

Plant Propagation Protocol for *Camassia leichtlinii*

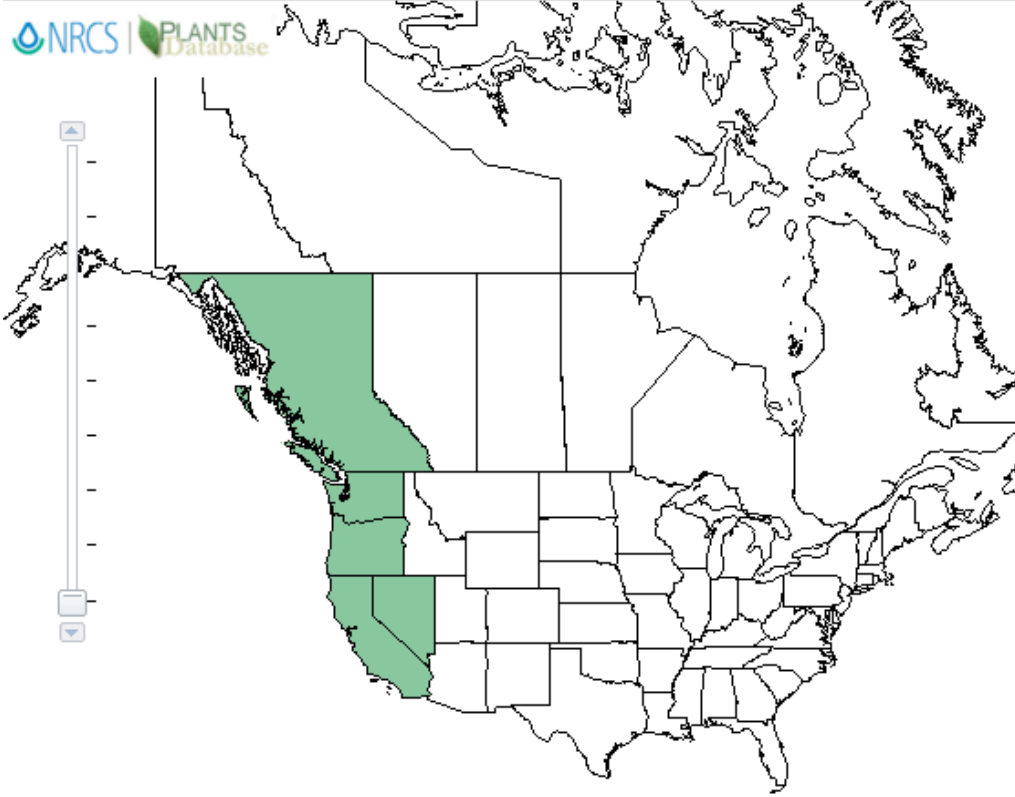
ESRM 412 – Native Plant Production

Protocol URL: [https://courses.washington.edu/esrm412/protocols/\[USDA Species Code.pdf\]](https://courses.washington.edu/esrm412/protocols/[USDA Species Code.pdf])



TAXONOMY

Plant Family	Asparagaceae ⁽¹⁾	
Scientific Name		
Common Name	Californian white camas ⁽¹⁾	
Species Scientific Name		
Scientific Name	Camassia leichtlinii	
Varieties	Larger but less abundant variety than Camassia quamash. ⁽³⁾	
Sub-species		
Cultivar		
Common Synonym(s)	CALES3	<i>Camassia leichtlinii</i> (Baker) S. Watson var. <i>suksdorfii</i> (Greenm.) C.L.

	<div><div></div><div>Hitchc.</div></div> <div><div>CASU26</div><div><i>Camassia suksdorfii</i> Greenm.</div></div> <div><div>(11)</div><div></div></div>
Common Name(s)	
Species Code (as per USDA Plants database)	CALE5 (11)
GENERAL INFORMATION	
Geographical range	<div>Western North America, west of the Cascades and Sierras from British Columbia to southern California. (1) (11)</div> <div><div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div></div><div>Symbol: CALE5</div><div>USDA-NRCS-NG</div></div>
Ecological distribution	Moist slopes and moist mountain meadows. (1) Spring seasonal flood plains. (3)
Climate and elevation	Zone 5 to 9 (1)

