

Should We Transition our Livestock to Organic?

A Decision Case Study

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Matthew and Karol Jones, while experienced, with agriculture, wanted to get back to their farming roots. Upon returning to the family land, they decided to start a livestock operation and were successful grass-fed beef producers. The Jones's concern for land stewardship led them to consider obtaining organic certification for their livestock herd, but is organic certification an economical way to meet their conservation, family labor, and animal welfare goals? Is organic any better than grass-fed?*

The Jones family farm in west central Minnesota was purchased in 1956. The 320 acres were primarily a silty-clay loam with pH ranges of about 7.6 to 8.3. The Jones farm had a dairy operation with supplemental grain crops and forage for the cattle. Over the years, the land and operation passed to the next generation but by the mid-1990s, the family talked about getting out of the dairy business. Matthew Jones, a grandson and prospective heir to the farm, decided to go back to school and left the family farm. His parents continued to farm for some years, but as their retirement age drew nearer, they decided to rent the land to a neighboring farmer.

Off the farm, Matthew received a college degree in Agronomy, settled in a metropolitan area, and started a career. Most importantly, Matthew met and married Karol. Karol had an advanced degree in agroecology and her

** While these cases describe actual situations, names have been changed to protect the identity of participants.*

career was focused on research. Together they shared a deep respect for sustainable land use and agriculture. As the years passed and Matthew and Karol started their family, Matthew missed the farm more and more. Both Matthew and Karol were getting tired of living in a metropolitan area and they were drawn to the idea of raising their growing kids in a rural, small town setting. In the late 2000s, they decided to pull up stakes and move back to Matthew's hometown area.

When Matthew's parents decided to retire and move to town a few years later, Matthew and Karol bought the farmstead and land. The house became their home and they continued to rent the land to a neighboring farmer who farmed corn and soybean using conventional practices. They both continued their careers, the kids attended the local school, and they all became involved in the community.

It wasn't too long, however, before Matthew and Karol began to consider farming for themselves. Inspired by their love of the land and a belief in sustainable agriculture coupled

with their educational backgrounds, they began to reconsider how their land was being managed. They had concerns about the quality of the water in their area. Their region of the state was considered the prairie pothole region, and many of the sloughs and lakes were having serious water quality issues or disappearing completely. Also, Matthew and Karol were concerned about the quality of their own land after years of conventional row crop production. Inspection of their land showed there were areas with poor water infiltration and patches of herbicide-resistant lambsquarters. Furthermore, Karol and Matthew wanted a safe zone free from the synthetic pesticides used by conventional farmers in which to raise their children.

Many discussions, questions and brainstorming sessions ensued between Matthew and Karol. They debated whether they should they start requiring the land renter to use more sustainable farming practices, or whether they should farm the land themselves so they could control exactly how the land was managed. Karol was especially interested in converting their acreage to organic farming. Matthew had experience working with cattle; maybe a livestock operation would be a good option?

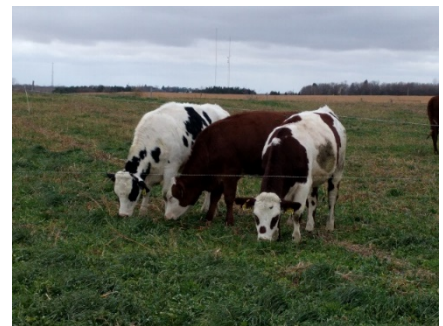
The Joneses voraciously collected information about alternative farming options, the different programs that the United States Department of Agriculture (USDA) had to offer, and what was already being done in their area and around the state. They studied their options, analyzed their personal experiences and goals, and decided their first step would be to establish a livestock grazing system on a portion of their land. They applied for a program that would allow restoration of a wetland in a notoriously wet area near the farmstead and establish roughly

80 acres of pasture for the livestock. The remainder of their farm would still be rented to their neighbor.

Within two years, the Jones family established a small herd of grass-fed finishing beef on their new pasture. It wasn't long before they saw improvements in the quality of their pasture, water infiltration and an increased presence of wildlife.

