

Theme 6: Indirect Benefits

Indirect Benefits; Intrinsic Non-Financial Motivations; Cattle Pasture/Feed

When diversifying, farmers looked at potential indirect benefits that new crops, pollinator habitat, or CRP could have on their operation. Converting unproductive field areas to perennials like CRP allowed for more timely field operations in the remaining cropped areas, reducing time spent doing additional maintenance and overall labor, weeding, and input costs. Adding pollinator habitat was seen as crucial for entomophily pollination and beneficial insects in general. *'Then when the pollinator thing came out, we just thought there was going to be advantages there to having the pollinators to help pollinate the soybeans and alfalfa or anything else. And we get a lot of beneficial insects from the pollinators. We have some of them on nearly every farm. Well, every farm that we own, we have at least a patch of pollinator CRP on them. And so they give us beneficial insects. It's a win-win for us in that situation'*

Farmers perceived that adding additional crops like small grains or perennials could help in restoring soil fertility and structure such as increased water infiltration and organic matter. Adding a third crop helped alleviate pest and disease problems in years with standard maize and soybeans, and additional plants such as legume cover crops could aid in reducing synthetic nitrogen applications. Some of these benefits could have effects on crop productivity such as getting in the field sooner or minimizing costs such as reductions in fertilizer applications or providing feed for cattle. Other intrinsic benefits included seeing increased nature and wildlife, beauty, land access, and preserving land for the next generation.

Theme 7: Adoption Strategies and Tactics

Infield Management; Start Small/Test a Practice First; Managing Patience/ Impression Management; Conservation Management Problems; Conservation Subversion Strategies

Participants had several strategies and tactics when it came to adoption and implementation of different diversification practices, both for themselves but also as advice to other farmers. Infield management entailed the actual choices and tasks participants were using in conservation farming, mostly in regard to establishing CRP and/or native prairie. This included using the appropriate choice of seed mixes for different soil types, using nurse crops like oats or annual ryegrass to establish perennials, different ratios of forbs to grasses in a seed mix, when to mow prairie and how to properly burn it. Participants signified that it was important to start small when taking on a new practice so that it could be tested first. This testing was important, especially in regards to selling a new crop like small grains, as participants indicated a need to generally know how much grain they could produce before trying to sell it. *'The tricky part is, we're not small grain farmers. So we don't know exactly what we're doing. So to try to guarantee, we know exactly how many bushels we're going to raise, and to be able to sell that ahead of time, it makes me a little nervous. But I think the more years we do it, the more we understand what we're doing, and get more consistent yield, hopefully.'* One participant conveyed frustration when trying to work with cost-share programs like cover crops that often want a participant to try a new practice on a whole field instead of allowing testing on smaller acreages.

Participants emphasized the importance of patience and management of expectations, especially in consideration to perennial practices like prairie and CRP pollinator habitat. Participants stressed the importance in changing from an annual mindset of quick plant growth and development to a perennial mindset that may take several years for establishments to reach maturity and look 'ugly' in the meantime. *'Because most farmers were so used to annual crops that are up, and that's what's there. You can identify it, and you know what it is. Then you put in a prairie? Well, some of [those plants do not] come*

up for three years. Your field looks like absolute trash. To a mono-crop mentality, it's all weeds.' In relation to this impression management, participants discussed issues when implementing conservation farming. This included supply chain shortages for cover crop seed; struggling to establish perennial plantings in traditionally flooded areas; dealing with accidental sprayings of non-GMO plants by the local co-op; CRP mid-contract disking unintentionally resurfacing invasive weeds; balancing nitrogen applications to ensure both adequate cash crop and cover crop growth; and the realization that most plants will not flourish in a sandy soil.

Lastly, while these observations were few, there were some practices by participants or their family that seemed to subvert conservation's full potential. This consisted of purchasing the cheapest perennial mixes for conservation programs like CRP instead of mixes that would give the most ecosystem value or return on investment.

