

BlueWaters

How NRCS Working Lands Programs Helped the Carneys Transition to Rotational Grazing in Iowa

GLBW Case Study by Linda Meschke and Anne Queenan

*All photography credits: Carney Family Farms

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Bruce Carney uses high quality annual forages for finishing beef

Bruce Carney and his wife, Connie, began their fulltime farming enterprise, Carney Family Farms, when Bruce's father passed away in the spring of 1996. Corn, soybeans and a cow/calf herd had historically been produced here. In early 2000, Carney started transitioning from row crops to forage-finished beef. The last year for row crop acreage was 2008. By then, the transition to the forage-finished beef operation was complete, perennial-based with pastures, forages, and a cow/calf operation.

Working with livestock is enjoyable for Carney. "A cow does much to benefit the land because it is an awesome recycler. Eighty-five percent of what goes in the front of a cow comes out of the back as fertilizer and biology," he asserts. This is one of the reasons Carney focuses on livestock – to improve the health of the soil. The switch from row crops was primarily motivated, however, by a desire to reduce the amount of chemicals in their lives for their own health and well-being.

Few chemicals are now used on the farm. Beef sold is natural, with no antibiotics or hormones administered. This is true for their pork as well, which is raised by their daughter and son-in-law nearby.



With several creeks running through the farm, Carney Family Farms lies just off the Skunk River, southeast of Ames, Iowa, near the southern end of the Des Moines lobe. Currently, the farm consists of 100 cow calf pairs of cross-bred cattle with a strong Angus base.

A range of 600-1,000 acres is managed each year with cool and warm season pasture and forages. In addition to his own 300 acres, he was invited to work with Polk County Conservation and the Iowa Natural Heritage Foundation who provide a varying amount of pastures to rent. Using a multi-paddock rotational grazing system, Carney's cattle rotation ranges from twice a day to a three-day rotation. His livestock graze on C4 warm season grasses and forbs, which are representative of prairie. He also uses cool season perennials and legumes, and interseeds warm season annuals on his home pastures. He actively participates in collaborative trials with these organizations. One current project looks at how to control and manage trees in prairies with livestock.

"The cattle look really good coming off native prairie," said Carney.

Most of the beef is sold through direct sales and marketing efforts by his daughter, Amber. Beef that is not directly marketed is sold to Thousand Hills Lifetime Grazed for processing and sale. He also raises a few non-GMO, grain-finished cattle, based on consumer demand.



High stock density and adaptive grazing practices are used at Carney Family Farms

Environmental Quality Incentives Program and Conservation Stewardship Program

Two of the Natural Resource Conservation Service (NRCS) programs have been instrumental in supporting the efforts on the farm – beginning with the Environmental Quality Incentives Program (EQIP). In order to get started with the transition to rotational grazing, EQIP was initially used to help provide fence and water



systems with water lines, to work with an existing gravity water delivery system for their 300 acres. Some cover crops were also funded through EQIP.

Carney recently presented to a farmer-to-farmer informational network, the Practical Farmers of Iowa, and described EQIP as a program where the farmer asks for specific financial support in advance to help accomplish particular measures. He recommends doing one's research beforehand to determine what is needed in order to accomplish clear goals, and then approaching the program to see how it could be used to support those efforts.

At the time he initiated EQIP, it was requested that all of the creeks on their farm be put into a 15-year Conservation Reserve Program (CRP) contract, which served to develop a cattle-free corridor with the use of the new fencing. This practice led to a habitat attractive to wildlife with its native plants along the creeks and kept the creeks relatively free from soil erosion and from nutrients that can be contributed by cattle. It also became a favorite recreational spot for his family. Though the parameters of the CRP agreement set strict limits that no cattle could access the creeks, it was vital to have access to the other parts of his farm, and to have a back-up water resource in the event the primary water system broke down. This compromise was eventually agreed on and implemented with three creek crossing points. These are heavy-use areas that are protected with limited access.



