

**Plant Propagation Protocol for *Dodecatheon poeticum***  
 ESRM 412 – Native Plant Production  
 Spring 2008



(Christie 2006)

<b>TAXONOMY</b>	
<b>Family Names</b>	
Family Scientific Name:	Primulaceae
Family Common Name:	Primrose
<b>Scientific Names</b>	
Genus:	<i>Dodecatheon</i>
Species:	<i>poeticum</i>
Species Authority:	L.F. Hend.
Variety:	
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	
Common Synonym(s):	
Common Name(s):	Poet's shooting star
Species Code:	DOPO

## GENERAL INFORMATION

Geographical range:



(USDA )



(USDA)

Found more specifically in the Columbia River Gorge region.

Ecological distribution (ecosystems it occurs in, etc):

Can be found in oak woodlands, basalt outcrops and grasslands (Chambers).

Climate and elevation range

Annual precipitation and climate varies greatly in the Columbia River Basin (BLM)

Local habitat and abundance:

Plant strategy type / successional stage:

Plant characteristics:

*D. poeticum* is a perennial forb/herb with basal leaves. It is often glandular or hairy and has fleshy fibrous roots (Jepson Manual 1993).

## PROPAGATION DETAILS

Ecotype:	Columbia River Basin
Propagation Goal:	Plants
Propagation Method:	Seed
Product Type:	Container (plug)
Stock Type:	
Time to Grow:	<i>D. pulchellum</i> can take up from 8 Months (Evans et. al. 2008) – 3 years (Skinner 2006). This can be dependent on the container size you are goaled to reach.
Target Specifications:	Development of true leaves and root growth.
Propagule Collection:	When capsules turn tan in color during summer months. <i>D. pulchellum</i> capsules begin to split in June (Skinner 2006). Seeds will be brown in color at maturity (Evans et. Al. 2008).
Propagule Processing/Propagule Characteristics:	<i>D. pulchellum</i> can get a 65% germinated with 100% purity seeds (Evans et. al. 2008). Capsules can be crushed and then cleaned with an air column separator (Skinner 2006). Seeds can be stored at 40 degrees and 40% relative humidity (Skinner 2006). However, seed longevity is unknown (Evans et. al. 2008).
Pre-Planting Propagule Treatments:	Most dodecatheon species germinate well when subject to a cold, moist stratification for at least 90 days (Evans et. al. 2008). <i>D. meadia</i> requires 2 months of cold, moist stratification (Skinner 2006).
Growing Area Preparation / Annual Practices for Perennial Crops (growing media, type and size of containers, etc):	Outdoor nursery area where seeds are directly seeded into the media of the desired container. Fertilizer is added upon seeding as well as pea gravel to prevent the seeds from floating (Skinner 2006). Containers placed outside.
Establishment Phase (from seeding to germination):	<i>D. pulchellum</i> requires fluctuating spring temperatures and a slightly moist medium for germination to occur (Evans et. al. 2008).
Length of Establishment Phase:	4 weeks for <i>D. pulchellum</i> .
Active Growth Phase (from germination until plants are no longer actively growing):	Root and shoot development occurs quickly after germination in <i>D. pulchellum</i> (Evans et. al. 2006). <i>D. pulchellum</i> does not go dormant with summer temperatures but will stop growing (Skinner 2006).
Length of Active Growth Phase:	2-3 months
Hardening Phase (from end of active growth phase to end of growing season; primarily related to the development of cold-hardiness and preparation for winter):	Plants fertilized with 10-20-20 liquid NPK during August and September, watering is reduced September to October with one final irrigation before winterization (Evans et. al. 2008). Any additional hardening is not needed if plants are outside (Skinner 2006).
Length of Hardening Phase:	4 weeks for <i>D. pulchellum</i> (Evans et. al. 2008).
Harvesting, Storage and Shipping (of seedlings):	Some protection should be afforded for extreme cold temperatures such as foam sheets or mulch (Skinner

	2006). Total time to harvest is 8 months and occurs in July for <i>D. pulchellum</i> (Evans et. al. 2008).
Length of Storage:	5 months for <i>D. pulchellum</i> (Evans et. al. 2008).
Guidelines for Outplanting / Performance on Typical Sites (eg, percent survival, height or diameter growth, elapsed time before flowering):	Transplants should occur in late fall but should be checked in early spring. Survival is increased by 60% if planted without competing vegetation for first year in <i>D. pulchellum</i> (Skinner 2006).
Other Comments (including collection restrictions or guidelines, if available):	Difficult to find information on <i>D. poeticum</i> . <i>D. pulchellum</i> grows in similar regions along the west coast which is why I used this as a guide for propagation of <i>D. poeticum</i> . More studies need to be done in order to understand how better to propagate this plant. Many Dodecatheon species are considered rare in certain states including <i>D. meadia</i> , but no information on rarity found on <i>D. poeticum</i> though it grows in a very specific region (Hort.net).

