United States Department of Agriculture

A Conservation Plant Released by the Natural Resources Conservation Service
Bismarck Plant Materials Center, Bismarck, North Dakota

Medicine Creek Germplasm Maximilian Sunflower

Helianthus maximiliani Schrad.



Medicine Creek Germplasm Maximilian sunflower

Medicine Creek Germplasm Maximilian sunflower (*Helianthus maximiliani* Schrad.) is a Selected Class of natural germplasm released in 2000 by the Bismarck Plant Materials Center in cooperation with the North Dakota, South Dakota and Minnesota Agricultural Experiment Stations.

Description

Medicine Creek Germplasm Maximilian sunflower is a native, perennial warm-season forb. Growth habit is upright singly or in colonies. Spread is by seed or rhizomes from heavy rootstalks. Plants may reach 3-6 feet with conspicuous yellow flowers arising from short flower stalks. The distinctive leaves are 4-6 inches long, rough on the upper surface, somewhat wavy margined, trough-shaped, curved downward, and tapering from middle to both ends. A characteristic of Maximilian sunflower that distinguishes it from other sunflower species is its grayish appearance from dense white hairs on the plant. Flowers occur from July through September. Maximilian sunflower is widely distributed in the United States and common in the plains. It is an associate of bluestem communities and prefers moist sites on heavier soils. In drier zones it is found along streams and drainage ways. Although protein content is poor, it is a palatable livestock forage. Seed is an excellent food source for wildlife, and the tendency to form thickets or large colonies creates ideal cover habitat.

Medicine Creek Germplasm Maximilian sunflower was selected as one of the larger and later maturing ecotypes in the original collection. Flowering was 2-3 weeks later than other North Dakota collections. There are approximately 250,000 seeds per pound.

Source

Medicine Creek Germplasm Maximilian sunflower originated from six vegetative samples collected by Leonard (Pat) F. Kuck from a silty overflow range site in central South Dakota (Hughes County) in 1979. The elevation is 1640 feet. Medicine Creek Germplasm Maximilian sunflower was compared in a spaced plant evaluation with 52 other collections of Maximilian sunflower from North Dakota, South Dakota, and Minnesota. Based on 4 years of favorable performance, the Medicine Creek Germplasm was selected in 1982 as one of the larger and later maturing ecotypes in the original collection. A seed increase field was established from rhizomes in 1983 at the Bismarck Plant Materials Center.

Conservation Uses

Medicine Creek Germplasm Maximilian sunflower adds native forb diversity to conservation plantings such as range and pasture seedings, wildlife habitat development, prairie restoration, and prairie landscaping. It may also be used as a natural hedge or tall screen, and it makes a colorful landscape plant. Maximilian sunflower also has potential as a filter strip species because of its ability to uptake and use excess water and nutrients. Butterflies and bees consume the nectar and pollen of the flower.

Area of Adaptation and Use

Maximilian sunflower is adapted to a wide array of soil types. It does not like excessively moist sites. Medicine Creek Germplasm is expected to perform well on those soils/sites suitable for the species in North Dakota, South Dakota, Minnesota, Northern Nebraska, and eastern portions of Montana and Wyoming. It grows best on sunny open sites. It will not tolerate shade.

Establishment and Management for Conservation Plantings

Medicine Creek Germplasm Maximilian sunflower can be spring or fall dormant planted (soil temperature below 40° F). Some seed is dormant. Full seeding rate is 1 pure live seed (PLS) pound per acre which is 6 approximately seeds/sq ft. Maximilian sunflower is usually seeded as part of a mix. Recommended rates range from 0.10 to 0.25 PLS pounds per acre. The lower rate is generally used. A higher rate is used for critical area or special seedings. Plant seed in a firm, weed free

seedbed at a shallow depth (¼ to ½ inch). Plants usually remain vegetative the year of seeding. Stands can also be established with rhizome pieces.

Ecological Considerations
Medicine Creek Germplasm Maximilian sunflower is a selection of naturally occurring germplasm and has been unaltered from its original collection. This sunflower species spreads by rhizomes but is not considered invasive based on an environmental evaluation of the species conducted by the Bismarck Plant Materials Center. Its dense clumps can inhibit other plants through competition or possible chemical exudates (allelopathy). Depending on ecological conditions during the growing season, Medicine Creek Germplasm can exhibit a high percentage of seed dormancy. As with other sunflower species, various insects can infect the seed and powdery mildew and rust can impact the foliage.

Seed and Plant Production
The following are seeding rate recommendations for seed production based on different row spacing.

Row Spacing (inch)	Seeding Rate * (PLS lb/acre)
12	1.7
24	0,9
30	0,7
36	0.6
42	0.5

*seeding rate based on 250,000 seeds/lb with a target of 10 seeds per ft of row.

Because the plant is rhizomatous and spreads readily, rows spaced at greater distances than 42 inches are very successful. If plants become tall early in the season, clipping them to half of their height in June will make plants shorter and less likely to lodge when in full flower. Harvest seed with a standard combine. Use a fanning mill to clean and condition the seed. Maximilian sunflower can tolerate fire when the plant is dormant. This may be a tool for managing weeds and diseases in established seed production fields.

Availability
For conservation use: Commercial seed of Medicine Creek Germplasm Maximilian sunflower is available in limited quantities from local vendors and growers. Certified seed classes are Selected Class Generation 2,3, or 4.

For seed or plant increase: Generation 1 seed is maintained by the Bismarck Plant Materials Center and is available in limited quantities for commercial seed increase. Seed is distributed through the North Dakota State University Foundation Seedstocks Program as a Selected Class (green tag) of natural germplasm. Certification is limited to four generations.

Citation
Release Brochure for Medicine Creek Germplasm Maximilian sunflower (*Helianthus maximiliani* Schrad.). 2021. USDA-Natural Resources Conservation Service, Bismarck Plant Materials Center, Bismarck, ND 58504

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>

For more information, contact:
Bismarck Plant Materials Center
3308 University Drive
Bismarck, ND 58504
Phone: (701)-250-4330
https://www.plant-materials.nrcs.usda.gov/ndpmc/

Helping People Help The Land

USDA IS AN EQUAL OPPORTUNITY PROVIDER, EMPLOYER AND LENDER