

New Plant Releases From the USDA-NRCS Aberdeen, Idaho, Plant Materials Center

L. St. John
P. Blaker

Abstract—The Plant Materials Center at Aberdeen, Idaho, is operated by the United States Department of Agriculture, Natural Resources Conservation Service. The purpose of the Plant Materials Center is to evaluate and release plant materials for conservation use and to develop and transfer new technology for the establishment and management of plants. The Center serves portions of Nevada, Utah, California, Oregon and Idaho. ‘Rush’ intermediate wheatgrass was released in 1994 and was chosen for superior seedling emergence, high forage production and drought tolerance. In 1995, two selected ecotypes of penstemon were released. The Richfield Selection of firecracker penstemon has bright red flowers on upright racemes. The Clearwater Selection of alpine penstemon has bright lavender flowers on narrow panicles. Native penstemons provide soil stabilization, plant diversity and beautification. ‘Bannock’ thickspike wheatgrass was released in 1995 to be used as a component of seed mixes for rangeland and pasture seedings. The Aberdeen Selection of Laurel willow was released in 1997. The original material was collected in the upper Midwest from naturalized stands. The medium to tall shrub has lustrous, dark green foliage and is very attractive. It shows great promise for use throughout the Intermountain West in irrigated windbreaks and as an ornamental.

The Plant Materials Center (PMC) at Aberdeen, Idaho, is part of the national plant materials program operated by the United States Department of Agriculture, Natural Resources Conservation Service. The purpose of the plant materials program is to develop and transfer new technology for the establishment, use and management of plants.

Plant Materials Centers assemble, evaluate and release plant materials for conservation use. The Aberdeen PMC was established in 1939 and has been the primary breeder and releasing organization for 15 cultivars and 27 alternative releases, and has cooperated in the release of 12 additional cultivars. The Aberdeen PMC serves portions of Nevada, Utah, California, Oregon, and Idaho. The PMC works cooperatively with private landowners as well as State and Federal land management agencies. The PMC Farm is owned by the South Bingham Soil Conservation District and is leased to the PMC.

In 1995, the PMC in cooperation with the Idaho Agricultural Experiment Station released two selected ecotypes of

Penstemon. Except for one minor species, the genus *Penstemon* does not occur naturally outside of North America. There are approximately 150 species and most are found in the Western United States. Penstemons are perennial plants with opposite leaves, and usually showy, often two-lipped flowers. The conservation value of these penstemons is soil stabilization, plant diversity, and beautification of many different sites. The two penstemons were selected from a collection of 119 penstemons that were evaluated at the PMC from 1981 to 1985. They were chosen for their natural beauty, hardiness and seed production.

The “Richfield Selection” of Firecracker penstemon (*Penstemon eatonii*) was collected near Richfield, Utah. Its natural habitat is the sagebrush, juniper, and ponderosa pine zones at 3,000 to 8,000 ft (914 to 2,438 m) elevation and an annual precipitation zone from 10 to 16 in (254 to 406 mm). It is best adapted to loamy, well-drained soils and can survive full sunlight, but will not tolerate hot, dry areas. It is not adapted to areas with poor drainage. Firecracker penstemon is a perennial, cool-season forb with a fibrous root system and the stems are often decumbent or reclining. The leaves are large and slightly pubescent. The flowers are bright red on upright racemes 24 to 36 in (60 to 91 cm) tall.

The “Clearwater Selection” of alpine penstemon (*Penstemon venustus*) was collected near the Dworshak Reservoir on the Clearwater River in northern Idaho. Its natural habitat is at elevations of 1,000 to 6,000 ft (305 to 1,829 m) and an annual precipitation zone from 20 to 35+ inches (508 to 889+ mm). Alpine penstemon is best adapted to loamy, well-drained soils and can survive full sunlight on open, rocky slopes, but does not do well in areas with poor drainage. It is a perennial, cool-season forb, 12 to 24 inches (30 to 60 cm) tall with a strong taproot and woody base. The leaves are oblong and sharply serrate. The flowers are bright lavender to purple-violet and appear in one or more narrow terminal panicles 12 to 20 inches (30 to 51 cm) long.

