

STRIPS Cooperator Follow-On Survey: 2016 Results

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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, multi-functional benefits to soils, watersheds, wildlife habitat and biodiversity.

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

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

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Introduction

Over the last several years, the STRIPS (Science-based Trials of Rowcrops Integrated with Prairie Strips) project has developed collaborative partnerships with an increasing number of 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 cooperators who have adopted prairie strips so project staff can help current (and future) cooperators to successfully establish and manage prairie strips.

A key 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 and (2) what information and technical assistance needs they may have. The 2016 survey consisted of eight open-ended questions:

1. What have been some of your positive experiences with your prairie strips this past year?
2. What have been some of the challenges with your prairie strips this year?
3. What would you do differently if you planted new prairie strips?
4. What advice would you give someone who is getting ready to plant prairie strips?
5. What have people (e.g., neighbors, friends, crop advisers) said to you about your prairie strips, whether positive, negative, or questions?
6. What are some of the questions you have about prairies and prairie management?
7. What else can the Iowa State University STRIPS project do to help?
8. 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?

The survey was sent by email to 29 cooperators in mid-October 2016, and reminders were sent in late October. A final reminder was sent in mid-December. Seventeen cooperators completed the survey for a response rate of 59 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?

- This is the third year so we are starting to see the native grasses really come in. Still lots of annual rye and some pollinators coming in alright. Hope to trial some infield waterways next year.
- I only had to mow twice and was very pleased with the diversity of plants that are becoming established. However my greatest satisfaction along with the no till is I took a water sample when the water was flowing out of the water way and it was perfectly clear!
- Fairly easy to maintain. Noticed a little bit more wildlife in the field between mowings.
- Good erosion control---wildlife habitat, and beauty.
- I enjoy meeting with ISU staff to discuss the condition of the strips and appreciate any feedback they can give me.
- Our prairie strips are in their 3rd year, so we saw a huge increase in the diversity of species...side oats gramma, little bluestem, rattlesnake master, yarrow, just to name a few. Also, the number of bees and butterflies have noticeably increased. Since our strips were planted in brome grass prior to conversion, we haven't noticed a huge difference in erosion, but we believe the soil health is improving (need to do some digging and testing to prove this hypothesis).
- The seed germinated well, and we had a wonderful show of color this year. I enjoyed meeting with other STRIPS Collaborators this summer.
- The areas that were seeded in 2015 have grown quite nicely and I've had opportunities to show them off.
- Starting to actually look like a prairie. Erosion from initial seeding is starting to heal.
- We got them in the ground! The development process took several rounds of editing and finessing so the seeding was a nice way point. The annuals and perennials got a good foothold despite the maintenance mowing regime. There was a little "showiness" to the prairie and I am eager to see how the seeding evolves in coming years.
- Connect with others and trade ideas about STRIPS. See STRIPS in place and start conversations about the project.
- Getting it laid out and seeded and some flowers, grasses coming.
- Enjoying the beauty of the wildflowers, seeing lots of pollinators, and providing a haven for the pheasant population, which has grown substantially.
- I have enjoyed talking with the researchers who visit my prairie strips to monitor bees and birds. I had soybeans in the field this year and planted into "tall" green covers. Word is the birds like my cover crops. And I've helped pick out a couple small areas by the strips where we could establish bare earth plots for ground nesting insects. Interesting. I feel that diversity is increasing and I'm almost always able to find something blooming.
- Seeing so many Prairie plants coming in within the first year (seeded in November 2015). Also, seeing so much public interest at it as it is in a highly visible location.
- Although we started the strips this year, I can see less soil erosion already.

