

Plant Propagation Protocol for *Collomia macrocalyx* Leiberg ex Brand
 ESRM 412 – Native Plant Production



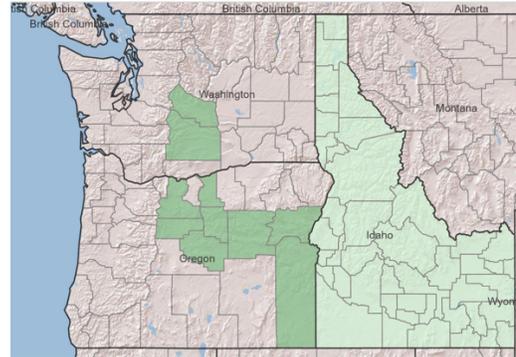
Photo courtesy of Eastern Washington University

TAXONOMY	
Plant Family	
Scientific Name	Polemoniaceae
Common Name	Phlox
Species Scientific Name	
Scientific Name	<i>Collomia macrocalyx</i> Leiberg ex Brand
Varieties	
Sub-species	
Cultivar	
Common Synonym(s)	Bristle-flowered <i>Collomia</i>
Common Name(s)	<i>Collomia macrocalyx</i>
Species Code (as per USDA Plants database)	COMA3

GENERAL INFORMATION

Geographical range

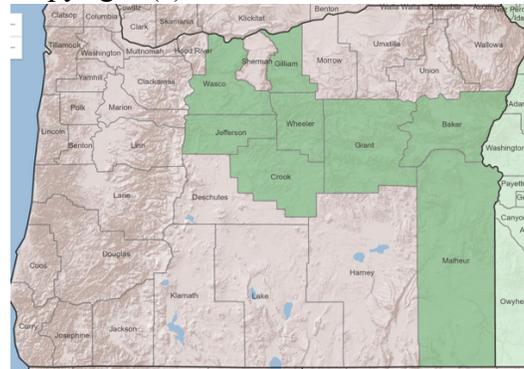
Native to Oregon, Idaho, and Washington.



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Ecological distribution

Dry open landscapes, rock outcrops, and slopes (DNR).

Climate and elevation range

Elevation in Washington state: 250 – 650 m (DNR).

Local habitat and abundance

East of the cascades, low abundance (DNR).
 Rare in Oregon (DNR).
 Sparse and low diversity. Associated species include big sagebrush, stiff sagebrush, purple sage, snow buckwheat, rock buckwheat, thyme-leaf buckwheat, bluebunch wheatgrass, threadleaf phacelia, grand collomia, and Carey’s balsamroot (DNR).

Plant strategy type / successional stage	No information available,
Plant characteristics	Annual; forb.
PROPAGATION DETAILS	
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	Seeds; Container
Time to Grow	3 months (Skinner, 2005).
Target Specifications	Tight root plug in container (Skinner, 2005).
Propagule Collection Instructions	Collection occurs in late July or early August (Skinner, 2005). Seeds are expelled when matured. Collect and cover with material of the correct size that allows for air circulation without causing seed loss. (Skinner, 2005). Entire plants can be cut at base and left to dry in screen covered containers. Seeds can be collected by a screens and cleaned through an air-screen machine (Bartow, 2003).
Propagule Processing/Propagule Characteristics	Seeds are large; no information available on seed density. Seeds can be stored at 40 degrees Fahrenheit and 40% humidity (Skinner, 2005).
Pre-Planting Propagule Treatments	Clean using an air-screen machine (Bartow, 2003). No dormancy; no stratification required. Germinates best when stored in cool, dry condition (Skinner, 2005).
Growing Area Preparation / Annual Practices for Perennial Crops	Sow seeds in to cone shaped containers with a peat-based media. Soil-less preferred. Add micronutrients and slow release fertilizer. Store in a cooler (35-40 degrees) for 4 weeks (Bartow, 2003). Cold temperatures lead to more success in germination. There is conflicting literature on the cold needs of the seed. Experimental tests should be conducted to determine best gemination. The experimental groups should include seeds stored in cold, dry temperatures and sown in the greenhouse and seeds stored in cool, dry temperatures and sown into containers placed in a cooler for 10-45 days.
Establishment Phase Details	No information available for <i>Collomia macrocalyx</i> . <i>Collomia grandiflora</i> and <i>Collomia linearis</i> require media to be kept thoroughly moist during the establishment phase.
Length of Establishment Phase	2 weeks

