

# PRAIRIE STRIPS: THE KRAMER FARM

Case Study 05 • The Tallgrass Prairie Center



Tallgrass Prairie  
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## THE KRAMER FAMILY FARM

The Kramer family farm is comprised of 80 acres of prime farm ground located near Waterloo, Iowa in Black Hawk county. Jerry and JoAnne Kramer grew up on farms in the area but pursued careers other than farming, but have always

maintained their rural roots and remained active in decision making on the farm. They currently work with a trusted farm operator to carry out the operation.



## RESTORATION

Despite the farm ground having an average Corn Suitability Rating (CSR) of 90, they identified an area of concern with soil erosion with intense and prolonged rainfall events. Jerry decided that prairie strips would both tackle his erosion problems as well as add some plant and animal diversity back to the farm. Jerry had become interested in tallgrass prairie through his involvement with the nearby remnant prairie located in the Bennington Township cemetery. Prairie strips offered another avenue to help in the restoration of the tallgrass prairie ecosystem, of which less than 0.1% remains in Iowa today.

Having attended a field day hosted by the Tallgrass Prairie Center (TPC) previously, he collaborated with them to install his pollinator planting as strips in the fall of 2015. A native seed, no-till seed drill was used to plant a 30-foot wide prairie strip. Realizing the original layout was a few rows off to fit with the operators equipment, an additional 30-foot was added to create a 60-foot wide prairie strip. The following spring another strip was planted south of the first one. Figure ? shows the strip layout. They lay horizontally across the area that had erosion problems rather than running along the contour. This stops water from racing across the field, preventing the loss of precious top soil and the creation of harmful gullies.



According to a study conducted by Iowa State University at the Neal Smith National Wildlife Refuge, converting 10% of a row-cropped field to perennial prairie can reduce sediment loss by 95%, phosphorus by 90%, and nitrogen loss by nearly 85%.

## MANAGEMENT

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To make sure his farm operator was on-board, Jerry brought him along to assist in laying them out. Making sure the practice worked with the farm operation was very important, “Our renter went along with it,” Jerry notes, pointing to the relationships required to conduct conservation measures, even on ground he owns, “We have a great renter and he goes along with my crazy ideas.”

Establishment mowing occurred in the first growing season of both strips to control weeds and give the establishing prairie plants room to compete. TPC employees and University of Northern Iowa students have done vegetative surveys each year to monitor the prairie and to provide data that informs management of the strips. Conducting plant identification is a great way to enjoy a prairie restoration. It’s also a valuable tool for when it comes to making management decisions and knowing where issues may be occurring.

For example, it’s easier to spot spray or spot mow a small patch of Canada thistle in the third growing season than it is to eliminate widespread patches of it in year eight.

A prescribed burn occurred in 2019, the fourth and third growing season for the strips, respectively. Prescribed fire is a best management practice, but the NRCS does have other allowable required maintenance practices, such as haying. Planning farm operations with prairie maintenance in mind can save long-term hassle. The Kramer’s planned this burn to coincide with having bean stubble residue rather than corn stubble, which made it easier to handle the fire.

Jerry has seen practical benefits from planting prairie, “The two strips have successfully mitigated a soil erosion issue.” He also points out that strips are far from perfect and need to be actively managed, citing some issues with weeds in the strips.

## OUTCOMES

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For Jerry, planting prairie on his farm is a way to connect with the past as well as with the natural world. He can recall that one of his fathers favorite plants were shooting stars, a forb with vivid colors of purple and white, that grew on a unplowed portion of the farm, “I remember three or four times we made this little march out or rode the tractor out there when he was putting in crops to see if we could find the shooting stars. That was a big deal.” Reintroducing native grasses and forbs to 80-acres of corn and soybean farmland via prairie strips have also seen an increase in wildlife, “A pheasant flew out of a prairie strip last fall. That was the first time in years I’ve seen one.” Jerry believes that the connections between past and present and between nature and people are inherently tied together. Planting prairie can offer a small glimpse of what has been lost to intensive agriculture, while offering a vision of a future that includes both productive farming and sustaining habitat.

Beyond the practical application of prairie strips, Jerry notes that planting prairie can’t fully bring back Iowa’s lost ecosystem, “Now, what I’m creating isn’t going to be anything like that. It’s new and I guess you just hope that when you’re not around yourself that it will be there. Maybe people might think about it - where it came from and so forth.” Jerry has had neighbors ask him what he’s doing planting prairie on seemingly perfectly good farm ground when seen at 55 mph on the road. He says he’s had success in swaying them to try something similar. One local farmer enrolled an oddly shaped piece of land that was difficult to work with big equipment in a CRP program. Another even converted 40 acres to perennial vegetation to serve as pollinator habitat, which Jerry describes as, “beautiful.” By bringing back prairie on his farm, Jerry Kramer is attempting to combine a passion for conservation along with his family heritage of farming. Jerry says, “I think it’s going to happen little bits at a time.”



