

Should We Transition our Orchard to Organic?

A Decision Case Study

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“The consumer demand for organic apples is high and we have a trusted partner to market those apples, but the economic risks for raising organic apples are also high. How do we best proceed?” This was the situation facing Harry and Jackie Hoch as they struggled to decide when and how they should transition to organic, to live more consistently with their values while meeting their economic needs.

The Hochs are a second-generation orcharding family. The Hoch orchard lies along the Mississippi River in La Crescent, MN. Another family first planted apple trees in the 1940s. Harry’s dad bought the place after World War II, and expanded the orchard to 60 acres of tillable land while working full-time off the farm.

With Harry’s help, his mother ran the orchard after her husband’s death in 1983. Harry had recently graduated from college with a horticulture degree and married Jackie soon thereafter. Both Harry and Jackie worked full-time off the farm while helping his mom manage the orchard. The Hochs soon had two small children, two off-farm jobs, and weren’t making enough money to stay on the farm. They moved to the Twin Cities where Harry worked in horticulture and earned degrees in Integrated Pest Management (IPM) and Sustainable Agriculture. He established his reputation as a first-rate IPM consultant for fruit by literally “writing the book” on IPM for fruit production in Minnesota (see *EXHIBIT A: IPM or “Low-input” Crop Management*). After eight years in the city, Harry, Jackie and their

children were compelled to move back and reinvigorate the orchard.

The Hochs were interested in managing their orchard organically from the start because they thought it was “the right thing to do.” Harry planted some apples with the intention of growing them organically as early as the 1980s. Growing organic apples in the humid Midwest is risky, and a major challenge to fruit quality is disease. Harry was taking a risk. He planted disease resistant varieties; however, many of these varieties were not well known to consumers in his area. Wholesalers and retailers were generally looking for familiar varieties, though they would sometimes consider exotic apples with a different flavor and texture. “Organic,” per se, was not enough to woo customers in the local markets around La Crescent.

Harry continued to develop the orchard and explore ways to grow apples that had a lower adverse impact on the environment. The couple began selling apples to food cooperatives in the Twin Cities about 150 miles away where consumer demand was

growing for apples produced with low-input management practices.

Production Uncertainty

Harry was committed to the idea of growing apples organically. However, he found it difficult to market disease-resistant fruit varieties. The more popular apple varieties demanded by consumers were more difficult to grow organically and tended to yield less, though they were easier to sell. Harry needed the orchard to be profitable. Between the orchard and Jackie's off-farm job, they needed enough income to raise two children and have a good quality of life.

Harry spent many years learning the art of apple production, trying to find apple varieties and management techniques that would allow him to optimize environmental, economic, and social goals. Retail food cooperatives in the Twin Cities and other towns nearby proved to be good business partners for the Hochs. Harry could count on them to sell his apples for a fair price, even in years when pest and disease pressure was high (reducing crop quality and yield). Coop buyers began asking for organically-grown apples. The Hochs were optimistic that times were changing—the apple market looked different than it did in the 1980s when they first started out. Had the market changed enough to make it profitable to grow organic apples?

The Hochs also faced production uncertainty and questioned their ability to satisfy organic buyers' quality- and volume-related purchasing requirements. To reduce the market risks associated with organic apple production, the Hochs considered a strategy to manage an organic block of apples while maintaining conventional low input blocks.

The benefits seemed clear. This would allow Harry to ease into organic apple production until he was more confident that his coop supply chain partners would take his fruit, even if he needed to sell it for a higher price to meet his costs of production. The quality—and therefore the price—of the apples in the conventional low input blocks was known. However, the quality and value of the apples grown organically was unknown.

The couple met with Joyce Ford and Jim Riddle, other organic farmers and apple producers in the region, to discuss the challenges of running a split operation (transitioning one section of the orchard to certified organic) while maintaining the rest of the orchard with the familiar, low-input IPM that was profitable and working for them as a business. The couples discussed the practices required and costs of organic certification, as well as the benefits of certification.

The Hochs were torn. Earlier in their orchard career they had tried and failed to make organic production work for them. Their conventional low input orchard block was successful and the market strong. Was going organic worth the risk? (See *EXHIBIT B: Considering Risk before Starting an Organic Orchard.*) It seemed the market was changing, but there were no guarantees: what if transitioning this orchard meant that, after three years to gain organic certification, the orchard was not profitable? Would consumers choose Washington State-grown organic apples, grown on a larger scale and therefore cheaper, over local organic? They didn't know if the business could survive another failure.

