

Plant Propagation Protocol for *Artemisia ludoviciana*

ESRM 412 – Native Plant Production

Protocol URL: [https://courses.washington.edu/esrm412/protocols/\[ARLU.pdf\]](https://courses.washington.edu/esrm412/protocols/[ARLU.pdf])



© Larry Allain



© Nevada Native Plant Society

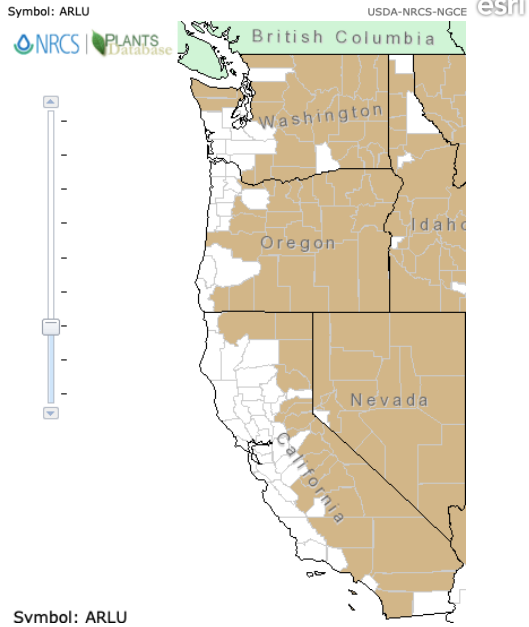
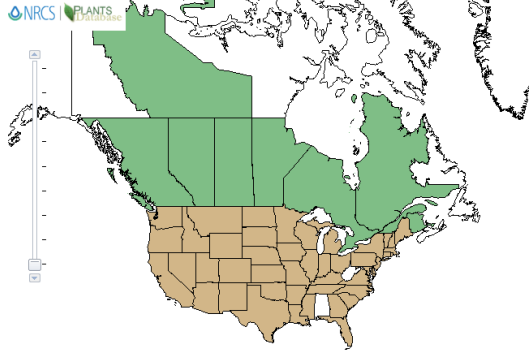
Source: USDA Plants Database

TAXONOMY	
Plant Family	
Scientific Name	Asteraceae
Common Name	Astern daisy, composite, or sunflower Family
Species Scientific Name	
Scientific Name	<i>Artemisia ludoviciana</i> Nutt.
Varieties	<i>Artemisia diversifolia</i> Rydb. <i>Artemisia gnaphalodes</i> Nutt. <i>Artemisia herriotii</i> Rydb. <i>Artemisia ludoviciana</i> Nutt. ssp. <i>typica</i> D.D. Keck <i>Artemisia ludoviciana</i> Nutt. var. <i>americana</i> (Besser) Fernald <i>Artemisia ludoviciana</i> Nutt. var. <i>brittonii</i> (Rydb.) Fernald <i>Artemisia ludoviciana</i> Nutt. var. <i>gnaphalodes</i> (Nutt.) Torr. & A. Gray <i>Artemisia ludoviciana</i> Nutt. var. <i>latifolia</i> (Besser) Torr. & A. Gray <i>Artemisia ludoviciana</i> Nutt. var. <i>pabularis</i> (A. Nelson) Fernald <i>Artemisia pabularis</i> (A. Nelson) Rydb. <i>Artemisia purshiana</i> Besser <i>Artemisia vulgaris</i> L. ssp. <i>ludoviciana</i> (Nutt.) H.M. Hall & Clem.

	<i>Artemisia vulgaris</i> L. var. <i>ludoviciana</i> (Nutt.) Kuntze
Sub-species	<i>Artemisia ludoviciana</i> ssp. <i>albula</i> <i>Artemisia ludoviciana</i> ssp. <i>candicans</i> <i>Artemisia ludoviciana</i> ssp. <i>estesii</i> <i>Artemisia ludoviciana</i> ssp. <i>incompta</i> <i>Artemisia ludoviciana</i> ssp. <i>mexicana</i> <i>Artemisia ludoviciana</i> ssp. <i>redolens</i> <i>Artemisia ludoviciana</i> ssp. <i>sulcata</i>
Cultivar	N/A
Common Synonym(s)	N/A
Common Name(s)	White sagebrush, Silver wormwood, wild sage, prairie sage, wormwood, white mugwort, western mugwort, Louisiana sage, darkleaf mugwort, Mexican sagewort, Chihuahua sagewort, Garfield tea, lobed cudweed, man sage
Species Code (as per USDA Plants database)	ARLU

