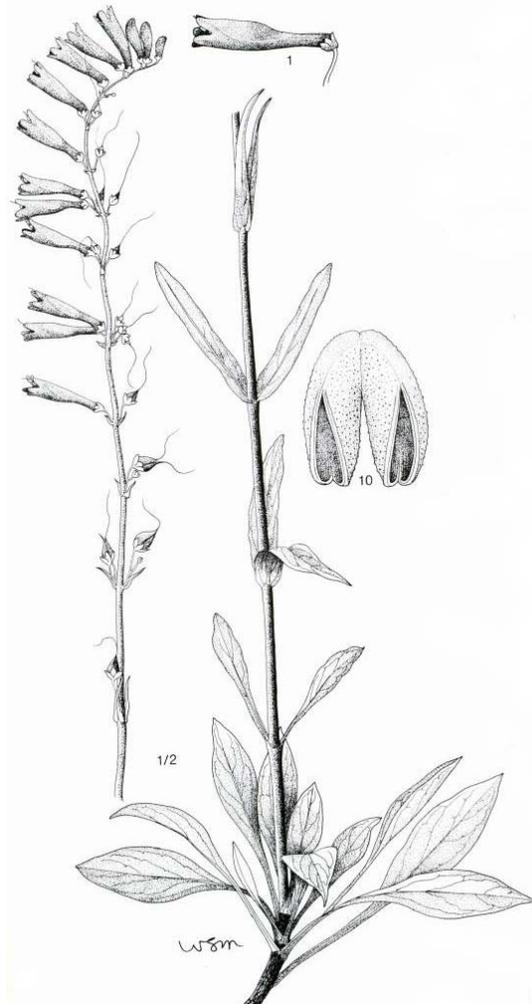


FIRECRACKER PENSTEMON

Penstemon eatonii Gray
plant symbol = PEEA

Contributed By: USDA NRCS Idaho State Office, the National Plant Data Center, and the Aberdeen Plant Materials Center



William S. Moyer
Cronquist (1984)
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Alternate Names

Eaton's beardtongue, Eaton's penstemon, *Penstemon eatonii* ssp. *eatonii*, *Penstemon eatonii* ssp. *exsertus*, *Penstemon eatonii* ssp. *undosus*

Uses

Grazing/rangeland: Firecracker penstemon provides erosion control, plant diversity and beautification. It is not noted for having value as forage. 'Cedar' Palmer's penstemon (*Penstemon palmeri*) and 'Bandera' Rocky Mountain penstemon (*Penstemon strictus*) are the only released penstemons noted to have any forage value. 'Cedar' leaves stay green throughout the growing season providing some forage value. All other varieties are considered fair to poor palatability and considered to be only incidental forage value. All species provide diversity to a seeded plant community.

Erosion control/reclamation: Penstemon has value in mixes for erosion control and beautification values.

Wildlife: Penstemons are considered desirable forages for deer, antelope, and birds either as herbage or seed. They may also provide some cover for selected small bird species. They provide diversity and beauty to the plant community.

Status

Consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status, such as, state noxious status and wetland indicator values.

Description

General: Figwort Family (Scrophulariaceae). Penstemon or beardtongues are perennial forbs or sub-shrubs to shrubs with attractive flowers. They are short to long-lived. Eaton's or firecracker penstemon is a short-lived perennial herbaceous forb with red flowers. It is recognized as having three subspecies: *P. eatonii* ssp. *eatonii*, *P. eatonii* ssp. *exsertus*, and *P. eatonii* ssp. *undosus*. Cronquist et al. (1984) provides a key separating *eatonii* from *undosus* and notes the key characteristics for *exsertus*.

Penstemons have opposite, entire, or toothed leaves. They have several stalked flowers or flower clusters that are borne in the axils of the upper leaves or leaflike bracts. The tubular corolla is strongly to distinctly two-lipped at the mouth with a two-lobed upper lip and a three-lobed lower lip. There are 4 anther-bearing (fertile) stamens and a single sterile stamen or staminodia that is often hairy at the tip. The fruit is a many-seeded capsule. Eaton's or firecracker penstemon is 4-10 dm tall with erect stems.

Distribution

Eaton's or firecracker penstemon is found in the southwestern U.S. from Colorado to California.

Penstemons are common to the western United States. Except for one minor species, the genus *Penstemon* does not occur naturally outside of North America. For current distribution, consult the Plant Profile page for this species on the PLANTS Web site.

Adaptation

Penstemons do best on well-drained soils. Most ecotypes do well on infertile, disturbed soils. They have excellent cold winter and drought tolerance. They will tolerate weakly saline to weakly acidic sites. They are usually found in open areas, but will tolerate semi-shaded conditions. They are not tolerant of fire, but they are fire resistant due to leaves staying green with relatively high moisture content during the fire season. Eaton's or firecracker penstemon is found on dry slopes and flats in sagebrush, pinyon-juniper, mountain mahogany, and ponderosa pine communities (Cronquist et al. 1984).

