

Sociology Technical Report 1058 • March 2020





The research summarized in this report was conducted as part of the STRIPS project. STRIPS stands for Science-based Trials of Rowcrops Integrated with Prairie Strips. Since 2007, the long-term project has been measuring the impacts of strategically planting prairie strips in crop fields at the Neal Smith National Wildlife Refuge in Prairie City, Iowa. Results have shown that small amounts of prairie can yield disproportionate, multifunctional benefits to soils, watersheds, wildlife habitat and biodiversity.

Find more information about the STRIPS project online at http://www.prairiestrips.org.

Learn more about the Neal Smith National Wildlife Refuge at https://www.fws.gov/refuge/neal_smith.

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Introduction

The STRIPS (Science-based Trials of Rowcrops Integrated with Prairie Strips) project has developed collaborative partnerships with more than 35 farmers and landowners who have integrated prairie strips into their farm landscapes. One of the STRIPS project's guiding principles is to "create and maintain feedback loops for information sharing among team members, farmer/farm landowner adopters, and other stakeholders." A major goal of these feedback loops is to learn from collaborators who have adopted prairie strips so project staff can help current (and future) collaborators to successfully establish and manage prairie strips.

An important component of those feedback loops is an annual, on-line survey of STRIPS cooperators who have established prairie strips. The purpose of the survey is to learn about collaborating landowners' experiences with the establishment and management of prairie strips to help project staff understand (1) what positive and negative experiences they have had, (2) what information and technical assistance needs they may have, and (3) to learn from their ideas about how the STRIPS team can improve outreach and promotional efforts. The 2019 survey consisted of 10 openended questions and two yes/no questions (Q10-13):

Experiences with prairie strips:

- Q1. What have been some of your positive experiences with your prairie strips this past year?
- Q2. What have been some of the challenges with your prairie strips this past year?
- Q3. What advice would you give someone who is getting ready to plant prairie strips?
- Q4. What have other people (e.g., neighbors, friends, crop advisers) said to you about your prairie strips, whether positive, negative, or questions?

How else can we help?

- Q5. What are some of the questions you have about prairies and prairie management?
- Q6. What else can the Iowa State University STRIPS project do to help?
- Q7. What educational events that you attended this past year formal or informal have helped you to improve your understanding of prairie strips? In what ways were they helpful?

Prairie Strips Promotion

- Q8. How did you first hear about prairie strips?
- Q9. What can Iowa State University do to more effectively promote prairie strips with farmers and landowners?
- Q10. Would you be interested in hosting a field day in 2020?
- Q11. Would you be willing to show your prairie strips to potential adopters in your area and share your knowledge and experiences?
- Q12. Prairie strips are now eligible for annual rental payments through the Conservation Reserve Program (CRP). Would you be interested in establishing CRP prairie strips?
- Q13. Have you ever recommended prairie strips to other farmers and/or landowners?
- Q14. If you have recommended prairie strips to others, what motivated you to recommend them?

The web-based survey was sent by email to 36 collaborators in mid-February 2020, and the survey remained open unil early March. Nineteen collaborators completed the survey for a response rate of 54 percent. This document presents the responses to the questions.

Q1. What have been some of your positive experiences with your prairie strips this past year?

