

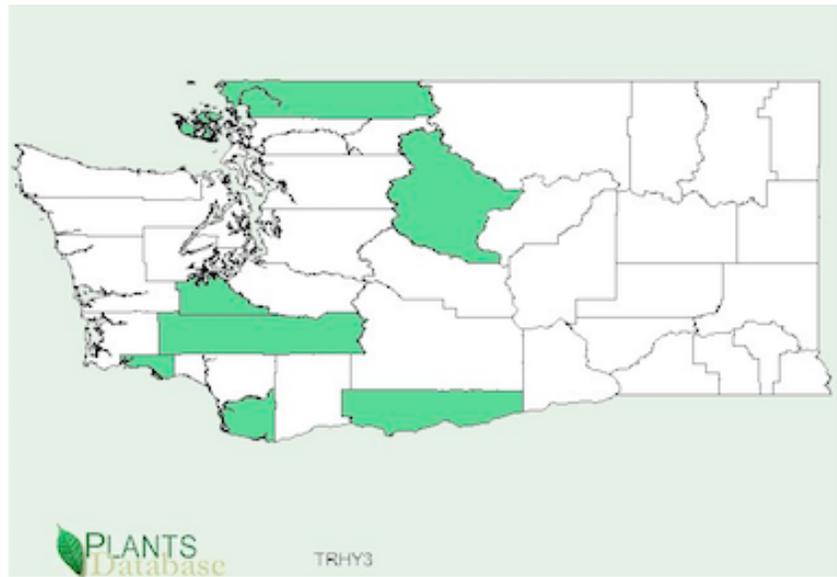
Plant Propagation Protocol for *Triteleia hyacinthina*

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/TRHY3.pdf>

TAXONOMY	
Plant Family	
Scientific Name	Liliaceae
Common Name	Lily
Species Scientific Name	
Scientific Name	<i>Triteleia hyacinthina</i> (Lindl.) Greene ⁸
Varieties	
Sub-species	
Cultivar	
Common Synonym(s)	<i>Brodiaea dissimulata</i> M. Peck <i>Hesperoscordum hyacinthinum</i> Lindl. <i>Brodiaea hyacinthina</i> (Lindl.) Baker <i>Brodiaea hyacinthina</i> (Lindl.) Baker var. <i>lactea</i> Baker ⁸
Common Name(s)	Wild hyacinth, White Brodiaea ⁹ , Fool's onion ⁶
Species Code (as per USDA Plants database)	TRHY3 ⁸
GENERAL INFORMATION	

Geographical range



Ecological distribution)

Open, grassy areas at low elevations to mountain meadows⁶

Grasslands, close-cone pine forests, foothill woodland, vernal wet meadows⁹

Wet prairies¹⁰

Thin-spoiled swales that are damp in winter and spring but dry out during summer⁷

	<p>Grassy, often rocky, open flats to midmontane meadows, common in sagebrush desert east of the Cascades from Chelan County, WA, east to ID and south through northern NV³</p> <p>Seasonally flooded herbaceous balds and seasonally wet depressions on bedrock, coastal bluffs of the Puget Trough²</p>
Climate and elevation range	Zero to 2000 m ⁹
Local habitat and abundance	<p><i>Deschampsia caespitosa</i>, <i>Danthonia californica</i>, <i>Camassia quamash</i>, <i>Grindelia nana</i>, <i>Carex densa</i>, <i>Carex unilateralis</i>¹⁰</p> <p><i>Antennaria rosea</i>, <i>Allium cernuum</i>, <i>Allium acuminatum</i>, <i>Eriophyllum lanatum</i>, <i>Achillea millefolium</i>, <i>Fragaria chiloensis</i>⁵</p> <p><i>Prunella vulgaris</i>, <i>Leptosiphon bicolor</i>, <i>Festuca idahoensis</i> ssp. <i>Roemeri</i>, <i>Mimulus guttatus</i>, <i>Zigadenus venenosus</i>, <i>Madia gracilis</i>²</p>
Plant strategy type / successional stage	Shade intolerant ²
Plant characteristics	<p>Perennial forb</p> <p>White bell-shaped flowers, sometimes with a pale blue tint, and bluish green petal midveins, 1-1.5 cm long and carried in an upright cluster atop 3-5 bracts⁶</p> <p>Distinguishable from other white-flowered <i>Triteleia</i> species by short pedicels and by yellow, rather than lavender, anthers⁷</p> <p>20-24" tall with one or two basal leaves to 16" and wiry stems to 28"⁵</p>
PROPAGATION DETAILS	
Ecotype:	The Nature Conservancy's Dye Creek and Vina Plains Preserves, Tehama county, CA ⁴
Propagation Goal:	Bulbs ⁴
Propagation Method:	Seed ⁴
Product Type:	Container (plug) ⁴
Stock Type:	Potted nursery stock ⁴
Time to Grow:	7 months ⁴
Target Specifications:	First year bulb, 3-8 mm in diameter ⁴
Propagule Collection:	Whole fruits can be collected from heads immediately prior to or after ripening. Seed may be collected from May-July, with seeds being retained on the heads well into summer, depending on the year. Seed may be shaken from capsules that have split, but unopened capsules may need to be mechanically split (although dry heat or repeated drying and cooling may cause the capsules to open). ⁴