Establishment

Planting: These species should be seeded with a drill or broadcast at a depth of 1/4 inch or less into a firm seedbed. Ideal seeding depth is 1/8 inch. Penstemons are not recommended for single species seeding. The full seeding rate (not recommended) for Firecracker penstemon is 4 pounds Pure Live Seed (PLS) per acre or 28 PLS per square foot (varies somewhat by species). When used as a component of a mix, adjust to percent of mix desired. For mine lands and other harsh critical areas, doubling the seeding rate component of penstemon is not required.

The best seeding results are obtained from seeding in very early spring (because of grass component of mix) on heavy to medium textured soils and in late fall on medium to light textured soils. Late summer (August - mid September) seeding is not recommended. Dormant fall seedings (preferred seeding period for penstemons) will pre-chill seed and reduce seed dormancy which is very strong in some species. Mulching, irrigation, and weed control all benefit stand establishment. Seedling vigor is good, but not as good as most grasses. Germination may not occur until the second growing season. Flowering should not be expected until at least the second growing season.

Stands may require weed control measures during establishment. Because penstemons are broadleaf, use of 2,4-D is not recommended. Mow weeds at or prior to their bloom stage. Grasshoppers and other insects may also damage new stands and pesticides may be needed.

Management

Growth of penstemon begins in early spring and flowers appear from early summer through early fall depending on species. Weed control and removal of very competitive species may improve chance of establishment. Damage from wildlife and rodents may occur and they may need to be controlled. Disease problems are minimal except under irrigation. Under irrigation, fusarium wilt and rhizoctonia root rot can be a problem.

Environmental Concerns: Penstemon species establish and spread slowly via seed distribution. They are not considered "weedy" or invasive species, but can spread into adjoining vegetative communities under ideal climatic and environmental conditions. They coexist with other native species and add biodiversity to those plant communities.

Seed Production

Firecracker penstemon should be seeded in at least 36-inch rows at the rate of 1.3 pounds PLS per acre (target 30 pure live seeds per linear foot) to allow mechanical weed control. The use of weed barrier material may be an alternative to allow closer spacing, reduce weeds and conserve soil moisture. It should be seeded in late fall or early winter unless seed is artificially stratified under cool moist conditions. The Richfield Selection of firecracker penstemon requires stratification. Transplants by dividing the base of older plants or from greenhouse starts can also be successfully used to establish seed fields.

Seed is generally harvested by hand stripping or by combine. Seed is mature when capsules are dry and seed is hard and dark in color. Flowering is indeterminate with mature capsules and flowers present at harvest period. Multiple harvest periods (by hand) may be necessary to maximize seed collection. Some seed will shatter once capsules open, but the capsule is upright and tends to hold seed very well. Seed can be separated from the capsule by use of a hammer mill or barley debarber followed by air screening. Cleaned seed should be allowed to dry and then stored in a cool dry area. An after-ripening period of 3 to 4 months is required. Seed retains viability for several years under these conditions.

Cultivars, Improved and Selected Materials (and area of origin)

Foundation and registered seed is available for each variety through the appropriate state Crop Improvement Association or commercial sources to grow certified seed.

Richfield Selected Germplasm Firecracker penstemon is a selected release germplasm from seed originally collected near Richfield, Utah. 'The Richfield Selection Germplasm' of firecracker penstemon was selected by Aberdeen, Idaho Plant Materials Center and was released in 1994. It is an erect, native, perennial, cool-season sub-shrub to shrub with a fibrous root system and decumbent to reclining stems. The leaves are large and slightly pubescent. The flowers are in racemes on 24 to 36 inch tall, upright stems. It has bright red tubular flowers, blooming from early to late summer. It is adapted to full sunlight, well to moderately well drained soils, 10 to 16 inch rainfall areas, at 3,300 to 8,000 feet elevation. It does not do well in poorly drained soils. Its intended uses are for erosion control, diversity, and beautification. Certified seed is available and Generation (G) 0 and G1 seed is maintained by Aberdeen PMC.

A number of other penstemons are seeded primarily for soil stabilization on depleted, disturbed, and erosive areas for erosion control and as ornamentals. These include low penstemon (*Penstemon humilis*), Rydberg penstemon (*Penstemon rydbergii*), and thicketleaf penstemon (*Penstemon pachyphyllus*). There are a number of ornamental penstemon that have been released as cultivars. Check the PLANTS database for the names of native penstemons in your state, then check with your area native plant nurseries for their availability.

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USDA, NRCS 2003. The PLANTS database. Version: 030213. <<http://plants.usda.gov>>. National Plant Data Center, Baton Rouge, Louisiana.

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Edited: 19sep00jisp; 31july02lsj; 24sept02dgo; 13feb03jisp

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