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

- Invasive brome grass
- The edges are a bit too weedy with getting the spraying down effectively and not spraying the strips. I had rye sown on last year and the plane planted over my strips so I had to manage that part differently and it might effect the expression of prairie plants in that part.
- Picking a right day to spray to minimize drift issues.
- Invasive thistles and aggressive brome reestablishment in places.
- Nothing-Very low maintenance on our end.
- The edges of our strips are mainly fox tail, button weeds, mare's tail and other weeds. We need to reseed both edges and a section in the middle of one strip. We believe the edges may be the victims of spray drift since the row crops bordering the strips are sprayed each season. After doing a controlled burn this fall, we will reseed the strip edges and center.
- We had some miscommunications with our [*farm management company*] farm manager and NRCS regarding seed. Our STRIPS were planted in December 2014, using a seed mix that was chosen carefully to be local ecotype. Then in early 2015 we decided (at our farm operator's suggestion!) to plant an adjoining piece in the Pollinator Program. We asked [*farm management company*] to take care of that, using the same seed mix, and also to enroll the STRIPS in the Pollinator Program along with the new plot. That was done, but we found out after the May planting that in order to meet their understanding of the program requirements, they also overseeded the STRIPS. This would seem to be an unnecessary expense, but what is worse is that they used a different seed mix which contained a good percentage of non-local ecotype seed, including some aggressive species that I would not have chosen. It's my fault for not being more involved, but it's rather upsetting. I'm pretty sure the original seed mix would have met the NRCS requirements. We have not yet talked with [*farm management company*] about it, but I wanted to warn other landowners about the situation.
- Canadian thistles have flourished in 2016.
- Inconsistent stands and I mowed some for hay (which I'm thinking now wasn't the best idea) it yielded well, however, I now have quite a bit of ragweed pressure.
- The nice weather, including regular rain, made for a wonderfully weedy year. We had to maintenance mow twice more than what is normal for a new prairie seeding compared to the average year. Point rows. I will be seeding some of the point rows to prairie to avoid the challenges with larger field equipment in narrow areas.
- Frost seeding on a windy winter day. Operator having to deal with contours laid out by NRCS, which were a change from past contour strips. Keeping STRIPS mowed in a year of fast weed growth. Hoping for good prairie establishment, which we might not know for sure for another year or two.
- Weeds. (n=2)
- Planting additional parcel with tremendous tall waterhemp pressure. Also telling the coop exactly where to spray and having them spray part of my STRIPS.
- I have some Canada thistle that I need to control better than just spot mowing. Not horrible, but I need to get busy with my backpack sprayer and stay at it.
- Too early to tell, however, hopeful that it does not create a harvesting hardship for the current tenant. Only other thing I can think of, the pollinator mix did not get into the original seeding, so as a result, they had to interseed in June of this year.

Q3. What would you do differently if you planted new prairie strips?

- Work harder to eradicate the brome first.
- Use GPS for the mapping of the strips for easier management.
- I wouldn't do anything differently. I would just make sure that the area between the STRIPS fits my equipment (sprayer, planter, etc.).
- Would not use Brillion seeder—would use broadcast—would like to try late fall/early winter seeding.
- Incorporate a larger area and do a better job eliminating the weeds initially.
- Increase the number of species planted in one of our strips. In the other strips we used a seed mix with a larger number of species, and it is doing much better. We will do a dormant seeding in either late fall or very early spring. Our first two strips were planted in early June. After reading more and talking with several experienced people, I truly believe the dormant seeding during periods of freeze/thaws is the best planting time. Also, we will hand seed versus using a seed drill.
- Be as involved as possible as a landowner.
- I'd spend a lot more time on layout and flagging. I would also roll the seed in behind the drill.
- Avoid point rows. Plain and simple.
- Involve the operator even more closely with NRCS technicians on working to lay out STRIPS that are easy to farm.
- Nothing. (n=2)
- I don't know-would like some advice!
- I would lay them out with my GPS equipment so that I would not have problems with them being "not quite" parallel. I don't call this a big problem, I'm used to it from my "parallel" terraces that I've farmed all my career.
- Make sure that all of the seed goes in at the same time.
- I like the process now.

Q4. What advice would you give someone who is getting ready to plant prairie strips?

