

Testimony of Ray Flickner
Owner & Operator of Flickner Farms/Flickner Innovation Farm
Before the Senate Subcommittee on Conservation, Climate, Forestry, and Natural Resources
Conservation in the Farm Bill: Making Conservation Programs Work for Farmers and Ranchers
April 20, 2023

Chairman Bennet, Ranking Member Marshall, and Members of the Subcommittee, it is an honor and a privilege to appear before you today. Even more so two days prior to Earth Day. Thank you for allowing me to present and offer my thoughts as an agriculturalist from Kansas.

My name is Ray Flickner, and I am the fifth generation to farm land west of Moundridge, Kansas. My wife, Susan, and I own and operate farm ground in four counties in Kansas; the base operation is an irrigated row crop operation that has been in my family since 1874. We raise wheat, grain sorghum, corn, soybeans, and brome hay. My family has been blessed to receive recognition for our leadership in promoting conservation and good farming practices. We were presented with a “Success Story” Award at the 2022 Kansas Governor’s Water Conference, received the statewide Natural Resources Award given out annually by Kansas Farm Bureau in 2021, were named a finalist for the Kansas Leopold Award in both 2021 and 2022, and received the Kansas Bankers Association Award for Water Conservation in 2021 and Soil Conservation in 2013.

Quick background on what I call my three stages of life. After receiving an undergraduate degree in agricultural education and while completing a master’s in education, I taught several agricultural classes at three different colleges in Kansas. In the 1980s I worked for the Federal Land Bank (and vividly remember the 1980s farm crisis) before transitioning to work for the Farm Credit System and then working for a commercial agricultural bank in the Farmer Mac secondary market in the 1990s and 2000s. In 2007, a couple of years after my father passed away, I made the decision to enter the third phase of my life and began tending the land full time. From education, to finance, to full-time farming, each of these phases in life taught me valuable life lessons and allowed me to travel and learn from producers across this great nation. As I prepare to enter the fourth phase of my career, retirement, I have taken the opportunity to travel the world, and just last month toured farms and ranches in Spain and Portugal. My education, my observations, and my life-long experience all indicate the same point: conservation and sustainability has been, still is, and always will be the key ingredient to keep farms and ranches thriving.

As the late, great Dr. Barry Flinchbaugh was famous for saying, without profitability a farm will not be sustainable. I have seen this firsthand in all the phases of my career. Susan and I have been blessed with a multi-generational legacy, and we have committed ourselves and taught our children (who are in turn teaching our grandchildren), that we must leave the land in a better condition than how we found it. But some producers, who may not tend the land and natural resources with care and compassion, find the sustainability – and ultimately the *profitability* – of their land in decline. I have often said when talking about sustainability and conservation management to not bemoan our forefathers because without the moldboard plow in the late 1800s, the acres we farm in Kansas would not be in row crop agriculture. And the best farming innovations and technologies of my father’s generation, such as flood irrigation, would not have allowed me to convert 600 acres of my irrigated ground to more efficient sub-surface irrigation starting in 2001.

Without question conservation has been a living legacy on our farm. One example is the shelterbelts and windbreaks my grandfather planted in the 1930s, which, I might add, I used technical assistance from the Kansas Forest Service and an EQIP contract to rehabilitate in the 2010s. Another example is my father developing the second-oldest water right in the township in 1955, and then constructing larger-than-required flood irrigation tailwater recapture pits, which he used as ponds in a commercial catfish operation in the 1960-2000s. During the time my wife and I have owned land we have constructed miles of terraces, built acres of grassed waterways, enhanced the efficiency of our irrigation systems (allowing us to use 60 percent of the county irrigation average), and transitioned to a fully no-till/minimum-tillage operation with cover crops playing an integral role in soil health and soil biology improvements. Additionally, over the past 20 years we have grid soil sampled nearly 1,000 acres on a four-year rotation and used this information to variable rate apply most of our micronutrients, macronutrients and lime to adjust for soil pH. These grid samples show us we are slowly moving the needle in a positive direction on soil organic matter (OM), with some of our agricultural fields nearing 50 percent of the OM in an adjacent native pasture.

My experience has shown me farming cannot remain static but must constantly evolve. Working with numerous local and state governmental partners as well as more than a dozen commercial companies, in 2019 we embarked on the [Flickner Innovation Farm](#) where we are testing various water conservation initiatives, soil health practices, and weed management tools on a production-scale farming operation. K-State Research and Extension (KSRE) and the Kansas Center for Agriculture Resources and the Environment ([KCARE](#)) have been instrumental in truth-testing many of the trials and experiments. I will be the first to say not every trial has borne fruit. We are perpetually learning, reassessing and fine tuning.

Since the inception of the Flickner Innovation Farm we have hosted two summer field days along with two winter meetings during which the [peer-reviewed research](#) was made publicly available. While time and energy consuming, hearing from producers who have taken something they learned from one of our events back home to implement is music to my ears.