Grass-Fed vs. Organic

Matthew and Karol managed their pasture for the first two years without synthetic



inputs. If they maintained those same practices for another year, they would be able to certify both their pasture and the livestock as organic in another year (see *EXHIBIT A: Overview of Organic Livestock Production*). Having an organic livestock operation would demonstrate their commitment to preserving and improving the soil, water and air of their farm. It would also ensure that their children would be exposed to fewer chemicals and pesticides.

However, Matthew and Karol had concerns about whether it was worth the expense and paperwork to obtain organic certification. Organic certification required an application fee (about \$300), annual inspections, annual certification fees (approximately \$700), and meticulous tracking of forage, feeding and vaccinations. Both Matthew and Karol were working full-time off the farm. The steady income helped to pay household bills and gave them flexibility to take some risks with

their farming decisions. But, they were concerned they wouldn't have time to keep the records required for organic certification (see *EXHIBIT B: Organic Livestock Documentation*).

To sell their beef as certified-organic, Matthew and Karol would be required to have their livestock processed at a certified-organic meat processor. The closest organic processor to Matthew and Karol was at least an hour drive one way. The distance would make it time-consuming and expensive to deliver their cattle for processing and then return to pick up the processed meat. Matthew and Karol were already processing and marketing their cattle locally as grass-fed and their customers were willing to pay a small premium. The difference between the market prices for grass-fed beef versus organic beef was small, and there were organic certification fees that would need to be covered. Would those same customers be willing to pay a little more for organic grass-fed beef? Or, perhaps Matthew and Karol would find new customers for their beef if it were certified organic (see *EXHIBIT C: Demand and Pricing for Conventional, Grass-fed, and Organic Beef*).

Both organic and grass-fed beef must have their cattle on pasture to be considered grass-fed, organic or even both. But, unlike 100% grass-fed beef, certified organic cattle can be fed grains when necessary, which would allow their operation some flexibility. However, under certified organic rules, both the grains and the hay must be 100% organic. Because organic hay could be difficult to source consistently, Matthew and Karol assumed they would need to use some of the currently rented acres to establish hay ground. But, those acres had synthetic fertilizers and pesticides used on them, so they would have

to go through the three-year transition period to get certified as organic.

An additional concern for Matthew was black fly pressure on the cattle. He was not confident he could manage this pest using only organic methods. Black flies are biting parasites that negatively impact animal weight gain and welfare. They cause animal discomfort by producing skin irritation and blood loss, which can affect livestock health, production and profitability. Because of his experience raising cattle, Matthew knew black flies were a significant challenge. Conventional and grass-fed beef allow the use of synthetic pesticides and insecticides to keep fly populations in control by spraying the breeding grounds and treating the animal directly. These options are not available in an organic operation, which relies on chemical-free practices that include trapping with sticky traps, using natural predators such as wasps and bats, and composting manure. Matthew's experience and conversations with other producers indicated that the organic methods weren't as effective as he would like.

After seeing the improvements that the grass-fed, pastured livestock had already made on their land for soil and water quality and wildlife diversity, Matthew and Karol knew they wanted their farm plans to continue to incorporate sustainable land practices, but how far should they go? They knew the organic certification for their livestock would continue to ensure a safe environment for their children, as well as protect the water and soil. However, Matthew and Karol were seeing a financial return on investment with their grass-fed beef; would the value of certifying their livestock as organic be worth the investment?

Exhibit A: Overview of Organic Livestock Production

The USDA has a set protocols for raising certified organic ruminant livestock. These protocols must be met on an annual basis in order to qualify for organic certification. In basic terms, certified organic livestock must be:

- Generally, managed organically from the last third of gestation.
- Allowed year-round access to the outdoors except under specific conditions (e.g., inclement weather).
- Raised on certified organic land meeting all organic crop production standards.
- Raised per animal health and welfare standards.
- Fed 100 percent certified organic feed, except for trace minerals and vitamins used to meet the animal's nutritional requirements.
- Managed without antibiotics, added growth hormones, mammalian or avian by-products, or other prohibited feed ingredients (e.g., urea, manure, or arsenic compounds).

Certified organic livestock must have continuous access to pasture during grazing season and/or appropriate weather. The USDA organic regulations defines “pasture,” as “land used for livestock grazing that is managed to provide feed value and maintain or improve soil, water and vegetative resources.” Therefore, overgrazed or dry land do not qualify because they do not provide proper animal nutrition nor the land management qualities required for organic certification. There are many details involved in raising organic livestock; for more information, please visit: <https://www.ams.usda.gov/grades-standards/organic-standards>.

