

ANNOUNCING THE RELEASE OF

MEDICINE CREEK GERmplasm MAXIMILIAN SUNFLOWER

SELECTED CLASS OF NATURAL GERmplasm

by

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
BISMARCK PLANT MATERIALS CENTER
and

NORTH DAKOTA
AGRICULTURAL EXPERIMENT STATION

SOUTH DAKOTA
AGRICULTURAL EXPERIMENT STATION

MINNESOTA
AGRICULTURAL EXPERIMENT STATION

The United States Department of Agriculture, Natural Resources Conservation Service (NRCS); the North Dakota Agricultural Experiment Station; the South Dakota Agricultural Experiment Station; and the Minnesota Agricultural Experiment Station announce the release of a selected class of Maximilian sunflower (*Helianthus maximiliani* Schrad.).

As a selected release, this plant will be referred to as **Medicine Creek Germplasm Maximilian sunflower**. It has been assigned the NRCS accession numbers ND-3651 and 9008065. The Plant Introduction Number is PI-601812. Medicine Creek Germplasm is released as a selected class of certified seed.

This alternative release procedure is justified because existing commercial northern sources of Maximilian sunflower are inadequate. There is a high demand for northern source native forbs such as Maximilian sunflower to add diversity in wildlife and conservation plantings. There are no northern adapted cultivars of Maximilian sunflower.

Collection Site Information: 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.

Description: 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. Flowers occur determinately and may be present from July through September (Johnson and Nichols 1982).

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. This perennial sunflower is palatable livestock forage. The seed is an excellent food source for wildlife, and the tendency to form thickets or large colonies creates ideal cover habitat.

Method of Selection: 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. Flowering and seed maturation was 2-3 weeks later than accessions from North Dakota. A seed increase field was established from rhizomes in 1983 at the Bismarck Plant Materials Center.

Testing Documentation: Twenty-one field plantings have been evaluated using this selection as part of the mixture, primarily for wildlife habitat. Seventeen (76%) of the plantings established a stand of Maximilian sunflower. Five (24%) failed to establish or were rated as being poor stands. Comparing the plantings that established, ten (60%) were rated good/excellent and had stand ratings of 1 to 3 (1=highest, 9=lowest). Five plantings (30%) were fair with stand ratings of 4 to 6. Two (10%) of the plantings were rated poor. The field plantings were evaluated from 1987 to 1997 in North Dakota, South Dakota, and Minnesota.

Environmental Impact Assessment: Medicine Creek Germplasm Maximilian sunflower is a selection of naturally occurring germplasm and has been unaltered from its original collection. This selection is not invasive based on the assessment worksheet and guidelines set forth by the NRCS Plant Materials Program.

Conservation Use: Medicine Creek Germplasm Maximilian sunflower will be used to add 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 the ability to uptake and use excess water and nutrients.

Potential Area of Adaptation: This selection 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.

Availability of Plant Materials: Generation 1 (G1) seed will be maintained by the Bismarck Plant Materials Center and is available in limited quantities for commercial seed increase. Seed will be 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.

References:

Johnson, J. R. and J. T. Nichols. 1982. Plants of South Dakota Grasslands - A Photographic Study. Bulletin 566, Agric. Expt. Sta. SDSU, Brookings, SD. 166 pp.

Prepared by:

Dwight A. Tober, USDA-NRCS, P.O. Box 1458, Bismarck, North Dakota 58502.

Approvals for Release of:

Medicine Creek Germplasm Maximilian sunflower (*Helianthus maximiliani* Schrad.)

for Richard J. White
Director, Ecological Sciences Division
United States Department of Agriculture
Natural Resources Conservation Service
Washington, DC

Date

William Hunt
State Conservationist
United States Department of Agriculture
Natural Resources Conservation Service
St. Paul, MN

5/1/00
Date

Joseph A. Hegdal ACTING
State Conservationist
United States Department of Agriculture
Natural Resources Conservation Service
Bismarck, ND

4/14/00
Date

Ronald Madewort Acting
State Conservationist
United States Department of Agriculture
Natural Resources Conservation Service
Huron, SD

5/18/00
Date

Clayton Hunt
Director
University of Minnesota
Agricultural Experiment Station
St. Paul, MN

5-2-00
Date

Carl Tracy
Director
North Dakota State University
Agricultural Experiment Station
Fargo, ND

4/17/00
Date

Kim A. S. A.
Director
South Dakota State University
Agricultural Experiment Station
Brookings, SD

5-25-2000
Date