PURDUE UNIVERSITY

Purdue Agricultural Economics Report

May 2013

Farm Managers and Rural Appraisers' Assessment of Indiana's Farmland Market

Craig Dobbins, Professor

Even with a severe drought last year, the Midwest land market continues to move higher. The May 2013 issue of the AgLetter, a Federal Reserve Bank of Chicago newsletter, indicated that farmland values in the Seventh District (Iowa, and parts of Illinois, Indiana, Michigan, and Wisconsin) had increased by 4% during the first quarter of 2013 and had risen by 15% over the last year from April 1, 2012 to April 1, 2013. The newsletter reported changes for Indiana were the same as the Chicago FED district as a whole.

To obtain greater perspectives about changes in Indiana's farmland market, members of the Indiana Chapter of Farm Managers and Rural Appraisers were surveyed during their winter meeting in February 2013. To obtain information about Indiana's farmland market, members were asked to estimate current farmland values in the context of the following situation:

80 acres or more, all tillable, no buildings, capable of averaging 165 bushels of corn per acre and 50 bushels of soybeans in a corn/bean rotation under typical management and not having special non-farm uses.

Thirty responses were received from professionals in 22 different Indiana counties. The average estimated price of this farmland parcel was $8,510 per acre. All of the respondents indicated their estimated price was higher than the value a year earlier. The average percentage increase from February 2012 to February 2013 was 13%, modestly less than the Chicago FED report. The range in estimated increase provided by the farm managers and rural appraisers was 5% to 25%.

Attendees estimated the cash rent for 2013 would be $278 per acre. Twenty-three of the respondents indicated that cash rent was higher than in 2012 and six respondents indicated it was the same. No one indicated a decline in cash rent. On average, the cash rent increased $29 per acre, or 12% from the previous year. There was a wide range in the estimated cash rent and cash rent change. The estimated cash rent varied from $200 to $400 per acre and the change in cash rent varied from +$10 to +$100 per acre.

The increased variability of net returns associated with leasing farmland has prompted tenants and landlords to experiment with various types of adjustable leases. To obtain a sense of the type of leases used, attendees were asked to report the percentage of their cropland leases that were crop-share, fixed cash, variable

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cash, and other. The percentage of respondents using each type of lease and the percentage of their leases by type is presented in Table 1.

Crop-share, fixed cash, and variable cash leases all had a high rate of usage among the respondents. Many of the respondents were using all three types of lease. The most commonly used lease was the fixed cash lease, averaging 47% of the leases. This was followed by the variable cash lease at 36%. Crop-share leases were 16% of the leases.

Table 1: Percent of respondents using each type of lease and percent of leases represented by each type:

Lease Type	% of Respondents Using Lease[1]	% of Leases[2]
Crop-share	80%	16%
Fixed cash	96%	47%
Variable cash	88%	36%
Other	16%	1%

What About Future Values?

Will farmland values continue to increase? The farm managers and rural appraisers were asked to provide two forecasts of future farmland values: in one year and in five years. For the next year, 60% of the respondents felt values would be higher. The other 40% said there would be no change. The expected increase averaged 9% with a range of 5% to 20%.

There was less agreement about the change in farmland values over the next five year. Higher values were favored by 53%, but 27% indicated there would be no change, and 20% believed farmland values would be lower. For those respondents indicating that farmland values would be higher, the expected increase averaged 21% with a range from 6% to 40%. For those respondents expecting a decrease in farmland values, the decrease averaged 17% with a range from 10% to 25%.

These results indicate that in the short run Indiana's farmland market is expected to remain strong. No one in this survey expected farmland values to decline in the coming year. But they did expect the rate of increase to slow compared to the past few years. Longer term there is less certainty in how farmland values will change. More respondents expect farmland values to be steady or higher, but some do expect a decline in five years. With these more negative opinions in mind, land owners should at least explore what management strategies they might implement if a 10% to 25% decline in farmland values was to occur.

[1] These do not total 100% because a respondent often uses more than one type of lease.
[2] Across the different types of leases the total will be 100%.

