



Is organic right for my grain operation?

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This publication provides an overview of price trends and supply and demand trends within the organic grain industry. It aims to provide farmers and buyers with information about organic corn, soybean, and wheat production to help with business decisions. We explain why some farmers may be transitioning to certified organic grain production and provide information on the shortfall between demand of organic grains in the U.S. compared to domestic supply.

Grain producers in the U.S. decide to certify organic for a variety of reasons, which include economic and philosophical preferences.⁶ From an economic standpoint, certified organic grain production may provide for a greater return per acre. After the three-year transition period, producers are able to access price premiums offered by the organic marketplace. According to The Profit Potential of Certified Organic Field

This publication includes:

Major grains

Corn Soybeans Wheat

Minor grains

Sorghum Rice Rye
Barley Peas Oats

Crop from Production report from USDA-ERS,⁴ despite higher production costs for organic corn and soybeans, the increased price premiums more than offset the higher costs of organic certified systems, providing for higher net returns per acre compared to conventional. Philosophical motives may include lifestyle and spiritual attitudes or environmental and

sustainability concerns. Some producers also seek to reduce or eliminate exposure to and handling of synthetic pesticides and fertilizers. Additionally, organic farming may be viewed as a lifestyle, where sustainability is a large part of a producer’s life, making organic the most logical fit for their personal values.⁶

Organic Grain Supply and Demand

Corn, soybeans, and wheat are the major organic grains produced for feed and food use throughout the Midwest. Feed-grade grains are used in the livestock industry either directly by a livestock producer or a livestock feed manufacturer. Food-grade products also enter the livestock industry, depending on supply and demand, but are mainly processed to be used in value-added products, such as flour, cornmeal, snack foods, or canned and frozen goods. Due to human consumption, food-grade grains tend to have more stringent quality requirements and tolerate less damage. Additionally, food-grade grains target taste and texture qualities that are appealing to people, such as sweet flavors. The additional quality requirements may partially explain the lower supply of food-grade grains compared to feed-grade grains for the 2017/2018 crop year (Figure 1).

As shown in Figure 1, the majority of organic grain demand in the U.S. is corn, soybeans, and wheat used as feed. Mercaris (2018) projected that livestock production would demand 24 million bushels of organic soybeans, 41 million bushels of organic corn, and 9 million bushels of organic wheat for the 2017/2018 marketing year, largely driven by organic poultry and dairy production. Demand of food-grade grains for processing into grain-based food products is estimated at 2 million bushels for organic soybeans, 13 million bushels for organic corn and 9 million bushels for organic wheat in the 2017/2018 marketing year.⁵

With greater demand for grains coming from the livestock sector, feed manufacturers and livestock facilities are important buyers of organic grains. Figure 1 shows that the demand for feed- and food-grade organic corn, soybeans, and wheat all increased between 2014 and 2018. Organic corn has experienced the largest increase for feed use over time, while food use of organic corn decreased in the 2017/2018 crop year relative to previous years (Figure 1A). Organic soybean feed use has increased over the past several years, while food use has fluctuated (Figure 1B). In addition, Figure 1C shows the demand for organic wheat has increased for both feed- and food-grade since 2014.⁵

