

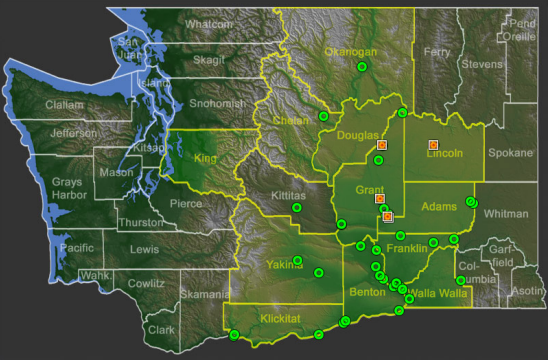
Plant Propagation Protocol for *Heliotropium curassavicum* L.

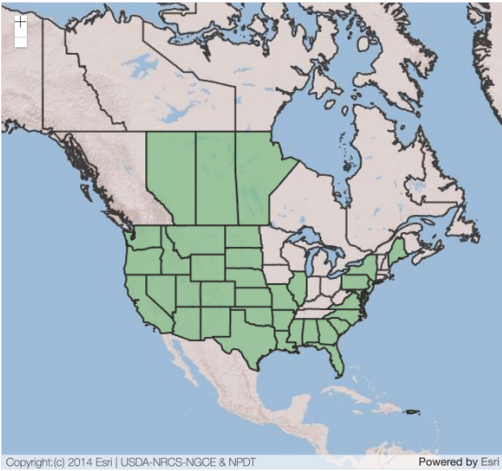
ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2025/HECU3.pdf>

TAXONOMY	
Plant Family	
Scientific Name	Boraginaceae Juss.
Common Name	Borage family
Species Scientific Name	
Scientific Name	<i>Heliotropium curassavicum</i> L. (1)
Varieties	No Listed Varieties – Synonymous with Subspecies below
Sub-species	<i>Heliotropium curassavicum</i> L. var. <i>curassavicum</i> (1) <i>Heliotropium curassavicum</i> L. var. <i>obovatum</i> DC. (1) <i>Heliotropium curassavicum</i> L. var. <i>oculatum</i> (A. Heller) I.M. Johnst.(1)
Cultivar	No Found Cultivars
Common Synonym(s)	<i>Coldenia succulenta</i> Peter (2) <i>Heliotropium angustifolium</i> Raf. (2) <i>Heliotropium chenopodioides</i> Humb. & Bonpl. ex Willd. (2) <i>Heliotropium chilense</i> Bertero (2) <i>Heliotropium glaucophyllum</i> Moench (2) <i>Heliotropium glaucum</i> Salisb. (2) <i>Heliotropium lehmannianum</i> Bruns (2) <i>Heliotropium portulacoides</i> DC. ex Bello (2)
Common Name(s)	salt heliotrope; monkey tail (or Cola de Mico); quail plant; seaside heliotrope; white-weed; wild heliotrope (2,5)
Species Code (as per USDA Plants database)	HECU3

GENERAL INFORMATION

Geographical range	 <p>Map 1: Distribution map of <i>Heliotropium curassavicum</i> L. from a Burke Herbarium survey. https://burkeherbarium.org/imagecollection/taxon.php?Taxon=Heliotropium%20curassavicum</p>
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	 <p>Map 2: Distribution map of <i>Heliotropium curassavicum</i> from the USDA https://plants.usda.gov/plant-profile/HECU3</p> <p><i>Heliotropium curassavicum</i> L. occurs “east of the Cascades crest in Washington; British Columbia to California, east across North America to the Atlantic Coast.” (3)</p> <p>Native Distribution: “North America, Central America, and South America, from central Canada south through the US to Mexico and Central America and then south as far as Argentina” (5)</p>
Ecological distribution	<p>Saline soils and coastal areas, low elevations, often in the beds of dried ponds; Arid and Semiarid habitats (2,3); Dunes (5)</p> <p><i>Heliotropium curassavicum</i> L. var. <i>Oculatum</i> (A.Heller) I.M. Johnst prefers moist to dry, saline to alkaline. (4)</p>
Climate and elevation range	<p>Low elevations; <i>Heliotropium curassavicum</i> L. var. <i>Oculatum</i> (A.Heller) I.M. Johnst < 2250 m (4)</p>
Local habitat and abundance	<p>Stream/river banks, near lakes or ponds, dunes (5) Slow Vegetative spread rate with medium seedling vigor and high</p> <p>Salt Heliotrope is considered secure, with a global status of G5 for the following reasons: “<i>Heliotropium curassavicum</i> occurs throughout North and Central America and into South America in disturbed, saline habitats. There are hundreds of recent occurrences, especially in the western U.S.A and Mexico.” (6)</p>
Plant strategy type / successional stage	<p>Rhizomatous; Seed and Sprigs propagation; Weedy/colonizer (1,2). High Salinity tolerance, medium fire and drought tolerance; No CaCO₃ tolerance (1). Not a nitrogen fixer.</p>
Plant characteristics	<p>Dicot; Forb/herb Subshrub; Active growth in spring, summer, and fall; Rhizomatous growth at moderate rate; Moderate lifespan; No resprout ability; Slow spread rate; medium seedling vigor; Decumbent; Conspicuous flower; Not conspicuous fruit/seed; Moderate foliage porosity in summer; 1.2 ft at maturity (1,2)</p> <p>Glabrous, succulent, tap rooted annual or short-lived perennial, prostrate or ascending, the stems 1-6 dm. long. Leaves all cauline, alternate, the lowermost</p>