- 1 The wild flowers, the birds, the bees, the butterflies.
- 2 Continue to identify additional species of grasses and forbs each year. Enjoyed having Lydia English do the 2nd year audit of grasses/forbs in my strips. Learned much from her and her report. Great to see more butterflies, bees, beneficial insects and birds living and thriving in the middle of my row crop fields.
- 3 I worked with my tiling contractor to mark the exact location of the tile line through my prairie strip. This was the same tile line that we added an access point to last year so we could push a camera up to see what's growing roots in the drainage tile. I enjoyed working with Lydia English again as she studied prairie strip vegetation composition surveys. I also enjoyed working with Jessica Nelson as she studied soil movement on my farm.
- 4 Having burned for the first time after four years they came back good and strong.
- 5 Seeing bird populations stay at high levels. Ring neck pheasants in particular.
- 6 Getting the project designed and implemented. It was complicated!
- 7 Identifying prairie plants, walking in the strips with my grandchildren, and showing prairie strips to visitors to my farm.
- 8 Stopping erosion even though have had very heavy rains late last summer.
- 9 We have had a noticeable presence of various wildlife species within the strips. We have not had sufficient data to report on effectiveness of nitrate and phosphate removal from tile line tests through the Iowa Soybean Association.
- 10 More songbirds, excellent habitat cover for pheasants, continued compliments for the beauty of the wildflowers, more awareness of STRIPS, one additional property in our immediate watershed that has had a STRIPS planting via indirect result of our plot, perhaps....
- 11 Burning the strips to promote diversity.
- 12 I hosted a field day with help from the Xerces Society. We had 50 people or so for that part of the field day. The had a lot of interest and asked a lot of questions.
- 13 Natural beauty of when the species are blooming.
- 14 They are a good and simple tool for most row crop systems. Easy to implement- effective for water, wildlife, and soil loss on B and some moderate C slopes.
- 15 Nice pollinator areas—good erosion control and spring/summer wildlife habitat.
- Working with student researchers enjoying prairie vegetation. Seeing reduction in erosion observing wildlife in STRIPS.
- 17 We have been happy to promote the STRIPS project during ISU field days and presentations.
- 18 By far number one benefit is wildlife habitat.
- 19 I enjoyed working with Lydia English on her research project on the STRIPS. I was very pleased at how well some newly established strips have done and expect to do more this spring.

Q2. What have been some of the challenges with your prairie strips this past year?

- 1 Getting the newest strips established-too many weeds, not enough natives.
- 2 Spray drift on the edges of my strips are an ongoing challenge. Problem not getting worse and the prairie seems to seed itself into the damage areas pretty well. Volunteer mulberry trees and other undesirable plants invade the strip; not a huge problem, just requires scouting and maintenance. My farm operator planted corn through a section of one strip; have flagged the area and will need to reseed that section this winter/spring.
- 3 I need to burn the prairie in spring 2020, the trees are thickening... I now think that I will burn every 3 years instead of thinking that I can get by for 6 years between burns.
- 4 None really.
- 5 Nothing that I can think of.
- 6 NRCS regulations that go counter to planning STRIPS. Finding the right seed. Calibrating the drill is a tricky, high-stakes endeavor.
- 7 We had quite a bit of foxtail and other undesirables species in our strips. I hope that as the natives get stronger, they take over from the weeds.
- Really haven't had any. They are pretty much taking care of themselves- good stands and good erosion control.
- 9 The corn years are an extra challenge to burn so we want to burn on soybean years, however schedules and weather do not always work with that plan. We have a continued challenge with thistles and other weed species.
- 10 Thistles.
- 11 Hard vegetative edges channeling water downslope...creating headcuts.
- 12 Canada thistle continues to be a challenge, but I think I'm gaining. Brome grass continues to encroach on the 17 year old strip.
- 13 They were sowed in 2018 and have struggled with quality emergence/ground cover. We still have too many weeds and too much bare soil.
- 14 I've put the original strips back to pasture- you have to be careful when and how long you graze cattle. They can be susceptible to being crowded out by red clover and fescue.
- 15 Brome grass re invasion Thistle control Winter matting down after wind/wet snow—no cover for birds.
- Operator still getting used to farming contour strips that were modified by NRCS. Custom chemical applicator also finds STRIPS a bit inconvenient.
- 17 Nothing in 2019. Concern will be woody species in the future.
- Concern from herbicide drift. Haven't seen any negative effects yet but at the forefront of our mind. Some weed growth but can manage with mowing. Also concern for pesticide applications killing desirable species we are trying to attract to pollinator mixes. Insecticides are necessarily species specific.
- Brome grass....always brome grass. We also had some spray throughs on some waterways we have converted to natives.

Q3. What advice would you give someone who is getting ready to plant prairie strips?