Planting only part of the orchard for organic production was horticulturally possible and they thought it may be economically prudent

to maintain a split operation. That way, if the organic fruit was hit harder by pests or disease, the conventional low input crop could balance out the loss. Yet the experience of other farmers indicated that there were substantial benefits to be gained from transitioning the entire farm to organic.

Harry and Jackie eventually decided that it would be easier for them to manage the farm on a day-to-day basis if the entire operation were organic. They expected that the health of the orchard would improve faster in an all-organic system. They thought it would then be less susceptible to disease and insect pest pressure than a split operation, but more susceptible than an entire conventional low input orchard. Beneficial insects and microorganisms would have a better chance of restoring balance to the system across the entire orchard if conventional pesticide use was eliminated entirely.

However, an all-organic orchard would require that the Hochs revisit their farm business as a whole. No longer would they sell one crop—fresh apples to a wholesale market. They would need to diversify their marketing strategy, finding ways to add value to less-than-perfect-looking fruit. They would need to invest in on-farm processing, and rethink direct sales. This would make the business more complex and add risk with the substantial investments required to purchase processing equipment. It would also require that Jackie work in the orchard business full time and leave her off-farm job. Living without her off-farm income would certainly

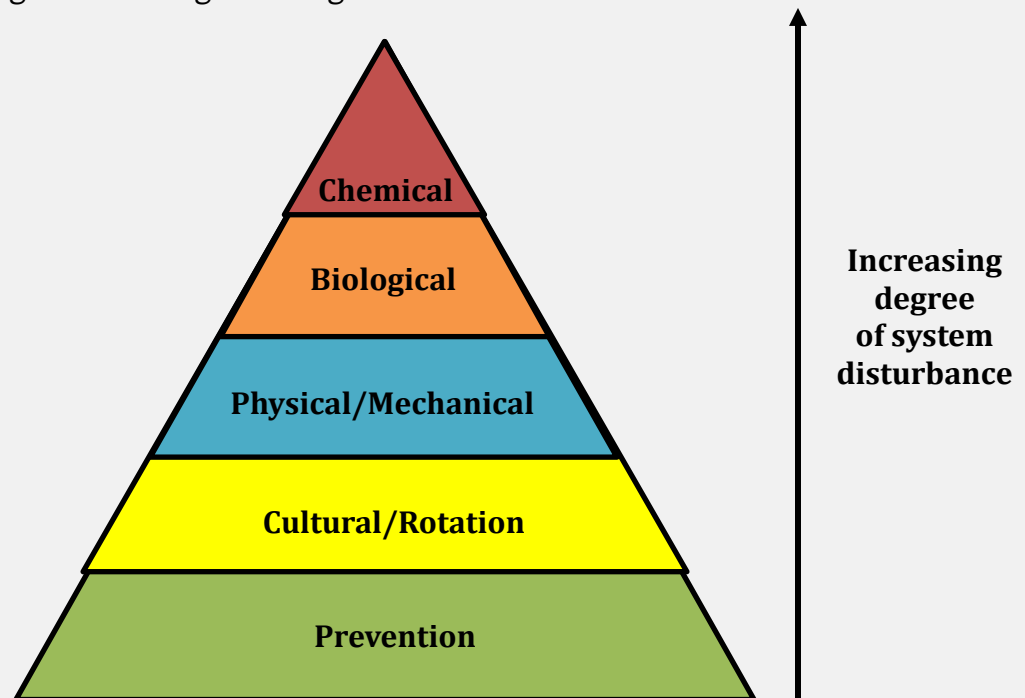


Photo: Brad Kincaid, UMN

increase the risk for their family, but it would also make the orchard more likely to succeed. Jackie was ready for the change. Should Harry and Jackie Hoch transition to organic, and if so, should they transition the entire farm? Will their farm be less competitive in the long term if they don't go organic now? What other marketing strategies might the Hochs consider? If they respond quickly by transitioning the entire orchard, will they lose money? What options might the Hochs have to differentiate their apples and products to keep their family farm economically viable?

