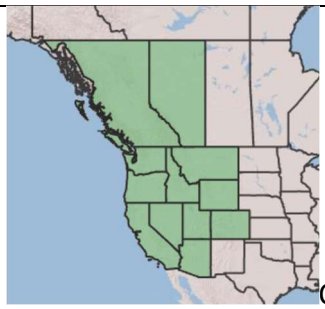
Plant Propagation Protocol for Eriogonum umbellatum (sulphur-flower buckwheat)

ESRM 412 – Native Plant Production

URL: https://courses.washington.edu/esrm412/protocols/*2026*/ ERUM

TAXONOMY	
Plant Family	Polygonaceae Juss. Buckwehat family
Scientific Name	Eriogonum umbellatum
Common Name	Sulphur-flower buckwheat
Species Scientific Name	Eriogonum umbellatum
Scientific Name	Kingdom: Plantae Subkingdom: Tracheobionta (vascular plants) Superdivision: Spermatophyta (seed plants) Division: Magnoliophyta (flowering plants) Class: Magnoliopsida (dicotyledons) Subclass: Caryophyllidae Order: Polygonales Family: Polygonaceae Genus: *Eriogonum* Species: *Eriogonum umbellatum* Torr. (USDA NRCS 2026)
Varieties	There are between 20 and 40 botanical varieties of Eriogonum umbellatum (Young-Mathews, 2012)
Sub-species	None are listed in the USDA Plants Database or formally recognized (USDA NRCS 2026)
Cultivar	None are commonly listed (USDA NRCS 2026)
Common Synonym(s)	*Eriogonum heracleoides* var. *umbellatum* *Eriogonum ovalifolium* var. *umbellatum* As listed by (USDA NRCS 2026)
Common Name(s)	Buckwheat bush sulfur buckwheat slender buckwheat sulphur-flower buckwheat (Brousseau, 2005)
Species Code (as per USDA Plants database)	ERUM
GENERAL INFORMATION	

Geographical range	 Copyright:(c) 2014 Esri | USDA-NRCS-NGCE & NPDT The Sulphur-flower buckwheat is native to western mountain regions of North America. It can be found in elevation between 700-12,000 feet. It can be found in western Canada to south California and east in to Colorado and New Mexico. (Young-Mathews, 2005)
Ecological distribution	Highly variable wildfire can be found in dry rocky soils and in rocky forests, foothills, and mountain slopes. (Missouri Botanical Garden, 2026) British Columbia a and Alberta south to central Colorado and some Arizonia and California. (Gucker and Shaw 2019)
Climate and elevation range	It is found in dry, open rocky sites with shallow sandy soils, most commonly found sunny ridges. This species grows typically in regions that receive between 8-18 inches of precipitations which may consist of rain or snow. In the summer this plant faces summer monsoons. It grows best in full sun on well drained soil. It has a high drought, salinity and carbonate tolerance and tends to grow in souls with pH between 6.5-9 (Young-Mathews, 2005)
Local habitat and abundance	Native range is Southwestern North America (Missouri Botanical Garden, 2026)
Plant strategy type / successional stage	It is one the most ecologically important wildflowers in the United States as it is home to many pollinators. It is an early primary successional species. (PlantNative 2026)

Plant characteristics	 It is a shrub/herb, shrub, or subshrub. (USDA NRCS 2026) Perennial herb (California Native Plant Society 2026) Some characteristics of this plant is that it forms low broad mats with individual clumps. It can be between 2 to 4 feet tall. Leaves are basal and 1 inch long, the flower stems are around 3-16 inches long. The flower colors can either by sulfur yellow, orange, reddish and sometimes rust orange with age. Flower displays can color whole slopes. (Young-Mathews, 2005)
PROPAGATION DETAILS: FROM SEED	
Ecotype	This method was tested at Corvallis Plant Materials Center (Young-Mathews, 2005)
Propagation Goal	Propagate from seeds. (Lady Bird Johnson Wildflower Center 2026)
Propagation Method	Method can only be done by seed. It impossible to transplant long taproots to mature plants. (Lady Bird Johnson Wildflower Center 2026)
Product Type	Container grown (Young-Mathews, 2005)
Stock Type	Container Stock (Young-Mathews, 2005)
Time to Grow	Seeds are dormant for 8 to 12 weeks, but sometimes take up 24 weeks to start growing if coming from cold stratification. The plant does not produce seed until there second growing season and are not in full production until year 3. They are productive after that for 10 to 20 years. (Young-Mathews, 2005)
Target Specifications	Seeds are mature when petals and sepals become dry and papery. (Young-Mathews, 2005)
Propagule Collection Instructions	Small plots are harvested by hand with rice knives and larger plots are harvested with a seed stripper. Seeds are brittle and can be harmed easily so a gentle brush