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- 1 Try to put them in a location where the weed seed bank is low.
- 2 Consult with knowledgeable experts (STRIPS team members, NRCS agronomist and/or other prairie experts) to do a thorough evaluation of goals, strips layout/plan and seeding plan prior to jumping in. Make sure your farm operator (if someone other than yourself) buys into this practice 100%. Commit to mowing regularly the first 1-3 years or use a nurse crop like oats when seeding your strips. Learn as much as you can personally about prairie species, seeding tips, maintenance techniques, etc.
- 3 Just do it! We need flowers blooming all months of the spring, summer and fall. Lay them out with GPS so you can have 1 planting guidance path for the entire area near your STRIPS. Give yourself time to walk the prairie to control problems (weeds or brush) before control becomes more difficult.
- 4 Make sure they are laid out well.
- 5 Do plenty of planning Make sure you have a good check list and follow through, seeding mowing weed control, etc.

- 7 Be patient and take the advice of Tim Youngquist.
- 8 Mow them in July to control weeds before they go to seed and let the sun in to help further germination. Do good job of seeding non-harmful plants.
- 9 Like all prairie establishment, maximize maintenance to get the best-established prairie possible.
- 10 Try to see in the fall after harvest so that the seed is in/on the ground when the snows come, mow as indicated, i.e. 3 times first year, 2 times second year, maybe one time the 3rd year, and the prescribed burns. Be patient, it will look terrible the first year, a little less the second year, better the 3rd year, great the 4th year.
- 11 Make as wide as possible. Mark boundaries well during establishment to keep permittees from encroaching. Make downhill waterways more "delta shaped" to ease hard edges.
- 12 Make sure you get them in the right place to match your equipment and don't expect too much the first year or two. Expect to mow weeds a lot.
- 13 Make sure you plan appropriately to maintain them.
- 14 Get the STRIPs team and NRCS involved- USDA has some STRIP like Continuous CRP programs- where STRIPs are considered General sign up.
- 15 Be patient Plant diverse mix of grasses.
- 16 work closely with NRCS and farm operator on design.
- 17 Seed contact is important. Time of year makes the difference. Weeds in the first year look bad but follow the protocol.
- 18 Do it. Make them as wide as your situation allows. Plant a diverse mix of species.
- 19 Kill the grass....at least three times before seeding.

Q4. What have people (e.g., neighbors, friends, crop advisers) said to you about your prairie strips, whether positive, negative, or questions?

- 1 They all love the beauty, and hunters love the increase in pheasants and quail
- 2 When environmentally and conservation conscious people learn that we have prairie strips on our farm, they react very positively. Conventional farmers who have not experienced prairie strips and are not interested in newer conservation techniques (beyond terraces & tile) are basically disinterested.
- 3 Very little. I get a positive response from field days and my network friends.
- 4 I have not heard except one neighbor that helped with the burn and was very supportive
- 5 Not so much from local people. Several pheasant hunters always get close to the limit each time they hunt during the season.
- 6 Mostly positive, some people are excited to see the STRIPS when they get established. No negatives.
- Not much. My tenant had a little trouble managing planting and herbicide spraying around the strips. Farm visitors are curious about the strips.
- 8 We had guests from England here in late summer to view the strips along with our son Larkin's department head at UNL and former advisor at ISU. The English people were shocked at all the bug wildlife in the strips. He was an entomologist and they don't have a lot of bugs in England. I think the neighbors think I am wasting a lot of land- but understand when I outline the cheap way to control erosion.
- 9 I have not been here long enough and out and about enough to have any real feedback from visitors.
- 10 Does the grass need to get that tall? How come you don't mow that? When do you put that back into crops? The flowers are beautiful. I hear the pheasants cackling regularly.
- Looks like a problem to farm around. They are impressed how we integrate with commodities. We had an elderly lady digging up coreopsis from a strip.
- 12 Neighbors haven't said much, but others have been quite positive.
- 13 Looks beautiful when blooming. Looks like a weed patch due to all the noxious weeds.
- 14 Genuine interest by those committed to conservation-unfortunately most farmers are not going to change unless forced to through regulation and payment. Based on ISU's tillable acres they should have between 1,200 & 2,000 acres enrolled.
- 15 Positive, worried when there are heavy rains.
- 16 Some curiosity and questions. mostly positive reactions.
- 17 Everyone involved is positive.
- People ask what it is all about, we explain to them, and they understand. This is on public ground so hunters love it for habitat.
- 19 All positive...hoping to encourage others to do the same.

