

**Plant Propagation Protocol for *Galium ambiguum***

ESRM 412 – Native Plant Production

Protocol URL: <https://courses.washington.edu/esrm412/protocols/GAAM2.pdf>



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**TAXONOMY**

<b>Plant Family</b>	
Scientific Name	Rubiaceae
Common Name	Madder
<b>Species Scientific Name</b>	
Scientific Name	<i>Galium ambiguum</i> W. Wight
Varieties	var. <i>ambiguum</i> , var. <i>siskiyouense</i> Ferris
Sub-species	ssp. <i>ambiguum</i> , ssp. <i>siskiyouense</i> (Ferris) Dempster & Stebbins
Cultivar	
Common Synonym(s)	
Common Name(s)	Yolla Bolly Bedstraw, Siskiyou Bedstraw
Species Code (as per USDA Plants database)	GAAM2

**GENERAL INFORMATION**

Geographical range	
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Ecological distribution	Often found in well-drained prairies. Can be found on recently disturbed sites, such as those touched by fire (Calflora 2019)
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Climate and elevation range	Shade and low water tolerant. 260-5710ft. (Calflora 2019)
Local habitat and abundance	Commonly occurs in Yellow Pine and Red Fir forests (Calflora 2019)
Plant strategy type /successional stage	Stress-tolerator
Plant characteristics	Forb/herb, dicot, perennial (USDA Plants) Flowers through June and July, growing season of 3-6 months, hardiness zone of 8a-9a, intolerant of salty soil (Calflora 2019)
<b>PROPAGATION DETAILS (Butler 2001)</b>	
Ecotype	Colorado, Long's Peak Parking Lot (98-043s)
Propagation Goal	Seeds
Propagation Method	Seed
Product Type	Propagules (seeds, cuttings, poles, etc.)
Stock Type	Bareroot stock
Time to Grow	Minimum of 2 months.
Target Specifications	Flowers and creates viable seed.
Propagule Collection Instructions	Seeds collected on 10/7/98.
Propagule Processing/ Propagule Characteristics	Low percentage of germination.
Pre-Planting Propagule Treatments	Seeds separated by crushing seed head.
Growing Area Preparation / Annual Practices for Perennial Crops	Propagated in greenhouse at 65-70F during the day/55F at night under a tent with misters set for 8 am and 8 pm, with 10 sec/15 min watering intervals.
Establishment Phase Details	Time to potting: 1 month. One week after germination, seedlings were moved to mister area without tent. Germinated in Fafard Germinating Mix (superfine) in a 4x8 flat.
Length of Establishment Phase	13 days.
Active Growth Phase	Transferred to Fafard Growing Mix 2.
Length of Active Growth Phase	1 month

Hardening Phase	Move to outdoor space to allow for pollinators to have access to flowers.
Length of Hardening Phase	Minimum of 2 weeks.
Harvesting, Storage and Shipping	Seed stored in the greenhouse with minimal care. Perhaps, seeds should be stored in cooler less humid spaces to increase germination.
Length of Storage	Unspecified.
Guidelines for Outplanting / Performance on Typical Sites	Unspecified. However, I would postulate that success would be rather positive as it is quite hardy and a stress-tolerator.
Other Comments	Difficult to obtain commercially, seeds must most always be field collected (California 2019)

### INFORMATION SOURCES

References	<p>Butler, Jennifer; Frieswyk, Christin. 2001. Propagation protocol for production of Propagules (seeds, cuttings, poles, etc.) <i>Galium</i> seeds USDI NPS - Rocky Mountain National Park Estes Park, Colorado. In: Native Plant Network. URL: <a href="http://NativePlantNetwork.org">http://NativePlantNetwork.org</a> (accessed 2019/05/29). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.</p> <p><a href="http://www.calflora.org/">Calflora</a>: Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the <a href="http://www.calflora.org/">Consortium of California Herbaria</a>. [web application]. 2019. Berkeley, California: The Calflora Database [a non-profit organization]. Available: <a href="https://www.calflora.org/">https://www.calflora.org/</a> (Accessed: May 25, 2019).</p> <p>“Galium Ambiguum W. Wight.” <i>SEINet Portal Network</i> , 2019, <a href="http://swbiodiversity.org/seinet/taxa/index.php?taxon=49388&amp;clid=4309">swbiodiversity.org/seinet/taxa/index.php?taxon=49388&amp;clid=4309</a>.</p> <p>“Yolla Bolly Bedstraw, Galium Ambiguum.” <i>California Native Plant Society</i>, 2019, <a href="http://calscape.org/Galium-ambiguum-()">calscape.org/Galium-ambiguum-()</a>.</p>
Other Sources Consulted	<p>Consortium of California Herbaria. “Galium Ambiguum Specimens.” <i>UC/JEPS</i>, Regents of University of California, 11 Jan. 2019, <a href="http://ucjeps.berkeley.edu/cgi-bin/get_consort.pl?dups=HSC38303%2BBLMAR515%2BCHSC90422%2BHSC76231%2BHSC74257%2BHSC59962%2BHSC71501%2BHSC72742%2BCHSC105867%2BHSC70005%2BHSC71914%2BHSC71911%2BRSAA66421%2BHSC71844%2BCHSC30122%2BCHSC30909%2BHSC63156%2BHSC35653%2BHSC68889%2BCHSC30340%2BHSC67178%2BJEPS90074%2BHSC68808%2BHSC67562%2BHSC40353%2BHSC71743%2BHSC71657%2BHSC69941%2BHSC69935%2BHSC61756%2BHSC61289%2BHSC61331%2BHSC45769%2BHSC61660%2BHSC75016%2BHSC70213%2BHSC70707%2BHSC">ucjeps.berkeley.edu/cgi-bin/get_consort.pl?dups=HSC38303%2BBLMAR515%2BCHSC90422%2BHSC76231%2BHSC74257%2BHSC59962%2BHSC71501%2BHSC72742%2BCHSC105867%2BHSC70005%2BHSC71914%2BHSC71911%2BRSAA66421%2BHSC71844%2BCHSC30122%2BCHSC30909%2BHSC63156%2BHSC35653%2BHSC68889%2BCHSC30340%2BHSC67178%2BJEPS90074%2BHSC68808%2BHSC67562%2BHSC40353%2BHSC71743%2BHSC71657%2BHSC69941%2BHSC69935%2BHSC61756%2BHSC61289%2BHSC61331%2BHSC45769%2BHSC61660%2BHSC75016%2BHSC70213%2BHSC70707%2BHSC</a></p>

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