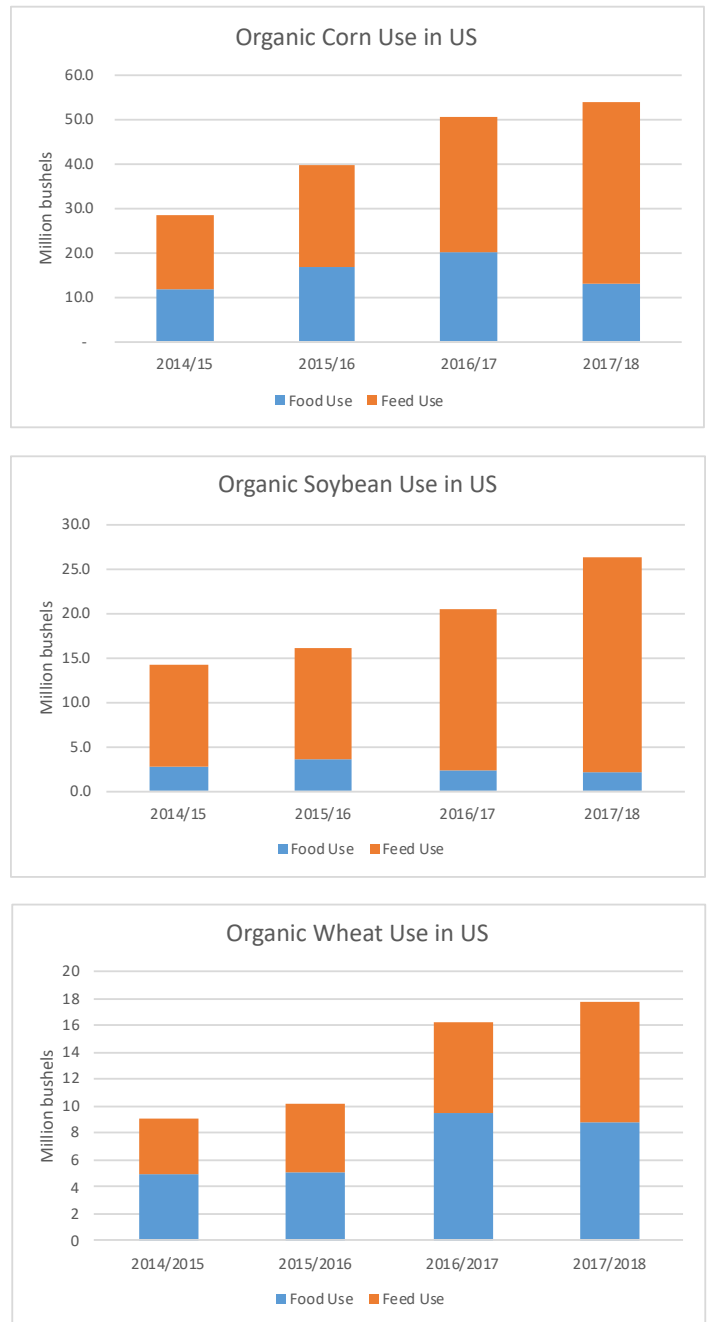


Figure 1. Organic Corn, Wheat, and Soybean Demand in United States

Increases in demand and supply of organic grains has been met with increasing acreage in organic production. Mercaris⁵ reports organic corn acres harvested in 2014 sum up to 203,000, while organic corn acres harvested in 2018 more than doubled, totaling 419,000 acres. Organic soybean harvested acres have also more than doubled from 2014 to 2018, with harvested acres totaling 99,000 and 220,000 acres, respectively. Keeping with the same trend, organic wheat has grown from 260,000 acres harvested in 2014 to 563,000 acres in 2018.

Due to rotation requirements in certified organic production, and soil health concerns, small or minor

grains such as sorghum, rice, rye, barley, peas and oats are also gaining attention in the organic sector. Mercaris⁵ reports that organic small grains have grown from 115,000 harvested acres in 2014 to 357,000 harvested acres in 2018. Data for only organic minor grains is not currently available, thus, growth trends of minor grains reported by the USDA and presented below include both organic and conventional products. The USDA reported that sorghum increased from 5.03 million acres in 2017 to 5.29 million acres in 2018.⁷ Similarly, rice increased from 2.46 million acres in 2017 to 2.84 million acres planted in 2018. Rye demonstrates a slower growth with 1.97 million acres planted in 2018 as opposed to 1.96 million acres planted in 2017. Barley acreage increased from 2.48 million acres planted in 2017 to 2.55 million acres in 2018. Oat production increased from 2.59 million acres planted in 2017 to 2.89 million acres planted in 2018. However, edible pea acreage decreased from 1.13 million planted acres in 2017 to 0.88 million acres in 2018.

