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ORGANIC AGRICULTURE

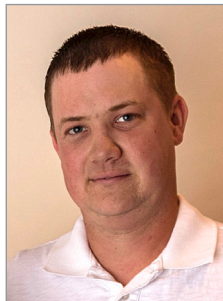
Indiana Organic Grain Production: Cases to Consider

This report aims to provide guidance to farmers who are in the organic transition process or are interested in starting organic production by providing context-rich profiles of Indiana farmers who have recently been through the transition process.

It summarizes the farmer-generated advice and common themes from a case study of five grain farm operations (seven total farmers) in Indiana transitioning acres to certified organic production. The study took place over 2018-2021. The five farm operations were at different points in the organic transition process. Two were farming

organic prior to the interviews and were transitioning additional acres over the course of the study: Andy Ambriole, a longstanding organic farmer, and an operation newer to organic, George Steiner & Kathy Reynolds. The other three operations – those of Clayton Ramsey, Jeff and Paul Herrold, and Josh Miller – were transitioning acres to organic for the first time and had certified organic acres by the end of the study.

Meet the Farmers



Andy Ambriole: BioSteward Farms

Location: Roanoke, Huntington County

Acres: 1810 total acres: 1470 certified, 70 in transition, and 270 acres transitioned over the study period (as of January 2021)

Crops Produced: corn, soybean, hay, wheat, barley, oat

Preferred Cover Crop: 14-way mix

Starting Transition/First Year Organic: Ambriole has been farming organically for 17 years and is the most experienced organic farmer of those interviewed. He had his first organic field certified in 2007. His first experience with organic was growing organic tomatoes in a greenhouse in 2004.

Motivation for Farming Organic: Ambriole sees the organic market as way to be paid for maintaining soil health and higher crop quality, unlike conventional markets.

Clayton Ramsey: Ramsey Farms

Location: Odon, Daviess County

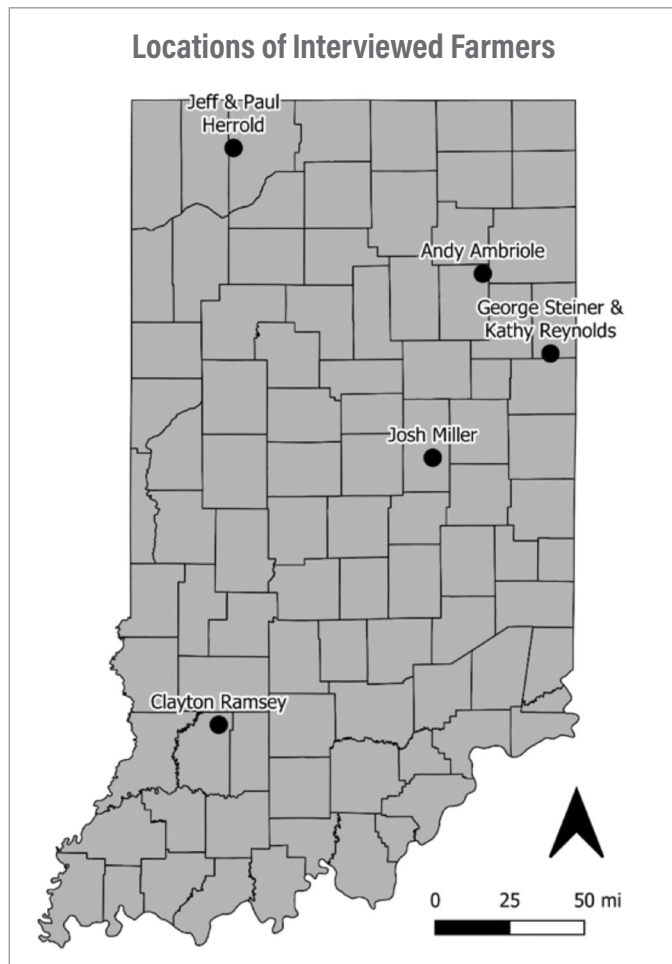
Acres: Ramsey's acres have been variable year to year, due to him working predominantly leased land. As of January 2021, he farmed 4200 acres, with 3900 certified and 300 conventional.

