

# 'Sierra'

## Sulphur-flower buckwheat

*Eriogonum umbellatum* Torr. var  
*polyanthum* (Benth.) M.E Jones

A Conservation Plant Release by USDA NRCS Lockeford Plant Materials Center, Lockeford, CA



'Sierra' sulphur-flower buckwheat (*Eriogonum umbellatum* var *polyanthum*.) is a cultivar released in 1987 in cooperation with the California Agricultural Experiment Station, Davis. ©Lockeford Plant Materials Center.

### Description

'Sierra' is a native, low-growing shrub with grey-green, round, elliptical-leaves, smooth above and finely hairy beneath. Plants are 8 to 12 inches high, spreading up to 2 feet in diameter. Bloom occurs year round with few inflorescences in winter and numerous throughout spring. Bright yellow, dense flowers are in umbels, erect or ascending from a woody base turning orange-red at maturity. Fruits are smooth, brown-black and size ranges between 0.08-0.2 inches. The plant produces a deep taproot.

### Source

The source seed was collected from natural stands growing near South Lake Tahoe, California at approximately 6,200 ft in 1972. The seed was grown, evaluated and increased at the Lockeford Plant Materials Center and subsequently evaluated at 20 locations throughout California under a variety of soil and climatic conditions. 'Sierra' was selected from these comparisons with other native, low-growing shrub species for use on dry, critically eroding sites.

### Conservation Uses

'Sierra' has several conservation uses including critical area stabilization, erosion control and wildlife habitat. The perennial deep rooted plants are effective in preventing erosion on dry, rocky slopes for critical area stabilization. 'Sierra' can be used for erosion control in landscape plantings on dry sunny slopes around mountain homes, where its compact growth habit makes this plant a

good choice for rock gardens. The flowers and seed heads retain color and structure for many months.

'Sierra' provides important wild life habitat and cover for small game. The seeds are a food source for birds and small mammals, leaves provide forage for browsing animals, and insects associated with the plants are a food source for sage-grouse chicks. 'Sierra' is an effective pollinator as it provides pollen and nectar for native and non-native pollinators such as honey bees, and other beneficial insects.



European honey bee (*Apis mellifera*) visiting 'Sierra' flowers. ©Lockeford Plant Materials Center.

### Area of Adaptation and Use

Sulphur-flower buckwheat is native to western North America at elevations of 700 to 12,000 feet. The species is found from California to western Canada and into Colorado and New Mexico. 'Sierra' is adapted to medium to coarse-textured, well-drained soils, 16 inches of rainfall is recommended for establishment, but once established the plants are drought tolerant. 'Sierra' will not tolerate saturated soils or shading and is adapted to the Sierra Nevada foothills. Studies documented good survival in the Major Land Resource Areas (MLRAs): 14 – Central California Coastal Valleys, 17- Sacramento and San Joaquin Valleys, 18 – Sierra Nevada Foothills, 19 – Southern California Coastal Plain, and 22 – Sierra Nevada Mountains and Southern Cascade Mountains.

### Establishment and Management for Conservation Plantings

Prior to planting, the site should be free of weed competition and have accumulated soil moisture or supplemental irrigation available. Seeds require 8 to 12 weeks of cold, moist stratification to germinate and continuous moisture for seedling establishment. For dense stands, broadcast seed at a rate of 15 lbs pure live seed (PLS) per acre (72 seeds/ft<sup>2</sup>) or 7.5 lb PLS per acre

drilled. 'Sierra' container grown plants establish successfully with common transplant practices, moisture is required for establishment. Weed control is important until the plants become established and irrigation may be required in the first summer after transplanting. Once established, 'Sierra' plants are tolerant of dry soil conditions.

### Ecological Considerations

'Sierra' has no known insect problems, and is not susceptible to diseases apart from damping-off and root and crown rot problems related to wet and poorly drained soils. The species is not considered weedy.

### Seed and Plant Production

Fields for seed production should be weed and pathogen free, prepared in the fall to create a smooth, firm, level seedbed for planting. Seed production fields in Oregon are direct-sown in the fall on 4-ft wide raised beds with 12-inch row spacing at a depth of  $\frac{3}{4}$  inch and target density of 12 plants/ft<sup>2</sup> of seedbed, or a rate of 2.25 PLS lbs/acre. A layer of sawdust just thick enough to cover the seeds is then applied ( $\frac{1}{4}$  to  $\frac{1}{3}$  inch), and constant moisture is maintained with sub-surface drip or sprinkler irrigation until fall rains begin. Weeds are controlled by mowing, cultivation, tillage and hand removal. Alternatively, production fields can be established in the fall to early spring with container stock transplanted into weed mat to reduce the need for weed management.



Three-year-old foundation planting of 'Sierra' on weed mat. ©Lockeford Plant Materials Center.

'Sierra' plants produce few flowers the first year with flower production increasing the second year. Plants remain productive for five-ten years. Plants tolerate pruning after flowering which promotes a compact structure. Sierra fruits do not mature uniformly, but they do not shatter. An initial harvest by hand is effective, followed by flail-vac harvester or small-plot combine when most seed heads have matured and the perianth becomes papery (June to July in California). 'Sierra' foundation seed production fields located at the California Plant Materials Center yield an average of 150 lbs seed per acre. There are approximately 140,000 to 200,000 seeds per pound.

### Availability

*For conservation use:* Commercial availability of seed and container plants is limited, though plants may be available from native plant nurseries.

*For seed or plant increase:* Foundation seed for large-scale increase can be obtained by contacting the California Crop Improvement Association or the USDA-NRCS California Plant Materials Center.

*For more information, contact:*  
Lockeford Plant Materials Center  
21001 N. Elliott Road, PO Box 68,  
Lockeford, CA 95237  
Phone (209) 727-5319  
Fax 209-727-5923  
<http://plant-materials.nrcs.usda.gov/CAPMC>

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For additional information about this and other plants, please contact your local USDA Service Center, NRCS field office, or Conservation District <<http://www.nrcs.usda.gov/>>, and visit the PLANTS Web site <<http://plants.usda.gov/>> or the Plant Materials Program Web site <<http://www.plant-materials.nrcs.usda.gov/>>

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