

Farming with Prairie Strips



Iowa farmers adopt new technology when benefits are clear

Prairie strips are a proven tool for improving and protecting row-cropped farm fields. Iowa State University researchers have shown that areas of native prairie planted in the right places in a farm field can provide benefits that far outweigh losses from converting a small portion of a crop field to prairie. They developed this practice through the Science-based Trials of Row-crops Integrated with Prairie Strips (STRIPS) project.

The perennial prairie that once covered 85 percent of the state produced the fertile topsoil that makes Iowa farmland so productive. Returning just 10 percent of farm fields — usually some of the least productive acres — to prairie plants can protect soil, reduce nutrient movement into waterways, help meet targets set in the Iowa Nutrient Reduction Strategy, and increase pollinators and wildlife habitat and diversity. Crop production potential on the land between the strips is unchanged, while the incorporation of prairie plants into farm fields can create opportunities for other sources of revenue, including livestock forage, energy biomass, hunting leases, and honey and native seed production. Prairie strips could form a component of an integrated pest management approach.



Prairie strip plantings require minimal land conversion and maintenance, and are among the lowest cost best management practices that can be added to a field, especially when combined with a Conservation Reserve Program (CRP) contract. Ongoing studies continue to document the long-term benefits of prairie strips in farming systems.

Benefits could outweigh implementation costs

Farmland management decisions can present trade-offs between the long-term health and sustainability of the land and maximum yearly profit. The cost of establishing prairie strips compares favorably to other conservation practices that build soil health and manage nitrogen, phosphorus, and sediment. Landowners can receive financial and/or technical assistance from many programs.



The average total annualized cost of converting one acre of cropland to prairie ranges \$280 to \$390. If using a “10 percent solution” the cost of protecting a farm field ranges \$28 to \$39 per acre per year. The majority of these costs are land rent or foregone revenue, followed by seed and maintenance costs. Within a 15-year CRP contract from the USDA Farm Service Agency, the total cost to a farmer can be reduced by about 75 percent.

On most land, site preparation and establishment costs are less than 10 percent of the total cost of prairie strips planting and management, and are incurred in the first years. On sites with tillage, these costs are eliminated after the first year. Although there is no budget line for soil health, long-term health could accrue in the fields to help offset the costs of establishing prairie strips.

Getting help with installation

Landowners or farmers should work with STRIPS program staff or other technically trained consultants to assess strip placement, field slope, and soil type to meet goals for profitability, and soil, water, and wildlife conservation. Consulting with advisors early and often makes for an efficient process.

When planting prairie strips, three areas to consider are site preparation, prairie strip establishment, and maintenance, which can be timed so they do not interfere with crop management. Proper site preparation, including the correct seed mix and seeding rate, reduces the time and money spent on subsequent management steps. Regular mowing of the prairie strips is required in the first two years to increase sunlight to the soil surface and give prairie plants an advantage so they can outcompete weeds. Following the establishment period, spot mowing or application of herbicide will help control weeds and woody vegetation.

Getting financial or technical support

- USDA Farm Service Agency (FSA) offers annual, cost-share, and in some cases incentive, payments through CRP 10-15 year contracts: <https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/index>
- Environmental Quality Incentives Program may assist with prairies to be harvested or grazed, depending on the county: <http://www.ia.nrcs.usda.gov/programs>
- U.S. Fish and Wildlife Partners Program works with landowners to restore wildlife habitat: <https://www.fws.gov/midwest/partners>
- Resource Enhancement and Protection awards small grants for soil and water protection: <http://www.iowadnr.gov/Conservation/REAP>
- Pheasants Forever funds habitat projects including native prairie seedings: <http://iowapf.net/NativeGrassProgram.aspx>
- Trees Forever funds pollinator projects: <http://www.treesforever.org>
- Plant Iowa Native maintains a list of prairie seed suppliers and contractors who can provide custom planting services: <http://www.plantiowanative.com/resources/#services>

Learn more about prairie strips

- STRIPS project website: <http://www.prairiestrips.org>
- The Tallgrass Prairie Center website: <https://tallgrassprairiecenter.org>
- This and other publications can be found on the ISU Extension Store: <https://store.extension.iastate.edu>
- Fields with prairie strips are located at the Iowa State University Research and Demonstration farms across the state: <http://farms.ag.iastate.edu/farms>
- Prairie strips research fields are located at the Neal Smith National Wildlife Refuge, Prairie City, Iowa: https://www.fws.gov/refuge/neal_smith



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