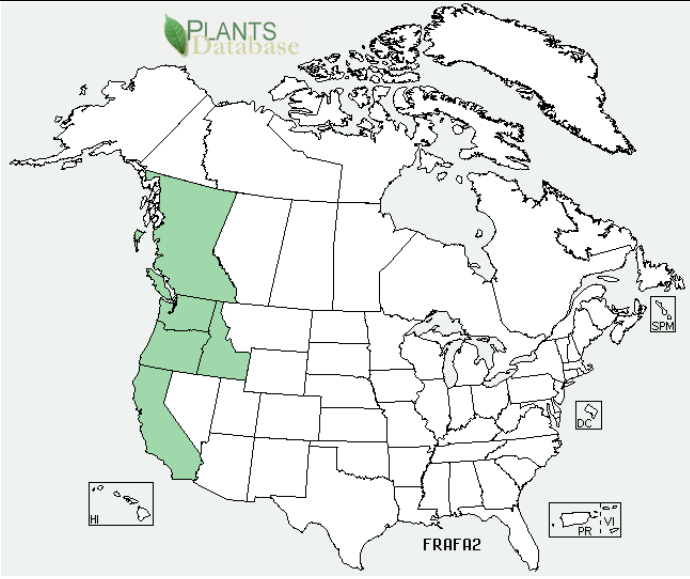


Plant Propagation Protocol for *[Insert Species]*
ESRM 412 – Native Plant Production



TAXONOMY	
Family Names	
Family Scientific Name:	Liliaceae
Family Common Name:	Lily
Scientific Names	
Genus:	Fritillaria
Species:	affinis
Species Authority:	Fritillaria affinis (Schult.)
Variety:	affinis
Sub-species:	
Cultivar:	
Authority for Variety/Sub-species:	Sealy var. affinis
Common Synonym(s) (include full scientific names (e.g., <i>Elymus glaucus</i> Buckley), including variety or subspecies information)	FRCAF Fritillaria camschatcensis (L.) Ker Gawl. var. floribunda (Benth.) B. Boivin FREX Fritillaria eximia Eastw. FRLA2 Fritillaria lanceolata Pursh FRMU3 Fritillaria mutica Lindl. FRMUG Fritillaria mutica Lindl. var. gracilis (S. Watson) Jeps.
Common Name(s):	Checker Lily or Mission Bells
Species Code (as per USDA Plants database):	FRAFA2
GENERAL INFORMATION	

Geographical range (distribution maps for North America and Washington state)	 <p>(2)</p>
Ecological distribution (ecosystems it occurs in, etc):	Scattered in grasslands, meadows, and open woodlands.
Climate and elevation range	Low to low subalpine elevations. Located on moderately moist to dry sites. Climatic zones can vary from less than 18 inches of annual precipitation up to 60 inches in wetter climatic zones. Chocolate lily can grow at elevations near sea level to above 5,000 feet.
Local habitat and abundance; may include commonly associated species	Meadows and woodland openings, (often with Oak)
Plant strategy type / successional stage (stress-tolerator, competitor, weedy/colonizer, seral, late successional)	
Plant characteristics (life form (shrub, grass, forb), longevity, key characteristics, etc)	<p>Forb/herb: Chocolate lily is a variable species that can grow up to 3 feet in height. The lower leaves are in whorls, while the uppermost are in an alternate arrangement with nodding flowers. The color ranges from brownish purple mottled yellow to pale yellowish green mottled purple. Traditionally a non-woody plant that lives for two or more growing seasons.(13)</p>
PROPAGATION DETAILS	
Ecotype (this is meant primarily for experimentally derived protocols, and is a	

