

**Plant Propagation Protocol for *Wyethia angustifolia***

ESRM 412 – Native Plant Production

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

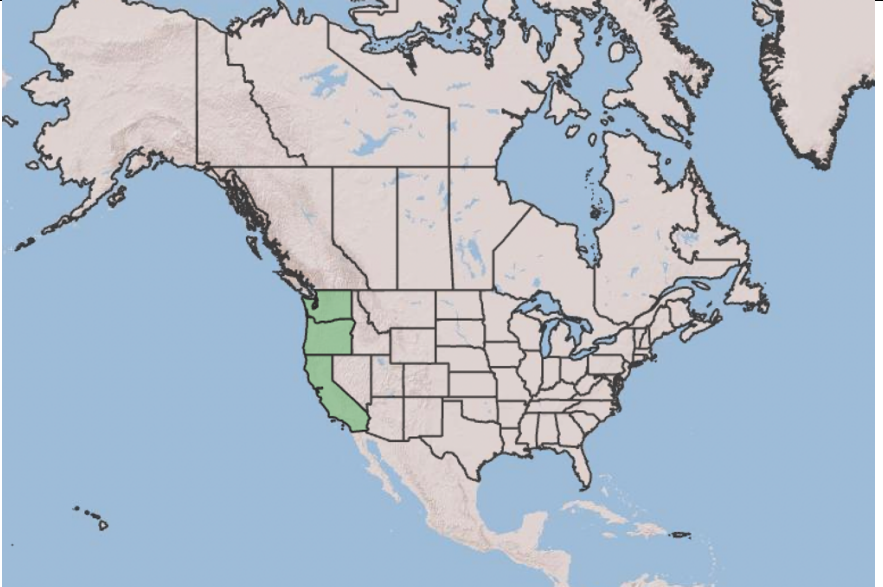
<b>TAXONOMY</b>	
Plant Family	
Scientific Name	<i>Wyethia angustifolia</i>
Common Name	California compassplant
Species Scientific Name	
Scientific Name Genus Specific epithet Authority	Wyethia Nutt. californicum Torr. (short for John Torrey, the botanist who formally described the speices) <sup>1</sup>
Varieties	
Sub-species	
Cultivar	
Common Synonym(s)	<i>Alarconia angustifolia DC</i>
Common Name(s)	Mule's ears California compassplant Narrowleaf wyethia
Species Code (as per USDA Plants database)	WYAN
<b>GENERAL INFORMATION</b>	
Geographical range	



Figure 1 *Wyethia angustifolia* (DC.) Nutt. distribution. From a map by Esri, USDA-NRCS-NGCE & NPDT, 2014. © Esri, 2014.<sup>2</sup>

Ecological distribution	Low elevation meadows Moist, open hillsides <sup>3</sup>
Climate and elevation range	Can be found at elevations ranging from near sea level to 2,100 meters (6,900 ft). In Washington, populations are typically found at lower elevations, around 65 meters (200 ft). <sup>3</sup>
Local habitat and abundance	Thrives in open habitats, including grasslands, meadows, prairies, and openings in oak and pine-oak forests. It prefers full sun and well-drained soils. <sup>4</sup>
Plant strategy type / successional stage	Drought-tolerant, preferring dry to medium, well-drained soils and full sun. It can survive in harsh environments like open grasslands and dry slopes, where resources might be limited or variable. While drought-tolerant, <i>W. angustifolia</i> is also considered a competitor, as it establishes colonies and can persist in a plant community, potentially outcompeting less vigorous species. While it can spread by rhizomes, it's not typically considered a rapidly spreading, short-lived colonizer of disturbed sites like ruderal species, nor a weedy species due to its ecological benefits and relatively slow growth. <i>W. angustifolia</i> is considered a seral species. Found in meadows and open areas that can be part of a successional sequence. Likely