### INFORMATION SOURCES

References (full citations):	<p>BLM (Bureau of Land Management). [Internet] Columbia River Basin. [cited May 14, 2008]. Available from: <a href="http://www.blm.gov/education/00_resources/articles/Columbia_river_basin/article.html">http://www.blm.gov/education/00_resources/articles/Columbia_river_basin/article.html</a>.</p> <p>Chambers, Kent L. [Internet]. [updated May 2, 2007]. In Shooting Stars, Little Things Mean a Lot. Corvallis (OR): Oregon State University, Oregon Flora Project[cited May 14, 2008] Available from: <a href="http://www.oregonflora.org/ofn/v5n1/shooting_stars.html">http://www.oregonflora.org/ofn/v5n1/shooting_stars.html</a></p> <p>Chrsitie, Chritopher L. [Internet]. [updated 2006]. Dodecatheon poeticum. [cited May 14, 2008]. Available from: <a href="http://calphotos.berkeley.edu/cgi/img_query?query_src=photos_index&amp;enlarge=0000+0000+0206+1403">http://calphotos.berkeley.edu/cgi/img_query?query_src=photos_index&amp;enlarge=0000+0000+0206+1403</a></p> <p>Evans, Jeff; Hosokawa, Joy; Wick, Dale. 2008. Propagation protocol for production of container <i>Dodecatheon pulchellum</i> (Raf.) Merr. plants (172 ml conetainers); USDI NPS - Glacier National Park, West Glacier, Montana. In: Native Plant Network. URL: <a href="http://www.nativeplantnetwork.org">http://www.nativeplantnetwork.org</a> (accessed 14 May 2008). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.</p> <p>Hitchcock, C. Leo, and Arthur Cronquist. 1973. Flora of the Pacific Northwest. University of Washington Press.</p>
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	<p>Seattle, WA.</p> <p>Hort.net. [Internet] <i>Dodecatheon media</i> L. [Cited May 14, 2008]. Available from:  <a href="http://www.hort.net/profile/pri/dodme/">http://www.hort.net/profile/pri/dodme/</a></p> <p>Jepson Manual. [Internet]. [updated 1993]. Primulaceae. Berkeley (CA): University of California Berkeley. [cited May 14, 2008] Available from:  <a href="http://ucjeps.berkeley.edu/cgi-bin/get_JM_treatment.pl?Dodecatheon">http://ucjeps.berkeley.edu/cgi-bin/get_JM_treatment.pl?Dodecatheon</a></p>
Other Sources Consulted (but that contained no pertinent information) (full citations):	<p>Baskin, Carol C.; Baskin, Jerry M. 2002. Propagation protocol for production of container <i>Dodecatheon jeffreyi</i> Houtte plants; University of Kentucky, Lexington, Kentucky. In: Native Plant Network. URL: <a href="http://www.nativeplantnetwork.org">http://www.nativeplantnetwork.org</a> (accessed 13 May 2008). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.</p> <p>Horvath, David J.; Blessman, Gary; Flood, Roberta Mountz. 2001. Propagation protocol for production of container <i>Dodecatheon meadia</i> L. plants (1+0 container plugs); Illinois Department of Natural Resources - Mason State Nursery, Topeka, Illinois. In: Native Plant Network. URL: <a href="http://www.nativeplantnetwork.org">http://www.nativeplantnetwork.org</a> (accessed 14 May 2008). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.</p> <p>Baskin, Carol C.; Baskin, Jerry M. 2002. Propagation protocol for production of container <i>Dodecatheon meadia</i> L. plants; University of Kentucky, Lexington, Kentucky. In: Native Plant Network. URL: <a href="http://www.nativeplantnetwork.org">http://www.nativeplantnetwork.org</a> (accessed 14 May 2008). Moscow (ID): University of Idaho, College of Natural Resources, Forest Research Nursery.</p>
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