Crops Produced: corn, wheat, soybean, milo, popcorn, sunflower (experiment in 2020)

Preferred Cover Crop: clover

Starting Transition/First Year Organic: He first managed already certified organic ground in 2019; his first transitional field was certified in June 2020.

Motivation for Farming Organic: Mainly to avoid chemical exposure and to avoid the conventional land renting market.



George Steiner & Kathy Reynolds: Steiner Organic Family Farms

Location: Geneva, Adams County

Acres: 636 acres in total, with 553 certified organic and 83 in transition (as of January 2021)

Crops Produced: soybean, wheat, corn, barley, hay, oat

Preferred Cover Crops: barley, wheat, clover, oat

Starting Transition/First Year Organic: Their first field was certified in 2016.

Motivation for Farming Organic: Primarily to support soil health and avoid chemical exposure.

Additional Information: Steiner currently owns the operation and farms with Reynolds, his daughter, who plans to succeed Steiner.



Jeff & Paul Herrold: Herrold Farms

Location: Westville, LaPorte County

Acres: For 2021, 480 of their 2480 acres will be certified, with the rest remaining in conventional.

Crops Produced: soybean, wheat, corn, seed corn, rye

Preferred Cover Crop: clover

Starting Transition/First Year Organic: The Herrolds had their first field certified in 2020.

Motivation for Farming Organic: The Herrolds have a variety of motivations, including financial opportunity, soil health, and the challenge.



Josh Miller

Location: Anderson, Madison County

Acres: Miller had his first certified organic crop in 2020; he plans to gradually transition additional acres each year (acreage not specified).

Crops Produced: soybean, seed soybean, rye, corn

Preferred Cover Crop: Rye

Starting Transition/First Year Organic: First field certified organic in 2020.

Motivation for Farming Organic: Potentially greater profit opportunities.

Additional Information: Miller is also deeply involved in conventional farming. He sits on the National Corn Board, Indiana Corn Marketing Council, and the US Grains Council.

Why Go Organic?

Most of the farmers saw organic as a way to be paid to build soil health – and get paid extra in premiums to implement practices they were already interested in. One farmer started producing organic crops primarily because they saw it as an opportunity for greater profit, although the finances may not be right for every farm. Other farmers emphasize that an aspiring organic farmer should also have non-economic reasons for going organic. These concerns are related to challenges, both logistical and financial, that arise during the transitional years and cause strain on operations. When these strains arise, having motivators that go beyond the potential financial benefits can help farmers stay the path as they navigate through transition. This report covers these challenges in one of the following sections.

“If you’re a poor farmer, if you’re not doing things right already, getting into organic isn’t going to make anything any better. It’s just going to cost a lot of money – and then you’re going to be really mad.”

- Case study farmer

The interviewed farmers also identified several non-financial reasons for transitioning to organic. Farmers commonly noted that, early on, another organic farmer served as an example of successful organic production, thus suggesting that organic production can be a viable choice. Other non-financial reasons include:

- Improving soil health and biology
- Maintaining resources for the next generation
- Reducing acreage, doing more with less
- Avoiding handling toxic chemicals
- Addressing environmental impacts of farming, such as hypoxia in the Gulf of Mexico
- Bringing the family back into farming
- The challenge of farming differently, and farming more than just corn and soybean

Response from Neighbors, Landowners, and Family

In response to going organic, most of the farmers noted that they faced serious resistance and skepticism from other farmers, even to the point of experiencing harassment or social isolation. One farmer received an unsolicited delivery of three jugs of herbicide, which they figured may have been a signal to spray weeds in their transitional field. Another remarked that he no longer went to the local coffee shop due to neighboring farmers giving him a hard time over his organic production. He recalled that one time at the shop someone told him:

"Well, I heard [case farmer] was a pretty good farmer at one time, but since he's went organic, he isn't worth a hill of beans."

- Restaurant patron

This behavior extended beyond the shop. A farmer recalled some big farmers bad-mouthing one of his organic fields to one of his landlords. Another farmer, however, noted that landowners can be open to organic production:

"Once you bring it (organic) to them (landlords) and they start researching it, anybody that had half a notion to do it loves the idea and loves the thought of it now."

