

# VIRGIN RIVER BRITTLEBUSH

## *Encelia virginensis* (A. Gray)

Plant Symbol = ENVI

*Alternative scientific names:*

*Encelia frutescens* (A. Gray) A. Gray var. *virginensis* (A. Nelson) S.F. Blake

*Encelia virginensis* A. Nelson var. *virginensis*

*Encelia virginensis* var. *actonii* (Elmer) B.L. Turner.

### Description

**General:** Virgin River brittlebush is a native evergreen shrub up to three feet high and three feet wide with many slender branching stems growing from the base. Younger stems are hairy, while older stems may have fissured bark.

Leaves are oval, simple, 0.5 to 1 inch long, with a smooth margin. Short, soft hairs give the leaves a grayish green appearance. Leaf arrangement is alternate and opposite. Flowers heads are borne singly on hairy stems and have yellow ray flowers less than 0.5 inches long, and yellow to orange disk flowers. The blooming period is typically March through June. The fruit is a dark brown to black achene, 0.2 to 0.3 inches long. Virgin River brittlebush is distinguished from other *Encelia* species by its smaller mature plant size, smaller leaves, and the presence of both ray and disk flowers (Abrams, 1923; Baldwin et al., 2002; Kiel & Clark, 2016; Univ. of Arizona, 2016).



*Virgin River brittlebush, Photo by Heather Dial, USDA NRCS Tucson Plant Materials Center*

**Distribution:** Virgin River brittlebush is found in California, Nevada, Utah, Arizona, New Mexico, and Baja California. Please refer to the PLANTS Database for the most current map of species distribution.

**Habitat:** Virgin River brittlebush inhabits desert scrub between the elevations of 1,500-5,000 ft. on desert flats, rocky slopes, and roadsides.

**Adaptation:** Virgin River brittlebush is found in the Mojave Desert. Associated plants include creosote bush (*Larrea tridentata*), Joshua tree (*Yucca brevifolia*), Mojave yucca (*Yucca schidigera*), Mormon tea (*Ephedra viridis*), and white bursage (*Ambrosia dumosa*) (Kiel & Clark, 2016; United States Department of Agriculture, 2006).

### Uses

**Range Revegetation:** Virgin River brittlebush can be used in the revegetation of disturbed areas. Rodgers (1994) found that when outplanted as container stock, Virgin River brittlebush had a greater than 90% survival rate on an abandoned strip mine site in Joshua Tree National Monument.

**Pollinator Habitat:** Virgin River brittlebush provides a nectar source for native bees and butterflies. At the Tucson Plant Materials center, Western pygmy-blue butterflies (*Brephidium exilis*) were observed foraging on the flower heads.

**Ethnobotanical:** Native American people used Virgin River brittlebush as a medicine. The Kawaiisu made a decoction of the leaves and flowers which they used as a wash for reducing rheumatic pains. This decoction was also used to treat cuts and bruises on horses (Zigmond, 1981). The Tubatulabal made a decoction of the roots for use as a wash for rheumatism (Voegelin, 1938).

### Status

**Threatened or Endangered:** No.

**Wetland Indicator:** UPL

**Weedy or Invasive:** This plant may become weedy or invasive in some regions or habitats, and may displace desirable vegetation if not properly managed. Please consult with your local NRCS Field Office, Cooperative Extension Service office, state natural resource, or state agriculture department regarding its status or use.

## Planting Guidelines

The recommended seeding rate for Virgin River brittlebush is 1 pure live seed (PLS) pounds per acre if planted with a drill and approximately 2 PLS pounds if seed is broadcast. There are approximately 217,000 seeds of Virgin River brittlebush in a pound (Kay et al., 1977). For ornamental establishment, sow Virgin River brittlebush seed to a depth of ¼ inch. For containerized production, sow seed to a depth of ¼ inch in a well-drained soil.

## Pests and Potential Problems

The chrysanthemum lace bug (*Corythucha marmorata*) can be a pest of Virgin River brittlebush. At the Tucson Plant Materials Center, infestations of this insect killed immature plants and prevented seed production in mature plants.

## Environmental Concerns

None

## Seeds and Plant Production

Plant Virgin River brittlebush in the early spring into a firm, weed-free seedbed at a ¼ to ½ inch depth with 24-40 inches within-row spacing. Row spacing can vary from 36-40 inches. Irrigate the planting to maintain a moist soil surface and to avoid soil crusting. Control weeds with appropriate pre-emergent herbicide after the plants have developed at least 3-5 leaves. Irrigate established fields approximately every four weeks during the growing season. Apply nutrients according to soil test results. Plants will produce seed from spring to fall when fields are irrigated. Harvest timing is critical, as seed is easily blown from the plant after maturity (Kay et al., 1977). Harvest seed with a seed stripper or combine. Clean harvested seed by processing with a brush machine or hammer mill and air screening equipment.



Virgin River brittlebush plot, Photo by Heather Dial, USDA NRCS Tucson Plant Materials Center

## Cultivars, Improved, and Selected Materials

These plant materials are not readily available from commercial sources.

## Literature Cited

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## Citation

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