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

Clearwater Selection Venus Penstemon

Penstemon venustus Douglas ex Lindl.

A Conservation Plant Release by USDA NRCS Aberdeen Plant Materials Center, Aberdeen, Idaho

Clearwater Selection Venus Penstemon.

Clearwater Selection Venus penstemon was released by the Aberdeen, Idaho Plant Materials Center in 1994 as Pre-Variety Selected Class germplasm.

Description
Venus penstemon is a native, long-lived, herbaceous to woody subshrub averaging 12-32 inches tall with a strong taproot. The leaves are stiff, cauline and largest at mid-stem, 2.9-4.7 inches long, lanceolate, and usually sharply serrate. The flowers are large and showy, 0.87-1.50 inches, lavender to purple and persist for several weeks.

Source
The original collection was made near Dworshak Reservoir on the Clearwater River in northern Idaho and was selected from a collection of 119 penstemon accessions including 3 accessions of Venus penstemon. It had the best stand establishment and longest survival of the tested accessions. Clearwater Selection was chosen for its beauty, hardiness, seed production and natural range of adaptability.

Conservation Uses
Venus penstemon is primarily used as a forb component for restoration and wildlife habitat enhancement. It is not noted for having value as forage for livestock or big game. Its showy flowers attract pollinators and other insects which provide a food source for birds and other animals. The heavy taproot and woody base make it an excellent plant for soil stabilization, low-water use landscaping and ornamental plantings. Venus penstemon attracts native specialist bees, bumble bees, and non-aggressive specialist pollen wasps.

Area of Adaptation and Use
Venus penstemon occurs in sites from 1,000 to 6,000 feet in elevation in areas receiving 20 to 35 inches of annual precipitation. The species is adapted to areas with full sun in shallow rocky to stony loams, sandy loams and gravelly loams that are moderately to very well-drained. It does not grow well in areas with poor drainage. It is adapted to USDA Plant Hardiness Zones 4a to 8b and pH ranges of 6.1 (mildly acidic) to 7.8 (mildly alkaline).

Establishment and Management for Conservation Plantings
Seed must be subjected to cool and moist conditions to germinate. Because of this seed stratification requirement, Venus penstemon should be seeded in late fall with a drill or broadcast planted and then pressed to a depth of ⅛ to ¼ inch into a firm seedbed. Good seed to soil contact is important for germination and establishment. The full seeding rate is 1 pound Pure Live Seed (PLS) per acre. When used as a component of a seed mix, adjust to the percent of mix desired.

Mulching, irrigation and weed control benefit stand establishment. Some planted seed may not germinate until the second growing season. Flowering should not be expected until the second growing season.

Weed control will be required during establishment. Because Venus penstemon is a broadleaf plant, the use of broadleaf type herbicides is not recommended. Mow weeds at or prior to bloom stage to control competition from weeds.

Venus penstemon should be used as a minor component of seed mixtures. Management strategies should be based on the key species in the established plant community. Grazing should be deferred on seeded lands for at least two growing seasons to allow for full stand establishment.

Venus penstemon is susceptible to soil-borne fusarium and rhizoctonia root rot which can be severe in poorly drained loam and clay textured soils. There is some indication that Venus penstemon is susceptible to powdery mildew. There are no known insect problems.

Ecological Considerations
Venus penstemon is a native plant species in western North America and has no known negative impacts on wild or domestic animals. It is not considered a weedy or invasive species but can spread to adjoining vegetative communities under ideal conditions. It co-exists with other native species and adds biodiversity to plant communities.

Seed and Plant Production
Fields for seed production can be established from direct seeding or from transplanting greenhouse grown containerized stock. Direct seeding should take place in late fall to allow for natural stratification of the seed. Venus penstemon should be seeded in 30-36 inch rows at a rate of 0.7 pounds PLS per acre to allow for mechanical weed control. The use of weed barrier fabric is an alternative to allow closer spacing, reduce weeds and conserve soil moisture. Plant spacing of 18 inches provides for maximum growth and seed yield when using weed barrier fabric.

Transplants grown in a greenhouse can be established by seeding into cones or flats placed outdoors in winter for natural stratification or by stratifying the seed for 8 to 12 weeks in cold and moist conditions prior to planting seed. Seed should be surface sown and pressed firmly into the soil surface. Flats or containers should be blocked from sunlight during the stratification period to prevent mold and fungus from establishing on the soil surface during stratification. A very thin covering of fine to medium grade perlite helps prevent excessive moisture around the emerging seedling and limits damping-off of young seedlings. Allow seedlings to grow in the greenhouse for 8-12 weeks before transplanting to the field.

Seed can be harvested by hand or by mechanical means. 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. Harvest should occur when the majority of seed capsules begin to dry and open. Plants may be swathed ahead of combining to allow more uniform ripening and drying. Plants are swathed to a height above most leaves to capture flower stalks. Stalks are then allowed to sit on top of the swathed plants for 4-5 days before combining. Seed can be separated from the capsule by use of a hammer mill or debearder and then processed with an air-screen cleaner. Estimated seed yield ranges from 100 to 200 pounds per acre. Seed will maintain viability under cool and dry storage conditions for at least 10 years with a very gradual decline in viability over time. Due to the long-lived nature of the species, seed production fields will continue to produce seed for at least 10 years with little decline in yield.

Availability
For conservation use: Seed is widely available.

For seed or plant increase: Certified seed is available and Generation 1 (G1) seed is maintained by the Aberdeen Plant Materials Center. Growers may produce one generation each of G2 and G3 seed.

For more information, contact:
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