Theme 8: Internal, Individual Reasons Not to Adopt

Intrinsic Negative/ Demotivators; Reasons to Not Adopt Conservation Farming

There were instances of internal, individual reasons participants chose not to adopt conservation farming practices, though these instances were few. One set of observations consisted of comments on other farmers' distrust of government agriculture and conservation agencies—or the government in general—as a reason those farmers would not consider conservation farming practices/programs. Additional intrinsic negative observations entailed participants continuing to farm areas that had total crop failure due to flooding year after year; the participants did not indicate an intention of changing the land use because they felt that they could break even on the acres on the occasional dry (good producing) years. There were other various reasons participants gave for non-adoption. For conservation programs this included certain minimum area requirements for programs being too large (e.g., prairie) and the long-term commitment of programs like wetlands. Other reasons to not adopt were the perceived limited breeding that had been invested so far in newer crops and possible lower yields compared to corn/soybeans (e.g., hybrid rye, Kernza).

Theme 9: External, Structural Reasons Not to Adopt

Equipment Barriers and Mitigation; Cannot Insure Alternative Crops; Monetary Motivations; Availability of Markets; Incentives for Status Quo

External structural reasons not to adopt are those due to the current system that supports a limited number of commodity crops and seemingly discourages alternatives. This included difficulty in finding adequate equipment, crop insurance coverage, market availability, poor margins, and competing incentives.

Having the right equipment to add new crops or conservation farming into an operation was a commonly observed barrier, especially among beginning farmer participants. Likewise, participants who already had the necessary equipment for a new practice indicated this as an enabler. Challenges from inadequate equipment included seeding, harvesting, and weed management. Participants were able to overcome equipment barriers at times via renting, borrowing, hiring out custom work, adding nurse crops when planting small seeds, and even writing grants for equipment cost share.

Participants expressed frustration at a lack of crop insurance for alternative crops. This included both a general lack of coverage for alternative crops (e.g., pasture, alfalfa, small grains) as well as issues when implementing practices like relay cropping, in which the main cash crop like soybeans may then become ineligible for insurance. Overall participants felt that the current crop insurance program disincentivizes

crop diversity. *“We got a drought, my pasture dries up, my hayfields dry up, that's just on me. The government doesn't write you a check say, ‘Oh, sorry, your pasture didn't grow this year. Here's \$20,000.’ So, there is pressure to it. There's pressure to conform to those systems, most definitely.”*

*“Rye, I raise rye. They can't insure rye, because it's not a crop that can grow in Iowa, according to crop insurance. Doesn't exist. We can't do that here. Oats? F*** you, no-no-no. No oats in [Participant] County. You can grow them in [Second] County. You can grow them in [Third] County. But not [Participant] County, no -no. They won't cover that.”*

One theme was the effect that cash flow and cost-share programs had on decision-making. Participants indicated an unwillingness to adopt a new crop or business model if they did not feel the financial benefits were significant enough. The organic farming participant indicated that they probably could not have made the transition to organic without cost-share payments. There were also discussions about unwillingness to implement conservation like CRP without direct payments, even on acres that the participants knew were losing money and failing year-after-year with corn and soybean. *“And if there wasn't a long-term payment, it's probably not something that we would do. I don't know what we would do. I guess, keep on trying, and be disappointed. And yeah, that's probably what we would do.”*

Having a ready market either available or lined up before investing in alternative crops was an important point in deciding to adopt alternative crops. One participant was growing alternative crops as their reputation grew and new buyers were asking for alternative crops, but qualified that *“we were only able to say yes because we had a market locked in from the beginning. We knew where the market was.”* Other participants indicated a desire to grow crops like miscanthus (sterile *Miscanthus x giganteus*), Kernza (registered variety of *Thinopyrum intermedium*), and small grains if there were readily-available markets. In tandem, the ability to sell corn and soybeans at almost any grain elevator helped to reinforce its continued production against alternatives. *“You get really lazy [when finding markets for alternative crops] like, well... I can bring [corn or soybeans] to any elevator [within] 500 miles and get rid of it.”*

Incentives for the status quo includes high crop prices for corn and soybeans when our interviews took place, with participants indicating that they continued farming low yielding areas due to the high crop prices. Items like crop insurance were also mentioned, and how crop insurance for corn and soybeans was enabling the continued farming of areas that should not be farmed due to yearly total crop losses from flooding and streambank erosion.