At this writing (9/27/2016), the only certification program for grass-fed beef that exists is for small and very small producers (49 head or less). This program requires that ruminant animals be fed only grass and forage, with the exception of milk consumed prior to weaning. Animals certified under this program cannot be fed grain or grain by-products and must have continuous access to pasture during the growing season. Producers that complete the USDA grass-fed certification receive a certificate that allows them to market cattle and sheep as “USDA Certified grass-fed,” a designation that can be found on labels in stores. For more information, please visit: <https://www.ams.usda.gov/services/auditing/grass-fed-SVS>.

Additional resource: <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=525>

Exhibit B. Organic Livestock Documentation

Every certified organic operation must prove, through record-keeping and reporting, that they are in compliance with USDA regulations. Records must be complete, organized, and readily available. There are three types of documentation that enable accredited certifying agents (certifiers) to verify a producer’s compliance with National Organic Program (NOP) Regulations:

- a) Producer and Handler Records (PHR)
- b) The Organic System Plan (OSP)
- c) Audit trail documents (eg: purchase invoices, organic certificates, contracted custom application or harvest records, vaccine records, sales invoices, etc.)

Organic producers can find free templates and tipsheets for developing accurate record keeping through both the NOP and ATTRA.

<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=358>

Organic livestock producers also must have thorough documentation recording the time their livestock has spent on pasture and feeding record to fulfill the “NOP Pasture Rule.” Again, worksheets and other information are available through NOP. To learn more, please visit:

<https://www.ams.usda.gov/sites/default/files/media/NOP-UnderstandingOrganicPastureRule.pdf>

PASTURE ID	ACREAGE	STOCKING RATE AND LIVESTOCK TYPE	FORAGE MIX	WHAT GRAZING SYSTEM IS USED?	IS THE PASTURE ALSO MECHANICALLY HARVESTED?
				<input type="checkbox"/> Rotational <input type="checkbox"/> Continuous <input type="checkbox"/> Moveable pens	<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Rotational <input type="checkbox"/> Continuous <input type="checkbox"/> Moveable pens	<input type="checkbox"/> Yes <input type="checkbox"/> No
				<input type="checkbox"/> Rotational <input type="checkbox"/> Continuous <input type="checkbox"/> Moveable pens	<input type="checkbox"/> Yes <input type="checkbox"/> No

Attach additional sheet if needed.

- 3) Which months of the year are ruminant livestock pastured? Not applicable
- 4) How many days per year, on average, are ruminant livestock under the age of 12 months on pasture? Not applicable
- 5) How many days per year, on average, are ruminant livestock over the age of 12 months on pasture? Not applicable
- 6) What techniques are used to prevent waste runoff?
 - rotate pastures buffer zones limit number of grazing animals
 - harrow to spread manure evenly other (please explain)
- 7) What techniques are used to prevent erosion?
 - avoid overgrazing repair gullies terraces other (please describe)
- 8) Do you use fencing or other means to limit pastured livestock access to creeks, ponds, or other water bodies? Yes No Not applicable
- 9) What techniques are used to prevent overgrazing or decline in the pasture resource?
 - rotational/intensive grazing rotate pastures with crops pasture renovation
 - overseeding/reseeding liming/fertilization other (please describe)
- 10) How do you ensure buffers are maintained between grazing areas and land not under organic management?
 - recessed fence line agreements with adjacent land owners/managers (obtain documentation for inspectors)
 - agreements with road maintenance and utility crews (obtain documentation for inspectors)
 - do-not-spray signs isolation from conventionally managed land other (please describe)
- 11) If ruminants are routinely denied access to pasture, please describe the circumstances and/or the stages of production involved. Not applicable