Prices and marketing

One of the main drivers for adopting organic certification is the presence of the organic price premiums. Organic price premiums have outpaced conventional grain prices and have been steadily maintained over the last 15 years.² Figure 2 shows monthly prices for the 2017/2018 crop year for corn and soybeans (Sep 2017-Aug 2018) and wheat (Jun 2017-May 2018).⁵ Figure 2 shows feed- and food-grade organic prices for corn, wheat and soybeans from Mercaris, as well as the cash price received for conventional grains. Organic prices were higher than conventional for all three grains, as expected. When comparing feed- and food-grade organic grains, food-grade soybeans and wheat typically earned a higher price than their feed-grade counterparts, while food- and feed-grade corn prices seem to oscillate over time, occasionally producing similar prices, as seen in the 2017/2018 crop year. Table 1 lists the prices and ratios of organic feed- and food-grade grains prices compared to conventional prices. Due to lack of data on separate prices for feed- and food-grade for conventional

Organic grain price information

Price discovery is a challenge often cited by farmers entering the organic grain marketplace. Two sources of information for price reports are the USDA Agricultural Marketing Service (AMS) and Mercaris. Mercaris is a Certified B Corporation that provides market data and information on organic and non-GMO commodities, and manages a trading platform for buyers and sellers to meet online to trade these commodities.

To access USDA AMS organic price reports, including National and Midwest Regional Organic Grain and Feedstuffs reports, visit <https://www.ams.usda.gov/market-news/organic>

To learn more about Mercaris, visit <https://mercaris.com/>. Farmers can sign up to receive free price reports at <https://mercaris.com/farmers>.

grains, Table 1 reports the average conventional price for corn, soybeans, and wheat.

Feed-grade organic corn averaged \$9.85 a bushel over the 2017/2018 crop year; the average conventional price was \$3.40 a bushel; and food-grade organic received \$10.19 a bushel on average. As noted in Table 1, feed-grade organic corn received an average of 2.90 times the price of conventional corn, and food-grade received 2.98 times the price of conventional. Similarly, organic feed-grade soybeans received 2.08 times the price of conventional soybeans on average, with average prices of \$19.48 and \$9.38 a bushel respectively, and food-grade soybean received 2.34 times that of conventional soybean at an average price of \$21.87 a bushel. Lastly, organic wheat during this time period earned 2.04 times that of conventional for feed-grade, with respective average prices of \$10.08 and \$4.94 per bushel. Food-grade organic wheat held an average price of the one-year period of \$15.11, which is 3.06 times the conventional price for the same period.

Table 1. Comparison of average 2017/2018 organic and conventional prices for corn, soybeans and wheat

	Feed-Grade		Food-Grade		
	Conventional	Organic	Organic: Conventional	Organic: Conventional	
Corn	\$3.40	\$9.85	2.90	\$10.19	2.98
Soybeans	\$9.38	\$19.48	2.08	\$21.87	2.34
Wheat	\$4.94	\$10.08	2.04	\$15.11	3.06

Further investigation on timing of organic price fluctuations reveals that while the prices of food-grade corn, food-grade winter wheat, and feed-grade soybeans decreased during the 2017/2018 crop year, the prices of food-grade soybeans increased. Specifically, prices of organic food-grade corn fell around November, right after harvest (mid-October through November), and increased toward the end of the crop year when inventory is typically shrinking. Similarly, food-grade soybean prices for the 2017/2018 crop year increased around harvest (November). This could also be explained by demand in the food and feed sectors potentially shifting between planting and harvest, resulting in price fluctuations. Wheat prices for the 2017/2018 crop year decreased around harvest (June for spring wheat and August for winter wheat) for food-grade, suggesting that a potential increase in supply or a decrease in demand of wheat during the 2017/2018 crop year may have occurred.