Active Growth Phase	Quick root development after establishment. Fertilize once per week and keep plants thoroughly watered (Skinner, 2005).
Length of Active Growth Phase	2 months
Hardening Phase	Move to cold temperatures 2-3 months after sown into containers.
Length of Hardening Phase	2-4 weeks
Harvesting, Storage and Shipping	No information available
Length of Storage	No information available
Guidelines for Outplanting / Performance on Typical Sites	No information available
Other Comments	Propagation information is derived from information on <i>Collomia grandiflora</i> and <i>Collomia linearis</i> , similar and commonly associated species. Poor air circulation during seed collection can lead to mold (Skinner, 2005).
INFORMATION SOURCES	
References	See below
Other Sources Consulted	See below
Protocol Author	Abbey Lehn
Date Protocol Created or Updated	05/25/2022

References

- Bartow, Amy L. 2003. Propagation protocol for production of Container (plug) *Collomia grandiflora* Lindley Ann plants USDA NRCS - Corvallis Plant Materials Center Corvallis, Oregon. In: Native Plant Network. URL: <https://NativePlantNetwork.org> (accessed 2022/05/25). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.
- Collomia*. (n.d.). Eastern Washington University. Retrieved May 25, 2022, from <https://inside.ewu.edu/ewflora/category/collomia/>
- Collomia Macrocalyx Leiberg ex Brand*. (n.d.). DNR WA. Retrieved May 25, 2022, from https://www.dnr.wa.gov/publications/amp_nh_coma3.pdf
- Collomia Macrocalyx*. (n.d.). Wildflower. Retrieved May 25, 2022, from https://www.wildflower.org/plants/result.php?id_plant=COMA3
- NatureServe Explorer 2.0*. (n.d.). Nature Serve Explorer. Retrieved May 25, 2022, from https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.131936/Collomia_renacta
- Skinner, David M., 2005. Propagation protocol for production of Container (plug) *Collomia grandiflora* Dougl. ex Lindl plants USDA NRCS - Pullman Plant Materials Center Pullman, Washington. In: Native Plant Network. URL: <https://NativePlantNetwork.org>

(accessed 2022/05/25). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

Skinner, David M., 2005. Propagation protocol for production of Container (plug) *Collomia linearis* Nutt. plants USDA NRCS - Pullman Plant Materials Center Pullman, Washington. In: Native Plant Network. URL: <https://NativePlantNetwork.org> (accessed 2022/05/25). US Department of Agriculture, Forest Service, National Center for Reforestation, Nurseries, and Genetic Resources.

USDA Plants Database. (n.d.). USDA. Retrieved May 25, 2022, from

<https://plants.usda.gov/home/plantProfile?symbol=COMA3>

WTU Herbarium, Burke Museum, University of Washington. (n.d.). *Burke Herbarium Image*

Collection. Copyright (c) 2004–2022 WTU Herbarium, Burke Museum, University of Washington. Retrieved May 25, 2022, from

<https://biology.burke.washington.edu/herbarium/imagecollection/taxon.php?Taxon=Collomia%20macrocalyx>

Other sources consulted

Collomia Sp.- Trumpet Flower. (n.d.). Eflora. Retrieved May 25, 2022, from

<https://eflora.neocities.org/Collomia.html>

Fertig, W., & Kleinknecht, J. (2020, January). *Conservation Status and Protection Needs of Priority Plant Species in the Columbia Plateau and East Cascades Ecoregions*.

https://www.dnr.wa.gov/publications/amp_nh_priority_species_cp_ec_ecoregions.pdf

Ordway, M. (2005, July). *Plant Inventory of Riparian and Wetland Areas and Rare Plant*

Species 2004–2005. <https://irma.nps.gov/DataStore/DownloadFile/151963>