GENERAL INFORMATION

Geographical range



	Found throughout the country with exceptions of some states such as Alabama and West Virginia. Grows in the Northwest territories of Canada and found above sea level near mountains. Source: USDA Plants Database
Ecological distribution	Prairie grasslands, Plains grasslands, Chaparral-mountain ecosystems. ⁴
Climate and elevation range	20- 11475 ft. Can grow in various climates from dry to wet summers and cold to mild winters. USDA Hardiness Zone 3. ⁸
Local habitat and abundance	May form dense stands in grasslands but doesn't dominate extensive areas ⁴
Plant strategy type / successional stage	Outcompetes species by growing aggressively by seed or rhizome in poor soils. Weedy colonizer. ² Spreads by seed or rhizome.
Plant characteristics	Perennial shrub with white foliage that grows to 2-3 ft tall. Leaves grow to 2-4 inches long with grayish, yellow flowers. Leaves are aromatic when damaged. Tolerant to rabbits, deer and drought. ² Sagebrush is self and wind pollinated ⁴
PROPAGATION DETAILS	
Ecotype	
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug), seed tray, or bareroot
Stock Type	Container
Time to Grow	3 Years ¹⁰
Target Specifications	2-3 feet in leaf spread ¹¹
Propagule Collection Instructions	Remove noxious weed seed, air dry in cloth sacks. Internal seeds are fertile, while the external seeds are infertile ¹⁰
Propagule Processing/Propagule Characteristics	Air-dry seeds ¹⁰
Pre-Planting Propagule Treatments	Cold, wet stratification for 14 days improves germination rate. ¹⁰
Growing Area Preparation / Annual Practices for Perennial Crops	Well-drained soil, full sun. Can be grown in poor or dry soil. ⁹
Establishment Phase Details	Plant in a greenhouse in the late winter to the early summer until seedlings are large enough to be removed from soil and into a pot. Grow inside a greenhouse over winter. ¹⁰
Length of Establishment Phase	2 months ¹⁰
Active Growth Phase	Plants grow rapidly during their active growth phase. Fertilization increases growth and watch for predation of insects. ¹⁰

Length of Active Growth Phase	May-July ¹⁰
Hardening Phase	Leaves may build a powdery mildew. Trim foliage and crown back to advance regrowth the next spring. ¹⁰
Length of Hardening Phase	2 months ¹⁰
Harvesting, Storage and Shipping	Cool, dry storage ¹⁰
Length of Storage	N/A
Guidelines for Outplanting / Performance on Typical Sites	Plant on bare soil. Increased plant success when peat or straw is added to top of soil to prevent soil erosion. ¹⁰
Other Comments	Can be used for spices in cooking and Native Americans used it for medicinal purposes to cure fevers and colds. ²
INFORMATION SOURCES	
References	<ol style="list-style-type: none"> 1. USDA Plants Database. (n.d.). <i>Artemisia ludoviciana</i> Nutt. white sagebrush. Retrieved May 22, 2020, from //plants.usda.gov/core/profile?symbol=ARLU 2. <i>Artemisia ludoviciana</i> (White Sage). (n.d.). Retrieved May 22, 2020, from https://www.gardenia.net/plant/artemisia-ludoviciana-white-sage 3. U.S Forest Service. (n.d.). Plant of the Week: White Sagebrush. Retrieved May 22, 2020, from https://www.fs.fed.us/wildflowers/plant-of-the-week/artemisia_ludoviciana.shtml 4. U.S Forest Service. (n.d.). Fire Effects Information System (FEIS). Retrieved May 22, 2020, from https://www.fs.fed.us/database/feis/plants/forb/artlud/all.html 5. Huxley. A. <i>The New RHS Dictionary of Gardening</i>. 1992. MacMillan Press 1992 ISBN 0-333-47494-5 6. The Jepson Herbarium. (n.d.). <i>Artemisia ludoviciana</i> Silver wormwood. Retrieved May 22, 2020, from https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=1209 7. Flessner, Theresa R.; Trindle, Joan D.C. 2003. Propagation protocol for production of <i>Artemisia ludoviciana</i> Nutt. seeds (Seed); USDA NRCS - Corvallis Plant Materials Center, Corvallis, Oregon. In: Native Plant Network. Retrieved May 22, 2020, from: http://www.nativeplantnetwork.org

	<p>8. Calscape. (n.d.). White Sagebrush, <i>Artemisia ludoviciana</i> ssp. <i>ludoviciana</i>. Retrieved May 22, 2020, from https://calscape.org/Artemisia-ludoviciana-ssp.-ludoviciana-()</p> <p>9. Oregon State University, College of Agricultural Sciences - Department of Horticulture. (n.d.). Landscape Plants. Retrieved May 25, 2020, from https://landscapeplants.oregonstate.edu/node/2150</p> <p>10. Theresa, R., Flessner, & Trindle, J. (n.d.). Propagation protocol for production of <i>Artemisia ludoviciana</i> Nutt. seeds (Seed). <i>College of Natural Resources, Forest Research Nursery</i></p> <p>11. Everett, P. C. (2014). A Second Summary of the Horticulture and Propagation of California Native Plants at the Rancho Santa Ana Botanic Garden, 1950-1970. { (B. C. O'Brien, Ed.). <i>Rancho Santa Ana Botanic Garden, Claremont, California.</i></p>
Other Sources Consulted	N/A
Protocol Author	Jeremy Nygard
Date Protocol Created or Updated	05/25/20