aug. the greenhouse thermostat is set at 65 degrees F. both day and night. Ambient greenhouse temperatures may reach 100 degrees F during the day in the summer. From Sept. through Dec. the thermostat is set at 55 degrees F. Duringthis season ambient greenhouse temperatures may reach 75 degrees F. during the day. Soil is kept consistently damp during germination. Water using a fine mist or light hose setting only. Newly planted trays are placed on the south side of the greenhouse. No artificial light is used. (13)
Length of Establishment Phase	6-7 weeks (14)
Active Growth Phase	The soil does not need to be consistently moist. Consistent temperatures are needed. (13)
Length of Active Growth Phase	8-10 weeks (14)
Hardening Phase	In early-late spring, mature plants can be moved into a cold frame with a cover of material that diffuses sunlight to prevent scorching of the plants. When danger of frost has passed leave plants outside. Water less frequently. (13)
Length of Hardening Phase	N/A
Harvesting, Storage and Shipping	You can use the method of vacuuming with a weed fabric. Care must be taken to vacuum seeds from under each plant, from within the holes in the weed fabric, and from the fabric between plants and rows. An air-screen machine can be used to separate seeds from empty seed capsules, chaff, and soil. (5)

	Lower temperatures and lower humidity for storage is needed as long-duration high temperature and humidity, are known to drastically decrease seed viability of many species. (4)
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	Can produce seeds during the first year if out planted from plugs; however, first-year yields are lower than yields from mature stands. (5)
Other Comments	N/A
INFORMATION SOURCES	
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