Q5. What are some of the questions you have about prairies and prairie management?

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- 1 How often should I mow the first and second year?
- 2 Could I use prairie grasses/forbs in the area surrounding the intakes on the uphill side of my terraces to reduce silt and nutrient runoff? I'm exploring installing control boxes/saturated buffers on my tile lines to prevent nitrogen runoff into my watershed. However, silt accumulation in the lateral tiles is a concern. One option that came up was to install mini-prairie strips above my terraces to reduce silting, which would also reduce nitrogen runoff. Spray drift will most likely be a challenge, and what seed mix to use (Mesic or Wet Mesic) since some periods will be very wet and others dry. Do you have any advice?
- 3 I would like to add more prairie to my farm for beneficial habitat (beetles, etc.). How wide of a strip do I need (is 10 or 15 feet enough)? How far will ground beetles go out into a crop field to forage for pests (such as slugs)? And so how far apart can the habitat strips (beetle berms) be placed to still have a beneficial impact?
- 4 I wonder how vigorous they will look in ten years
- 5 Nothing at this time
- 6 Many questions are answered on Tallgrass Prairie Center web site answered most of my questions.
- 7 How soon will my prairie strips furnish good honeybee pasture for honey making?
- 8 Wonder if someday I need to do some burning- but won't be easy to control the burns to the strips?

9

- 10 What is the answer to Thistle control? How do you manage them in areas where fire is a real risk due to homes in proximity?
- 11 Mostly weed suppression during establishment
- 12 I have been asked about sources of seed and whether the prairie plants will move out into the crop area.
- 13 What can we do to supplement the quantity of plants out there to help provide further ground cover?
- 14 Interested in enhancing Carbon sinks.
- 15 How can we achieve better winter cover?
- Whether STRIPS will be a sink that attract wildlife, which then become prey for predators that key in on the strip cover? Will pollinators attracted to the STRIPS be impacted by chemical application in adjacent crop fields?

- 18 What effect does herbicide and pesticide drift have on reconstructed prairies, not just strips?
- 19 If the right mix of seed is used, I would ask why the suggestion on first season mowing...that kills the annuals before they can reseed and I would suggest not making the suggestion in the future.

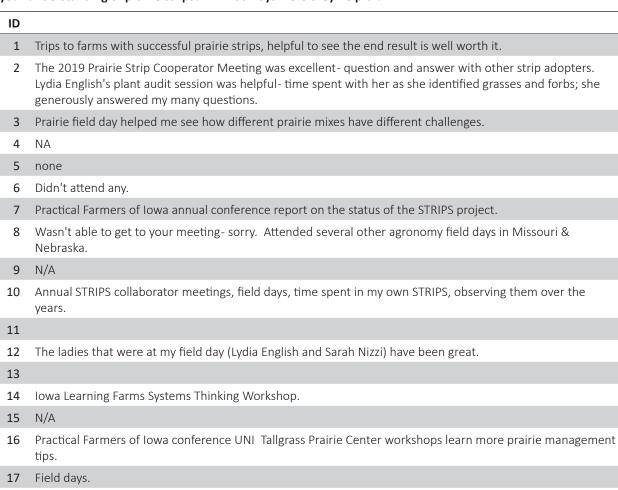
Q6. What else can the Iowa State University STRIPS project do to help?