- Case study farmer

He said 90% of his landlords were OK with his transition to organic. Other farmers said landowners were receptive during discussions about the potential of increased returns from organic production.

Despite some negative local reactions, all of the farmers who are open about their organic status noted that people were interested in their organic operations and were either watching or asking questions.

One farmer was concerned about negative reactions and mischaracterizations from other farmers and agribusiness, although his reaction differed from the other interviewed farmers. He chose to be guarded about the organic field in his split operation and not tell anyone beyond his operation. He does not want others who support conventional farming to see his organic field and misjudge him as anti-biotech.

Family responses to organic were mixed, with some families being supportive and others less so. One farmer faced resistance from their father and grandfather. As a result, the respondent felt pressure to make organics seem economically feasible. Another respondent's family was critical of the decision to transition acres to organic, but the respondent's track record of bringing great returns to the corporation provided enough leeway to experiment with organic. In addition, a farmer was able to learn from their extended family's experience transitioning in Switzerland. In another case, a participant's organic farm likely influenced their father's decision to transition some acres to organic.



Photo by Michael O'Donnell

Finding Information and Guidance

Universally, the interviewed farmers emphasized the importance of finding information and guidance to aid in organic transitioning and production. One farmer suggested that gathering information on organics often means looking beyond local sources and:

"Redefining your community as maybe not exactly your next-door neighbor but like-minded people."

- Case study farmer

Other farmer experiences align with that statement. Several travel out of state to attend organic field days. As one put it:

“My suggestion here – you guys get on the internet. Tap into organic. If you have to go to another state, go to them and listen to them.”

- Case study farmer

Notably, one farmer has since become a local source of information and influence for other farmers in the study. By educating himself early on organic practices, he is able to serve as an information source for newer organic farmers. Additionally, all of the respondents reported finding good information and network connections through the Purdue Extension Organic Agriculture Program in recent years (<https://www.purdue.edu/dffs/organicag/>). However, participants did not look to Purdue Extension before the organic program was developed. In these cases, organic-specific programming was an important education gap that Extension sought to fill. Farmers also widely cited conferences, seminars, organizations and books as good information and contact sources. These resources include:

- MOSES Conference: <https://mosesorganic.org/conference/>
- University of Wisconsin OGRAIN Program: <https://uworganic.wisc.edu/ograin/>
- Acres USA Conference
- IDEA Network listserv
- Purdue Extension Organic Agriculture Field Days
- Experienced organic farmer field days
- Seminars and webinars by private businesses
- Publication: “Steel in the Field” (SARE)
- Book: “Managing Cover Crops Profitably” (SARE)
- Gary Zimmer, author

However, COVID-19 has led to many conferences, seminars and meetings being virtual. According to one farmer, this is a double-edged sword. On one hand, he can now attend meetings he wouldn't otherwise attend due to distance. He can even listen to conferences while in the tractor, saving himself time. On the other hand:

“A lot of times the meeting after the meeting is more beneficial than the actual meeting. And virtually, you can't schedule the meeting after the meeting.”

- Case study farmer

Most of the farmers suggested establishing a relationship with a successful organic farmer who aligns with the way you want to farm. One farmer in particular emphasized the importance of finding someone with similar farming goals, which allows for a better mentorship fit.

Controlling Pests and Weeds Organically

Crop rotation and cover crops are two weed and pest control processes that are required for organic certification (7 CFR 205.205). Soybean > wheat > corn was the most common rotation that farmers aimed for, although some farmers replaced wheat with another small grain, such as rye, barley, or oat. For cover crops, farmers reported using frost-seeded clover and alfalfa, rye, barley, and/or diverse multi-species cover crop mixtures. Establishing an effective crop rotation with diverse cover crops is key to nutrient and pest management, and thus ensuring good crop yields. Crop rotation contributes to nutrient management by varying the nutrient needs of the crops, and it also helps break disease bridging between crops. When farmers planted corn on corn, they found that their fields ran out of nitrogen. Cover crops contribute to nutrient management by anchoring the soil to reduce runoff and build organic matter, and also have the added bonus of suppressing weed growth between plantings.

