



United States Department of Agriculture  
Natural Resources Conservation Service  
Plant Materials Program

**'Eureka'**

## Prairie Blazing Star

*Liatris pycnostachya* Michx.

A Conservation Plant Release by USDA NRCS Manhattan Plant Materials Center, Manhattan, KS



**Figure 1. Eureka prairie blazing star flower in full bloom. Photo by R. Alan Shadow East Texas Plant Materials Center**

'Eureka' prairie blazing star (*Liatris pycnostachya*) is a cultivar released in 1975 in cooperation with the Nebraska and Kansas Agricultural Experiment Stations.

### Description

Prairie blazing star belongs to the sunflower or composite family (Asteraceae). *Liatris pycnostachya* is a tall, hardy, native perennial herbaceous species that has a spectacular magenta colored inflorescence. Single or multiple stems arise from a solid corm that supports the plants deep, fibrous root system. The simple non-branched stems typically grow from 3 to 4 feet tall. The plants narrow, dark green leaves have a lighter green mid-rib and have an alternate arrangement on the stem. The numerous basal leaves are longest and then become shorter in length the further up the stem they are attached. Both stems and leaves exhibit short, stiff hairs. The inflorescence is a long spike that may be up to 2 feet of the stems length. The flowers bloom from the top downward so the flowering process covers an extended period of time. The individual

flowers are an attractive rose-purple in color, with bracts that exhibit a purplish tinge. The flowers are cross pollinated by bumble bees and other native pollinators. The fruit of blazing star is a narrow, brownish, 10 ribbed achene that is  $\frac{1}{4}$  of an inch long, with tufts of bristles longer than the achene attached to its upper end. The seed heads should be harvested in the fall when they appear dry and fluffy, but before they are blown away by the wind. There are approximately 131,000 achenes per pound of blazing star.

### Source

The original collections of Eureka were made in 1970 in Greenwood County, Kansas. Plant height, vigor and stand establishment were consistently superior to the other collections of materials it was tested against.

### Conservation Uses

Blazing star is used for roadside and park beautification, prairie restoration, landscaping, wildlife food and cover, and to increase plant diversity in natural and man-made prairie communities. Cattle graze on blazing star and it is considered a decreaser in range situations facing heavy grazing pressure. Blazing star can be used in cut flower arrangements and as an attractive and interesting addition to dried flower arrangements.

### Area of Adaptation and Use

Eureka is adapted to the eastern 1/3 of Kansas, western Missouri, southeastern Nebraska, Northeastern Oklahoma and southwestern Iowa. It grows best in low, moist, tallgrass prairies that are dominated by big bluestem. It may grow naturally near the base of slopes since it needs more moisture than other members of the genus *Liatris*. It is reported to grow best on moist, well drained, and slightly acidic to neutral (pH 5.5 to 7.0) soils.

### Establishment and Management for Conservation Plantings

Blazing star is established in field and prairie restoration projects easiest from seed. A firm, clean, weed free seedbed should be prepared by disking, harrowing and cultipacking the planting site. Chemical weed control can be used to reduce competition prior to planting. Perennial weeds should be eliminated before the planting is under taken. A drill equipped with a legume box and depth bands should be used for precise seed placement at a  $\frac{1}{4}$  to  $\frac{1}{2}$  inch depth if available. A seeding rate of 30 pure live seed per foot of row should provide a consistent full stand of plants. To plant a prairie restoration or diverse wildlife planting a seeding rate of 2 ounces per acre with an overall  $\frac{1}{4}$  to  $\frac{1}{2}$  pound of total forb seed per acre should plant a very good diversified species mix. Applications of

fertilizer the year of establishment is discouraged unless the soil levels of phosphorus and potassium are at extremely low levels. Absolutely no nitrogen fertilizer should ever be applied since it will only encourage annual weedy species to grow. Mowing can be used to reduce weed competition in newly established plantings as long as mower height is kept above seedling height.

### **Ecological Considerations**

Prairie blazing star does not spread vegetatively and seedlings are easy to control. Rabbit protection may be required for blazing star early in the spring or after seedlings are newly established. Blazing star stems tend to lodge in a monoculture setting. In a natural prairie setting grasses and other forb tend to support the stems and keep them in an upright condition.

### **Seed and Plant Production**

Seed propagation of this species is relatively easy; however the seed does need a stratification period in order to germinate effectively. Seed germination will improve by aging the seed for at least three years beyond harvest date. Researchers obtained their best germination (85%) with a 15 week cold, moist stratification treatment. Stratified seed can be planted in the spring or early summer; while non-stratified seed should be planted in a dormant fall planting and stratified naturally. Seed fields can be harvested by direct combining and then seed can be processed with a scalper and fanning mill. The seed units or achenes are run through a hammer mill to remove the tufts of bristles. Manhattan Plant Materials Center production records indicate that a purity of 97 to 99 percent is normal with a germination percentage of 29 to 71 and a dormancy of between 3 and 22 percent depending on the year of production. An eight year average of seed production yields indicated that 65 pounds per acre were produced annually at Manhattan, Kansas.

### **Availability**

*For conservation use:* Eureka is generally available from commercial vendors of seed. However, certified class seed can probably not be found in the commercial market.

*For seed or plant increase:* Eureka breeder and foundation class seed can be obtained from the Manhattan Plant Materials Center in limited quantities. There is no registered class of seed recognized for this variety.

*For more information, contact:*  
Manhattan Plant Materials Center  
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Manhattan, KS 66502  
(785) 539-8761 FAX (785) 539-2034  
<http://www.plant-materials.nrcs.usda.gov>

### **Citation**

Release brochure for Eureka Prairie Blazing Star (*Liatris pycnostachya*). USDA-Natural Resources Conservation Service, Manhattan PMC. Manhattan, KS 66502

Published [April 2013]

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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