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- 1 Assistance in setting up the strips.
- 2 Keep up the good work; spread the word; continue to educate NRCS agronomists and County Water and Soil Conservation District Supervisors.
- 3 Continue documenting soil and water quality benefits.
- Continue with the research
- 5 The ISU research work on my farm has been interesting and has motivated me to reseed my other CRP acres into multi species prairie similar to my Prairie STRIPs.
- 6 Get a more official connection/presence in Minnesota to help spread the program.
- 7 Continue to help with maintenance of my strips.
- 8 Just keep up the good work with new people. I would be glad to talk to them, if it would help.
- 9 The research and well-organized results is the most helpful aspect we can have.
- 10 Get the word out more, make the legislators and farmers alike recognize the importance of what this can do locally as well as globally.
- 11 Keep providing follow up research on soil and nutrient loss.
- 12 Just keep up the research and promotion. It would be nice to have numbers on the value of beneficial insect habitat for weed seed and insect management and also the value to soybeans of having pollinators in the
- 13 More science around sizing and placement of the strips. It is way too generalized today and far from a banker-proof plan.
- 14 Get the university to apply them to their land.
- Doing well.
- 16 Continue research projects.

- Can't think of anything. Your communications throughout the year are appreciated. 18
- 19 Feel free to set up a field day at my farm....our latest strips are close to a road and are showing off very nicely.

Q7. What educational events that you attended this past year—formal or informal—have helped you to improve your understanding of prairie strips? In what ways were they helpful?



18

19

None.

Q8. How did you first hear about prairie strips?

- 1 From Lisa Schulte-Moore.
- 2 Read an article in 2014 announcing that the STRIPS research team was looking for landowners to participate in the project. I asked my brother Jud Isebrands to join me; we contacted Lisa Schulte-Moore and the rest is history.
- 3 At Leopold center conference and Iowa Learning Farms.
- 4 Symposium.
- 5 At an early meeting with Seth Watkins.
- 6 Lisa Schulte Moore presented at the U of MN, St Paul, 2 or 3 years ago.
- 7 At a PFI conference.
- 8 My wife saw an article in the Wallace's Farmer mag and I then viewed the ISU videos and knew it was what I needed to control erosion. My land is all tiled, but not terraced. I plant in 12 row alternating corn and soybean rows, but climate change was bringing too many big rains that were tearing up my fields.
- 9 Visiting Neal Smith WR.
- 10 Des Moines Register article.
- 11 Through ISU and Rudi Roeslein.
- 12 Attended a field day at Andrew Nees' farm near Early.
- 13 ISU Extension.
- 14 Doug Davenport.
- 15 NREM and publications.
- 16 Media story about Neal Smith project.
- 17 ISU Extension.
- 18 County Conservation Board program.
- Not sure...8 years ago so early.

Q9. What can ISU do to more effectively promote prairie strips with farmers and landowners?

ID

- 1 Get the word out that is acceptable in the continuous CRP program.
- 2 Getting it approved as a CRP Conservation Practice in the 2018 Farm Bill was HUGE. Now, the guidelines and education for FSA/NRCS professionals is critical. Displays at agricultural education events, conferences, etc. Collaborations with like-minded groups- Practical Farmers of Iowa, SILT, Iowa Farm Union, Center for Rural Affairs, etc.
- 3
- 4 Get all ag stakeholders to promote.
- 5 Just keep it in front of landowners and farmers.
- 6 Partner with NRCS and SWCD more?
- 7 I would concentrate on landowners. Farmers typically are concerned with yield and would rather not have to operate around obstacles like prairie strips.
- 8 Have field days and write more articles about present strips.

- 10 Give them an understanding of the economic benefits to STRIPS, both now, and in the future. Help make them aware that CRP cost sharing and annual payments are a very real possibility, and in a market where profits and rents are down, perhaps a better economic benefit than most realize.
- 11 EDUCATE THE AG VENDORS!
- 12 Field days- in conjunction with NRCS, PFI, IOA, FU, XERCES, etc.
- 13 More science, too much generalization.
- 14 Keep up the farmer support teams, and lead by example.
- 15 Doing well.
- 16 Continue to publicize benefits.
- 17 Field days.
- 18 Hold field days on sites. Get legislators involved somehow. Put brochures in ASCS offices if not already there. Got a Facebook page?
- 19 Field days coordinated with local soil and water conservation offices.

Q10. Host field day 2019?