A special thanks is expressed to the Indiana Chapter of Farm Managers and Rural Appraisers that participated in the survey. Without their assistance it would not have been possible to take the pulse of Indiana's farmland.

Indiana Inheritance Taxes: Are Now Gone!

Gerry Harrison, Professor

A significant development in Indiana law involved the total repeals of the Indiana inheritance and related death taxes. Governor Mike Pence signed a bill that eliminated these taxes on May 8, 2013. The repeal is effective for any deaths on or after January 1, 2013. Indiana had been one of only 6 states with an inheritance tax.

These changes for Indiana come at a time when the federal estate tax has had major changes as well. Now, the federal estate credit is equivalent to the tax on $5.25 million. This means without an Indiana inheritance tax Indiana estates have to be greater than $5.25 million before any state or federal death taxes would be due.

This however does not eliminate other costs for the administration of an estate. Appraisals of property values, income tax liabilities and legal work will generally still be costs for handling a decedent's estate. But for many estates the repeal of the Indiana inheritance tax is potentially a significant administrative savings for heirs.

The Evolution to Repeal

The removal of these taxes on heirs has been a long time in coming. Here we review some of that process and how these

taxes worked before the recent repeal, including some changes by 2012 legislation that had already put the Indiana inheritance taxes on a 10 year phase-out. Again, these 2012 laws are now void.

For many years the Indiana inheritance tax exempted certain asset transfers such as transfers to a surviving spouse. In addition, life insurance payable to an individual was exempt from the inheritance tax.

Class A beneficiaries, which included children and grandchildren, were expanded in 2012 to include, for example, the widow of a stepchild. Plus the Class A exemption increased from $100,000 to $250,000 starting in 2012. Furthermore the 2012 law put the inheritance tax law on an incremental phase out until totally gone by 2022.

For most decedent's estates there was no or very little Indiana inheritance tax. However, the inheritance tax was an issue for those transferring large amounts of capital wealth to heirs and for transfer to unrelated parties known as Class C beneficiaries. Class C beneficiaries had only a $100 exemption and the tax rates ranged from 10% to a 20%. For example, three siblings inheriting a $1 million parcel of land from a family friend had an inheritance tax of about $100,000.

Class B beneficiaries which included close relatives, siblings, and nieces and nephews had only a $500 exemption with progressive tax rates from 7% to 15% compared to rates of 1% to 10% for Class A beneficiaries.

Since farmland values increased substantially in recent years. Landowners had faced significant Indiana inheritance taxes. For example, land valued at $4.5 million that was to go to three children would have had an Indiana inheritance tax per child of $72,250 or $216,750 for the three.

81st Annual Indiana Farm Management Tour: Learn Management from Great Farm Managers: It's Free

Clinton County, June 26 and 27, 2013

Wednesday June 26, 2013

1) Jay and Sue Hawley Farm/Grandpa Jay's Pork – Lunch starts at 12:00 p.m. provided by the Clinton County Pork Producers and Indiana Pork (lunch is free but you most pre-registration: see below). The farm tour begins at 1:00 p.m. with an interview of the Hawley family followed at 1:40 p.m. by mini-tours featuring Grandpa Jay's Pork and opportunities with the local foods movement in Indiana.

2) Windy Lane Farms (Hal and Ty Brown families) – The visit to Windy Lane Farms starts at 3:00 p.m. with mini-tours starting at 3:40 p.m. that feature a hog building that has been converted to machinery storage and a diked liquid fertilizer storage facility. A second tour will feature the farm's new machine shop and three-story office building. Other mini-tours will feature soil conservation, conservation tillage, cover crop practices; and risk management strategies.

3) *Indiana Prairie Farmer* Master Farmer Banquet – The location is the new shop building at Windy Lane Farms. Registration and a reception begin at 5:15 p.m. followed by a banquet and the awards program. The fee is $25 per person for the Banquet and you must be **pre-registered by June 19** with the Purdue Ag Alumni Association by calling 765-494-8593.