	reduced and scaly, the others oblanceolate and short-petiolate, 2-6 cm. long and 6-18 mm. wide. Flowers sessile and actinomorphic; Inflorescence of 1-several short, coiled, naked spikes at the end of a common peduncle, up to 6 cm. long at maturity; calyx 2-3 mm. long, the 5 lobes erect; corolla white or tinged with blue, 5-lobed, the limb 5-9 mm. wide, the tube slender; stigma sessile, disk-like, as broad as the ovary. Fruits are 4 lobed and separate into 4 Nutlets at maturity, about 1.6-1.7mm long, tardily separating. (3,2)
PROPAGATION DETAILS: FROM SEED	
Ecotype	May be found in open areas with high salinity stress
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	Seed
Time to Grow	0 (In reference to Pasture Heliotrope, 7)
Target Specifications	No information found
Propagule Collection Instructions	<p>Fruit and seed abundance is highest in the Summer and ends in the Fall. Fruits are dehiscent and seeds are likely orthodox (1)</p> <p>“Assess the target population and confirm that a sufficient number of individual plants (more than 50) have seeds at natural dispersal stage.” (8) pg 143</p> <p>Tumble/shake nutlets at maturity to break and separate out seeds from the shell. Remove woody capsules by hand or using multiple screens (8) pg 153</p>
Propagule Processing/Propagule Characteristics	Max planting density of 4800 per acre, min of 2700 per acre (1)
Pre-Planting Propagule Treatments	N/A– see growing area below
Growing Area Preparation / Annual Practices for Perennial Crops	<p>Moist soil that readily drains (9,10) pH between 6.5 and 8.5; Containers minimum of 10 inches deep; Minimum temp exposure is -28 degrees Fahrenheit; No CaCO₃, minimal fertilization (1)</p> <p>Bring plants in before the first frost; keep in a cool and dry/bright place; do not fertilize them; put seedlings back outside after last frosts; treat as an annual in places that get below freezing (12)</p>

Establishment Phase Details	N/A
Length of Establishment Phase	3-4 weeks (11)
Active Growth Phase	No information found
Length of Active Growth Phase	No information found
Hardening Phase	No information found
Length of Hardening Phase	No information found
Harvesting, Storage and Shipping	No information found
Length of Storage	No information found
Guidelines for Out planting / Performance on Typical Sites	Medium seedling vigor; direct sowing suggested (1)
Other Comments	No resprout ability, slow regrowth after harvest (1) Direct sowing may require thinning and/or consolidation; germination will be more difficult to track (8) Species is stable and conserving genetic diversity is not a current priority.
PROPAGATION DETAILS: VEGETATIVE	
Ecotype	May be found in open areas with high salinity stress
Propagation Goal	Seeds
Propagation Method	Vegetative
Product Type	Field grown
Stock Type	Seeds
Time to Grow	No information found/not enough information found
Target Specifications	N/A
Propagule Collection Instructions	Fruit and seed abundance is highest in the Summer and ends in the Fall. Fruits are dehiscent and seeds are likely orthodox (1) "Assess the target population and confirm that a sufficient number of individual plants (more than 50) have seeds at natural dispersal stage." (8) pg 143

