

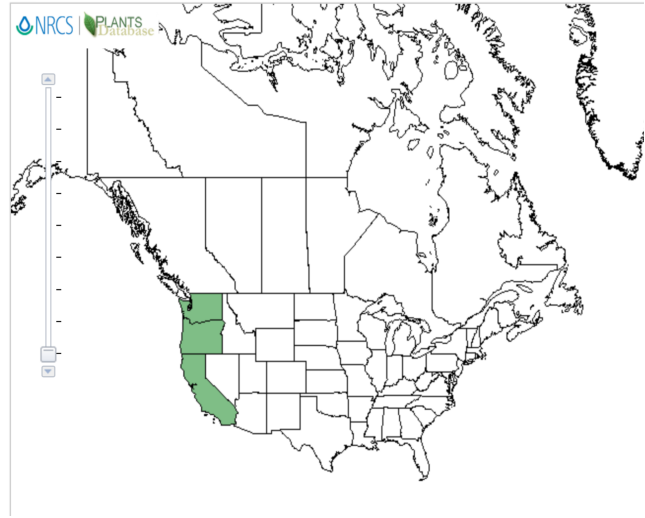
Plant Propagation Protocol for *Trillium Albidum*

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/TRAL4.pdf>

North American Distribution

Washington State Distribution



Map from USDA-NRCS Plants Database.

TAXONOMY	
Plant Family	
Scientific Name	<i>Liliacea</i>
Common Name	Lily Family
Species Scientific Name	
Scientific Name	<i>Trillium Albidum</i> J. D. Freeman
Varieties	N/A at this time
Sub-species	<i>Trillium Parviflorum</i> V.G Soukup
Cultivar	N/A at this time
Common Synonym(s)	<i>Trillium chloropetalum</i> (Torr.) Howell
Common Name(s)	White Toadshade, Freeman's Trillium
Species Code (as per USDA Plants database)	TRAL4
GENERAL INFORMATION	
Geographical range	Oregon, California, Washington
Ecological distribution	Grows well in humid ground, thrive in deciduous/coniferous forests, open meadows
Climate and elevation range	Grows at 300-600 ft elevation, with light sun exposure (good to have sun come in patches).
Local habitat and abundance	Found among varying species. Have been found near hardwoods, camas, shooting stars. Near rivers, and in lower pH soil. Found quite commonly.

Plant strategy type / successional stage	Most likely late successional
Plant characteristic	Herb/ Forb
PROPAGATION DETAILS	
Ecotype	Moist soil, near rivers, and hardwoods, or where there are excessive growths of shrubs.
Propagation Goal	Rhizomes, cuttings is a possible goal but this method is not very successful. Main propagation method is division. (Couldn't find information specific to <i>Albidum</i> , this information is on the overall genus <i>Trillium</i>).
Propagation Method	Both seed and vegetative propagation applicable. Vegetative propagation more appropriate. Germination can take as long as two years and five to seven years for flowering.
Product Type	Container. Hybridization potentially happens in wild where <i>T. Albidum</i> is found to be purple.
Stock Type	Tray or a tube.
Time to Grow	Germination takes about two years and around five to seven years more for flowers to appear.
Target Specifications	Height: 2.2-5.8 dm Leaves: Height: 10-20 cm Width: 12-15cm
Propagule Collection Instructions	Closely observe seed as it grows and look for it to flower. Once the seeds appear to have matured, this is the time that collection should occur. Obtain seed by just rubbing the capsules. Keep seed in warm and humid conditions until later in the summer or early in autumn. After seed has been collected, cold stratify them.
Propagule Processing/Propagule Characteristics	Longevity: Fresh seed necessary, preferable to go right from collection to propagating it into the soil. Density of seeds per pound is N/A at this time, this number depends, but it is helpful to know that the seeds are relatively large.
Pre-Planting Propagule Treatments	Remove elaiosome (to prevent mold) by using 3 percent hydrogen peroxide as a soak for 15 minutes. Then cover the seeds with a wet towel in a plastic bag for approximately five days. After this period, rinse with water. Wash trillium seeds a final time with hydrogen peroxide to sterilize before planting. Switch off between cold and warm temperatures, put humid seeds in 40-45F, then in autumn place them outside, then for winter put them back in 40-45F.
Growing Area Preparation / Annual Practices for Perennial Crops	Due to high potentiality of seeds losing moisture, prepare area with a cold frame or an area without other plants competing for nutrients.
Establishment Phase Details	<i>Trillium</i> species require a period of cold to end its dormancy. Will germinate in the second spring.

Length of Establishment Phase	During this phase, the endosperm is used by the embryo and nutrients are obtained. The embryo is kept in 65 to 75F and in approximately 60 days the seed germinates beneath the surface once it gets the signal to do so by the rhizome. The length of the establishment phase for a typical <i>Trillium</i> is 83 days.
Active Growth Phase	During this phase using light fertilization along with watering and weeding the plant will assist its growth.
Length of Active Growth Phase	If terminal bud is detached from plant the entire plant will need to go into dormancy and will necessitate another period of cold.
Hardening Phase	Active growth phase ends later in the spring until late July is the end of the growing season, dormant until September.
Length of Hardening Phase	Approximately four months
Harvesting, Storage and Shipping	Best time to harvest in Autumn, September-October usually when shipping of rhizomes is done. Seeds require moisture so the seeds will be kept humid and warm. Can ship a 10pi tube with seed already placed in the growing media.
Length of Storage	After the seed is harvested it will not be viable if it is dried out. In order to keep the seed for several weeks it can be put in the refrigerator while the seeds are still enclosed by their capsules. If the seed is separated from its capsule it can be stored with sphagnum moss for over 2 weeks, for a shorter period it can just remain in a plastic bag in the refrigerator.
Guidelines for Outplanting/ Performance on Typical Sites	Will flower between middle of March to middle of May
Other Comments	Sow in place. Cannot be uprooted, very sensitive to losing moisture and if they do, their roots will die and become very vulnerable.

INFORMATION SOURCES

References	<p>"Giant White Wakerobin (<i>Trillium Albidum</i>) in the Trilliums Database." (National Gardening Association). N.p., n.d. Web. 26 Apr. 2016.</p> <p>"Calflora: <i>Trillium Albidum</i>." Calflora: <i>Trillium Albidum</i>. N.p., n.d. Web. 26 Apr. 2016.</p> <p>Case, Frederick W., and Roberta B. Case. <i>Trilliums</i>. Portland, Ore: Timber, 1997. Print.</p> <p>Cullina, William. <i>Trillium Seed Propagation</i>. Rep. Mt. Cuba Center, n.d. Web. 26 Apr. 2016.</p> <p>"How to Grow Trilliums." <i>Fine Gardening</i>. N.p., n.d. Web. 26 Apr. 2016.</p> <p>Haard, Richard. "Interview with Fourth Corner Nurseries." E-mail interview. 26 Apr. 2016.</p> <p>Levy-Boyd, Dylan. "Interview with Seed Propagator at Fourth Corner Nurseries." Telephone interview. 27 Apr. 2016.</p>
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