

# Transitioning on Rented Land

## *A Decision Case Study*

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# Transitioning on Rented Land

*In this case, a beginning farmer family struggles to access and transition land to organic production. Like other beginning farmers, land ownership is out of reach financially. Leasing may be a viable alternative, but only where long-term leases are available.*

**B**ryan and Theresa Kerkaert grew up in Lyon County, Minnesota. Bryan was a “town kid” who helped out on his uncle’s farm. “I’ve always loved plants,” Bryan says. “Even when I was a kid, I dreamed of growing crops.” Theresa grew up on a dairy farm nearby.

Bryan and Theresa married in 1991 and had hoped to farm right away. However, they struggled to find land that they could afford. Instead, Bryan worked for his uncle full-time, assisting with fieldwork, cattle management, and other farm chores. Theresa became a stay-at-home mom to take care of their busy family of four boys.

Six years later Bryan and Theresa purchased seven acres from his uncle and erected hog barns on the site. In 2001 Brian left his position with his uncle to purchase and manage a manure pumping/hauling business. As Bryan’s business grew, he began traveling to low-input and organic farms. “Every time I was out on an organic farm, I asked questions and tried to learn,” recalls Bryan. “I had the chance to see [organic farmers’] rotations, learn from their successes, and from their mistakes.” These daily visits fed Bryan’s long-time passion for crop farming and inspired his interest in organic management.

Bryan and Theresa again began exploring the idea of purchasing tillable acreage or nearby land with a farmstead. They didn’t want to move out of the district where their four sons were attending school, so they were limited geographically to finding land relatively close by.

After several years of searching, the Kerkaerts had all but given up. In 2007, however, Bryan was offered a long-term lease for 160 acres of land located 35 miles from their home. The landowners were brothers who had hired Bryan to spread manure on their fields. No chemical inputs or prohibited substances had been applied to the land in years. Bryan and Theresa immediately signed the five-year cash rental agreement and were able to certify the land quickly. Renting rather than owning the land wasn’t the ideal situation, but it allowed the Kerkaerts to try their hand at organic crop production. They borrowed equipment from a well-established organic farmer who Bryan knew growing up, and planned a rotation that would allow them to capture organic premiums right away - beginning with corn, followed by oats under-seeded with alfalfa, followed by another year of alfalfa.

## Evolving the Organic Operation

Over the years Bryan and Theresa gradually took on more rental acreage, accumulating 1,300 acres by 2013. They farmed organically on any land coming out of CRP or that for which they could secure long-term, fixed cash rent leases. Land with short-term leases was farmed conventionally.

“If we could sign long-term leases on everything I’d farm it all organically,” Bryan says. “There is no sense of accomplishment farming with chemicals. But I can’t plan rotations or count on reaching [organic] certification with the short term leases – it’s too risky so we have to go conventional [on short lease land].”

### Farm Land Rent/Lease Options

**Fixed cash rent:** Farmer pays a fixed rental rate that is determined in advance by: 1) other cash rental rates in the area; 2) the land value; 3) a percent of the farmer’s gross income; or 4) expected yield (fixed price per bushel).

**Flexible cash rent:** Farmer pays a flexible rental rate that varies with: 1) actual crop price; 2) actual yield (fixed price per bushel); 3) price and yield; and 4) gross income (landowners receive a bonus if farmer’s actual gross income is higher than expected).

**Crop share lease:** Farmer and owner share the costs of production, transportation, drying and crop yield. A 50-50 share is common.