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Establishment Phase Details	N/A
Length of Establishment Phase	3-4 weeks (11)
Active Growth Phase	Shoots will arise from the wide spreading seeds (13)
Length of Active Growth Phase	No information found
Hardening Phase	No information found
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Harvesting, Storage and Shipping	No information found
Length of Storage	No information found
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INFORMATION SOURCES

References	<ol style="list-style-type: none"> 1. USDA. (n.d.). <i>Plant Profile Heliotropium curassavicum L.</i> USDA plants database. https://plants.usda.gov/plant-profile/HECU3 2. Rojas-Sandoval, (2022) cabicompendium.114723, CABI Compendium, doi:10.1079/cabicompendium.114723, CABI International, Heliotropium curassavicum (salt heliotrope). 3. Knoke, D., & Giblin, D. (n.d.). Heliotropium curassavicum - Burke Herbarium Image Collection. https://www.burkeherbarium.org/imagecollection/taxon.php?Taxon=Heliotropium+curassavicum 4. Heliotropium curassavicum var. Oculatum. (n.d.). Retrieved from https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=59914 5. TWC Staff. (2023). Plant database - Heliotropium curassavicum. Retrieved from https://www.wildflower.org/plants/result.php?id_plant=HECU3 6. Treher. (2025). NatureServe Explorer - Heliotropium curassavicum. Retrieved from https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.144438/Heliotropium_curassavicum 7. Baskin, C., & Baskin, J. (n.d.). Protocol Information - Heliotropium (tenellum). Retrieved from https://nnp.rngr.net/renderNPNProtocolDetails?selectedProtocolIds=boraginaceae-heliotropium-2118 8. Wilkinson, Kim M.; Landis, Thomas D.; Haase, Diane L.; Daley, Brian F.; Dumroese, R. Kasten, eds. 2014. Tropical Nursery Manual: A guide to starting and operating a nursery for native and traditional plants. Agriculture Handbook 732. Washington, DC: U.S. Department of Agriculture, Forest Service. 376 p. 9. Heliotropium curassavicum (seaside heliotrope). (2025). Retrieved from https://www.canativeseeds.com/product/heliotropium-curassavicum-seaside-heliotrope-/1455 10. Heliotropium curassavicum - salt heliotrope (seed). (n.d.). Retrieved from https://store.theodorepayne.org/products/heliotropium-curassavicum-salt-heliotrope-seed#:~:text=Theodore%20Payne%20Foundation%20kindly%20asks,by%20rhizome%20can%20be%20invasive.&text=1ft.,x%204ft.&text=%20Sowing%20difficult%20levels:,stratification,%20may%20produce%20staggered%20germination 11. Heliotropium curassavicum (Salt Heliotrope) [20 Seeds]. (2025). Retrieved from https://hayefield.com/product/heliotropium-curassavicum-salt-heliotrope/ 12. Anika. (2023). Heliotropes: Planting, Care & Overwintering. Retrieved from https://plantura.garden/uk/flowers-perennials/heliotrope/heliotrope-overview#:~:text=Heliotropes%20are%20not%20hardy%20and,balcony%20or%20in%20the%20garden. 13. Salt Heliotrope Nature collective. (n.d.). Retrieved from https://naturecollective.org/plant-guide/details/salt-heliotrope/
Other Sources Consulted	<ol style="list-style-type: none"> 14. Integrated Taxonomic Information System - Report. (2025). Retrieved from https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=31635#null 15. Heliotropium curassavicum L. (n.d.). Retrieved from http://naeb.brit.org/uses/species/1842/

	<p>16. Seaside Heliotrope. (n.d.). Retrieved from https://calscape.org/Heliotropium-curassavicum-(Seaside-Heliotrope)</p> <p>17. Heliotropium curassavicum L.: Plants of the World Online: Kew Science. (n.d.). Retrieved from https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:116784-1</p> <p>18. True leaf market seed company - Heliotrope Seeds. (n.d.). Retrieved from https://trueleafmarket.com/products/heliotrope-seeds-dwarf-marine?srsItid=AfmBOooBTTbfmYqS901cAplcvzsX0nl8mFCstKISqW-SSGvAdulbi917</p>
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