Carney is working through EQIP to add warm season native perennial grasses, forbs, and legumes into 80 acres on his home farm. This will help extend the forage availability in the summer season for his herd and complement his cool season grasses and forages. Interseeding summer forages helps reduce weed pressure and cool season perennial seedbank competition before the warm season grasses are seeded.

Field of rye

The second NRCS program that has supported the operations is the Conservation Stewardship Program (CSP). Carney was one of the first in the Skunk River watershed in Iowa to enroll in the CSP program. **One aspect he really likes about the program is that it pays for conservation initiatives that the farmer has already taken on.** "CSP involved a lot of paperwork to start with as it looked at your entire farm and the conservation practices you were already doing," he explained. As for Carney, he was doing quite a bit: the setup of a rotational grazing system, a watering system, waterways, field buffers for row crops at the time, and no-till, to name just a few. Since the initial whole farm assessment, the CSP process became easier with reapplications only requiring updates. He has been enrolled in CSP for 15 years and has signed up for an additional five years, continuing his conservation ethic.



Openness and Flexibility in Technical Assistance

As one who proactively researches information needed for his next possible steps, Carney finds technical assistance on his own, through other farmers, holistic farming conferences, private consultants, and some knowledgeable representatives of the NRCS programs he engages. For years, he has worked productively and resourcefully with his Polk County NRCS representative. However, he farms in four other counties. When trying to replicate what he's done on his home farm, but met with limited responses from representatives in other counties, he's referred those staff to Polk County conservation staff. They learn what's been done on his farm and how land has been managed through these programs. **Since some of these practices, like agroforestry, are new and not the norm in other counties, openness and flexibility to learn from counterparts in neighboring counties has been appreciated.**

Goals and Planning for Diversity

Carney describes the conservation objectives on his farm as not using chemicals, improving soil structure, and building soil health throughout the farm operation. A five-year plan for interseeding legumes and broadleaf forages in existing cold seasons pastures is underway through EQIP as well.



Cross-bred cattle with a strong Angus base

A whole farm plan has been developed to guide Carney Family Farms' operations and to meet long term goals - most of which are founded in diversity. "Be diverse in your livestock. Be diverse in all revenue streams," he states. "If you have ten different crops on your farm and one or two of them fail, you still have eight crops

"Be diverse in your livestock. Be diverse in all revenue streams," he states.

that can give you revenue." In the long term, he plans to stay in forage and meat production with a variety of livestock species including cattle and pork. Low-input agriculture will prevail here.



Diverse Functions of Trees

One long-term goal is to implement practices for additional income sources for the family's next generation of farmers. He does this through a variety of trees. For example, he has planted chestnuts, heartnuts, pecans and hard maple trees for syrup for future diversity. He is also growing oak and walnut trees for lumber.



Newly planted chestnut and heartnut trees along a swale

derecho that hit central Iowa in August of 2020. The derecho also caused a lot of damage to trees and fencing in a rented timber pasture. A variety of many more trees will need to be planted.

Additionally, a Forest Management Plan has been designed for his home farm by a private forester and supported with a cost-share recently added to Iowa's EQIP program. The state of Iowa's conservation programs, through the Soil and Water Conservation District (SWCD), have also helped Carney Family Farms access funds in earlier years for tree-plantings and seedlings.

Silvopasture, a practice of agroforestry, integrates a variety of trees, forages, and managed grazing of livestock in a mutually beneficial way. The trees provide shade for livestock and serve as windbreaks in the pasture. This is something that Bruce is also looking into for the future.

"Trees can be a living barn for livestock," says Carney. "Historically, livestock were not born in a building."