## Problems with Managing Rental Land Organically

Where long-term leases could not be obtained, the Kerkaerts tried managing land coming out of CRP on short-term leases with the idea that they would be able to certify immediately. CRP land is eligible to be certified as organic if it can be documented that no chemicals or other prohibited substances have been applied to the land for the past three years or more. However, they found that CRP land is not the best choice for short-term agreements when undergoing the transition to organic. In fact, in the Kerkaert’s experience, it has taken them a minimum of three years following initial tillage to establish good, profitable yields on CRP land. “There’s a reason that the land was put in CRP,” says Bryan. “Nutrient availability can be really low and there are weeds - lots of weeds [on CRP parcels that we transitioned].” (See EXHIBIT A: *Converting CRP Land to Organic Production.*)

Following their struggles with short-term leases, the Kerkaerts decided to farm organically with long-term leases. However, the Kerkaerts have continued to run into problems. Farmland rental rates in Lyon County have increased every year since the Kerkaerts started farming organically. Land rents increased by 5 to 20% or more annually during 2007 to 2014, making it very difficult to turn a profit – especially during the transition period when yields often take a dip (see EXHIBIT B: *Lyon County, Average Farmland Rents Paid*). Increases in land rents tend to reduce the availability of longer-term contracts (landowners don’t want to lock themselves into long-term contracts with fixed rents as this would limit their ability to take advantage of annual increases in rent and income).


The Kerkaerts would like to secure more long-term leases and eventually purchase land that would allow them to farm everything organically. Bryan and Theresa estimate that they'll need at least 480 acres to establish a good organic rotation, cover overhead expenses associated with machinery ownership, and meet their living expenses. However, they have continued to search for farmland with no luck. Available land is either located too far away or is cost prohibitive (see *EXHIBIT C: Risk Analysis for Sample Transition Farm in Lyon County, MN*).

Similar to rental rates, farmland prices (reported as sales price) in Lyon County have skyrocketed over the past nine years, increasing 137 percent from 2007 to 2015. In Minnesota as a whole, farmland prices have risen 87% on average between 2007 and 2013 from \$2,724/acre to \$5,111/acre (Lazarus, 2016). Prices softened a bit during 2014 and 2015, averaging \$4,895/acre (see *EXHIBIT D:*

*Movements in Minnesota Farm Real Estate Prices*). The Kerkaerts would have needed to finance an estimated \$2.35 million to purchase 480 acres of productive farmland in 2015. The Kerkaerts may no longer continue farming if they cannot secure long-term, permanent access to good farmland that can be certified organic. They desperately want to farm organically but feel they have hit too many walls trying to transition rental land.

Should the Kerkaerts give up on organic management and farm conventionally until they find land to purchase? Should they reconsider renting and farming land as it comes out of CRP? How might they make this work? What are the risks of renting land with short-term leases? Should they negotiate crop share options, flexible land rents, or higher rental rates in exchange for long-term leases? If they can't obtain long-term leases, should they keep farming organically?

## Exhibit A.



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## Converting CRP Land to Organic Production


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**L**and that is coming out of the Conservation Reserve Program (CRP) presents an opportunity for organic farmers. As land rental rates rise, many landowners are choosing to put their land up for rent rather than renew CRP contracts, making rental land easier to find. This CRP land typically is free of prohibited inputs and ready to be certified. But, even though the land has been “resting” for many years, it does not mean that it is fertile. CRP land may take considerable planning, work and inputs to be productive.

CRP land is attractive since you do not have to wait 36 months to transition the land to organic. However, one of the main purposes of the CRP program was to take marginal and highly erodible cropland out of production. So, it is usually not very fertile, and may be steep, rocky and thin-soiled, or wet and poorly drained. Still, it is possible to find suitable CRP land and prepare it for organic production.

**“Fallow Syndrome”**  
One of the problems that can occur after land is left fallow for a period of time is a loss of mycorrhizal fungi. These organisms work symbiotically with plants, bringing in water and minerals, particularly phosphorus, in exchange for the plant providing carbohydrates from photosynthesis. When mycorrhizal populations are low, there will be low colonization rates of plants, which can lead to nutrient deficiencies.

Another downside to fallow land is that nutrients become tied up in woody plants and a thick thatch of plant roots. As a result, organic matter is not cycling quickly. Over time, legumes tend to disappear in fallow areas, so there is not as much nitrogen fixation. Soil tests of CRP land frequently show low nutrient and organic matter levels.