Using cover crops also means managing them so that they do not set seed and become weeds in the next planting. Farmers managed cover crops through mowing, tilling, and/or crimping. One farmer found that growing rye made planting wheat unfeasible, due to volunteer rye appearing in the fields.

All of the participants routinely used a weed zapper as part of their weed management strategy. Most purchased their own zapper or planned to purchase one in the coming year. The weed zapper sits above the crop canopy and electrocutes weeds that grow taller than the crops, most commonly on Indiana organic farms in soybean crops. For one farmer, the weed zapper served as a source of additional income, as they offered to custom weed zap for other interested farmers. However, the farmers emphasized that the weed zapper was only one part of the weed management system and not a cure-all.



Photo by Michael O'Donnell

Farmers employed a variety of other weed control techniques, commonly including tine weeding and cultivating. One experimented with moldboard plowing. Due to its location near a cattle operation, another farmer used grazing to suppress weeds on a field. Weed zapping, tine weeding, cultivating, and flame weeders are equipment that require investment, thus creating a large upfront financial cost to organic weed management for those who do not already have the equipment. In the case of severe pest outbreaks, like one farmer faced with armyworms, there are organic chemical treatments – such as Bt (DiPel) and Spinosad (Entrust) – that are more expensive than conventional ones. While organic treatments are more expensive, applying a synthetic or non-approved treatment means delaying transition or certification. All the farmers stressed that they always contact their certifier to get approval before using any input that is not already approved by their certifier in their organic system plan (OSP).

Through the various non-chemical pest and weed management strategies, organic management is ultimately more time- and labor-intensive than conventional management. As one farmer puts it:

“It’s a lot of time weeding or cultivating. ... It seems like the conventional guys have time to go to lakes for the weekend. And it just seems like we’re constantly busy. Which, I don’t know, mentally gets you down a little bit when you’re constantly fighting it.”

- Case study farmer

Challenges from Transitional Fields

A key challenge and tension in transitioning to organic is deciding how many acres to transition at once. Transitioning more acres at once means getting access to higher revenues and avoiding logistical complications from a split organic-conventional operation. However, transitioning more acres at once will restrict cash flow and create less financial flexibility to experiment and learn, since interviewed farmers were able to find only non-GMO premiums for transitional crops.

Universally, the interviewed farmers recommended taking it slow and not transitioning all fields at once. They recommend that aspiring farmers consider the following factors:

- Transitioning involves a great deal of learning and trial and error. Farmers should plan for things to not go their way, and they should expect the unexpected. Through experience and planning, farmers should develop contingency plans.
- As a consequence of inexperience and a lack of organic certification, transition fields will have less cash flow. Transition fields follow organic practices without the full benefit of organic premiums, and the farmer may still be learning how to effectively farm organically.
- Split operations require cleaning of equipment and storage (if not separate storage) to prevent contamination of organic crop with conventional crop. Additionally, cleanouts are required to prevent accidentally applying conventional inputs to transitional or organic fields and crops. Cleanouts require additional time, labor, and cleaning logs. Consequently, one farmer no longer plants crop buffers for harvest in order to avoid the need for handling buffer crops and the hassle of equipment cleanouts.
- The more transitional and organic acres, the more labor is needed to work it. Organic farming requires higher skilled labor and more labor per acre than conventional. As one case study farmer stated: “If you think that you’re going to have to hire one more guy, you probably need three more guys.”
- When transitioning rented ground, be careful to make sure it has cash flow to appease the landowner. This concern depends on how willing the landowner is to accept reduced short-term revenue in favor of greater long-term revenue. On rented ground, longer-term leases can increase stability during the transition and help ensure that a farmer can obtain the certification benefit of completing a costly transition.



Photo by Michael O'Donnell

- Do you have the capital to invest in weed control equipment? If so, it will reduce the amount of loans you need to manage during transition.