To further illustrate the dynamic of prices in organic grains, prices tend to differ between spot purchases (i.e., open market) and forward contracted purchases. Typically, forward contracts are drafted before harvest and generally offer a greater price than a spot purchase,⁵ as demonstrated by feed-grade organic soybeans in Figure 3 (page 5). However, depending on supply and demand forces, prices for spot purchases can exceed those for forward contracting, as demonstrated by feed-grade organic corn toward the end of the 2017/2018 crop year.

While the conventional commodity market operates with constant buying, selling, and trading of commodities,³ the organic market tends to operate quite differently. Due to a lower domestic supply of organic grains compared to conventional grains, the process of organic certification, and existence of price premiums, farmer-buyer agreements are likely to be organized in a different fashion than the commodities market.

The organic market has been known as a relationship-based market. Relationship-based markets are those where producers and buyers rely on knowledge and experience gained about the market from personal connections to build business relationships with each other.¹ The relationship-based markets necessitate that organic producers have good negotiation skills and are able to show a buyer that they are a trustworthy and reliable producer, not only in terms of product quality and integrity, but also in timely delivery of the organic grain.¹

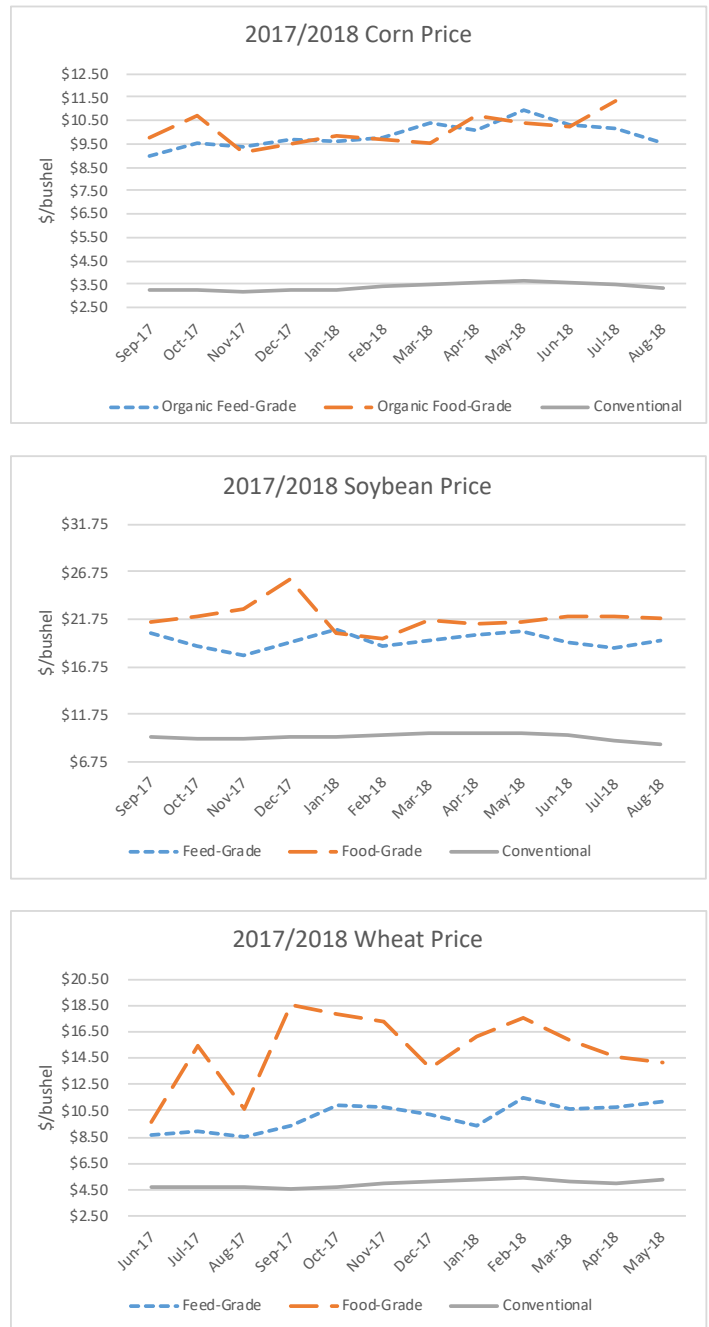


Figure 2. Organic vs. conventional cash prices for 2017/2018 corn, soybeans, and wheat

For this reason, farmers will often hire a broker or grain marketer to manage the marketing of their organic grains. However, as the organic grain industry grows and more information becomes available, the organic market may begin operating similarly to the conventional market.

