USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

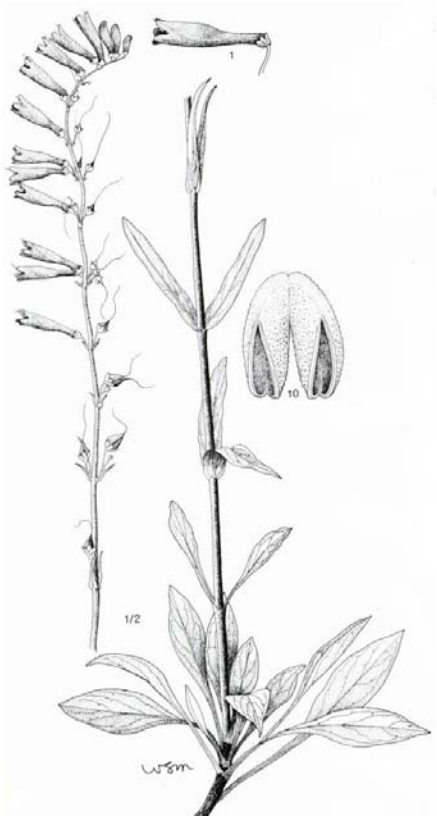
Plant Guide

EATON'S PENSTEMON

Penstemon eatonii Gray ssp. *eatonii*

Plant Symbol = PEEAE2

Contributed by: USDA NRCS Idaho State Office & National Plant Data Center



William S. Moye
Cronquist (1984)

Alternate Names
Eaton's beardtongue, firecracker penstemon

Uses
Grazing/rangeland: '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 the seeded plant community.

Erosion control/reclamation: All species are mentioned for their 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 to the plant community.

Status
Please 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 beardtongue species are perennial forbs or sub-shrubs to shrubs with attractive flowers. They are short to long-lived. Eaton's penstemon is a short-lived perennial herbaceous forb with red flowers. It is recognized as having three varieties: *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 penstemon is 4-10 dm tall with erect stems.

Distribution: Eaton's 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, please consult the Plant Profile page for this species on the PLANTS Web site.

Establishment
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 are fire resistant due to leaves staying green with relatively high moisture content during the fire season. Eaton's penstemon is found on dry slopes and flats in sagebrus, pinyon-juniper, mountain mahogany, and ponderosa pine communities (Cronquist et al. 1984).

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 these forbs-shrubs is 1.5 to 3 pounds Pure Live Seed (PLS) per acre or 20 to 26 PLS per square foot (varies somewhat by species). When used as a component of a mix, adjust to percent of mix desired. For mined 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 penstemons begins in early spring and flowers appear in May through July 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 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
Penstemons should be seeded in at least 36-inch rows at the rate of 2.5 pounds PLS per acre to allow mechanical weed control. The use of weed barrier material may be an alternative to allow closer spacing. They should be seeded in late fall or early winter unless seed is stratified under cool moist conditions. "The Clearwater Selection" of alpine penstemon does not require 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 debearder 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.

Firecracker penstemon is a selected release from seed originally collected near Richfield, Utah. 'The Richfield Selection' of firecracker penstemon was selected by Aberdeen 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 not readily available at this date and Aberdeen PMC maintains breeder seed.

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 thickleaf penstemon (*Penstemon pachyphyllus*). No cultivar releases are known to have been made. Please check the PLANTS database for the names of native penstemons in your state, then check with your area native plant nurseries for their availability.

Contact your local Natural Resources Conservation Service (formerly Soil Conservation Service) office for more information. Look in the phone book under "United States Government." The Natural Resources Conservation Service will be listed under the subheading "Department of Agriculture."

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Prepared By

Daniel G. Ogle
USDA, NRCS, Idaho State Office, Boise, Idaho
J. Scott Peterson
USDA, NRCS, National Plant Data Center, Baton Rouge, Louisiana

Species Coordinator

Daniel G. Ogle
USDA, NRCS, Idaho State Office, Boise, Idaho

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