Addresses: Farm Management Tour

Wednesday, June 26

1. Jay Hawley Farm, 7628 E Co Rd 500 S, Kirklin, IN 46050
2. Windy Lane Farms, 6147 N Co Rd 500 W, Mulberry, IN 46058
3. Indiana Prairie Farmer Master Farmer Banquet
   6147 N Co Rd 500 W, Mulberry, IN 46058

Thursday, June 27

4. Neal Farms, 492 N Co Rd 200 W, Frankfort, IN 46041
5. Need Farms, 5792 N Country Rd 0 EW, Frankfort, IN 46041
6. Meadow Lane Farms, 4249 N Co Rd 450 W, Frankfort, IN 46041

Thursday June 27, 2013

4) Neal Farms – The tour starts at 8:00 a.m. Mini-tours will follow at 8:40 a.m. on the economics of irrigation investments; grain drying and storage management; machinery modification and maintenance; and a walk-through tour of a modern farm office.

5) Need Farms (Jeff, Kent, Jim, and Dave Need) – The tour start at 10:30 a.m. Mini-tours will start at 11:00 a.m. and will cover automated auger wagon scales and development of redundant systems for accurately measuring and tracking crop production; benefits and challenges of radish production and management; no-till soil structure, and iPad technology in the tractor cab.

6) Meadow Lane Farms (Mike Beard, David Beard, and Chris Pearson) – Lunch will be served at 12:00 p.m. at Meadow Lane Farms followed by Dr. Chris Hurt, Purdue Extension Marketing Specialist, who will present an Outlook Update. The farm tour starts at 1:30 p.m. Mini-tours will follow starting at 2:00 p.m. on manure application technology and the economics of manure application; diversification strategies; and soybean seed production.

Pre-registration is required by June 19 for the Free Lunches by calling 765-494-4310, or at http://www.agecon.purdue.edu/commercialag/progevents/tour.html.

U.S. Farmers Respond to Changing Crop Demands

Chris Hurt, Professor

U.S. farmers have been adjusting to some dramatic changes in the past eight years. Key among the drivers has been the massive increase in the demand for corn to produce ethanol, and the rapid increase in exports of soybeans to China. These changes in crop demands have caused farmers to alter the way land resources have been used in the U.S.

The 2005 crop was the last of excess supplies and low prices. That year, the average U.S. farm price received for corn was $2.00 a bushel. But, low prices had been the norm from 1998 to 2005 with prices over that extended time averaging just $2.05 per bushel. In the most recent 7 crop years, 2006 to 2012, the average farm price has been $4.74 with the highest being $6.90 for the drought-reduced 2012 crop. The increases in demand for corn and soybeans drove prices and returns higher and farmers followed these incentives by planting more of each crop.

In farming communities there is a common statement that, "land is a great investment because they are not making any more of it." The inability to increase land supply for crops however is not entirely true as land moves in, and out of the crop base. USDA acreage records date back nearly 150 years for crops such as corn, wheat, oats, rye and cotton and demonstrate patterns of shifting land use as supply and demand factors for various crops shift over long periods of time. There are many forces that impact the amount of U.S. land that is in production such as urbanization. But, two important forces in recent years have been the relative prices and costs of alternatives crops and U.S. federal government programs that are designed to impact land use.