Exhibit A. IPM or “Low-input” Crop Management

Integrated Pest Management (IPM) is an effective and environmentally sensitive approach to pest management that relies on an understanding of agricultural pest (including weeds, insects, and pathogens) and crop life cycles, and their ecological interactions. IPM is a set of guidelines that emphasizes system-wide management of pest outbreaks using a broad set of management tactics that emphasize prevention and low system disturbance, rather than high-intensity management systems that often rely solely on chemical management. IPM principles were developed to decrease the environmental effects of pest management on croplands, and generally require longer crop rotations and more knowledge input (though less chemical input) than conventional pest management practices. IPM can be practiced in conventional agriculture, and is also an important set of guidelines for organic crop managers. Proper engagement of IPM principles in a pest management system often increases the “environmental friendliness” of crop management, contributing to farm sustainability. Therefore, producers using IPM practices often choose to describe their products as “low input” or “sustainable” in an effort to communicate with consumers and gain marketing advantages.



For more information on IPM principles, see the U.S. EPA’s web page on Integrated Pest Management at <https://www.epa.gov/safepestcontrol/integrated-pest-management-ipm-principles>.

Exhibit B. Considering Risk before Starting an Organic Orchard

Excerpted from the MOSES Organic Fact Sheet, “Considering Risk before Starting an Organic Orchard” by Bill Wright (https://mosesorganic.org/wp-content/uploads/Publications/Fact_Sheets/o2OrchardRisk.pdf)

The market for organic goods has seen dramatic growth over the last 20 years. Growers are considering organic orchard start-ups to supply the expanding market. A grower must carefully weigh all areas of risk (production, financial, marketing, and legal and human resources) before entering any enterprise, since managing those risks will determine the success of the business. In the case of establishing an orchard that will be managed organically, some additional factors need to be considered. Many of these same factors need to be considered if one is transitioning an existing orchard to organic production.

Marketing

The first consideration is where the product will be marketed. Smaller scale growers can take advantages of a variety of market options, including on-farm sales, subscription sales, restaurants, or farmers’ markets. Each of these options will present further questions. If selling on-farm, what facilities will be needed? If selling at a farmers’ market, is space currently available or does the market have a waiting list? How will off-quality fruit be marketed? Are you prepared to process the fruit to create value-added products, or is there an outlet for processing fruit in your area? Additional questions exist regarding pricing. Will you be able to charge a premium for your product because it is certified organic or because your variety is in high demand? What varieties sell well into your local markets? Is there a market for disease-resistant cultivars?

Insect and Disease Management

The yield of any orchard will be largely dependent on your ability to also manage insects and diseases. There are options available to manage insects and diseases organically. Many products are approved for use in organic systems that can be applied to deter or control insect infestations and pathogen infections (see “Pest management for the home apple orchard” from the University of Minnesota Extension; <http://apps.extension.umn.edu/garden/diagnose/plant/fruit/apple/>). Many organic trapping options exist for insect control. Targeted timing of application events can also increase effectiveness and decrease the cost of inputs. Finally, planting disease-resistant cultivars are another option. What disease-resistant varieties are adapted to your area? Are these varieties accepted in local markets?

While risk is a part of any business venture, gaining a thorough understanding of all factors involved with an organically managed orchard before investing will enable you to manage risk and develop a profitable operation.

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. What resources did the family draw upon to manage the orchard using a conventional low input management plan? How might these resources need to change to manage the orchard organically?
2. How do the Hochs manage off-farm work and the work needed to sustain a healthy family farm and orchard? How should they weigh these different priorities?
3. How should the Hochs decide to respond to changing markets? What tools should they use to gauge the degree to which they should respond to market changes?
4. Should the Hochs decide to produce organic apples, how do you think they should handle the higher number of “less-than-perfect-looking” fruits anticipated under organic management? What are some pros and cons to engaging in value-added processing and marketing?
5. What are the benefits and detriments to utilizing the management strategies of 1) only conventional low input, 2) a mix of conventional low input and certified organic, and 3) only certified organic?
6. Which orchard composition (see question 5, above) do you think would result in the least risk to the Hochs? Which result would result in the most risk? Why?
7. How should farmers like the Hochs balance making management decisions based on their (environmental) values versus based on markets? How would you balance these factors?