**Steps to Take**  
If you have the opportunity to take over CRP land, there are steps you can take to bring it back into productive use:

- Confirm with the landowner that no prohibited materials have been applied for at least three years.
- Get a soil test.
- Remove trees, brush, and rocks.
- For hay, mow the field with a rotary mower to remove problem plants before they set seed.
- For row crops, rotovate or plow the field strips and till to prepare the seedbed. Strongly consider contour strip cropping on steeper, erodible hillsides.
- Lime and fertilize (as needed, using allowable applications).
- Plant cover crops, renovate hay fields and/or plant field crops.

**Prohibited Materials**  
Usually CRP land will not have had any prohibited inputs applied during the contract years. However, the contract does allow for some chemical weed control under certain conditions, so it is possible that some areas may have been spot-treated with herbicides. It is also possible that some seeding has been done to increase diversity. Confirm with the landowner that there have been no herbicides used or seeding done. If there has been some spot treatment, find out the dates of application. You must wait 36 months from the date of application for the field to be ready for organic production. Remember that this is on a field-by-field basis, so only some fields may need transitioning. Seeds are only an issue if they were treated, i.e. they had a fungicide or insecticide treatment applied.

**Soil Test**  
Take a soil test and ask for a lab report with as much detail as possible. Soil fertility is probably low on CRP

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land. Sitting idle does not induce the soil to release plant-available minerals. A lot of the nutrients on the land are now tied up with complex carbons in the woody, brown, or mature plant materials growing there. A soil test will give you have a good understanding of what minerals may be deficient, allowing you to address those deficiencies.

#### Field Preparation

Remove trees, brush, rocks and stumps if needed. Start working CRP land in the fall to begin the process of residue breakdown well before planting. Shred the residues, disk, rotovate, then wait a few weeks and shallowly work the soil and plant a green manure crop. The brown plant materials (thatch) are carbon, which is complex in structure and slow to break down. It takes time and nitrogen to break down carbon into available nutrients. Apply a rich manure, such as poultry, hog or livestock yard manure. Work the land, put manure on it and grow a green, highly digestible cover crop. Fall rye is a good choice for CRP land, especially when planted in the fall.

All that complex carbon you have worked into the soil is good for building organic matter. You don't want to burn off all your carbon by over tilling. Work the land just enough to break up the sod and then use your cover crop as a way to start improving soil structure and cycling nutrients. Plowing will work, but be aware that you are burying a lot of organic matter in the process.

#### Fertility and Crop Selection

After preparation, address any mineral deficiencies. Start with any calcium and phosphorous deficiencies and applying a good, balanced, organic crop fertilizer. It will take some time to get soluble nutrients moving again on CRP land, and rock phosphate and lime are low in solubility. Work with a crop/soil consultant if you need professional help.

Next, consider what to plant. A soil full of brown carbon won't grow the best grasses since they need soluble nutrients. Oats and peas, planted in the spring, then a fall seeding crop with clover under-seeded is a good option for a first crop. You are essentially transitioning the land back into production, as compared to transitioning conventional to organic. We are speeding up and getting the nutrient flow working again. Both CRP and conventional land need a healing, fixing period. It will take a few years to rebuild the soil and improve production.

Soybeans, with a rhizobium inoculant, is a good choice for a first crop too, since soybeans are a legume capable of producing much of its own nitrogen needs. Corn is a heavy feeder and not the best first choice until you have

improved the soil fertility and organic matter.

It is often suggested to grow perennial hay on CRP land. Growing hay and selling it removes minerals and organic matter from the soil. These nutrients need to be replaced through the use of livestock manures, fertilizers, compost, and liming materials. Selling hay from ground with low fertility makes the situation worse. If you'd like to harvest hay, it may make the most economic sense to start from scratch with a completely new seeding. Alfalfa, and/or a legume grass mix inoculated with rhizobium bacteria will help with nitrogen fixation.