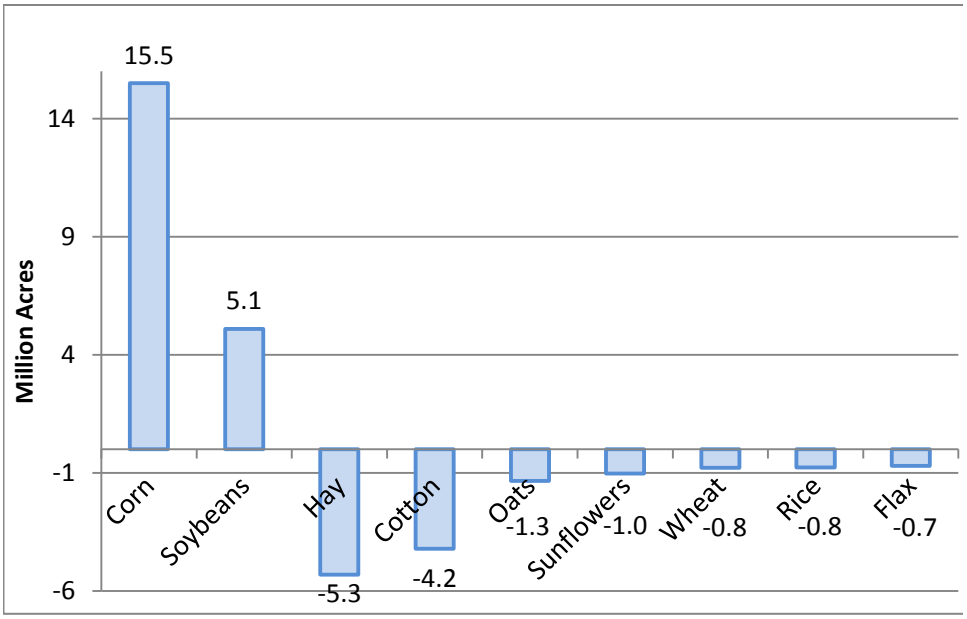
There are three ways production of a given crop can be increased. The first is by substitution of a lower return crop for a higher return crop. The second is by adding more land to the production base. The third is by increased intensification of production commonly called increased productivity or increased output per acre. This article will focus on the first two.

Transitions From 2005 to 2013

How has substitution impacted the allocation of land to various U.S. crops? Figure 1 provides this information for nine crops that have had sizeable acreage shifts since 2005. As expected, U.S. farmers responded to the new demands for corn to be used in ethanol production by increasing corn acreage by 15.5 million acres since 2005. They also responded to the new Chinese demands for soybeans by increasing soybean acreage by 5.1 million acres. So nearly 21 million added acres were planted to corn and soybeans during this transition.

Where did U.S. farmers get 21 million acres of land for this expansion of corn and soybeans? Here we highlight 7 crops that farmers substituted out of. The largest of those crops has been hay acreage which had a 5.3 million acre reduction since 2005. Cotton is the second largest substitution crop representing a 4.2 million acre reduction. As shown in Figure 1, farmers have also reduced by around one million acres each of the following crops: oats, sunflowers, wheat, rice, and flax.

Figure 1: Change in U.S. Crop Acres 2013 versus 2005 (Million planted acres except hay which is harvested acres)



As land is shifted out of a crop, there tends to be a reduction of supply for that crop and prices have tended to rise for that crop. Through this process of land substitution, increased demands for corn and soybeans have tended to also increase the prices for alternative crops that compete for the same lands. For some of these crops the reduction has been a large portion of that crops production base. U.S. flax acreage, as the most extreme example, has been reduced by 72%. Oats and cotton have each had about a 30% reduction in acreage since 2005 and rice acreage has been down 23%. Clearly acreage reductions of these magnitudes have not only sharply increased U.S. prices for those crops, but have also reduced the need for marketing and processing services such as cotton ginning and specialized machinery such as cotton harvesters.

The acreage impacts extend beyond row crops as well. Harvested hay acreage has dropped by 9% since 2005. This has been an important factor in increasing the prices of hay and increasing costs for the beef and dairy cattle industries. In addition, the high demand corn and soybean crops were also competitive with pasture land. From 2005 to 2012 the USDA suggests the value of U.S. pastureland rose by 55%. Of course it is well understood that drought has also greatly contributed to reduced supply and higher hay prices and higher pasture rents in recent years as well.

Substitution of land still does not explain all of the increased national acreage. In addition, about 6 to 8 million acres have been added to the production base. The primary source of these added acres are due to reductions in the Conservation Reserve Program (CRP) which is a federal government conservation program in which farmers receive payments to keep highly fragile crop lands out of production for a contract period of 10 years.