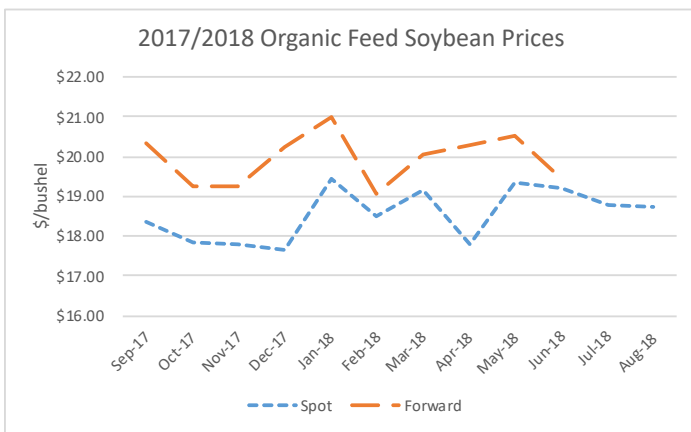
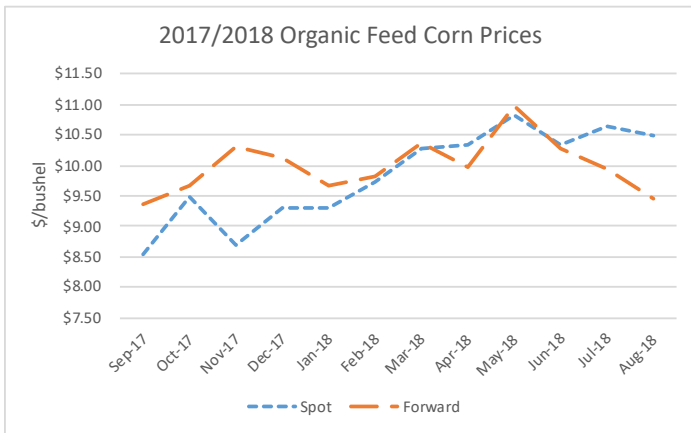


Figure 3. Spot vs. forward contract prices for organic feed grade corn and soybeans

The lag in organic grain production

Even with price premiums and environmental benefits, farmers are not transitioning acreage to organic grain production at a pace to meet the growth in U.S. demand. While domestic supplies of organic corn, soybeans, and wheat are increasing, many buyers rely on imports to keep up with demand. Figure 4 illustrates the total demand of corn, soybeans, and wheat in addition to portions of the demand met by domestic and imported grains.⁵

Although import volumes decreased in the most recent crop year, imports still comprise a large share of organic grains used in the U.S. For example, the demand for organic soybeans for the 2017/2018 crop year was 20 million bushels, with only 7 million bushels (35%) supplied domestically. Figure 4 shows that 19% of the 2017/2018 organic corn demand, 65% of the organic soybean demand, and 7% of the organic wheat demand were met using imports. Interestingly, data from Mercaris shows that the imports of organic corn, soybeans, and wheat have remained flat or decreased in the past three years.