#### Pasture and Grazing

CRP land often makes low-quality pasture for the same reasons. If you do decide to use the CRP land for hay or pasture, plan to de-thatch, fertilize and renovate (re-seed) with legumes and the desired grasses. Contact the Natural Resources Conservation Service (NRCS) for help with assessing the quality of CRP pasture, and for help with design, renovation, fencing, and cost share information. NRCS Grazing Specialists can help design a complete grazing plan. The NRCS also has a free document called "Expiring CRP Land—Convert it to Pasture" which can assist with the process.

#### Conclusion

CRP land will take planning, preparation and work to become productive cropland. Immediate organic certification is attractive, but don't make any decisions without considering the input and labor costs needed to bring the land fertility and structure back to productivity. If you are the landowner, sometimes, CRP land is best left in conservation reserve.

For information about CRP, see [www.nrcs.usda.gov/programs/crp](http://www.nrcs.usda.gov/programs/crp).

For details on the NRCS range and pasture resources, see <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/landuse/rangepasture/>.

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**Exhibit B. Lyon County, Average Farmland Rents Paid**

<b>Year</b>	<b>Rent (\$/acre)</b>	<b>Annual Rent Change (%)</b>
2007	\$94	—
2008	\$119	27%
2009	\$137	14%
2010	\$140	2%
2011	\$168	20%
2012	\$185	10%
2013	\$218	18%
2014	\$223	2%

Source: Center for Farm Business Management, FINBIN Database

## Exhibit C. Risk Analysis for Sample Transition Farm in Lyon County, MN

Corn on Cash Rent Land, Average 2007-2015	Sample Transition in Lyon County	Net Effect of 5% Increase in Land Rent	Net Effect of 10% Increase in Land Rent	Net Effect of 20% Increase in Land Rent
Yield (bu/acre)	126 <sup>5</sup>	126 <sup>5</sup>	126 <sup>5</sup>	126 <sup>5</sup>
Value (\$/bu)	4.45	4.45	4.45	4.45
Gross Return (\$/acre) <sup>1</sup>	598.08	598.08	598.08	598.08
Other crop income (\$/acre)	4.39	4.39	4.39	4.39
Crop insurance income (\$/acre)	32.99	32.99	32.99	32.99
Government payments (\$/acre)	18.55	18.55	18.55	18.55
Total Income <sup>2</sup>	654.01	654.01	654.01	654.01
Land Rent (\$/acre)	160.50	168.53	176.55	192.60
Direct Operating Expenses (\$/acre)	337.22	337.22	337.22	337.22
Total Direct Expenses (\$/acre) <sup>3</sup>	497.72	505.75	513.77	529.82
Overhead Expenses (\$/acre)	113.19	113.19	113.19	113.19
Total Expenses (\$/acre) <sup>4</sup>	610.91	618.94	626.96	643.01
<b>Net Return (\$/acre)<sup>6</sup></b>	<b>43.10</b>	<b>35.07</b>	<b>27.05</b>	<b>11.00</b>