Theme 10: Social Influences

Within-Operations Pressure; External Social Pressure; Support of Social Network; Seeing Others Succeed

Participants expressed positive and negative social pressures on diversifying, and that having a sufficient social support network was important to successful implementation of new practices. Participants expressed within-operations pressure to diversify or implement conservation, both pressure exerted by themselves on others and pressure from others on themselves. For example, one participant said, *“I would say [my father changed practices] from nagging from me. At that point, that was five years ago, he implemented no-till and cover crops, and that was after I was working at an [Natural Resource Conservation Service] office for about a year.”* Like within-operations pressure, participants expressed both positive and negative social pressures from external audiences in making changes. Overall, participants felt there was little pressure from the fellow farming community to adopt conservation practices or alternative crops. One participant indicated that pressure against certain practices in the farming community seems to drop as the practices become more common (e.g., filter strips). Several

participants indicated that neighbors and fellow farmers judge them and their farms, especially when they fail. Multiple participants also indicated increased pressure and/or support from the public in diversifying. One participant displayed frustration at public opinions on diversification in farming, saying, *“I think there's some people that think we should [diversify crops], but in general, most of those people have never had to put their income at risk in doing so. So, they want to tell you to do it, but not risk any of their own skin to do it.”*

Having an adequate social network when exploring new crops and/or conservation was deemed very important by participants, and a detriment to successful adoption when not available. Participants looked to others who had already done a practice for advice on general agronomics, management, and indicated giving advice to others as well. Alternatively, participants expressed frustration no one in their local area was doing a desired practice. *“It was kind of funny because I tried finding people to give you advice on what pasture species to plant here, and it was just blank stares. I talked to extension people, talked to seed people, talked to everyone. They were like, ‘Probably plant some grass.’ Suffice to say not a lot of research has been done into what to grow for pasture species in the Des Moines Lobe.”* In relation, two participants talked about the importance of seeing other farmers succeed in a practice for adoption. One participant was very emphatic that seeing someone else do a practice was much more convincing for adoption than *“research studies on productivity and that sort of stuff.”*

Theme 11: Interactions with Government Entities

Poor NRCS/FSA Support and Impact; Positive NRCS/FSA Interaction and Impact; Conservation Sign-Up Logistics/ Steps; ‘It’s taking too long.’

Participants talked about both poor and positive interactions with government entities when enrolling in conservation programs. Several producers spoke about the impacts of having FSA and/or NRCS staff who are ill-equipped to combine conservation with farming goals. The organic participant found that NRCS staff in their area were not properly trained to address organic programming given the severe lack of producers in their area who were organic. Similar themes were found from a participant who was raising cattle on pasture. While these participants didn’t blame staff for their lack of knowledge, another participant expressed extreme frustration when trying to sign up for CRP with the FSA, saying that their local FSA office had almost no knowledge on CRP, which drove the participant to seek USDA handbooks for information and bring the necessary information to their FSA office. *“I’m like, ‘No wonder nobody in our county ever wants to do conservation practices.’ Because it’s a cluster****. I don’t know if it’s every FSA office in the state, or if it’s just, we happen to be that lucky one. I don’t know, but it sucked.”*

One participant who farmed and also worked full-time as a farm conservationist commented that some NRCS staff, *“[don’t] know what corn or beans look like, it’s a lot harder for them to communicate and understand the needs of a farmer, I think.”* The participant commented that they and a co-worker have started to take new NRCS employees to a farm equipment dealer to talk about different farm equipment, practices, and services. Another participant who runs a native prairie planting business commented that their local NRCS office was not providing enough guidance on how to manage CRP pollinator plantings and prairie, and that they often found themselves instead responsible for guiding landowners and filling in customer knowledge gaps. *“They had never had [the proper CRP management] explained to them. That was when I was just getting into custom seeding CRP, so I didn’t know that nobody was telling them anything. Because of that experience, now I make darn certain that when people call me, and ask me if I could do a custom job for them, I’m like, ‘Do you have a plan? Do you know what your requirements are?’”*

