



A Conservation Plant Released by the Natural Resources Conservation Service
Bridger Plant Materials Center, Bridger, Montana

Bridger-Select Germplasm Rocky Mountain juniper

Juniperus scopulorum Sarg.

Bridger-Select Germplasm is a selected class release of Rocky Mountain juniper, (*Juniperus scopulorum* Sarg.) (accession number 9078631), selected for rate of height growth, uniformity of shape, vigor, and crown density. Although selected primarily for windbreak and shelterbelt applications in the northern Great Plains, it also has wildlife, riparian restoration, reclamation, and naturalistic landscaping uses.

The USDA-Natural Resources Conservation Service, Plant Materials Center, Bridger, Montana, in cooperation with Montana Agricultural Experiment Stations, Wyoming Agricultural Experiment Stations, the Agricultural Research Service, the United States Forest Service, and the Montana Department of Natural Resources and Conservation released Bridger-Select Germplasm in 1998.

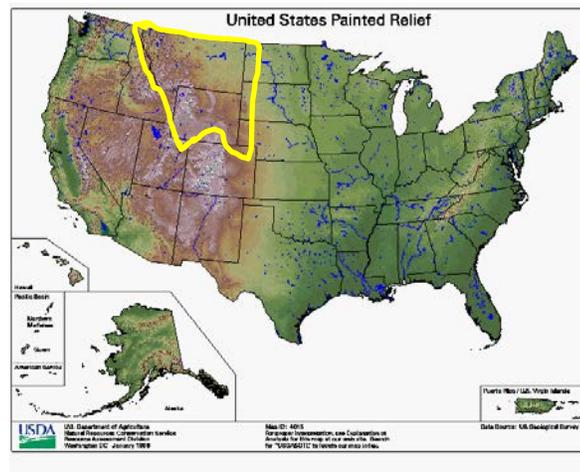
Description

Bridger-Select Germplasm is a long-lived, native, drought-tolerant, winter hardy, evergreen shrub or small tree. It has the same general botanical (floral, foliage, fruit, and seed) and phenological attributes as the species and variety. Bridger-Select Germplasm traits are heritable and the appearance and performance of the progeny from this selection will be comparable to its parents. Over a 16-year period, Bridger-Select Germplasm averaged 7.3 and 6.6 inches of annual height and width growth, respectively, under fallow, dryland conditions in an 11-inch annual precipitation zone.

Bridger-Select Germplasm has greater than average crown density for this species, which is “moderate” relative to other evergreen species. It has a height-to-width ratio of approximately 1:1, giving this selection a broad conical to pyramidal shape. Tree shape in this selection is more uniform than wildland populations. Vigor, as it reflects freedom from signs of winter injury, insect or disease damage, is similarly improved. Seedling survival, over the recommended range of this selection, should average 80 percent or more, given good cultural practices.

Source

Bridger-Select Germplasm was selected from 740 plants representing 37 seed sources of Rocky Mountain juniper from six states. The 181-tree seed orchard is located in Bridger, Montana and represents a bulk of 26 seed sources from Montana (11), North Dakota (6), Wyoming (4), Nebraska (3), and South Dakota (2).



Conservation Uses

Bridger-Select Germplasm is a medium-sized evergreen component in windbreak and shelterbelt systems for adapted locations in Montana and Wyoming. It is also useful in wildlife enhancement plantings, riparian forest buffers, reclamation projects, and low maintenance landscapes.

Approximate Area of Adaptation and Use

Bridger-Select Germplasm tolerates poorly developed and high pH soils; low average minimum winter temperatures; low and irregular annual precipitation; periodic drought; wide temperature fluctuations; strong, desiccating winds; and heavy ice and snow. It will perform well in most of central, south-central, and southeastern Montana, north-central and northeastern Wyoming, far western Nebraska, far western South Dakota, and southwestern North Dakota. This selection

will perform well in most of Montana at elevations below 5,500 feet. It will probably perform well in eastern Idaho, most of north-central and eastern Wyoming, western Nebraska, and western South Dakota. Because of its susceptibility to foliar diseases, do not plant Rocky Mountain juniper in the central and eastern Great Plains.

Establishment and Management for Conservation Plantings

Bridger-Select Germplasm establishes well as bareroot or container plants. Both 1-0 and 2-0 stock is acceptable, the latter preferred. Asexual propagation is by grafting. Best survival and establishment occurs when competing vegetation is adequately controlled prior to and after planting. Continuous rows of woven weed fabric, 6 feet in width, enhances survival, establishment, and early growth. Seedlings of Bridger-Select Germplasm tolerate light shade but become increasing shade intolerant with age. It has an extensive but relatively shallow root system and transplants best before 10 years of age.

Ecological Considerations

Bridger-Select Germplasm demonstrates growth, reproductive habits, and ecological niche functions comparable to the species. It does not spread aggressively by sexual means, and is not known to be invasive or weedy. This native species reproduces only by seed under natural conditions. It does volunteer into rangeland thereby reducing grazing value.

Seed and Plant Production

Rocky Mountain juniper is dioecious, with male and female flowers on separate plants. Female strobili are berry-like, glaucous, and 0.2 to 0.3 inches in diameter. Fruit and seeds require two years to mature, and appear purple to dark blue to black upon ripening. Hand picking is required and typically occurs in October through December, although some fruit may remain on plants until April of the following year in Bridger, Montana. Collect seed early enough to prevent losses to animals and shatter. Each fruit contains one or two, reddish brown, angular, and lightly to prominently grooved seeds. Seed production begins at about 10 years of age under favorable conditions. Bridger-Select Germplasm rates as a “fair” seed producer in Montana. Losses of seed to juniper seed chalcid (*Eurytoma juniperina*) at Bridger vary by year and can be high. Monthly applications of horticultural oil to female plants after pollination and over the growing season appear to reduce chalcid losses.

Bridger-Select Germplasm is seed propagated. It averages 27,100 seeds per pound. A combination of 45 to 60 days of moist:warm stratification (approximately 70 to 85°F) followed by 150 days of moist:cold chilling (ideally 33 to 37°F) is needed to overcome seed dormancy. Mid-summer field planting results in germination the following spring. Long-term storage of seed is best at a moisture content of 10 to 12 percent in a freezer maintained at approximately 0°F. Rocky Mountain juniper does not propagate well by vegetative means unless cuttings are from juvenile phase tissue, usually under five years of age.

Availability

For conservation use: Commercial seedlings are available from state and private conservation seedling nurseries.

For seed or plant increase: G1 (Foundation) seed of Bridger-Select Germplasm for commercial seedling production is available by contacting the Foundation Seed Stocks Program, Plant Sciences and Plant Pathology Department, Montana State University, Bozeman, Montana 59717-3150 or Wyoming Seed Certification Service, Powell Research and Extension Center, University of Wyoming, P.O. Box 983, Powell, Wyoming 82435-9135.

For more information, contact:
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Fax 855-510-7028

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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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