Thousands of trees have been planted throughout his farm for wind breaks. Unfortunately, some of these trees, particularly near the creek, were destroyed by a



Trees positioned as strategic windbreaks at Carney Family Farms

Water Management with Swales

Swales are currently under development on Carney Family Farms to better manage water movement across the farm. Unable to identify any programs to assist him, Carney developed a strategic plan himself. The swale collects water and extends about 2000 feet where water then exits the swale on a ridge in the pasture. It then goes another 2,000 feet before entering the creek. This can help filter and store surface water, reducing run-off rates into the creek. Recently established trees grow along the swales, which wind through the grazing paddocks.



Hope for Neighbors

Carney has found it difficult to convince some of his neighbors to adopt the conservation practices he is using on his farm. "All they want to grow is corn and soybeans. They look at cover crops as just a cost with no value to the soil," he said. "Until these farmers start looking at their cover crops at the same level as they look at their corn and soybeans, they won't get a benefit." He is encouraged, however, by the increased use of no-till in his neighbors' operations.

The soil health on Carney Family Farms today is excellent. Infiltration testing on the farm indicates ten to twelve inches of rainfall an hour will infiltrate before runoff occurs.

Sources of Learning

Carney has often had to travel out of Iowa to learn about the types of management he desires for his farm. Local field days have not typically addressed soil health and livestock grazing. Recently, he has seen an increase in these types of programs in Iowa and hopes it will continue throughout the state.

Groups he has worked with in addition to NRCS and SWCD include Practical Farmers of Iowa, the Savanna Institute, Sustainable Farming Association of Minnesota, private seed companies, Green Cover Seed-Nebraska, and the Iowa Forage and Grasslands group. Specific farmers who have been mentors and taught him volumes include Greg Judy, a holistic farmer in Missouri; Ian Mitchell, a South African cattle grazier in holistic management; and Doug Peterson, a soil health specialist for NRCS in Missouri. He has also participated in his NRCS Local Work Group over the years.

Suggestions for Improvement of Local Conservation Programs

Bruce Carney has ideas about how local conservation programs can be improved to better serve farmers:

- Assist in putting seed mixes together because there are limited public mixes available; mainly farmers need to turn to private companies for seed mixes
- Let farmers innovate to improve conservation on their land; allow flexibility to fit these innovations into existing and new programs
- Increase a culture to learn from peers
- Allow grazing on land in the Conservation Reserve Program
- Support agroforestry as a good option in Iowa and other states
- Support mentorship programs through financial incentives, perhaps under CSP



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Linda Meschke has over 35 years of experience in working on agricultural and water resource issues in south central Minnesota. Her work has been focused on projects that improve rural communities and the implementation of a variety of conservation practices and getting changes on the landscape to improve water quality. She is currently working on landscape diversification of the intense corn and soybean region in south central Minnesota to integrate more perennials and 3rd Crops and to develop agriculture-related entrepreneurial enterprises.

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Anne Queenan writes and produces stories that inform and engage on subjects interweaving land stewardship, agriculture, science, clean water, and collaborative communities. She brings to life sweet spots of hope and curiosity with real life scenarios sharpened through her expertise in public broadcasting and communications. Her social work training amplifies the human voice and points to interconnections where systemic change can happen. She has written, produced and developed documentary short videos, articles and communications strategy for foundations,

environmental nonprofits, state agencies, educational institutions, and soil and water conservation districts. She has also co-led and organized steering and advisory committees for co-creative outreach efforts in water quality with diverse partners. Queenan is also a photographer, videographer and drone operator. She and her dog, Coda, live on the Mississippi River in the Driftless Area where she enjoys paddling, birding and hiking through the Bluffs.

Green Lands Blue Waters and partners are conducting essential research, improving the genetics of old and new crops, translating knowledge into Continuous Living Cover farming systems, developing new extension and outreach capacity, working in farm fields, shaping policy, building profitable markets for new crops, and changing the narrative around what's possible through agriculture. The value of Continuous Living Cover farming comes in yields and profits, but also in improved soil health, cleaner water, new economic opportunities, diverse agricultural communities, more wildlife, reduced risk, and resiliency in the face of a changing climate.

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