Participants had positive interactions with government officials. Several participants indicated that they themselves did not know ‘*all the ins and outs*’, but recommended fellow farmers contact the local NRCS office to see what programs may be available and which field areas qualify for a given program. One participant emphasized, “[*working*] really closely with your NRCS and FSA office. I think that's critical. Because if you can build that relationship and work back and forth, that's going to help along the whole process, it's going to make things go a lot more smoothly.”

During interviews, the actual steps to sign up for conservation programs were probed for. While a few participants had signed up for local conservation programs (e.g., city, county), most conservation programs discussed were through the federal government and FSA (i.e., CRP). Participants discussed needing to identify an area for conversion with FSA, often by physically pointing the area out on a map. FSA would then tell participants which program they qualified for if applying for federal programs, and help with the application, which may or may not be accepted if in a bidding program. Applications generally open in October, with implementation (e.g., seeding) of programs like CRP in spring or summer. One participant had one area successfully funded through a county program. Like CRP, the areas for this program had to be of a minimum size but also not too large, likely due to funding constraints. Lastly, themes arose about the time lag between signing up for conservation programs and time to implement. One main theme entailed lack of availability for programs like CRP and waiting for a program to become available. Once accepted, time to implement seemed to vary for participants between a few weeks to multiple months depending on when they chose to sign up. For the local conservation program, the participant indicated that it took roughly 15 months between signing up and implementation.

Theme 12: Conservation Information Access and Quality

Information Sources; Not Aware / Misinformed; Quality of Information

This theme relates to where participants were getting information about conservation farming and how the quality of that information could vary. Sources of alternative crop agronomic information included peers and support groups, seed companies, and the internet in general. Organizations like Pheasants Forever, land grant university extension, watershed coordinators, commodity groups, and seed companies were mentioned by more than one participant as information sources on conservation farming practices and conservation programs. One participant who ran a custom CRP seeding side business indicated that they were often a sought-after source of CRP information, receiving phone calls from persons who were implementing prairie and pollinator CRP on how to best manage it.

Several participants spoke about the general farming population being unaware or misinformed about conservation practices, including lack of knowledge about ancillary benefits from practices. ‘*It's something that, to me, is something that more producers need to be educated. They understand that those native species and forbs and everything and all the pollinator species, they understand that those rank higher for CRP. But I don't think they understand the benefits that they, personally, will get on their own farm from those species.*’ Overall, participants indicated a general lack of knowledge in the farming community about conservation programs and how they operate. “*And I think in general, the farm knowledge of what programs are available is pretty low. I mean, I had a consulting conservation kind of job this summer, and people were totally just floored to hear that we could take five acres out of a field and put it in CRP... Everybody that I've talked to was under the impression that you had to do the whole field. You couldn't pick and choose two acres out of it... So there must be no awareness of this in general, which is disappointing, but that's just kind of how this works.*”

Several participants indicated frustration at the lack of digestible information available on conservation programs. In lieu of physically going to an FSA or NRCS office, participants talked about trying to sift

through USDA and government program guidelines were virtually impossible and wished for more condensed sources of conservation practices. *'There's really no good place that you can stumble on that information, on all these programs. You have to seek it out, and if you don't know it exists, then you're clearly not going to seek it out. It needs to be a lot easier to find those programs. It needs to be a lot easier to get information, and ideally from multiple sources. Not just from the FSA office...'* In addition, participants indicated that once a practice like CRP was chosen, the guidelines given by FSA or NRCS on implementing a practice were equally dense and intimidating. *'So say it's that wetland or whatever they call it, they'll give you an info sheet. They'll send you too much information, like a 100 page packet that you don't need. And they like to send it out per field. So I mean, you get a stack of all the same pieces of paper. It's just as efficient as you would think the government would be.'*