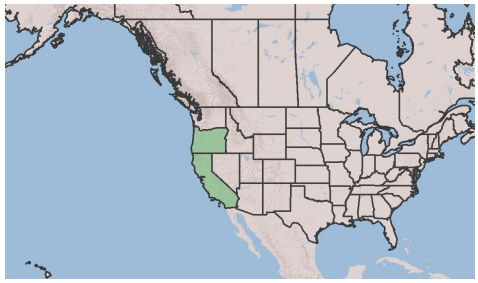
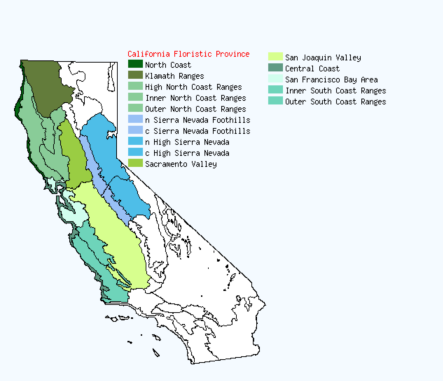
Plant Propagation Protocol for *[Trifolium barbigerum]*
ESRM 412 – Native Plant Production

Image: Calscape

TAXONOMY	
Plant Family	
Scientific Name	Fabaceae
Common Name	Pea/Legume Family
Species Scientific Name	
Scientific Name	Genus: *Trifolium* L. Species: *T. barbigerum* Species Authority: Torr
Varieties	*Trifolium grayi*
Sub-species	N/A
Cultivar	N/A
Common Synonym(s)	*Trifolium hansenii*
Common Name(s)	bearded clover
Species Code (as per USDA Plants database)	TRBA (USDA).
GENERAL INFORMATION	
Geographical range	

	
Ecological distribution	Typically prefers moist environments along the Western United States, primarily native to the central coast of Northern California and Oregon. (ITIS)
Climate and elevation range	Prefers elevation level below 2,300 feet and moist climate (Calscape).
Local habitat and abundance	Native to Channel islands of California, California coast ranges, San Francisco bay area, and Oregon. Commonly found in coastal prairies, mixed evergreen forests, closed-cone pine forests, and wetland-riparian areas.
Plant strategy type / successional stage	Given that this plant is part of the legume family, it is a competitor to grasses in the area.
Plant characteristics	Bloom Period is from April to July, and is a flowering plant. Large herbaceous plants with notable ability to nitrogen fixate. Average lifespan is 2 years (Aarhus, 2010).
PROPAGATION DETAILS	
Ecotype	Higher elevation environment in northern California
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug) (RNGR).
Stock Type	Stubby containers
Time to Grow	A couple of weeks for seedlings to develop stable root systems as well as for enough growth to occur to make the plant more resilient in outplating scenarios.
Target Specifications	Developed root systems and enough growth so plant can efficiently compete
Propagule Collection Instructions	Like other clover seeds, once the flowers dry one is able to harvest the seeds. Flowers usually dry 10-15 days after bloom depending on the environment. Use your hand to pinch the stem below the flower then remove the clover seed pod from the flower stem (Pierce, 2020).
Propagule Processing/Propagule Characteristics	Seeds should be kept in dry environments as moisture will encourage rotting (Pierce, 2020).

Pre-Planting Propagule Treatments	Seed does better without cold treatment, prefers to be directly placed in the growth chamber (RNGR).
Growing Area Preparation / Annual Practices for Perennial Crops	Growing area can be prepped via the removal of grassses if they exist at a high level in order to limit the competition that new seedlings will have to immediately.
Establishment Phase Details	No information
Length of Establishment Phase	Weeks (RNGR)
Active Growth Phase	No information
Length of Active Growth Phase	Months to a number of years depending on environmental conditions, what size allows (Doyle).
Hardening Phase	Depending on the environment of the outplanting site, coastal as compared to forest settings present different requirements of stem stability due to conditions such as wind/moisture.
Length of Hardening Phase	No information
Harvesting, Storage and Shipping	Seedlings can be transported in plug containers, ideal storage conditions should include temperatures around 55 degrees fahrenheit.
Length of Storage	No information
Guidelines for Outplanting / Performance on Typical Sites	Moderate level of competition, but not enough from other grasses to where new seedlings will be outcompeted for resources.
Other Comments	None
INFORMATION SOURCES	
References (full citations)	1. "Bearded Clover ." *NatureServe Explorer 2.0*, explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.147639/Trifolium_barbigerum. 2. "Bearded Clover, Trifolium Barbigerum." *California Native Plant Society*, calscape.org/Trifolium-barbigerum-(). 3. Doyle, J.J. "Fabaceae." *Fabaceae - an Overview | ScienceDirect Topics*, www.sciencedirect.com/topics/agricultural-and-biological-sciences/fabaceae. 4. "Fabaceae (Trifolium)." *Reforestation, Nurseries and Genetics Resources*, npn.rngr.net/npn/propagation/protocols/fabaceae-trifolium-3989/?searchterm=trifolium. 5. *ITIS Standard Report Page: Trifolium Barbigerum Var. Barbigerum*, www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=530726#null.

	6. "Nitrogen-Fixing Symbiosis Is Crucial for Legume Plant Microbiome Assembly." *ScienceDaily*, Aarhus University, 21 Nov. 2016, www.sciencedaily.com/releases/2016/11/161121173823.htm. 7. Pierce, Rebekah. "How to Collect Clover Seed." *Home Guides | SF Gate*, 19 Dec. 2020, homeguides.sfgate.com/collect-clover-seed-65796.html. 8. "Trifolium Barbigerum ." *Calflora*, www.calflora.org/app/taxon?crn=8054. 9. "Trifolium Barbigerum Torr." *USDA*, plants.usda.gov/home/plantProfile?symbol=TRBA.
Other Sources Consulted	1. *The Genus Trifolium*, by Michael Zohary and David Heller, The Israel Academy of Sciences and Humanities, 1984, p. 606.
Protocol Author	Molly Crowe
Date Protocol Created or Updated	05/26/21