description of where the seed that was tested came from):	
Propagation Goal (Options: Plants, Cuttings, Seeds, Bulbs, Somatic Embryos, and/or Other Propagules):	Mother Bulb (or Bulblets) or seed.
Propagation Method (Options: Seed or Vegetative):	Seed: The best time to sow seeds are fall, but if seed is available earlier, sow immediately.(14) Bulb: The large, skunky-smelling bulb is rodent-repellent, and is very susceptible to bulb rot if improperly stored. For best results, plant bulb on its side, at a depth 4 times the diameter of the bulb.
Product Type (options: Container (plug), Bareroot (field grown), Plug + (container-field grown hybrids, and/or Propagules (seeds, cuttings, poles, etc.))	
Stock Type:	
Time to Grow (from seeding until plants are ready to be outplanted):	
Target Specifications (size or characteristics of target plants to be produced):	
Propagule Collection (how, when, etc):	When seed capsules form, they begin to split when they are ripe. Collect immediately, seeds may be shed quickly. Let the seeds dry without heat, and store them until sown in labeled paper packets in a cool, dry, airy place. Do not use plastic bags, as the seeds are likely to rot.(14)
Propagule Processing/Propagule Characteristics (including seed density (# per pound), seed longevity, etc):	
Pre-Planting Propagule Treatments (cleaning, dormancy treatments, etc):	
Growing Area Preparation / Annual Practices for Perennial Crops (growing media, type and size of containers, etc):	Recommended potting soil for seed germination and emergence is a commercial sand0baased mix: with one –quarter part coarse sand added if the mixture does not have a sandy appearance. (14)
Establishment Phase (from seeding to germination):	Winter over. Germination should follow in early spring.

Length of Establishment Phase:	4-6 months
Active Growth Phase (from germination until plants are no longer actively growing):	
Length of Active Growth Phase:	
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):	
Length of Hardening Phase:	
Harvesting, Storage and Shipping (of seedlings):	
Length of Storage (of seedlings, between nursery and outplanting):	
Guidelines for Outplanting / Performance on Typical Sites (eg, percent survival, height or diameter growth, elapsed time before flowering):	
Other Comments (including collection restrictions or guidelines, if available):	No restriction other than protected areas (parks and reserves).
INFORMATION SOURCES	
References (full citations):	<p>Work Cited</p> <ol style="list-style-type: none"> 1. Map: http://plants.usda.gov/java/profile?symbol=FRAFA2 2. Photo: Brother Alfred Brousseau. Courtesy of St. Mary's College of California. ©St. Mary's College of California. 3. Amy Lambert, May 14, 2003: http://depts.washington.edu/propplnt/Plants/chocolate%20lily 4. Parish, Robert. Ray Coupe, and Dennis Lloyd. <u>Plants of</u> 5. <u>Southern Interior British Columbia and the Inland Northwest</u>. Vancouver, B.C. Lone Pine Publishing, 1996 6. Pratt, Verna E. <u>Field Guide to Alaskan Wildflowers</u>. 7. Anchorage, AK. Alaskakrafts, Inc., April 2005

	<p>8. http://www.botany.com/fritillaria.html</p> <p>9. Pojar, j. and A MacKinnon. 1994. <u>Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia and Alaska</u>. B.C. Ministry of Forest and Lone Pine Publishing. Vancouver, British Columbia.</p> <p>10. Natural Heritage Program, www.natureserve.org</p> <p>11. Far West Bulb Farm www.californianativebulbs.com</p> <p>12. Pettinger, A. and B. Costanzo 1996. <u>Native Plants in the Coastal Garden</u>. Timber Press, Portland, OR</p> <p>13. http://www.backyardgardener.com/plantname/pda_214a.html</p> <p>14. http://www.plants.usda.gov/plantguide/pdf/cs_fraf2.pdf</p>
Other Sources Consulted (but that contained no pertinent information) (full citations):	Chappell, Chris 2000. Puget-Georgia-Willamette Ecoregion Herbaceous Balds and Bluffs.
Protocol Author (First and last name):	Ron M Gehret
Date Protocol Created or Updated (MM/DD/YY):	05/03/2009

Note: This template was modified by J.D. Bakker from that available at:
<http://www.nativeplantnetwork.org/network/SampleBlankForm.asp>