range	
Local habitat and abundance	Moist slopes and moist mountain meadows. (1)
Plant strategy type / successional stage	
Plant characteristics	Spring flowering bulbous perennial. Linear strap shaped leaves (up to 2' long) typically form a 2' clump of foliage. Star-shaped flowers (2-3" wide) in upright terminal racemes (20-80 flowers per raceme) open sequentially from bottom to top on stout, naked flowering stems that rise above the foliage clump to a height of 2.5-4' tall in late spring. Each flower has six showy petal-like tepals. Flowers in this species may be white, cream, blue or purple, all with attractive yellow anthers. Good fresh cut flower. (1)
PROPAGATION DETAILS	
Ecotype	
Propagation Goal	Plants
Propagation Method	Vegetative or by seed (1)
Product Type	
Stock Type	
Time to Grow	Bulbs should be planted in early autumn, propagation from bulb offsets should be done in summer when they are dormant. Offsets can be left in nursery for two years before being planted out. Or, sow collected seeds in tray when they are ripe and put in a cold frame. (2) Sow in fall, let overwinter, germinate in spring. (11)
Target Specifications	
Propagule Collection Instructions	Can be wild harvested. Remove offsets that have formed around main bulbs and replant them individually. (11) Collect from native stands. Be careful of shatter. Pop pod off when collecting. (12) Collect late June to early July.
Propagule Processing/Propagation	Screen off seed, blow chaff off with fan. (12) Seed is cleaned by shaking it out of ripe capsules or shattering the capsules with a rolling pin and cleaning out the stem and flower fragments on a tabletop Clipper seed cleaner. (14)
Pre-Planting Propagule Treatments	Not difficult to germinate. Use freezing and thawing to stimulate germination. Seed requires cold moist stratification (90-120 days). (14)
Growing Area Preparation / Annual Practices for	Best grown in moist, fertile, acidic, humusy soils in full sun to part shade. Does best in full sun. Plant bulbs 4-6" deep and 6" apart in fall. Needs regular moisture during the spring growth and bloom, but will tolerate drier conditions after bloom as the plants head for summer dormancy. Best left

Perennial Crops	<p>undisturbed once planted. Can be grown from seed, but will not bloom until the 3rd or 4th year. ⁽¹⁾</p> <p>The bulbs should be planted in early autumn, at least 4in deep and about 6in apart, in humus-rich soil which retains its moisture without becoming waterlogged in winter. In very cold areas, the soil should be mulched to protect the bulbs in late autumn. Water them freely in dry summers. Camassias can be propagated by removing the offsets that have formed round the main bulbs and replanting them individually; do this in summer when they are dormant. Alternatively, sow collected seed in a tray when it is ripe in summer and put in a cold frame. ⁽²⁾</p> <p>Will also grow well in heavy clay soils. ⁽⁴⁾</p> <p>Can be grown in greenhouses if grown in beds. Don't want to be moist, once dormant don't like to be wet, or the little bulbs will rot. ⁽¹¹⁾</p> <p>Seed is fall planted directly in the field, rolled beds and lightly mulched. ⁽¹⁴⁾</p>
Establishment Phase Details	
Length of Establishment Phase	
Active Growth Phase	<p>Takes several years to grow anything that resembles a bulb. Grass like leaves will pop up but then die back and no growth will be visible. Dig up bulbs every so often to check on their progress. ⁽¹¹⁾</p> <p>It will pop up after the first year, but then go back down under the soil, putting all it's energy into root development. After third year begins to become a plant that you can take out of a tube. When it comes up, put in walk in cooler for about 3 months to emulate the cold cycle. Leave it in greenhouse it will go into dormancy and come back up in spring. Speed cycles up by not transplanting, direct seed in tube. ⁽¹³⁾</p> <p>Seed germinates in the field in late winter. Takes 3-4 growing seasons to get a flowering size bulb. Once established in field likes springs wet and summers dry. Fertilize heavily in the spring. Once bulbs are to desired size harvest in later summer to early fall. ⁽¹⁴⁾</p>
Length of Active Growth Phase	Takes 3 years to get a plug, as do most bigroot/taproot plants. Don't like to grow because you have to hold for so long to develop it's root as a storage container. ⁽¹³⁾
Hardening Phase	
Length of Hardening Phase	
Harvesting,	

Storage and Shipping	
Length of Storage	
Guidelines for Outplanting / Performance on Typical Sites	
Other Comments	Camassia was a main staple of native people's diets. (1)
INFORMATION SOURCES	
References	<p>1. Missouri Botanical Garden: http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=q550</p> <p>2. The Telegraph, Ursula Buchan, 2008 http://www.telegraph.co.uk/gardening/howtogrow/3348009/Camassia-How-to-grow.html</p> <p>3. Portland Nursery http://portlandnursery.com/plants/natives/camassia.shtml</p> <p>4. Easy to Grow Bulbs http://www.easytogrowbulbs.com/p-138-camassia-leichtlinii-caerulea.aspx</p> <p>5. Royal Horticultural Society https://www.rhs.org.uk/Plants/100145/Camassia-leichtlinii-subsp-suksdorfii-Caerulea-Group/Details</p> <p>6. Fine Gardening http://www.finegardening.com/camassia-leichtlinii-ssp-suksdorfii-blue-danube</p> <p>7. The Flower Expert http://www.theflowerexpert.com/content/growingflowers/growingflowers/camassia</p> <p>8. Sarah Raven https://www.sarahraven.com/camassia_leichtlinii_alba.htm</p> <p>9. Wikipedia https://en.wikipedia.org/wiki/Camassia</p> <p>10. DNR: Standard and Common Names and Codes http://www1.dnr.wa.gov/nhp/refdesk/communities/pdf/names.pdf</p> <p>11. USDA Plants Database http://plants.usda.gov/core/profile?symbol=CALE5</p>
Other Sources Consulted	<p>Interviews:</p> <p>11. Kathy Hutton-Plants for the Wild-509-284-2848</p> <p>12. Kevin Miller, Rainier Seeds-1800-828-8873</p> <p>13. Sandy, The Plant Works-541-786-5122</p>

	14. Dylan Levy-Boyd, Fourth Corner Nurseries-208-320-8991
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