

Plant Propagation Protocol for *Sisyrinchium bellum*

ESRM 412 – Native Plant Production

URL: <https://courses.washington.edu/esrm412/protocols/2026/SIBE.pdf>



Western blue-eyed grass (*Sisyrinchium bellum*) mature plant with inflorescence

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TAXONOMY	
Plant Family	
Scientific Name	Iridaceae Juss. ²
Common Name	Iris family ²
Species Scientific Name	
Scientific Name	<i>Sisyrinchium bellum</i> S. Watson ²

Varieties	No varieties recognized ²
Sub-species	No sub-species recognized ²
Cultivar	Several cultivars have been developed ³ including: <i>Sisyrinchium bellum</i> 'Arroyo De La Cruz' – 'California Skies' – 'Dwarf' – 'Fort Bragg' – 'H Bar H White' – 'Merk's White' – 'Nanum' – 'North Coast' – 'Occidental' – 'Rocky Point' – 'San Simeon' – 'Sea Cliff' – 'Wayne's Dwarf' – 'Wild Night'
Common Synonym(s)	<i>Sisyrinchium eastwoodiae</i> E.P. Bicknell ² <i>Sisyrinchium greenei</i> E.P. Bicknell ² <i>Sisyrinchium hesperium</i> E.P. Bicknell ² <i>Sisyrinchium maritimum</i> A.A. Heller ⁴
Common Name(s)	Western blue-eyed grass, ^{2,4,5,6,7} California blue-eyed-grass, ⁷ beautiful blue-eyed grass ⁸
Species Code (as per USDA Plants database)	SIBE ²

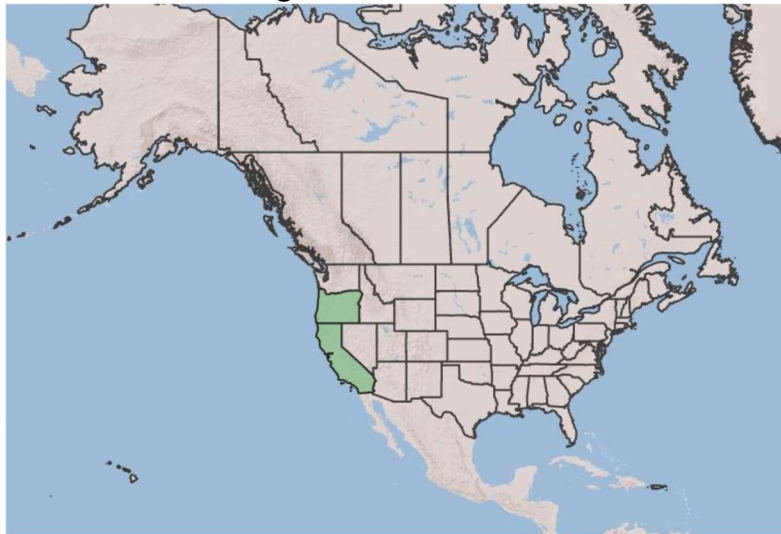
GENERAL INFORMATION


Geographical range

As its common name implies, western blue-eyed grass is concentrated along the western edge of North America. It is found along the Oregon coast and Cascade Range south through most of California into Mexico.^{2,4,8,9} In the north, the Columbia River appears to act as an effective barrier to dispersal,² with only a single* potential observation recorded in Washington State.¹⁰

**Note:* Two additional specimens are listed in herbarium records, but are both well over a century old.¹⁰

North American range:



<p>Geographical range cont.</p>	<p>Western North America county range:</p>  <p>Note: Distribution maps adapted from USDA PLANTS Database²</p>
<p>Ecological distribution</p>	<p><i>S. bellum</i> generally occurs in open, often moist grassy areas, fields, and woodlands.^{4,8,9,11,12} It is considered a facultative wetland species (FACW) by the USDA.²</p>
<p>Climate and elevation range</p>	<p>Throughout its distribution <i>S. bellum</i> thrives in a wide range of climates from more mild coastal regions to harsher inland and</p>

	higher elevation site. ^{2,13} Often cool and wet winters with dry summers, but this can vary greatly depending on elevation, landforms, and distance from the Pacific Ocean. ¹³ Elevation ranges from sea level up to 2,400 m. ^{4,9}
Local habitat and abundance	<i>S. bellum</i> is widely distributed in its native range and is the most common species of <i>Sisyrinchium</i> in California. ⁹ Locally it is most commonly associated with moist, well-draining soils that dry throughout summer. ^{7,11} While growing in grassy areas and woodland <i>S. bellum</i> is likely to experience full sun to partial shade exposure. ¹¹
Plant strategy type / successional stage	<i>S. bellum</i> is likely best described as an early-to-mid successional species. It will readily self-seed and naturally grows in open areas, ^{8,9,11,12} but seedling establishment is reduced by competition from established perennial grasses. ¹⁴ While some sources claim this plant is fire resistant, ^{11,12} moderate severity fire was found to significantly decrease the abundance of the species following an experimental burn. ¹⁵
Plant characteristics	A caespitose perennial forb growing in dense tufts with branching stems and narrow leaves. ^{2,4,5,6,8,9} Its height and many of its characteristics are highly variable across its range. ^{4,9} While a monocot, it is not a grass despite its common name. ^{2,4,5,6,7,8,9} Showy flowers emerge March through June, depending on locale, with 6 petal-like tepals. ^{4,7,8} These are typically light blue to violet with yellow centers and range from 1-1.7 cm across. ^{4,5,6,9} Fruits are 3-5 mm capsules ^{5,9} producing small globose to obconic seeds. ^{5,8,9}
<p>PROPAGATION DETAILS: FROM SEED – Container Production</p> <p>Propagation details for <i>Sisyrinchium bellum</i> adapted from Serrill D, Herrera M, Takara J. Propagation protocol for production of Container (plug) <i>Sisyrinchium bellum</i> S. Wats. plants Plant Bands¹⁶ unless otherwise cited. This protocol was developed for a warm, frost-free climate with a long growing season and may need adjustments to best suit your climate.</p>	
Ecotype	Seeds collected from Catalina Island in southern California ¹⁶
Propagation Goal	Plants ^{16,17}

Propagation Method	Seed ^{16,17,18}
Product Type	Container (Plug) ¹⁶
Stock Type	Plant bands* ¹⁶ *Note: while not explicitly stated this likely refers to Zipset Plant Bands
Time to Grow	3 years ¹⁶
Target Specifications	Target plants should have a firm root plug with a well-developed crown ^{16,17}
Propagule Collection Instructions	Mature seeds are brown in color and best collected by hand. In southern California this is typically done May through June. ¹⁶
Propagule Processing/Propagule Characteristics	Seeds are small, with up to 400,000+ seeds per pound. ^{16,18} Seed lots analyzed by x-ray showed 94% filled seed. ¹⁸
Pre-Planting Propagule Treatments	<p>Seeds should be dried in a warm, dry room prior to cleaning and storage. This can be done using a paper bag to keep seeds contained.¹⁶ Once dry seeds should be cleaned from chaff and other debris. 5.5/64ths screen and sandpaper block, or 16 and 18 mesh sieves can be used to separate seeds from pods, while air or hand separation is often required to remove the final debris.^{16,18} Cleaned seed can be stored in airtight containers at approximately 0.5-4.4°C (33-40°F) with 40% RH.^{16,18}</p> <p>Germination appears to benefit from natural outdoor cold, moist stratification during the winter months.^{16,17} Additional pretreatments tested include 5–10 minute Physan disinfectant soaks, 3+ minute 5% bleach sterilization, and 30 minute hot water scarification or soaking in Wright’s Liquid Smoke diluted 1:2 (v:v) with water for 24 hours.¹⁶ Even with these treatments, germination percentages reached up to 15%, and seeds may continue germinating throughout the growing season into the following spring.¹⁶</p>
Growing Area Preparation / Annual	Initial growth area is a shade house with minimal temperature fluctuations. ¹⁶