Since 2005, the number of acres in the CRP has decreased by 7.9 million acres and by nearly 10 million acres since its peak in 2007 see Figure 2. It is likely that much of the land taken out of the CRP has gone directly into crop production, but some has gone into pasture or recreational use. Seven million acres are scheduled to expire in the next three years (2013-3.3 million; 2014-2.0 million; and 2015-1.7 million). However, there will likely be some of this amount that moves back into the CRP in future sign-up periods. Thus, the net reduction in acres will be less than seven million.
A final way that acres have increased is through increased double-crop acres which are mostly winter wheat double-cropped to soybeans. High prices for both wheat and soybeans have encouraged more double-cropping in which an acre is double-counted as both a wheat acre and a soybean acre. Double-crop wheat and soybean acres rose from 4% of soybean acres in 2005 to 7% in 2012, representing about 2 million additional acres.

Where Have the Acres Changed?

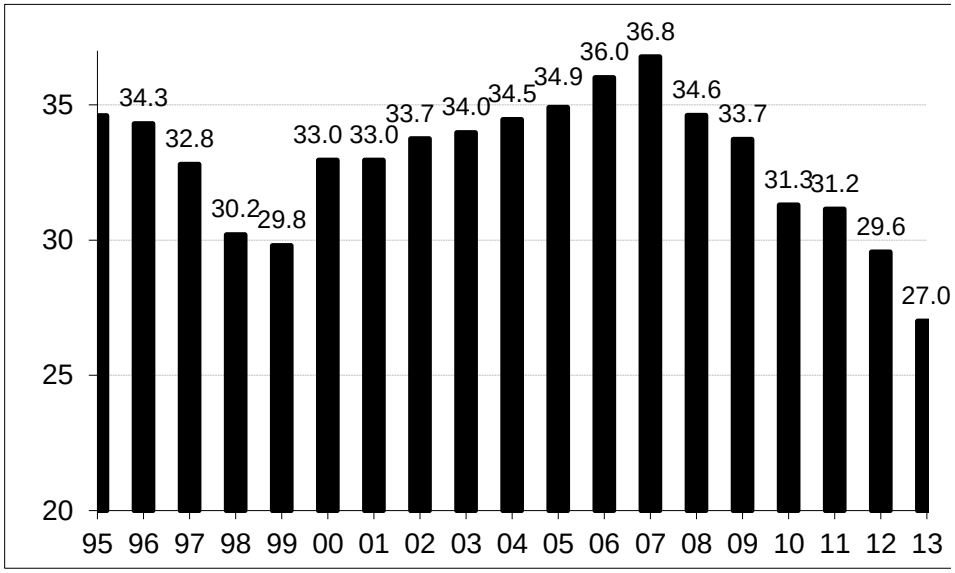
Acreage shifts and acreage expansions have varied by region of the country. Acreage changes are going on throughout the country but are of greatest magnitude in the Northern Plains (North Dakota, South Dakota, Montana and Wyoming). Corn area (mostly the Dakotas) increased by 4.2 million acres since 2005 with soybean acreage increasing by 2.7 million acres, or 6.8 million acres for the two crops. There have been three sources of those greater acres: substitution from wheat (-2.3 million); substitution from hay (-2.0 million acres); and increased acres from the CRP where an astounding 3.5 million

acres have exited the program since 2005. Regional data for the country is detailed in Table 1.

The second largest region of expansion of corn and soybeans has been in the Central Plains (Nebraska, Kansas, and Colorado) where 3.5 million acres of those two crops have been added since 2005. Substitution acres came primarily from wheat (-1.5 million), plus a reduction of 1 million acres in the CRP. The Western Corn Belt (Minnesota, Iowa, and Missouri) increased corn acres by 3.4 million since 2005 as a result of substitution of hay (-1 million acres), and soybeans (-400,000 acres), a decrease of 1.2 million acres in CRP, and more double-crop beans and less cotton in Missouri.

Finally, the Eastern Corn Belt (Illinois, Indiana, Ohio, Wisconsin, and Michigan) increased corn area by 1.7 million acres and that came primarily from substitution of hay acres (1.2 million) plus a 383,000 acre reduction in the CRP and some increase in wheat/soybean double-crop acres.