- In former crop ground land, broadcast the seed mixed with wet sand—use as many species as possible—I use 100+. If converting old brome buffers burn and then spray twice and maybe three times with glyphosate before seeding to get rid of as much brome as possible. Also, on crop ground use precision low-drift spraying to avoid harming natives. And use annual rye as your nurse crop and don't mow it all first year—leave strips unmowed so that annuals can go to seed.
- Lay it out good, use a diversity of plants, and be realistic that it will require some time and effort in management of the strips.
- Stay on top of mowing.
- Be patient—won't be perfect and takes time.
- Practice proper weed management to begin with and be patient. It takes time for the strips to become properly established.
- Be sure to read as much as you can about growing native prairie. Talk to as many experienced people as you can. Try to plant a seed mix of species that are native to your county (state isn't a specific enough delineation). Use a very reputable source for your seed; do NOT allow any seed from the south to be included in your seed mix (I've recently heard about Palmer Amaranth and other invasive weeds entering Iowa in native seed harvested in southern states). Make your strips wide enough to make a real difference (30-40 feet wide...My one strip is 15-20 feet wide because that was the existing width of the brome strip, and it suffers from spray drift).
- Seek advice from the experts. Use the right seeding tools such as a culti-packer seeder.
- Use every tool available... Ag Solver, NRCS, STRIPs team resources, use a nurse crop so you can see what you're doing. Another thought would be to use soil maps and put all your low CSR and HEL ground into a Prairie mix CRP. Your ROI will be much higher than crops, your land will get a much needed rest, & ten years from now when crop prices are higher you can sculpt out perfect STRIPs & farm the rest.
- Ensure that the prairie strips compliment contours and that any turns are marginal. Ensure that the seeding complements your farming activities rather than forcing the seeding in any areas--this will make row crop activities a challenge.
- Seed into bean stubble if practical—preferably after bean harvest with a combine that fine chops and distributes bean straw. Use as diverse a prairie mix as possible. Be sure to keep weeds mowed the first season, and perhaps the second.
- Keep trying—good benefits coming.
- Try to put them in a weed-free area and prepare the area carefully.
- Have good weed control in the field before you start.
- Listen to what the experts say, and then do it. Also, probably let them know to try to seed in the fall instead of the spring. Lastly, to make sure that they mow it at least three times the first year, possibly four.
- They are easy to put in. They should save from soil erosion. You are creating a habitat for wild life and butterflies. This will take several years.

Q5. What have people (e.g., neighbors, friends, crop advisers) said to you about your prairie strips, whether positive, negative, or questions?

- Pretty far into fields so only my hunters really see them—they love habitat—really good for pheasant.
- When they see my water samples comparing water from the strips watershed and my neighbors it is pretty impressive how effective no-till with strips have been in controlling erosion.
- NA. (n=2)
- Interested-but skeptical on HEL's.
- People are impressed that we are experimenting with the strips. They are interested. They want to know more. Some think we are crazy to spend so much money on the seed. Since my two strips aren't part of a fully developed STRIPS program (strips alternating with row crops throughout a field), I haven't aggressively promoted them as an alternative to terraces and other erosion control methods. However, I do believe my strips are improving soil health and plant/insect diversity within my field.
- Our farm operator and his wife are very supportive of it. She loves the flowers and wants to plant some of the same species in her yard and on their other farms.
- Most were impressed by the seeding.
- Established landowners (3 generations or more) like the concept and are interested. My neighbors who rent land or are from families newer to owning land don't like it and have been critical of my efforts to promote and demonstrate conservation. The latter group is simply focused on maximizing acres and truly don't understand the difference between revenue and ROI. I hope this phenomenon is just unique to my region and not a problem statewide.
- Nearly everyone was curious about practice but did not specifically express an opinion on the practice. By speaking with visitors about the fact that we used the prairie strips to address problem spots (seeps and waterways) other farmers were much more receptive to the practice. The conservation benefits of the practice were clear to all visitors.
- Mostly questions about what the STRIPS program is. Wondering about weed pressure. Agree that it sounds like a good idea. Questions on cost. Questions on inconvenience of crop farming with the STRIPS.
- Haven't said anything yet. Family likes them.
- They enjoy seeing the wildflowers.
- I don't think I have had very many comments. It may be considered to be another "over the top" project of mine that shows what can be done. They want to wait and see if I have tile lines plugging up after several years, or if it turns into a weedy mess.
- First concerns by several people were that we were getting ready to develop the land. Then received several personal thank yous for implementing the strips planting. Also, I have personally given advice to another group/individual that is contemplating doing their own strip planting. It happens to be in a relatively sensitive area for runoff into big Spirit Lake.
- Some don't like taking land out of production.

Q6. What are some of the questions you have about prairies and prairie management?

- How to control brome while also adding early cool season native grasses and pollinators to the mix?
- I wonder how the burning of the strips will work in a couple of years when we need to burn?
- NA. (n=2)
- Best time to mow invasives—if you can't burn.
- I don't really have any major questions. I just wish I could afford to take 10% of my row crop land out of production and allocate it to prairie strips. Given the current commodity price situation, I would be jeopardizing my farmer's livelihood by reducing the number of acres he has to farm. Also, the slope of part of my farm is too steep for strips to provide the kind of erosion control needed. However, the flatter part of my land, I believe, would benefit from STRIPS...as soon as I can do so without hurting my farm operator's livelihood.
- Burn timing. Things to look out for or future steps to take for the seeding to continue to do well.
- What seed mixes from out of state were contaminated with Palmer amaranth?
- Will the STRIPS serve as a sink that lures in pollinators, which then could be harmed by pesticides used on adjoining crops? How much will STRIPS be affected by herbicide drift from adjoining crops?
- How often to mow?
- Weed control.
- I wonder if I should burn it off but since it is CRP on my farm, I guess that's an NRCS question. I wish I knew and recognized more of the plant species so I would not accidentally consider them weeds.
- What is the best way to manage the thistles?
- How many acres are in prairie in Iowa?