Practices for Perennial Crops	Flats should be partially filled with a base medium of 4:1:1 peat, perlite, and organic compost. Over this add a 1 inch layer of 1:1 Sunshine Professional Growing Mix and Sand. Prior to layering 14-14-14 Osmocote 9 month time release fertilizer should be thoroughly incorporated into each mix.* ¹⁶ *Note: Exact fertilizer rate is not provided. Follow the manufacturer's instructions and adjust as needed.
Establishment Phase Details	Sow seeds in early fall for cold, moist stratification over winter prior to spring germination. Flats should be kept in a shadehouse and watered as needed. Germination may be irregular or delayed, and seeds may continue to germinate throughout the growing season into the following spring. ¹⁶
Length of Establishment	Approximately 3-4 months ¹⁶
Active Growth Phase	Once seedling have developed at least two true leaves they should be transplanted into containers filled entirely with the same 4:1:1 peat, perlite, and organic compost media used as base media for seed germination. Again, incorporate 14-14-14 Osmocote fertilizer.* Seedlings should be exposed to greater temperature variations while still remaining in the same shadehouse, or should be moved to another that can meet these needs. ¹⁶ *Note: Fertilizer rates not provided. Follow the manufacturer's instructions and adjust as needed.
Length of Active Growth Phase	7 months per season ¹⁶
Hardening Phase	Plants are removed from the shadehouse and placed in full sun exposure for a minimum of 2 weeks prior to outplanting. ¹⁶
Length of Hardening Phase	2 to 4 weeks ¹⁶
Harvesting, Storage and Shipping	Over-winter seedlings directly in the open outdoor growing area prior to outplanting. No specific harvest or shipping information available. ¹⁶

Length of Storage	Length of storage is variable; dependent on outplanting date and date seedlings finished hardening. ¹⁶
Guidelines for Outplanting / Performance on Typical Sites	No information available ¹⁶
Other Comments	<p>Germination and establishment may be slow and irregular, with seeds continuing to germinate into the second spring following sowing.¹⁶Plants may require several growth seasons to reach target specifications, especially in cooler and shorter season climates.</p> <p>A permit is likely required for the collection of seeds or other vegetative material from wild populations on public land. Those wishing to gather propagation materials should check with the appropriate agencies before collection. Always obtain necessary permissions from landowners prior to accessing private property.</p>
PROPAGATION DETAILS: VEGETATIVE	
Ecotype	No information available
Propagation Goal	Plants
Propagation Method	Vegetative – Division ^{11,19,20}
Product Type	Propagules (division) ^{11,19,20}
Stock Type	No information available
Time to Grow	No information available
Target Specifications	Divisions of established <i>S. bellum</i> clumps with healthy rhizomes and crowns. No exact size information provided. ⁷
Propagule Collection Instructions	Excavate large, established clumps of blue-eyed grass in the early spring, just as new foliage is beginning to grow. ^{7,19}

Propagule Processing/Propagule Characteristics	No information available
Pre-Planting Propagule Treatments	Using a sharp edged tool, divide into clonal propagules, each with a healthy root system. No exact size specified. ^{7,11,19,20}
Growing Area Preparation / Annual Practices for Perennial Crops	No information available
Establishment Phase Details	Replant propagules following division and keep moist while new roots form. ²⁰
Length of Establishment Phase	No information available
Active Growth Phase	Plants resume normal growth, no additional information available
Length of Active Growth Phase	No information available
Hardening Phase	No information available
Length of Hardening Phase	No information available
Harvesting, Storage and Shipping	Propagules are intended to be replanted immediately after division
Length of Storage	No information available
Guidelines for Outplanting / Performance on Typical Sites	No information available
Other Comments	<p>This method of propagation is highly time intensive and should only be used if production by seed is not possible or exact clones are required.</p> <p>A permit is likely required for the collection of seeds or other vegetative material from wild populations on public land. Those wishing to gather propagation materials should check</p>

	with the appropriate agencies before collection. Always obtain necessary permissions from landowners prior to accessing private property.
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