	found in early to mid-seral stages. It establishes in open, sunny habitats and meadows, but can persist as a component of later successional stages in grasslands and open woodlands. <sup>5</sup>
Plant characteristics	<p>non-woody, perennial herb, meaning it lives for more than two years and dies back to the ground each winter before regrowing in the spring</p> <p>As a perennial, <i>Wyethia angustifolia</i> lives for multiple years.</p> <p>Size: Typically grows 1 to 3 feet tall and 2 to 3 feet wide, forming a basal clump.</p> <p>Leaves: Features long, narrow, bright green basal leaves that can reach up to 2 feet in length.</p> <p>Flowers: Produces showy, sunflower-like yellow flowers on upright stems, blooming from mid-spring to mid-summer.</p> <p>Growth Habit: Forms clumps and spreads via rhizomes, dying back in winter.</p> <p>Roots: Grows from a taproot and caudex.</p> <p>Habitat: Native to the western US, found in grasslands and meadows, preferring full sun and well-drained soil.</p> <p>Other: It's low maintenance, drought tolerant, attracts pollinators, and can be propagated by seed<sup>6</sup></p>
<b>PROPAGATION DETAILS</b>	
Ecotype	Tennessee Valley, California <sup>7</sup>
Propagation Goal	Plants
Propagation Method	Seed
Product Type	Container (plug)
Stock Type	10 cubic inch plug
Time to Grow	4-5 months
Target Specifications	Roots system: firm in plug container
Propagule Collection Instructions	Seeds are collected between July 1st and August 31st. Seed is brown at maturity.
Propagule Processing/Propagule Characteristics	Seed Cleaning: None required. Storage Conditions: Seeds are kept dry and stored in a refrigerator. Seeds/gram: 386
Pre-Planting Propagule Treatments	Stratify in the refrigerator for 3 months
Growing Area Preparation / Annual Practices for Perennial Crops	Fully Controlled Greenhouse Seeds are sown in flats containing Sunshine Mix #4 Aggregate Plus (peat moss, perlite, major and minor nutrients, gypsum, and dolomitic lime).

	Seeds are covered with media. Flats are watered in with an automatic mist and irrigation system
Establishment Phase Details	Maintain consistent moisture using mist irrigation. Maintain daytime temperatures between 65–75°F and night temps around 55–65°F. Ensure moderate light exposure. Avoid overwatering, as seeds may rot.
Length of Establishment Phase	6-8 weeks
Active Growth Phase	Thin seedlings to one per cell after germination. Maintain regular watering and begin weekly fertilization with a balanced liquid fertilizer (e.g., 20-10-20). Provide full sun or supplemental lighting for 12–16 hours/day.
Length of Active Growth Phase	~45 days after sowing
Hardening Phase	Reduce watering gradually and stop fertilization. Move trays to an outdoor lath house or cold frame for 2–3 weeks prior to out planting. Acclimate to cooler temps and fluctuating conditions.
Length of Hardening Phase	2-3 weeks
Harvesting, Storage and Shipping	Seedlings are typically shipped in plug trays. Ensure they are moist before transport. Avoid crushing the soft foliage. Transplanting recommended within 2–3 days of removal from nursery conditions.
Length of Storage	1–2 weeks (preferably shorter). Keep in cool, shaded area if delays occur.
Guidelines for Outplanting / Performance on Typical Sites	Sowing Method: Transplanting germinates. Seeds are sown on May 1st. % Germination: 30%
Other Comments	This species may die back by mid-summer. Regrowth occurs in the spring.
<b>INFORMATION SOURCES</b>	
References	See below
Other Sources Consulted	See below
Protocol Author (	Karson Mertes
Date Protocol Created or Updated	05/05/2025

## References

- <sup>1</sup>Torrey, J. (1857). *Report on the botany of the expedition: Route near the thirty-fifth parallel, explored by Lieutenant A. W. Whipple, topographical engineers, in 1853 and 1854* (Vol. IV). War Department, U.S. Government  
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  - <sup>2</sup>U.S. Department of Agriculture, Natural Resources Conservation Service. (n.d.). *Wyethia angustifolia* Nutt. USDA Plants Database. <https://plants.usda.gov/plant-profile/WYAN>
  - <sup>3</sup>Puget Prairie Plants. (n.d.). *Wyethia angustifolia*. The Evergreen State College  
. [https://wikis.evergreen.edu/pugetprairieplants/index.php/Wyethia\\_angustifolia](https://wikis.evergreen.edu/pugetprairieplants/index.php/Wyethia_angustifolia)
  - <sup>4</sup>Washington State Department of Natural Resources, Natural Heritage Program. (n.d.). *Wyethia angustifolia* species profile. [https://www.dnr.wa.gov/publications/amp\\_nh\\_wyan.pdf](https://www.dnr.wa.gov/publications/amp_nh_wyan.pdf)
  - <sup>5</sup>Sevenoaks Native Nursery. (n.d.). *Wyethia angustifolia* (narrowleaf mule's ears)  
. <https://sevenoaksnativenursery.com/product/wyethia-angustifolia/>
  - <sup>6</sup>OregonFlora. (n.d.). *Wyethia angustifolia* (narrow-leafed mule's ears). Oregon State University  
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  - <sup>7</sup>Native Plant Network. (n.d.). *Wyethia angustifolia* propagation protocol. U.S. Forest Service  
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- Gardenia.net. (n.d.). *Wyethia angustifolia* (Narrowleaf Mule Ears). Gardenia.net. Retrieved May 6, 2025, from <https://www.gardenia.net/plant/wyethia-angustifolia>
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