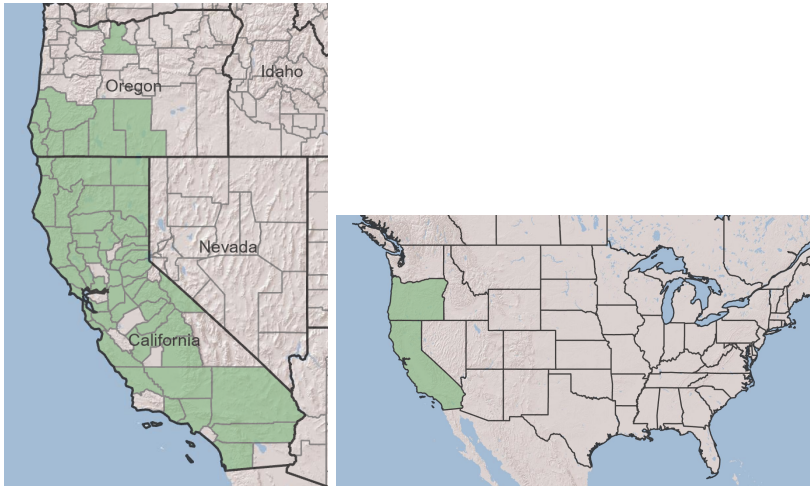


Plant Propagation Protocol for *Calystegia occidentalis*

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2022/CAOC6.pdf>

TAXONOMY	
Plant Family	
Scientific Name	Convolvulaceae
Common Name	Morning Glory or Bindweed
Species Scientific Name	
Scientific Name	<i>Calystegia occidentalis</i> (A. Gray) Brummitt
Varieties	<i>Calystegia occidentalis</i> var. <i>occidentalis</i> <i>Calystegia occidentalis</i> var. <i>tomentella</i> (Greene) Brummitt ¹
Sub-species	<i>Calystegia occidentalis</i> (A. Gray) ssp. <i>fulcrata</i> <i>Calystegia occidentalis</i> (A. Gray) ssp. <i>occidentalis</i> ¹
Cultivar	N/A
Common Synonym(s)	N/A
Common Name(s)	Chaparral false bindweed, Bush morning glory, Western morning glory ²
Species Code (as per USDA Plants database)	CAOC6
GENERAL INFORMATION	
Geographical range	
Ecological distribution	Grows in dry soils in pine woodlands, chaparral, on slopes, at low to subalpine elevations. ^{3, 7}
Climate and elevation range	Elevation: < 1200 m ³
Local habitat and abundance	Habitat: slopes, ridges Communities: Yellow Pine Forest, Foothill Woodland, Chaparral ²
Plant strategy type / successional stage	Can be considered weedy in agricultural fields, not aggressive in native areas. ⁸

Plant characteristics	Stem and leaves coated with very fine hairs. Leaf arrow-shaped, 1/2–1 1/2 in. at midvein, lobes at base rounded or double-pointed, with rounded or squared indentation at top of leaf. Flowers 1–4 on stalk, bracelets at flower base entire or lobed like leaf, overlapping calyx. Flower cream to white, 5 petals united into open funnel shape. ⁷
PROPAGATION DETAILS	
Ecotype	Marin County, California ⁴
Propagation Goal	Plants ⁴
Propagation Method	Seed ⁴
Product Type	Container (plug) ⁴
Stock Type	Container Seedling ⁴
Time to Grow	1-2 months ⁴
Target Specifications	Firm root establishment in soil. ⁴
Propagule Collection Instructions	Seeds are collected between July 1st and September 1st. Fruits grow close to the ground and are enclosed in papery bracts which become brown and dry at maturity. Seeds are hard, dull black pea-like seeds, about 3 to 5 mm in diameter at maturity. ⁴
Pre-Planting Propagule Treatments	Seeds are kept dry and stored in a refrigerator. ⁴ The seed coat must be scarified prior to sowing so the seed can quickly imbibe water. Tumble in a rock tumbler with rocks for 24 hours, then check. Continue until the seed coat is obviously and deeply scratched. For small seed lots, use sandpaper to scratch the seed coat until the endosperm is visible (this will be pale compared to the seed coat). ⁴
Growing Area Preparation / Annual Practices for Perennial Crops	Fully Controlled Greenhouse. Sowing Method: Direct Seeding. Seedlings are sown in individual containers 2"x7" tubes containing standard potting mix of peat moss, fir bark, perlite, and sand. Seeds are planted 2 times the diameter to depth and are surface sown. Containers are watered in with an automatic irrigation system. Seeds are sown on July 1st. ⁴
Establishment Phase Details	Seeds germinate 15 days after sowing. Germination: 50% Seedlings are transplanted 15 days after germination to individual containers 2"x7" tubes (Deepot 16) containing standard potting mix of peat moss, fir bark, perlite, and sand. Survival rate after Transplanting: 90%
Length of Establishment Phase	1 Month ⁴
Active Growth Phase	After seedlings are well established, they are moved to the shadehouse (30% shade fabric) for continued growth. ⁴

Transplanting Care	Prune back 2 months after transplanting. Fertilize with 10 grains of Nutricote (NPK 13-13-13) 2 months after transplanting. ⁴
Hardening Phase	<i>Calystegia occidentalis</i> is an herbaceous perennial plant, as a result hardening is not achieved due to above ground plant growth dying each winter. ³
Other Comments	Seed Propagation shown above was done for the species <i>C. subacaulis</i> . While different they grow in the same overlapping region of California, as well as have similar climate, elevation, ecosystems, etc. ^{5,6} No known public propagation (seed or vegetative) protocol for <i>C. occidentalis</i> currently exists. ^{9,10}
INFORMATION SOURCES	
References	<ol style="list-style-type: none"> 1. <i>Calystegia occidentalis</i> (A. Gray) Brummitt. USDA plants database. (n.d.). Retrieved May 24, 2022, from https://plants.usda.gov/home/plantProfile?symbol=CAO C6 2. <i>Calystegia occidentalis</i> (A. Gray) Brummitt. <i>Calystegia occidentalis califlora</i>. (n.d.). Retrieved May 24, 2022, from https://www.calflora.org/app/taxon?crn=1365 3. <i>Calystegia occidentalis</i> subsp. <i>occidentalis</i>. (n.d.). Retrieved May 24, 2022, from https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=49559 4. Young, B. (n.d.). <i>Convolvulaceae (Calystegia)</i>. RNGR. Retrieved May 24, 2022, from https://rngr.net/npn/propagation/protocols/convolvulaceae-calystegia-569 5. Hillside false bindweed, <i>Calystegia Subacaulis</i>. California Native Plant Society. (n.d.). Retrieved May 24, 2022, from https://calscape.org/loc-California/Calystegia%20subacaulis%20(Hillside%20False%20Bindweed)?newsearch=1 6. Chaparral false bindweed, <i>Calystegia occidentalis</i>. California Native Plant Society. (n.d.). Retrieved May 24, 2022, from https://calscape.org/loc-California/Calystegia-occidentalis-(Chaparral-False-Bindweed)?srchcr=sc5fc619397a553 7. Turner, M. (n.d.). <i>Calystegia occidentalis</i>: Western morning glory: Wildflowers of the Pacific Northwest. Turner Photographics. Retrieved May 24, 2022, from https://www.pnwflowers.com/flower/calystegia-occidentalis

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