Another point that requires special attention is the impact on bank financing. One farmer reported serious difficulty in convincing bankers that his short-term transition losses would be worth the long-run benefits to profitability, and thus had difficulty obtaining operating loans.

Managing for Certification

The interviewed farmers stressed that their respective organic certifiers (Accredited Certification Agencies) want to work with farmers, rather than work against them. So long as farmers are in compliance with major requirements – not spraying synthetic pesticides, for example – certifiers sought to work with farmers in a continuous improvement process. As one farmer, who was previously apprehensive about inspection, put it, the inspector “brought an olive branch, not a sword.”

In preventing minor non-compliances, the interviewed farmers focused most on keeping thorough and complete records. One farm received a minor non-compliance related to recordkeeping, and as a result they needed to improve seed, input, and crop inventory records for the next year. This minor non-compliance did not hinder certification, but it did provide external accountability that forced them to keep better records.

To meet recordkeeping requirements, the interviewed farmers looked into how to most efficiently manage their records. Most settled on manually creating electronic records, including digital spreadsheet systems or digitized physical records. The farmers generally agreed that most packaged apps were too expensive to justify and/or were geared toward larger or conventional production, though the farmers did mention a few apps that aided in recordkeeping:

- Google Docs/Sheets: spreadsheets, and for logging activities via mobile while in the field
- Dropbox: for logging activities via mobile while in the field
- Microsoft Excel: spreadsheets
- GreenStar: logs created on the tractors and combines
- AgLeader SMS: for maps, logging, and yield.

Several farmers noted delays in certifying their fields, which may have been in part due to COVID-19. Late inspections, whether delayed or scheduled late, pose a harvest issue. The certifier wants to inspect the crop while it is still in the ground for the first year of an organic field, not after harvest. This was an unexpected challenge for one farmer. Similarly, another farmer experienced a delay by their certifier, which led them to being very hesitant to sell their crop under contract until the certification was formally approved. Aspiring organic farmers should be aware that certification delays can disrupt planned marketing and harvest schedules.

Marketing and Prices: 2018-2020

Farmers reported organic corn sale prices in the range of \$7 to \$8.75 a bushel. Farmers were able to secure the higher end of the price range by booking crops out in advance via forward contracting. This can also allow the farmer to get a premium for storing the crop through the fall. Forward contracting this way requires grain storage, which imposes additional cleanouts if bins are shared between conventional and organic products. Other forward contracts can specify that grain will be delivered straight from the field. Forward contracting can also result in greater revenues protection due to a “contract price addendum” on crop insurance, allowing the farmer to use the contracted price instead of the Risk Management Agency price for their coverage. Higher prices can also be obtained for food-grade product, at the cost of higher product standards.

Farmers reported organic soybean sale prices in the range of \$19 to \$20 a bushel. One farmer was able to book \$8/bushel for organic corn, as long as they also sold two bushels of organic beans at \$20/bushel for every one bushel of corn.

In contrast, wheat was not considered very profitable. Farmers remarked that the organic wheat price was not much over conventional, with one farmer finding a price of \$8.80 when shipped via a nearby rail (\$7.40 when accounting for shipping costs). If a corn year was bad, farmers did not expect to recoup much losses with the wheat year. At least one farmer opted to hold their wheat harvest for use as cover crop seeding on their fields.

However, organic grain prices have been volatile in recent years. There are a number of resources for understanding pricing, including:

- USDA Organic Reports: <https://www.ams.usda.gov/market-news/organic>
- Mercaris Farm Gate Price Survey: <https://mercaris.com/farmers>
- Other publications on pricing, found at: <https://www.purdue.edu/dffs/organicag/market/>

The most common takeaway from marketing organic crops is that it requires more intentional searching to find a good buyer and price. As one farmer says:

"It's not just anybody will take your (organic) corn or soybeans. You just can't go down the elevator and, 'Oh, yeah. I'll just go drop a load today.' It's not that simple."

- Case study farmer



Photo by Michael O'Donnell

Some farmers have concerns as large conventional grain companies enter the organic marketplace. It could create downward price pressure by treating organic grains as another commodity, eroding the potential financial rewards of organic production. At least one interviewed farmer found it quite difficult to work with a large conventional grain company.