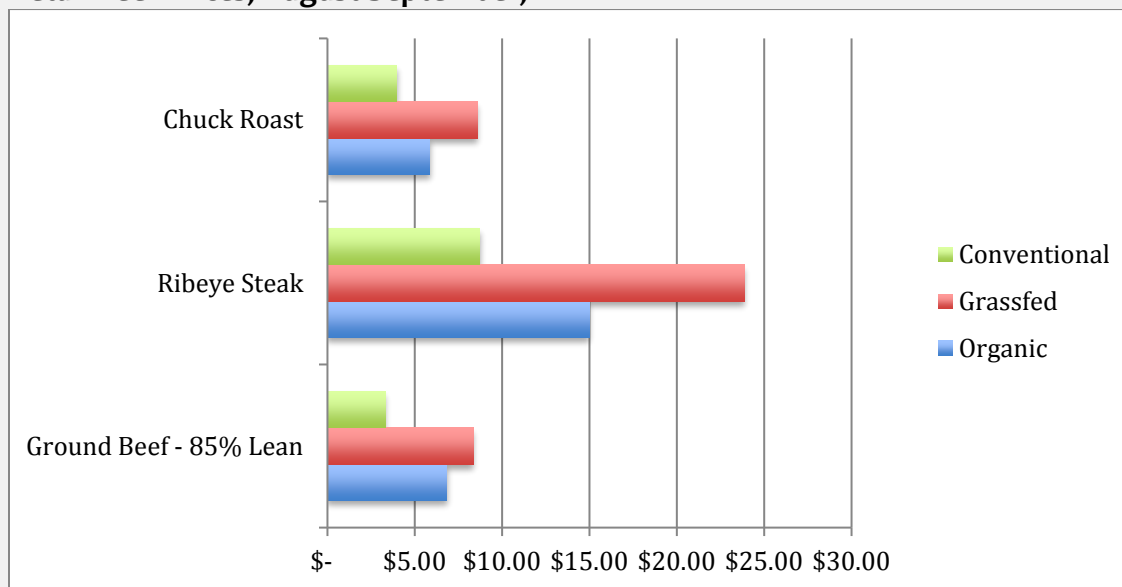
Example of a certified organic pasture form

Exhibit C. Demand and Pricing for Conventional, Grass-fed, and Organic Beef

At the time of this writing, the retail prices for grass-fed beef were highly competitive in both conventional and organic markets. Data compiled by The Wallace Center, Beginning Farmer/Rancher EIEIO Program, and Michigan State University show that grass-fed beef has a competitive net return per acre against both conventional livestock and row crops, including corn. “A five-year average shows net returns per acre for cow/calf operations ranging from \$136 to \$165. However, grass-fed beef finishing operations averaged a net return per acre ranging from \$310 to \$589.”

As shown in the graph below, retail grass-fed beef market prices far exceed those of conventional prices. Although only a few different beef cuts are compared below, the price variances between grass-fed and conventional were present for all of the beef cuts. Interestingly, when comparing *organic* beef to grass-fed beef prices, the differences are within a few cents per pound, with grass-fed beef at a premium.

Retail Beef Prices, August-September, 2016



Sources: USDA GrassFed Market (https://www.ams.usda.gov/mnreports/nw_ls110.txt)

USDA Organic Market (https://www.ams.usda.gov/mnreports/wa_lo100.txt)

USDA Conventional Beef (<https://www.ams.usda.gov/market-news/weekly-and-monthly-beef-reports>)

Teaching Notes:

Case Objectives:

- Increase knowledge of guidelines for organic and grass-fed beef production
- Consider marketing advantages to the certified organic and certified grass-fed label
- Discuss tradeoffs between organic premiums and costs of certification
- Discuss tradeoffs of organic certification and access to chemicals for ensuring livestock health

Use of the Case:

This case is developed for use by extension educators, post-secondary instructors, state agency personnel, and others interested in increasing understanding of the organic transition process.

Materials Needed:

- Copies of the decision case study/ies on which to make notes as participants read.
- A laptop and projector to show slides of the farm, the markets, and the farm family. It could also be used to project discussion questions, certification requirements, or other materials of interest.
- A “U” or horseshoe-shaped seating arrangement for maximum participation among participants and the facilitator.

Dealing with Controversy:

Often in the discussion of a decision case study, participants will disagree about certain issues. While this is a mark of an effective case, the facilitator should keep the discussion from becoming argumentative and unproductive. Participants should be reminded that there are many points of view and to keep the discussion atmosphere constructive and nonthreatening. If desired, techniques such as role-playing or role reversal can help participants discuss the issues in a less personal way.