## FARM FACTS

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**Location** – Black Hawk County, IA

**Owners** – Jerry and JoAnne Kramer

**Total Acres** – 80

**Crops** – Corn, soybeans

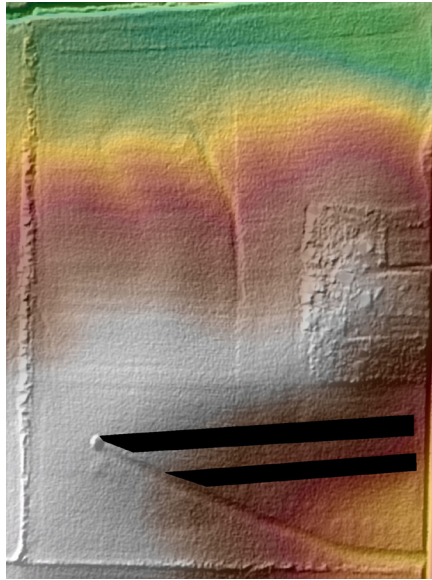
**Acres in Conservation** – 2.41

**Conservation Practices** – Prairie strips

Aerial of Farm



LiDAR of Farm



## A NOTE ON SEED MIXES

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The cost of native seed is largely influenced by species composition and availability. In particular, abundance of forb seeds in the mix is typically responsible for most of the price. There are many seed mixes marketed for CRP practices at the time of this publication that are significantly lower in price than the listed range of costs. The range of costs provided are based on field tested seed mix designs that result in multifunctional, diverse stands of tallgrass prairie.

Use of low-cost seed mixes may not result in outcomes similar to this case study, though more research is needed on cost-minimizing rather than ecosystem service maximizing seed mix designs. For more TPC research regarding the importance of seed mix design, see Meissen et al. 2020<sup>5</sup>.

<sup>5</sup> Meissen JC, Glidden AJ, Sherrard ME, Elgersma KJ, Jackson LL. 2020. Seed mix design and first year management influence multifunctionality and cost-effectiveness in prairie reconstruction. *Restoration Ecology*. 28:807–816. doi:<https://doi.org/10.1111/rec.13013>



## COSTS OF ESTABLISHING PRAIRIE STRIPS

Installation costs	Estimated Costs
Tillage	\$9.00-\$20.00/acre <sup>4</sup>
Herbicide	\$16.00-\$45.00/acre <sup>4</sup>
Cover Crop Seed	\$5.00-\$50.00 <sup>1</sup>
Cover Crop Seeding	\$10.00-\$30.00/acre
Native Seed	\$150+acre <sup>3</sup>
Native Seed Drilling	\$43.00-\$62.00/acre <sup>5</sup>
Establishment Mowings (2x)	\$10.00-58.00/acre <sup>4</sup>
Spot Mowings (2x)	\$50.00-140.00/hr <sup>4</sup>
Prescribed Burn	\$50.00-\$94.00/acre <sup>5</sup>
Opportunity Costs (cash rent)	Cash rent, \$241-\$304/ac <sup>3</sup>

<sup>1</sup>USDA SARE, "Creating a Baseline for Cover Crop Costs and

Returns," 2019

<sup>2</sup>Tallgrass Prairie Seed Calculator, University of Northern Iowa, <http://tallgrassprairieseedcalculator.com/>

<sup>3</sup> Cash Rental Rates for Iowa 2021 Survey," Iowa State University.

<sup>4</sup> 2021 Custom Rate Survey," Iowa State University.

<sup>5</sup>"2022 Prairie Services Custom Rate Survey," Tallgrass Prairie Center.

## KRAMER FARM FINANCIALS

The table uses actual costs from the case study as well as estimated costs using Iowa State's "2021 Iowa Farm Custom Rate Survey." Costs can vary considerably due to contractor and machinery availability, site conditions (size, shape, crops) and timing. The cost of seed is largely influenced by species

composition and availability. A pollinator mix, in general, will be more expensive than a seed mix that is a 50:50 grass to forb ratio. The cost of prescribed burns is especially variable for strips. While burning is a best management practice, mowing and haying prairie are legitimate alternatives.

## Assistance for Prairie Strips

Most installation costs are eligible for up to 50% cost share through the USDA's Conservation Reserve Program. CRP annual rental payments can be 85-90% of cash rental rates. The average CRP payment for Black Hawk county in 2023 was \$290/acre. (USDA, Farm Service Agency,

"Public CRP 2021 County Average SRRs").

See your County Office for details.

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United States Department of Agriculture  
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## PRAIRIE STRIPS CASE STUDIES

For more information, contact Andy Olson  
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