1 Total direct expenses = land rent + direct operating expenses.

2 Total income = gross returns + other crop income + crop insurance receipts + government payments

3 Total direct expenses = land rent + direct operating expenses.

4 Total expenses = total direct operating expenses + overhead expenses

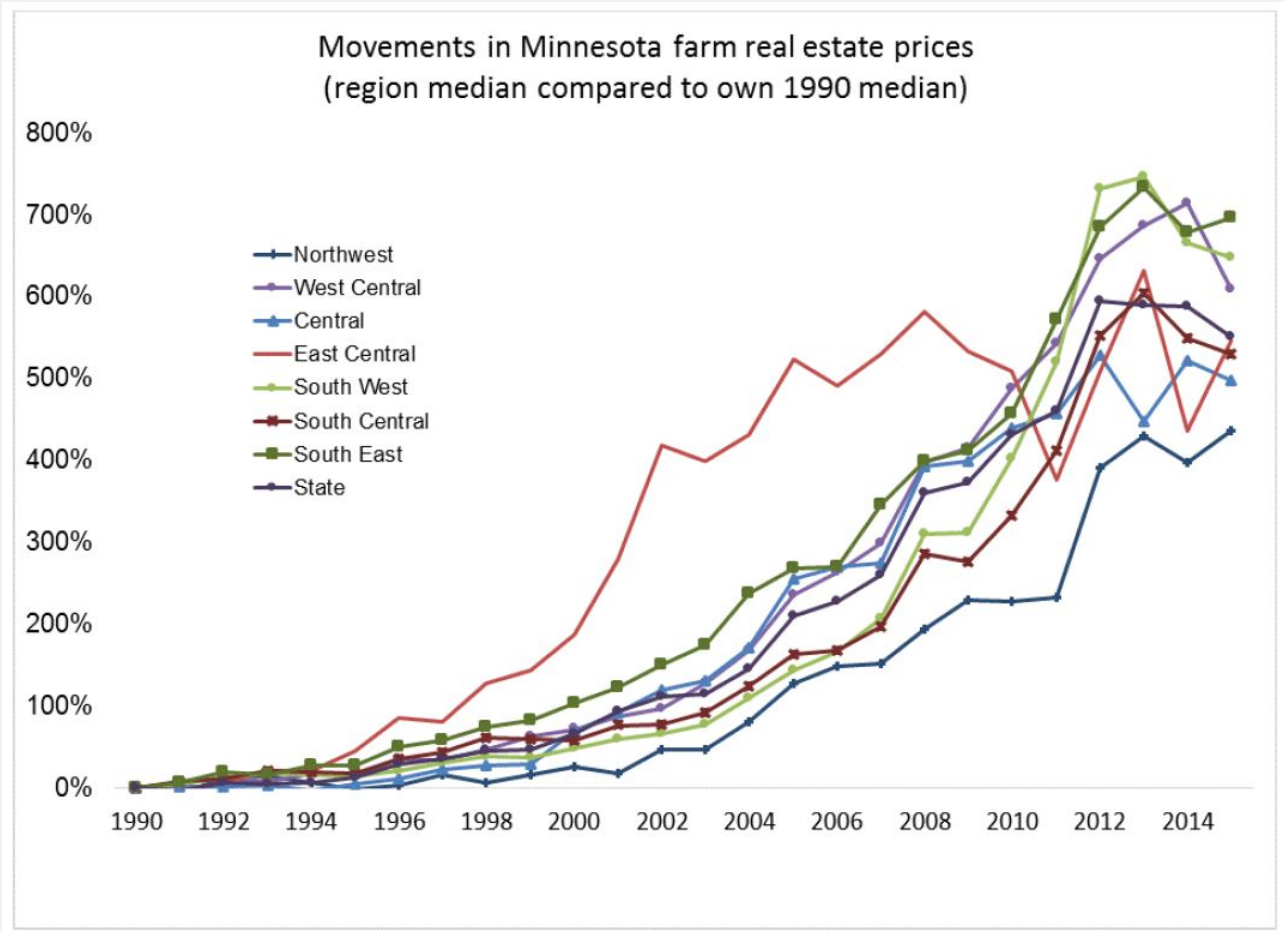
5 Assumed no yield loss for first year of transition owing to conventional fertilizer residual. Yield during years 2-3 of transition were assumed to equal those reported on organic farms.

6 Net return = total income - total expenses

Source: Center For Farm Financial Management, FINBIN Database (accessed 9.26.16)



**Exhibit D. Movements in Minnesota Farm Real Estate Prices**



Source: Lazarus, William F. "Minnesota Real Estate Sales: 1990-2015." February 2016. Staff Paper, Department of Applied Economics, College of Food, Agriculture and Natural Food Sciences, University of Minnesota. <http://ageconsearch.umn.edu/record/231119?ln=en> (accessed 9.18.2017)

## **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 options exist for beginning field crop producers to access land and farm organically?
2. What are the potential risks of transitioning land using a short-term lease?
3. How much negotiating power do the Kerkaerts have when renting land as an organic farmer?
4. Do you think it would be more difficult to rent land when intending to farm organically? Why or why not?
5. How do land prices affect farming and land management decisions?
6. Are there any options the Kerkaerts have not considered when seeking land to farm organically? What would you advise?