Figure 2: Conservation Reserve Program (CRP) (Million Acres)



Summary

The U.S. crop base changes over time both in the composition of crops that are produced and somewhat by the overall size of the crop base. Large increases since 2005 in the demand for corn for ethanol has been the primary reason farmers shifted nearly 16 million additional acres into corn production. At the same time rising soybean exports to China resulted in 5 million additional acres of soybeans. Thus, U.S. corn and soybean acreage has expanded by nearly 21 million acres since 2005. These large new demands have been a primary contributor to higher crop prices and higher land values

Table 1: Change in Acres from 2005 to 2013 of Five Major Crops and CRP Change by Region (1,000 acres)

Region	Corn	Soybeans	Wheat	Hay	Cotton	Total 5 Crops	CRP Change
Northeast	378	243	292	(-327)	0	586	-(42)
Southeast	1,235	926	1,465	(-531)	(-810)	2,285	(-435)
Eastern Corn Belt	1,700	(-60)	182	(-1,210)	0	612	(-383)
Western Corn Belt	3,400	(-400)	110	(-1,000)	(-170)	1,940	(-1,154)
Delta	1,690	790	950	260	(-2,160)	1,530	(-52)
Northern Plains	4,215	2,650	(-2,281)	(-1,970)	0	2,619	(-3,510)
Central Plains	2,500	1,000	(-1,453)	(-440)	(-34)	1,573	(-1,007)
Southern Plains	90	(-55)	(-130)	205	(-592)	(-482)	(-1,123)
West	78	0	133	(-265)	(-453)	(-507)	(-85)
Pacific North West	217	0	(-57)	60	0	225	(-93)
Column Total	15,503	5,094	(-789)	(-5,218)	(-4,209)	10,381	(-7,884)

The most significant way this additional 21 million acres could be accommodated was due to substituting acres from other crops accounting for about 14 million acres. The largest crop substitutions came from hay and cotton acres with smaller contributions from a host of other crops. As acres were reduced in these other crops, their prices rose as well. Thus, increased demand for corn and soybeans has tended to also enhanced prices for all crops that compete for corn and soybean land. This clearly includes many crops, as well as hay and pasture lands. A second way the large increase in area for corn and soybeans has been accommodated is through increased crop area which has accounted for six to eight million added acres since 2005. The most important way the U.S crop base has been expanded is due to reductions in the federal government Conservation Reserve Program (CRP). The CRP has been reduced by nearly 8 million acres since 2005 as landowners allowed their contracts to expire, often for the opportunity to return those lands to crop production. The vast majority of this returning crop production land is located in the regions of the Great Plains and the Western Corn Belt (86% of the national total). An additional 7 million acres is scheduled to expire in the next three years and a portion of that is expected to add further to the nation's crop base.

Double-cropping has added about 2 million acres to the crop base since 2005. This is primarily winter wheat double-cropped to soybeans. Each acre is counted as both a wheat acre and a soybean acre.

How were U.S. farmers able to find 21 million more acres for corn and soybeans since 2005? The answer is that about 2/3rds was due to substitution from lower return crops and about 1/3 was from expansion of the national crop base.

46th Annual Top Farmer Crop Workshop

Purdue's Top Farmer Crop Workshop is one of the longest running management education programs for farmers in the country. The program focuses on economic, agronomic and technological opportunities and challenges faced in modern farming. It is attended by farmers from around the Midwest and provides the opportunity to learn and interact with other top farm business managers.

Dates of this year's workshop are July 8–10, 2013 at the Beck Agricultural Center in West Lafayette. The registration fee is $400 for the primary registrant and $350 for each additional person from the operation. Registration begins at 3 pm on Monday July 8th and the program concludes at 5pm on Wednesday July 10.

The program will feature topics such as: strategies for growth; innovative ways to manage inputs; new production technology; marketing strategies, and experiences of other progressive farmers.

More information on the program and registration details are at: http://www.agecon.purdue.edu/commercialag/progevents/topfarmer.html

Program and registration information is also available from Aissa Good at 765-496-3884.

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