Q7. What else can the Iowa State University STRIPS project do to help?

- Advice on species to include in a native waterway mix? And a native mix for infield buffers that get some vehicle traffic?
- So far the help has been good. I might encourage at least a once a year walk through, which I have had, to see how they are getting established.
- NA.
- Keep up good work.
- I like getting updates on what needs to be done for prairie maintenance.
- I would love to see a research site established in far SW Iowa (near my farm). We need more exposure from the program in various local areas of Iowa for more farmers to buy in. For instance, my farm operator continually says that results from another area of the state really don't count because soil types/weather/etc. vary so much region to region...what works there won't necessarily work here. So, let's get research projects going throughout the state!
- Bring in more expertise from people who are experts in prairie reconstruction, as you did with Diversity Farms. It's a science that is still in its infancy, and there is much more to learn about best practices for a successful reconstruction. I'm sure that not everyone sees the STRIPS as serious reconstructions, but why not encourage that approach.
- Free beer at least twice a year.
- Further research on above issues.
- Appreciate all your help.
- Have a list of operators to consult with.
- Mowing schedule.
- Continue to monitor us and work with us to increase prairie planting without taking whole fields out of production.
- We have two water monitoring sites on this particular tract of land. I am concerned that one of them does not have enough water going through it for measurements. I'm feeling that perhaps there is an underground tile taking care of subsurface run off. Consequently, I'm concerned that current placement of the monitoring equipment may need to be relocated.

Q8. 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?

- I was not able to attend other events this year.
- NA. (n=4)
- STRIPS Cooperator Meeting...this was the most informative meeting. Jon Judson was excellent; his practical, applied knowledge invaluable. Also, seeing the STRIPS research field...its layout, the rationale behind the layout, etc...was great. Hearing updates on the status, successes and challenges of other Cooperators' projects.
- Collaborators gathering at Whiterock Conservancy, with Jon Judson from Diversity Farms. Jon is very knowledgeable and shares his knowledge well. Grass Workshop at Grinnell College, taught by Dr. Tom Rossburg. Gained hands-on experience in using a botanical key to identify plants, in this case grasses.
- The stakeholders meeting is always good. I appreciate it as much for the networking and fellowship as I do for the technical support. In many ways I think that the coalition of stakeholders and the support I feel from the group might be the most important part in advancing the project.
- The prairie strips are a half-step towards increasing conservation habitat that continues to be affected by the edge effect. The edge effect will continue to be an issue for wildlife use but the soil and water benefits are clear.
- Field Day at eastern Iowa Airport—good discussion—but a field trip to walk in the STRIPS would have been helpful.
- None. (n=5)
- Extension is in control of this.
- The one-day seminar at White Rock Conservancy was very helpful and informative. Gave good guidance on number of mornings, different times of year for seeding, and an overall understanding of the numerous benefits that strips create.
- The Neely-Kenyon field day in Greenfield in Aug. They explained the purpose of the strips.

Do you have any additional comments?

- Not at this time. (n=2)
- With farm prices as they are--I am reluctant to take away more land from my farmer---even though some areas would probably be more cost effective in STRIPS than failed planting of row crops or poor yields.
- My additional comments appeared in the answer blocks of the 2 prior questions.
- Need more info on ISU soil health conference.
- Thank you very much! (n=2)
- Plot looks very good today.
- I really like contour farming. Always have, don't understand why more farmers don't. Head in a box, I guess....
- I am a strong head. I'm happy to help promote strips to others considering it, I think it would be a great thing for the state of Iowa and to watch this ideology permeate throughout the state. I think it would go towards lessening, and perhaps eliminating a lot of the water issues that the population of Iowa currently faces.



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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 Eastern Iowa Airport, 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, US Fish and Wildlife Service, US Geological Survey, Walton Family Foundation, Whiterock Conservancy, as well as over 25 private farmers and farmland owners. Our partner list is updated over time at www.nrem.iastate.edu/research/STRIPs/content/partners.