Marketing concerns are especially relevant as farmers begin to feel a cost-price squeeze. Farmers reported rising costs of organic-compatible manure. One farmer reported chicken litter prices increasing from \$12/ton to \$22/ton to \$40/ton.

Several interviewed farmers stressed that transitional certification is not financially worth the payoff for marketing transitional crops, though the crops can be marketed as non-GMO. However, these prices are also influenced by supply from conventional operators who are switching to non-GMO seeds.

Light at the End of the Tunnel

Despite the various difficulties described by the interviewed farmers, they still saw substantial value in going organic. In alignment with their motivations, interviewed farmers generally saw increases in their soil health, appreciated using less chemicals, were able to tap into price premiums, and either realized or worked toward profitability.

"The nice thing, honestly, about organic farming is you kind of feel like you're really farming again. I mean, I know when we were conventional farming, I wasn't digging in the soil. ... You kind of get on autopilot."

- Case study farmer

"I don't want to be a commercial farm where your dad goes off to a job, he does these crazy acres, and then comes home at night. Where if we could spend family time together -- I see organic kind of bringing us together more as a family."

- Case study farmer

"I think our soil looks better. If you take a shovel-full, see the worms. And it smells better."

- Case study farmer

One farmer considers organic to be a challenge. His reward is that his organic acres are not only profitable but, he believes, more profitable than his conventional acres.

Conclusions

The overarching message of this report is that despite challenges, the interviewed farmers continue to find financial and personal value in organic production. Farmers transitioned acres to organic for a variety of reasons, including higher price premiums for crops, being paid to increase soil quality, and reduced handling of chemicals. These farmers also faced a number of challenges during and after the transition process, including resistance from community and family members, more labor and time-intensive weed management, yield and financial losses while learning organic management, credit limitations from banks, increased labor and recordkeeping due to cleaning out equipment and storage in a split operation, thorough recordkeeping requirements for certification, and greater marketing effort.

For those farmers considering transition, this report offers a number of recommendations:

- Explore additional, non-financial motivations for transition.
- Find a mentor for advice and information who aligns with your goals, in addition to reaching beyond your existing farm connections for information.
- To manage weeds effectively, start small or secure capital to buy weed control equipment.
- Take transitioning slowly. Do not transition all your fields at once.
- Talk early with an organic certifier to know what you can and can't do, and so you know the detailed records you need to keep.
- Adopt more active marketing strategies.

Purdue's Organic Agriculture Program: <https://www.purdue.edu/dffs/organicag/>

For more recommendations on the organic transition:

- "Transition to Organic Grain Production." <https://www.purdue.edu/dffs/organicag/wp-content/uploads/sites/6/2020/08/TransitionOrganicGrain-HANDOUT.pdf>

- "Organic Transition & Certification Resources." <https://www.purdue.edu/dffs/organicag/transition-certification/>
- "Is organic right for my grain operation?" <https://mdc.itap.purdue.edu/item.asp?ItemNumber=HO-304-W>
- "Identifying Barriers to Organic Certification for Indiana Grain Farmers." <https://www.extension.purdue.edu/extmedia/HO/HO-312-W.pdf>

For more on managing field and grain crops organically:

- "Crop Rotation on Organic Farms." <https://www.sare.org/resources/crop-rotation-on-organic-farms/>
- "Managing Cover Crops Profitably." <https://www.sare.org/resources/managing-cover-crops-profitably-3rd-edition/>
- "North Carolina Organic Commodities Production Guide." <https://content.ces.ncsu.edu/north-carolina-organic-commodities-production-guide>
- "Introduction to Cover Cropping in Organic Farming Systems." <https://eorganic.org/node/1590>
- "Using Cover Crops in Organic Systems: Resources and Research from SARE." <https://eorganic.org/node/8780>
- ATTRA. <https://attra.ncat.org/topics/organic-field-crops/>

For more information on marketing organic grains, see: "Who are the organic grain buyers in the Midwestern United States?" <https://mdc.itap.purdue.edu/item.asp?ItemNumber=HO-329-W>

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