Economics Section

Overview

While organic corn and soybean production makes up only a small amount of the total corn and soybean production (one-tenth of a percent) in the United States, the number of acres converted to organic production continues to grow (USDA 2000). According to the 1997 Agricultural Outlook, Economic Research Service estimate: "…certified organic wheat and corn acreage are 31 percent greater than estimates by the private sector in 1995" and "…certified organic soybean acreage in the U.S. in 1997, about 82,000 acres, is 74 percent greater than the private-sector estimate of 47,200 acres for 1995" (ERS/USDA 2000). These percentages lag behind Europe's average of one and one-half percent of total agricultural land in organic production lead by Austria's ten percent of total agricultural production in organics (ERS/USDA 2000).

As seen in Figure 1, Illinois had 10,660 certified organic cropland acres in 1997. Certified organic corn acres in Illinois make up 1,966 of the 42,703 U.S. total acres, with 3,686 certified organic soybeans acres in Illinois compared to the U.S. total of 82,143 acres (ERS/USDA 2001).

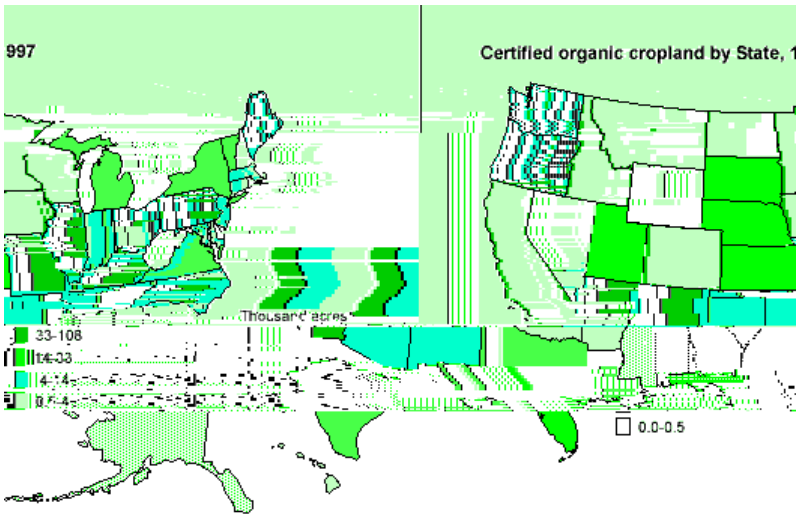

Figure 1. Certified organic cropland in the United States (USDA 2001).

This increase in organic production is driven by several reasons ranging from a desire of producers to lower or eliminate the use of certain crop inputs to the higher organic premiums during a time of overall depressed crop prices. According to Illinois Farm Business Farm Management, the management margin for corn has been negative since 1996 and since 1994 for soybeans (FBFM, 2002). President Bush's signing of the Farm Bill, is yet another evidence of the struggling farm economy.

Allison Farm

Although organic crop production is not without challenges, it can be a viable alternative for some producers. At the Allison Research and Demonstration Farm the 2001 production year experienced some significant challenges that directly impacted the bottom line. The primary factor was lower soybean yields of 24 bushels per acre for organic soybeans and 29 bushels per acre for pesticide-free soybeans. These lower yields were due largely to the mid-June planting. However, one of the pesticide-free soybean fields in the ridge-till system yielded 37 bushels per acre with an estimated 3 bushels per acre lost on the ground. Since there is a limited number of organic handlers/processors additional trucking costs to these markets further lower the return of organic production. Even with these lower yields factored in, organic production remains competitive as a system compared to conventional corn and soybean production, as seen in Table 1. Using data from the Allison farm, the organic systems continue to yield a higher expected net return than does the conventional corn and soybean rotation. Since premiums for pesticide-free commodities have been scarce for the past several years, the pesticide-free market is not competitive with either the organic or conventional market.

Fertilizers

In 2000, commercial dry fertilizer and hog manure were applied to separate fields. One hundred forty-four pounds of the organic fertilizer (0-2-12) was applied at input cost of $0.245 per pound, while 1,817 gallons of hog manure were applied on the other fields at an input cost of $10 per 1,000 gallons. Using custom application rates for the additional cost of banding when planting ($2.25/acre) and distributing the hog manure ($15.79/acre) leads to a total fertilizer cost per acre of $37.53 and $34.14 for commercial fertilizer and hog manure respectively. The organic soybean yield in the dry organic fertilized fields was 1.1 bushels per acre higher than those fields fertilized with hog manure. The average price per bushel of $9.53 resulted in higher revenues of $10.49 for the dry organic fields. Accounting for the additional cost of the dry organic fertilizer, nets a difference of $7.10 in additional revenue for fields using dry organic fertilizer. However in 2001, fields that used hog manure yielded three bushels of wheat more than fields that used dry fertilizer in 2000. With the discounted wheat price of $3.11, the fields that used hog manure in 2000 had net revenues of $9.33 higher than those fields that used commercial organic fertilizer in 2000. Additional replications are needed to determine if there is any significant difference between the two fertilizers.

Risk & Insurance

The Agricultural Risk Protection Act of 2000 changed the way crop insurance handles organic production. The legislation to follow "good farming practices" recognizes "scientifically sound sustainable and organic farming practices" as good farming practices (Zanstorff). While organic crop insurance is in the pilot stages, the Risk Management Agency announced, in February of 2002, funding for a new survey to determine the unique needs of specialty crop producers. "One important aspect of the survey is the section geared to organic producers and their unique practices" (Risk

Management Agency). The crop insurance for organic producers will be a valuable tool in addressing the unique risks associated with organic production.

Conclusion

Although premiums for organic row crops have declined since 1997, prices for organic corn and soybeans remain well above conventional crop prices. These premiums will continue draw some producers to the organic market. As Deborah Stinner of The Ohio State commented: "…there is definitely an interest and growth in organic production and economists looking at the big picture are predicting that this is not just a blip. It's here to stay" (The Ohio State University).

References:

Economic Research Service/United States Department of Agriculture (ERS/USDA). *Agricultural Outlook*, [Online] http://www.ers.usda.gov/publications/agoutlook/apr2000/ao270d.pdf. April, 2000.

Economic Research Service/United States Department of Agriculture (ERS/USDA) [Online] http://www.ers.usda.gov/publications/aib770/aib770.pdf. June 2001

Farm Business Farm Management (FBFM), "Cost of Production for Grain – 2000." [Online] http://web.aces.uiuc.edu/fbfm/results.htm. 2002.

Risk Management Agency (RMA). "Survey To Target Specialty Crop Producers' Insurance Needs" [Online] http://www.rma.usda.gov/news/2002/02/020214_specialty.html. 2002.

The Ohio State University. "Organic Grain Production An Appealing, Yet Challenging Farming Practice." [Online] http://www.oardc.ohio-state.edu/centernet/news.asp?strID=123. 2002.

United States Department of Agriculture (USDA). "Certified Organic Cropland by State, 1997." [Online] http://www.ers.usda.gov/briefing/Organic/Questions/organiccroplandmap.htm. 2001.

Zarnstorff, M. "Organic Agriculture." National Crop Insurance Services. [Online] http://www.ag-risk.org/NCISPUBS/LAIPPUB/2001/Art0107.htm. 2002.

Table 1. Costs and Return Estimates of Conventional and Organic Crop Production.

	Organic Production	Organic Production