	Frequency	Percent
Yes	8	42%
Maybe	7	37%
No	4	21%

Q11. Willing to show strips to potential adopters?

	Frequency	Percent
Yes	16	84%
Maybe	3	16%
No	0	0%

Q12. Interested in establishing CPR prairie strips?

	Frequency	Percent
Yes	13	68%
Maybe	3	16%
No	0	16%

Q13. Ever recommended prairie strips to other farmers and /or landowners?

	Frequency	Percent
Yes	16	95%
No	1	5%

Question 14. If you have recommended prairie strips to others, what motivated you to recommend them?

ID

- 1 Good success-increased native diversity with added butterflies, birds and bees
- 2 Believe we need to use all conservation tools in the toolbox. SW lowa is hilly, and in the right situations, prairie strips are a better alternative to terraces with tile!
- 3 We need farmland for natural habitat where birds can raise their young, where insects can find the flowers they need. Iowa needs biodiversity. And strips can help with soil erosion and water quality.
- 4 Erosion control biodiversity for pollinators.
- 5 All of the reasons they are good. Primarily wildlife and soil preservation.
- 6 They were on the verge of putting terraces in.
- 7 The idea that strips can reduce erosion and provide good honeybee pasture. Depending on the audience, the point about increasing the bird and wildlife population is persuasive too.
- 8 My success in shutting down all erosion on my side hills.
- 9 It's part of the strategic goal of ...
- 10 Because I see the benefits to our environment, the economic benefit, and the benefits to those downstream....
- 11 My desire to help solve ecological dilemmas.
- 12 I love them. They are a great addition to an organic farm.

- 14 Best option for his land.
- 15 Much better than terracing Wildlife/pollinator habitat improvement.
- 16 Our experience that STRIPS are a good conservation practice.
- **17** CRP
- 18 Additions of wildlife habitat and biodiversity. Nutrient holding potentials of strips and water holding capacity during dry periods.
- 19 All the benefits....often the issues that seem to catch attention is pollinator and then wildlife.

Question 15. Do you have any additional comments?

ID	
1	Nope.
2	None.
3	
4	
5	Not at this time.
6	I planted last fall, so will have to wait and see what kind of catch we get.
7	I would like to see FFA clubs taking note of prairie strips and making field visits to understand the reasoning behind prairie strips.
8	I tried to enroll my strips in the CRP, but they have to be an acre in size which they all are, but the FSA office stops measuring at any waterways and then starts again- thus I failed to get them into the CRP. I am happier that my strips are just my strips, for I can turn on them or move them if I have to. They are on my poorest land that probably was losing money anyway trying to raise crops. At my age I like doing what I please and love my strips.
9	N/A
10	This could be the very best thing for our farmers and non-farmers alike to come down the pike in decades, if not centuries. Please make this a priority on how nature can help us do better and get things back to how they were perhaps meant to be.
11	
12	
13	No
14	
15	
16	It's gratifying to see student research projects on our STRIPS.
17	
18	Keep advertising to get more people interested.
19	Time to start researching doing the same thing with waterways.





Sociology Technical Report 1058 by J. Gordon Arbuckle Jr. with design and layout by Renea Miller.

The Science-based Trials of Rowcrops Integrated with Prairie Strips (STRIPS) has many project partners. These presently include Iowa State University College of Agriculture and Life Sciences, Leopold Center for Sustainable Agriculture, Iowa Department of Agriculture and Land Stewardship, Iowa Flood Center, Iowa Soybean Association, Prairie Rivers of Iowa, The McKnight Foundation, Trees Forever, University of Iowa Biomass Fuel Project, University of Northern Iowa Tallgrass Prairie Center, USDA-ARS National Laboratory for Agriculture and the Environment, USDA Farm Service Agency, USDA Forest Service, USDA National Institute of Food and Agriculture, USDA North Central SARE, U.S. Fish and Wildlife Service, U.S. Geological Survey, Walton Family Foundation, Whiterock Conservancy, as well as over 35 private farmers and farmland owners. Our partner list is updated over time at www.nrem.iastate.edu/research/STRIPs/content/partners.