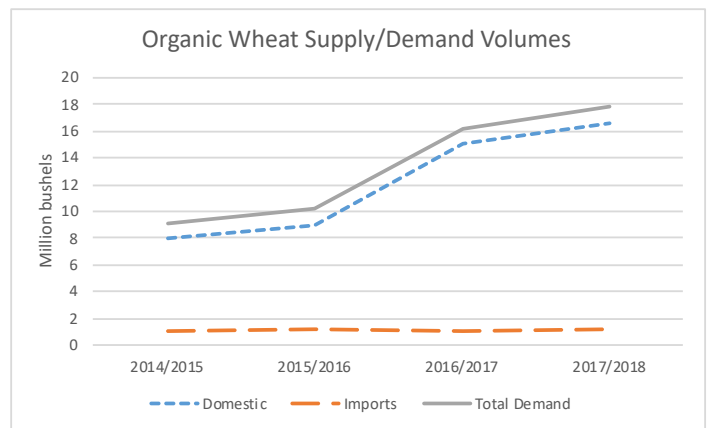
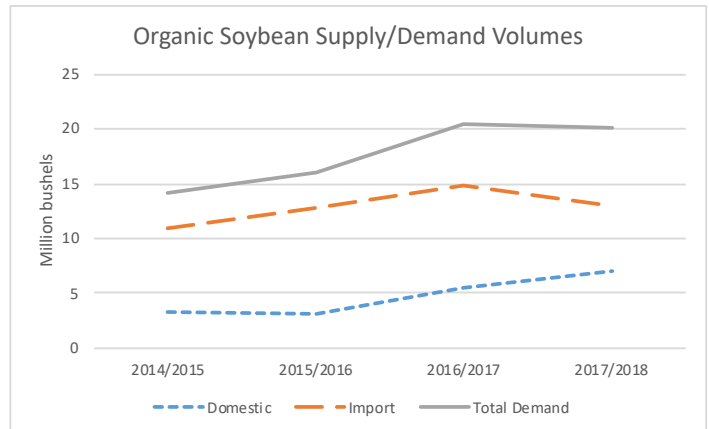
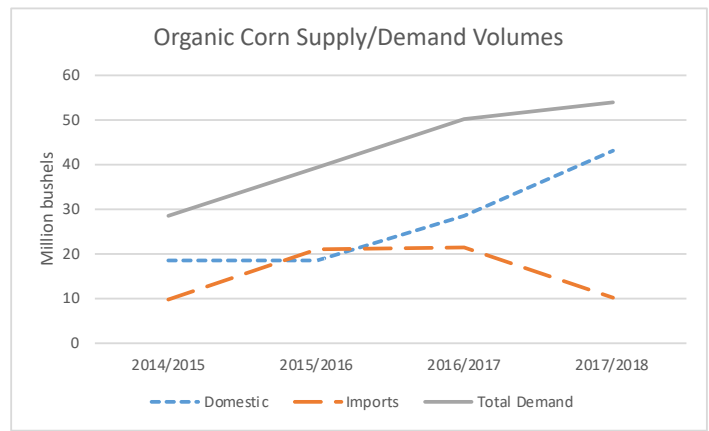


Figure 4. Supply and Demand of organic corn, soybeans and wheat

While large numbers of imports indicate a lag in domestic production, imports have raised concerns of organic integrity. Although National Organic Programs (NOP) standards apply to imported organic products, compliance and international enforcement may differ, potentially resulting in grains not meeting USDA-certified organic requirements. Recent cases of fraudulent organic grain imports have been documented in the U.S., potentially impacting the integrity of the USDA organic label. Despite the growing demand and uncertainty about the integrity of imported grain, demand for certified organic grain continues to outpace supply by a large margin.

Conclusion

Organic grain production is not keeping pace with domestic demand, resulting in a reliance on imported grains. Sustainable farming practices and the potential to increase revenues with the organic price premium might make organic production appealing to some grain operations. One reason that farmers might be holding back is a lack of available information on marketing opportunities, supply and demand volumes, and pricing information. In this publication we have provided an overview of supply and demand, in addition to marketing and pricing trends for food- and feed-grade corn, soybeans and wheat. Farmers can use this information to assist the decision-making regarding adoption of organic certification, crop rotations, and potential marketing strategies. Extension agents can use our report to support the transitioning of farmers to organic certification, assist certified operations in price determination, and provide market trends to industry stakeholders.

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