



PHEASANTS FOREVER/ SOUTH DAKOTA CORN GROWERS:

SOUTH DAKOTA SALINE/SODIC SOILS PROGRAM

DEFINITION:

Saline and Sodic Soils have become an extensive challenge in South Dakota agriculture. For a variety of reasons this issue has become more prevalent in recent years and exacerbated by above average precipitation have resulted in salt concentrations so extreme that common crops are no longer suited to grow across large acreages. If traditional management is maintained, salt damage to cropland soils will only increase in size and intensity. A win-win solution to this issue is to address the problem areas that are an economic drain on the producers by putting the areas to alternative uses that utilize perennial vegetation. These areas will then also provide habitat for Monarch Butterflies, Honey Bees, and other wildlife species.

SALINE/SODIC SOILS IN SOUTH DAKOTA:

Presently South Dakota has approximately 2 million acres currently impacted, and an additional 10 million acres categorized by the NRCS as threatened.

PROGRAM OUTLINE:

Landowners that have identified saline or sodic issues in their fields will receive a 1-time payment of \$150 per acre and a free seed mixture that has been developed by PF Farm Bill Biologists. Landowners will be responsible to plant the affected area. Landowners retain the ability to either hay or graze the site between July 15th and March 1st. This contract is in effect for a period of 5 years, and if broken the producer will be required to repay the rental payment and cost of seed.

PAYMENT EXAMPLE:

Acres	Incentive	Seed Cost	Total
10	\$150/Acre	\$52/Acre	\$2,020

X: Incentive payments and seed costs are a one-time payment

BENEFITS:

- Saline soil rehabilitation
- Reduced Soil Erosion
 - Reduce wind/water soil erosion by 13.1 tons per acre annually
(Food and Agriculture Policy Research Institute (FAPRI), University of Missouri-Columbia (UMC), 2007)
- Increased Carbon Sequestration
 - Increase organic carbon 0.7 tons per acre annually (FAPRI, UMC, 2007)
- Increased water quality by focusing on South Dakota watersheds
 - Capture 21.7 pounds N per acre annually (FAPRI, UMC, 2007)
 - Capture 6.0 pounds P per acre annually (FAPRI, UMC, 2007)
- Increased producer profitability
- Rural economic development
- High quality pollinator habitat
 - Resource for sustainable beef
 - High quality wildlife habitat

POLLINATOR BENEFITS:

- The addition of milkweed seeds in saline soils seed mixes will benefit monarch butterflies and contribute to the USFWS milkweed stem goal of 1.6 billion stems of milkweed in the eastern monarch migratory flyway.
- The inclusion of alfalfa and sweet clover in every seed mix will increase the quality of honey bee forage in the #2 honey producing state in the Country.

WATERSHEDS HIGHLY IMPACTED BY SALINE SOILS:

- James River
- Bad River
- White River
- Cheyenne River
- Minnesota River Valley
- Missouri River

PROCESS:

- Landowner Tours/Workshops
 - Held in Conjunction with other Agriculture/Natural Resources Groups
 - Natural Resources Conservation Service
 - South Dakota Department of Game, Fish, and Parks
 - South Dakota Department of Agriculture
 - SDSU extension
 - SD Corn Growers
 - SD Wheat Growers
 - SD Soil Health Coalition
- Landowner Technical Assistance – Delivered by PF Farm Bill Biologist (FBB) staff
 - Site Visit with Producer
 - Develop plan map of property with landowner
 - Develop conservation plan with landowner
 - Devise seed plan
 - Review establishment and management practices and expectations
- Landowner Implementation
 - Landowner prepares site properly for seeding
 - Landowner plants seed mixture
 - Confirms date with FBB
- FBB Inspection
 - FBB inspects the project
 - Provides any management advice needed to landowner
 - Identify if desired species are establishing for species like the Monarch Butterfly
 - Confirms implementation with State Coordinator



LITERATURE CITED

Food and Agricultural Policy Research Institute, University of Missouri Columbia. Estimating Water Quality, Air Quality, and Soil Carbon Benefits of the Conservation Reserve Program. Columbia, Missouri, Food and Agricultural Policy Research Institute (FAPRI), University of Missouri-Columbia, 2007. Available online: https://www.fsa.usda.gov/Internet/FSA_File/606586_hr.pdf