Use the following strategies to facilitate a productive, healthy discussion where controversy may be involved:

- Establish ground rules. These may include: allowing only one person at a time to speak; no one should speak twice before everyone has had a chance to speak once; no criticizing of others’ comments, etc.
- Encourage participants to use “I” messages when stating their viewpoint. Avoid using “you” or blaming statements.
- Ask clarifying questions such as, “Why do you think that?” A major communication problem is misunderstanding what was said.
- Ask participants to try to imagine the situation from the other person’s point of view. (Role-playing can also help with this.)
- Encourage participants to focus on what they want in the future or where they would like to go, rather than where they have come from or what has happened in the past.

Lesson Outline:

Discussion of this decision case study can last from 20 to 60 minutes, depending on the degree of preparation by the participants and the desired depth of the discussion. The outline below is one example of the way a facilitator might structure the discussion. In general, a decision case study discussion is a forum where participants talk to each other in addition to the facilitator. The format described here is useful when advanced preparation of the participants is not possible. If desired, the facilitator can include additional information on local crop production and social issues to enhance discussion and create a broader understanding of those topics.

- Introduction
- Facilitator introduces the case study and describes the goals and approach to be used
- Focus on a real situation
- Practice problem solving
- No single right answer – each person and situation is unique
- The Decision Case Study
- Facilitator introduces the decision case study.
- Participants read or reread the narrative of the decision case study
- Facilitator divides the participants into small groups of 2-4 people and asks them to discuss questions.
- Participants return to large group and share key points of their discussion
- Facilitator guides a group discussion on the remaining questions
- Conclusion
- Group members may select a preferred option or facilitator may have participants write individually and describe their decision in response to the dilemma and the rationale for the response
- Closing comments

Discussion Questions:

Below are examples of the kinds of questions the decision case study facilitator can use to stimulate discussion of the issues in this case. Participants may discuss some of these questions in groups of two to four and some questions as a large group. The questions used can vary depending on your time limit and the issues you wish to discuss. Other questions may be added as needed and appropriate to the situation.

1. Why might livestock production be a good strategy for beginning farmers, rather than, for example, row crop (e.g., corn, soybean, etc.) production?
2. What are some challenges of managing livestock on pasture?
3. What benefits to soil quality, wildlife habitat, and biodiversity may be obtained from converting row cropped areas to pastureland?
4. What might be some marketing advantages for obtaining organic certification for the livestock herd, over conventional grass-fed certification?
5. What costs are associated with producing livestock organically (in terms of financial, labor, and time considerations, etc.)?
6. How should producers concerned with animal welfare balance animal health with organic certification requirements (e.g., black flies as pests)?
7. What would you do if you were in Karol and Matthew's shoes? Why?



The following resolution to the case study, along with an analysis, is offered for the benefit of the instructor in preparing for leading a discussion of the decision case study. The information it contains and the final resolution of the decision case study may or may not be disclosed to discussion participants, at the instructor's discretion. Should the resolution be shared with participants after the discussion takes place, the authors suggest debriefing the epilogue and final decision with the students.

Epilogue:

As of this writing, Matthew and Karol Jones were not certified organic for their pasture and grass-fed beef operation. The concern over the black fly management was an important factor for them. They simply did not want their animals to suffer needlessly. The other deciding factor was that there is not a substantial, sustainable price premium for certified organic beef. They get a premium for their grass-fed beef and they felt their existing buyers would not pay more for certified organic beef. Lastly, they were satisfied with the positive changes in land and water quality that resulted from pasture management, so their grass-fed beef operation is meeting their goals for managing their land sustainably.

The Joneses did decide to convert a small amount of their acreage to organic grains and in 2016 harvested their first certified organic grain crop of 32 acres of barley. The acreage was first put into alfalfa in 2012 and was a feed source for the cattle, as needed, and also helped with fertility, soil quality, and water infiltration. As an interesting side note, this was the first barley planted and harvested in their county since 1967. They used a cover crop after barley harvest to continue improving their soil and to prevent soil erosion. Approximately 150 additional acres were still being rented by a neighboring farmer.