During my landowning and farming career, I have utilized farm bill conservation title programs including CRP, EQIP, CSP, and general technical assistance from the USDA-NRCS, USDA-FSA, the county conservation district, the Kansas Forest Service, Kansas Department of Wildlife and Parks, Watershed Restoration and Protection Strategy (WRAPS) and my local Groundwater Management District No. 2 (Equus Beds GMD). I am currently under contract for EQIP-RCPP water management, which has helped offset some of the costs of using soil moisture probes to determine where and how my irrigation water is traveling through the soil. Recently, I have started the application process to ascertain if the Inflation Reduction Act dollars appropriated to NRCS will work for my operation under a potential CSP contract.

I firmly believe Congress should continue to seek improvements for the environment through expanded incentives to encourage voluntary soil conservation and water and air quality programs, and to advance technological and biotechnological procedures that are based on sound science and are economically feasible. Over my farming career I have utilized a combination of USDA cost-share and technical assistance, but most of the conservation practices and experiments I've implemented have been

undertaken without financial assistance. For more than 10 years I have experimented using cover crops and even inter-seeded a multispecies cover crop in corn four to six weeks prior to harvest, with no state or federal cost share. In 2019 I started experimenting with biologicals applied pre-plant, at planting, and foliar once the crop has emerged. On our irrigated ground, we are now applying water 12-18 inches below ground via sub-surface drip irrigation (SDI) on more than 60 percent of our acreage. Some of the tracts of SDI had EQIP assistance but most of the acreage did not have any cost-share assistance on the conversion from flood irrigation. I mentioned earlier I do have cost share to install moisture probes, but I also rely on aerial imagery from satellite, fixed wing aviation, and drones. And I utilize plant-based water sensors, as well as a ground-penetrating radar mounted on a center pivot irrigation system that monitors and provides real-time feedback on how much water each slice of the field can benefit from. The latter three technologies are not currently authorized by USDA for cost share. I do believe they offer valuable insight and assist in managing irrigation timing and application amounts.

On our non-irrigated farmland, we have utilized different programs including CRP, EQIP and CSP. One tract has an approximate 11-acre playa lake and another half-acre playa lake where we have discussed how a CRP SAFE contract or the Wetland Reserve Easement program might work. Recent farm bills have helped provide more access to both emergency and managed haying and grazing on our CRP acreage, but still more could be done. A vast amount of the CRP acreage in Kansas is enrolled within the CP-25, rare and declining habitat conservation practice. Allowing for additional ruminant grazing, plus grazing earlier and for more of the growing season would be a significant benefit to wildlife, the grassland ecosystem, and the producer's bottom line. While I do not own any livestock currently, I have heard integrating livestock has a significant benefit to soil health and the wildlife in permanent vegetation environments if managed appropriately. At a time with high commodity prices, multiyear drought, and declining CRP acreage, allowing additional haying and grazing flexibility is a way to show landowners CRP can become more of a working lands program as opposed to what many see as a land retirement program. Furthermore, I believe it is imperative the CRP be refocused on the most marginal cropland. A few specific ways to improve the CRP program moving forward include increasing payment rates on the most marginal cropland while disincentivizing CRP contracts on higher producing farmland, and providing additional assistance to producers wishing to fence and establish a water source on CRP lands.

From my experience with both EQIP and CSP, USDA conservation programs need to be streamlined and simplified. The recent "Act Now" funding NRCS has access to is a step in the right direction to maintaining a continual sign-up period rather than annual opportunity to enroll. Credit goes to my local USDA service center supervisor for knowing my operation, the programs I am interested in, and how conservation programs (with never-ending changes from USDA headquarters and the state office) might work on my operation. Without their frequent communications, or without the USDA service center's knowledge of my prior interest in certain programs, I would have missed the sign-up application window. Additionally, my firsthand experience farming in four different counties across the state of Kansas has emphasized to me that "one-size" nationwide, or even statewide, policies do not work. Congress should give the freedom for farm bill programs to be administered at the local level whenever possible, with adequate oversight and quick approval from the state office when absolutely necessary. Allowing and encouraging producers like me to work hand in glove through the local delivery system with the conservation district is a more effective way to implement conservation work more quickly across the nation.

Recently it has become painfully obvious that conservation efforts are being set back because there are not enough boots on the ground. I have relied on the technical assistance of local conservation experts and there have been multiple occasions when conservation implementation was delayed because of a lack of workforce. Based on congressional appropriations and legislation over the past couple of years, it seems there is funding available to implement conservation work, and I referenced above my CSP application, but without employees who know how to work on technical assistance, the funding may not be put to good use on farms and ranches across the nation. Furthermore, in a state like Kansas it is imperative to keep tackling the most important conservation challenges – water quantity, water quality, and soil erosion due to wind and rain.