The PMC and the Idaho Agricultural Experiment Station released ‘Rush’ intermediate wheatgrass (*Elytrigia intermedia*) in 1994. Rush was selected from a collection received from the German Botanical Garden, Berlin, in 1962. It was chosen for superior seedling emergence, seedling vigor, high forage production and drought tolerance. The reason for naming it Rush is because after planting, seedlings tend to emerge from the soil 3 to 5 days earlier and in greater numbers than other currently released varieties of intermediate wheatgrass. Rush has been compared to many other varieties of intermediate wheatgrass at multiple locations. It was evaluated for emergence, seedling vigor, forage production, and drought tolerance.

Rush was found to be superior or equal in all of these factors on sites with annual precipitation of 12 inches

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L. St. John is a Plant Materials Center Team Leader and P. Blaker is an Administrative Assistant, United States Department of Agriculture, Natural Resources Conservation Service, Plant Materials Center, P.O. Box 296, Aberdeen, ID 83210.

(300 mm) or more. Rush is moderately rhizomatous and densely tillering, with abundant stems and wide leaves. Seed is large, averaging 66,000 seeds per pound as compared to other intermediate wheatgrass varieties which average 80,000 to 90,000 seeds per pound. It prefers well-drained, loamy to clay textured soils.

Rush can be used to solve a wide variety of conservation problems including erosion control, forage and cover on sites receiving 12 to 20 inches (300 to 500 mm) annual precipitation. Rush is protected by Plant Variety Protection (PVP) so that seed can be marketed only as a class of certified seed. This will help protect and maintain the characteristics for which it was released.

The PMC and the Idaho Agricultural Experiment Station cooperatively released 'Bannock' thickspike wheatgrass (*Elymus lanceolatus* ssp. *lanceolatus*) in 1995. Bannock is a composite of six seed collections from Washington, Oregon and southeast Idaho. The best performing plants were selected, isolated and increased to create Bannock. The grass was developed to be used as a component of a seed mix for rangeland and pasture seedings. Bannock is especially adapted to sandy areas with a minimum of 6 inches (152 mm) annual precipitation. It also provides wildlife cover and nesting.

Bannock has been thoroughly tested and compared to other varieties of thickspike wheatgrass in the Western United States. It was named in honor of the Bannock Indian Tribe that inhabited the Great Basin. Bannock is a long lived, leafy, rhizomatous, vigorous, sod-producing, cool season

grass. Thickspike wheatgrass is native to most of the Northern and Western United States and southern Canada. The PMC has applied for PVP for Bannock so that seed can be marketed only as a class of certified seed. This will help protect and maintain the characteristics for which it was released.

The "Aberdeen Selection" of Laurel willow (*Salix pentandra*) was cooperatively released by the PMC and the Idaho Agricultural Experiment Station in 1997. The original plant material was obtained from the Rose Lake Plant Materials Center in Michigan. It was collected in the upper Midwest from naturalized stands. Laurel willow is native to central and western Europe where it has been cultivated for many centuries. The Aberdeen Selection was made from a collection of potential windbreak plants evaluated at the PMC from 1981 through 1996. This plant was also tested at locations near Mountain Home, Idaho, and Winnemucca, Nevada. It shows great promise for use throughout the Intermountain West in irrigated windbreaks and as an ornamental.

Laurel willow has lustrous, dark green foliage. The shiny leaves are 2 to 5 inches (5 to 13 cm) long and very attractive. The bark on the young twigs is green to yellow green and gray on older branches. It requires deep, moist soils or supplemental irrigation. The medium to tall shrub has a dense round top, and symmetrical crown. It has multiple trunks and grows to heights of 20 to 40 ft (6 to 12 m) with average canopy coverage of 15 to 25 ft (4 to 8 m). Since it is an introduced plant from Europe, it is not an appropriate component for use in natural riparian or wetland areas.