Propagule Processing/Propagule Characteristics	Seed density is approximately 300-450 seeds per gram (136,000-205,000 per pound), depending on population, year and cleanliness of seed ⁴
Pre-Planting Propagule Treatments	<p>Large numbers of dry fruits may be shattered rapidly by very brief blending (dry in a blender). After blending, seed may be cleaned by sifting or blowing off chaff (e.g. a blow dryer).⁴</p> <p>Dormancy treatments were variable among propagators. The University of California-Chico reported that no dormancy treatments were needed, although clean dry seed was placed in dry, cold storage following collection and prior to sowing.⁴ The MsK Nursery at the Kruckeberg Botanic Garden in Shoreline, WA reported a stratification period of one month under refrigeration,¹ perhaps reflecting the change in provenance at more northerly latitudes.</p>
Growing Area Preparation / Annual Practices for Perennial Crops	<p>Seed was sown directly into 1.5" deep flats containing a 1:1:1:2 sand:pumice:peat moss:fir bark potting mixture. Flats were placed in an outdoor cold frame from late fall through spring. Seedlings were transplanted into various sized pots ranging from D-pots to 3x4" plastic containers using the same potting mixture.⁴ It was not indicated which container type worked best.</p> <p>Seed sown into 4" bulb pots. Typical seeding mix containing peat moss was found to hold too much moisture. Cut seed sowing mix by ½ by adding sand¹</p> <p>Plant seeds in six-inch (or bigger) pots because the corms will pull themselves down to the depth they require. Plant about 100 seeds per pot and place them on top of the soil and sprinkle a little soil over them and 1/4 inch gravel on top. Set in partial shade to prevent drying quickly either in a greenhouse or outside.⁹</p>
Establishment Phase Details:	Germination was observed within two weeks. Germination rate was 96% for seed cold, moist stratified in vermiculite at approximately 44°F. For seeds own in outdoor coldframes, germination was 95%. Small bulbs (2-6 mm in diameter will be produced within 6-8 months. ⁴
Length of Establishment Phase	Transplantable sprouts were established within 3-4 weeks. ⁴
Active Growth Phase	<p>Active growth was observed from the onset of autumn rains until drying-down (die-back and dormancy) occurred in late spring/early summer. The length of the active growth phase can be somewhat controlled with irrigation, but this species requires summer dormancy.⁴</p> <p>Can be placed in a cold frame to keep off excess moisture¹</p>

Length of Active Growth Phase	6-8 months (late fall-early summer) ⁴
Hardening Phase	Hardening is not necessary as the active growth phase begins with the onset of fall rains and plants senesce toward the end of spring/beginning of summer. ⁴
Length of Hardening Phase	
Harvesting, Storage and Shipping	Individuals go dormant following spring-summer dry down and die back to the root. Dormant individuals were placed in dry storage at 60-70°F ⁴
Length of Storage	3-5 months ⁴ 2 years ¹
Guidelines for Outplanting / Performance on Typical Sites	<p>Outplanted area may require regular weeding and the use of a very weak solution of fertilizer twice during active growth during the spring. Corms can be kept from overcrowding by thinning them every three years by picking off the cormlets and replanting elsewhere⁹</p> <p>Naturalizes well in warm, sunny locations or semi-shade under deciduous trees. Needs a light sandy soil mixture with good drainage. Corms will produce small bulbs every few years that can be separated and replanted. Takes 3-5 years to produce mature, flowering plants^{1,5}</p>
Other Comments	
INFORMATION SOURCES	
References:	<ol style="list-style-type: none"> 1. Beaudry, Roseanne. MsK Nursery, Kruckeberg Botanic Garden. (personal communication 2 May, 2014) 2. Chappell CB. 2006. Plant associations of balds and bluffs of western Washington. Natural Heritage Report 2006-02. Washington State Dept. of Nat. Res. (accessed 11 April 2014). Available from: URL: http://www1.dnr.wa.gov//nhp/refdesk/communities/pdf_balds_veg.pdf 3. Hitchcock CL and Cronquist A. 1973. Flora of the Pacific Northwest. Seattle: University of Washington Press 4. Hunt JW, Boul RD, Brown MR, Koenig DA, Leigh M, Pushnik JC. 2006. Propagation protocol for production of container <i>Triteleia hyacinthina</i> bulbs (potted nursery stock): University of California-

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Protocol Author	Mark Thompson
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