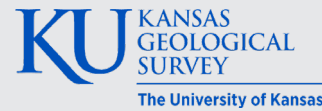
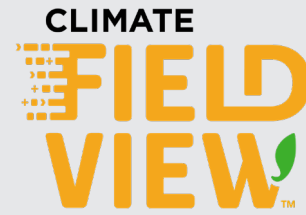
While this full committee is responsible for authorizing conservation practices within the farm bill, I do need to flag the differences between USDA conservation funding being included as income in my farming operation and EPA's Section 319 funding, which I have received due to my involvement in the WRAPS programs; the EPA funding is not counted as income. This is something the Senate Finance Committee might wish to look more into because if the intent is to have landowners improve natural resources for the public good, why are the two sources of conservation related cost-share dollars provided to agricultural producers taxed differently?

Finally, I would like to mention that most producers, myself included, try to be the best stewards of our limited natural resources as we can. I have completed numerous conservation initiatives without any local, state, or federal cost-share assistance. I have done so because I believe the land, water, wildlife, and other natural resource improvements will endure well past my lifetime. I have planted hundreds of trees with my grandchildren, praying these trees offer shade to their own grandchildren – perhaps a ninth generation of Flickner farmers. The joy of being able to work side by side with my own children and grandchildren nurtures my soul in ways no amount of monetary compensation ever could. Watching my nine- and six-year-old grandsons chase butterflies through our pollinator habitat or grab the frog net looking for tadpoles at the edge of the fishponds we still use today gives me great peace that not only I, but my forefathers, did the right thing in creating a resilient farming operation. The motto of the Flickner Innovation Farm is “growing for the future” and I believe by each generation leaving our lands in better condition than we found it, there will be many more years of blessings provided because we continue to nurture our natural resources.

Project partners

The Flickner Innovation Farm

GROWING for the Future



Shared growth.
Shared success.

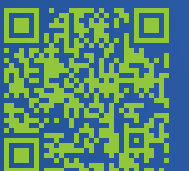


Phytech



The Flickner Farm

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About the farm

The Flickner Farm has a long history that dates back to the 1870s, when the first family members tilled ground in Moundridge. Ray Flickner is the 5th generation on this farm, which has grown to about 1000 acres spread across eight different sections with 10 individual water rights. The farm uses various technologies, management techniques, and cropping systems to improve water conservation, water quality, and soil health for the entire operation and the surrounding community. This includes implementing sub-surface drip irrigation (SDI) and precision mobile drip irrigation (PMDI) to grow corn, wheat, grain sorghum, and soybeans; many fields are no-till or limited strip till, and there is an ongoing effort to rebuild terraces and to construct new waterways. The Flickners' award-winning commitment to natural resource conservation while maintaining profitability makes the farm a perfect location for testing new technologies and discovering innovative solutions for these issues.

Inspired to innovate

This project sprouted from a desire to use experimental design on a large-farm setting while harnessing the expertise of a team from the local farming community, industry, university specialists, state agencies and other stakeholders. Current work on the Flickner Innovation Farm combines the use of:

- ➔ Irrigation technologies, including sub-surface drip and precision mobile drip systems
- ➔ Precision agriculture using soil moisture sensors, irrigation scheduling, plant sensors, and emerging machine learning technologies
- ➔ Imagery provided by satellite, fixed-wing aircraft and automated drone system
- ➔ Research projects focused on soil health, fertilizer response, nutrient losses, and weed management

What can we accomplish?

Recent studies confirm that the Flickner Farm use an average of 40% less water over the past decade than the county average. With the adoption of advanced irrigation technologies, this project hopes to reduce irrigated water use by an additional 15%.

Research on the farm will help to develop new state nitrogen fertilizer recommendations to minimize environmental impacts and maximize productivity and cost savings.

Project partners are monitoring groundwater levels and quality to collect baseline readings from new wells for trend analysis. This can help identify emerging water quality problems and propose solutions for issues affecting the municipal water supply.



If we can leave this land in better condition than how we found it, then we've done our job right.

— Ray Flickner, farmer

Precision Agriculture

Using various types of imagery and other remote-sensing tools, researchers are piloting tailored management practices designed to increase crop yields under diverse environments and under different climate scenarios. The farm is also piloting new technologies for weed management.



Soil Health

How do management practices impact soil health? Our team is investigating the effects of long-term cropping systems on fertilizer requirements for optimum yields. The farm is also the site for several long-term cover crop research projects.

Water Conservation

Extreme climate events underscore the significance of water's role in the future of farming. Our research partners continue to examine how soil and plant sensors, imagery, and advanced irrigation technologies can support resilient water management.



Our Vision

With key partners in place, we will fine-tune existing technologies while exploring new innovations to improve soil health and conserve water on Kansas farmland.

We hope to harvest the advantages of new technology and current research with our comprehensive team of experienced growers, agronomists, watershed specialists, university researchers, and industry specialists. Together, we will extend the reach of standard agricultural practices and improve yields while preserving natural resources.

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