	can be used to break the seeds from the stalks and bracts. (Young-Mathews, 2005)
Propagule Processing/Propagule Characteristics	There are 100,000 to 200,00 seeds per pound. This means at this seeding rate per acre will result in 2 to 5 seeds per square foot. (Young-Mathews, 2005)
Pre-Planting Propagule Treatments	Seeds should be ranked into the soil around 1/4 inch . these seeds are naturally dormant for 8-12 eeks in cold moist stratification. Dormancy can be broken naturally by sowing the seeds in the fall. (Young-Mathews, 2005) Seed cleaning for sulphur-flower buckwheat involves separating small achenes from surrounding floral material such as bracts and inflorescence tissue. Because seed lots often contain significant plant debris and empty seed, mechanical processing such as brushing, sieving, and air-screen cleaning is commonly used, sometimes followed by additional hand sorting. Care must be taken during cleaning because seeds are small and the radicle end can be easily damaged (Gucker and Shaw 2019).
Growing Area Preparation / Annual Practices for Perennial Crops	For these plants fields need to be selectively chosen to be weed free with no troublesome weeds. There needs to be a place for a drip tape that is 12 inches below the plant. The ground where the seeds will be sown need to be smother, level, firm, for shallow seed placement. (Parris et al. 2010)
Establishment Phase Details	No information found.
Length of Establishment Phase	The establishment phase takes 2 years. (Parris et al. 2010)
Active Growth Phase	All that is know that the flowering period is June through September and with some flowering into October in the high elevations. (Krampien and Low 2025) The active growth period is also known to be during spring and summer. (USDA NRCS 2026)
Length of Active Growth Phase	The active growth phase is form spring through summer this is when peak flowering happens. (Krampien and Low 2025)
Hardening Phase	During late summer to fall, sulphur-flower buckwheat gradually transitions into dormancy as growth slows in response to shorter day length and cooler temperatures. Irrigation is typically reduced and

	fertilization stopped to encourage natural dormancy and improve cold and drought tolerance. The species is adapted to seasonal dry conditions and naturally develops cold hardiness as it enters winter dormancy without intensive management. (Krampien and Low 2025) & (Oregon State University Extension 2010)
Length of Hardening Phase	The hardening phase is 3 months.
Harvesting, Storage and Shipping	8-12 weeks as dormant . (Young-Mathews, 2005)
Length of Storage	Seeds of *Eriogonum umbellatum* can be stored under cool, dry conditions for short- to medium-term periods; however, viability is generally highest when seeds are used within 1–2 years of collection, and longevity depends on storage conditions. (Baskin and Baskin 2014; USDA NRCS 2026). Seeds should be stored in cool, dry, and rodent-proof containers to maintain viability. Low moisture content and cold storage conditions improve seed longevity. Reported storage life varies widely depending on conditions, ranging from a few years up to 10–15 years, with better longevity observed in sealed containers kept at low temperatures (Gucker and Shaw 2019).
Guidelines for Outplanting / Performance on Typical Sites	Out planting is most successful in fall or early spring on well-drained, coarse soils similar to native habitat conditions. The species establishes slowly and may require approximately two years to reach full establishment and reproductive maturity. It is drought tolerant once established and performs best in low-fertility environments (Parris et al. 2010)
Other Comments	Weeds need to be controlled and irrigation is important for the first year. these plants need to be pruned back after flower. (Young-Mathews, 2012) It is used for deer resistant (California Native Plant Society 2026)
INFORMATION SOURCES	
Protocol Author	Abby Blackford
Date Protocol Created or Updated	4/29/2026

References:

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