

# Outlook for Indiana Agriculture 2010

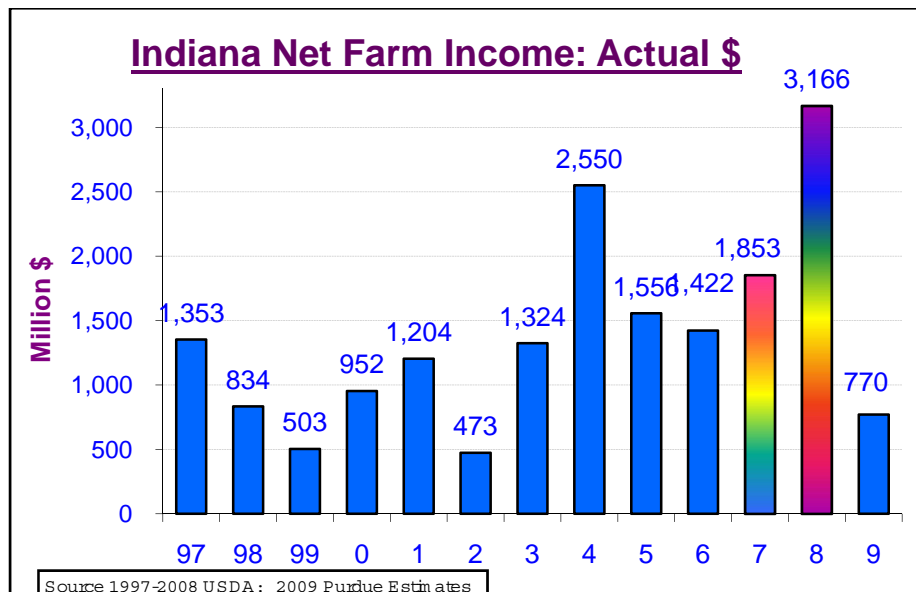
*Purdue Cooperative Extension Service*

*September 2010*

“The Party’s Over.” This could be the theme for the 2010 Indiana Outlook as the long arm of recession has extended to almost all major farm enterprises. The animals sector had already been suffering with large losses, and those will continue into early 2010 for pork and milk producers. Now, crop producers’ margins have collapsed as well for the 2009 crops and the outlook for 2010 is just as weak. If you are looking for good news it is that the Indiana farm sector had two good income years in 2007 and 2008, and a huge record income of \$3.2 billion in 2008. However, Purdue estimates are for income to fade in both 2009 and 2010 back to levels more similar to the late 1990s and early 2000s when margins were tight.

There are other emerging signs for optimism. We believe the U.S. and world economies are near the bottom right now. That means there will be some improvement in demand for farm products in the coming year but not a return to robust economic growth. Animal industries have been reducing their herds and these lower supplies along with economic recovery will sharply improve their income prospects in 2010. Improvement in world economic growth, along with a weak U.S. dollar, will encourage more exports. Big crops this year are driving prices lower now, but those lower prices will also help stimulate more usage by next spring and summer and perhaps provide the foundation for recovery in crop prices in 2010. And, costs of crop production will be sharply lower for 2010 crops.

Longer term, there will be more crops used for biofuels, economic growth in developing economies will return, energy prices may stay relatively high, all favoring strong demand growth over time. But now is a period of transition as Indiana agricultural adjusts to the dramatic economic events of the past three years.



## **Economy Will Recover, But Slowly**

Larry DeBoer

The past year saw the worst financial panic since the Great Depression, the highest unemployment rate since the early 1980’s, the most rapid two-quarter drop in output in fifty years, and the most aggressive

policy actions by the Federal Reserve in its entire 96-year existence. Mercifully, the next year should be much less exciting. But it will be hard on almost everyone.

Consumer spending dropped in 2008-09, the first decline in seventeen years. Consumer confidence is not recovering; households are saving more and spending less. Consumer spending will probably grow a little over the next year. But since consumption is more than 70% of gross domestic product, the economy cannot grow rapidly without bigger purchases by households.

Investment spending will not take up the slack. The housing market appears to have bottomed out. Real home prices are back down to where they were in 2000, before the boom. Building permits, new home sales and new single family home starts have stopped declining. Business orders for new equipment have stopped declining too. Investment spending probably won't decline over the next year—a big improvement over the last year—but it won't grow much, either.

The rest of the world may be recovering a bit faster than the U.S. Exports may edge upward. The value of the dollar rose against the euro during the Fall panic, as Europeans bought U.S. Treasury bonds as a safe haven for their money. The dollar's value is back down again, and this should also help exports begin to grow.

Government spending on defense and non-defense purchases grew substantially during 2008-09, and this should continue. State and local government spending is likely to fall, as revenues continue to drop. Adding it all up, expect gross domestic product to grow only 2.1% above inflation over the next year.

Unfortunately, that's not enough to bring the unemployment rate down. The rate appears to have leveled off in the past three months, and stands at 9.7% as of August. Slow GDP growth will cause the unemployment rate to drift upward over the next year, as not quite enough jobs are created for the expanding labor force. Expect the unemployment rate to stay near the 10% level into 2010.

The consumer price index dropped over the past year—1.9% *deflation*—due to falling energy prices. Energy prices will recover modestly, which should cause the CPI to register inflation during 2009-10. The core rate of inflation, which excludes food and energy, fell from 2.5% to 1.6% over the past year. With unemployment so high, this rate should continue to fall. Expect an inflation rate of just 1% over the next twelve months.

The Federal Reserve is unlikely to raise interest rates with unemployment so high and inflation so low. This means interest rates may only move up modestly. Expect the three-month Treasury interest rate near 0.7%, and the ten-year Treasury interest rate near 3.7%, by July 2010.

So, will it be recovery or more misery? The answer: both. The recession may be over, but the first day of recovery is a lot like the last day of recession. The economy has fallen into a deep hole. It will take years to climb out. The climb will start—slowly—in the coming year.

### **Agricultural Exports Impact by World Economy**

Phil Abbott and Phil Paarlberg

U.S. agricultural exports are forecast by USDA to fall by 17.8 billion dollars from fiscal 2008 to fiscal 2009, to 97.5 billion dollars, and are projected to remain at about that same level (\$97 billion) in 2010. This reflects a slight upward revision from the May forecast due to stronger than expected foreign demand for corn and soybeans. The decline in export value between 2008 and 2009 reflects both a reduction in grain trade volume (grain tonnage exported is down 25% but soybean volume is up 12%) and in prices (grain unit values are down 21% while soybean unit values have fallen 16%).

Agricultural imports are expected to decline \$3.3 billion in 2009 to \$76 billion, and are expected to resume their upward trend in 2010 and equal \$82 billion. The August WASDE forecast for 2009 imports was \$5 billion lower than the May forecast, reflecting weak U.S. and world economic conditions and the dramatic reductions in trade worldwide in early 2009. This reduction in imports means the agricultural trade balance is expected to fall from \$36 billion in 2008 to \$21.5 billion in 2009, a significantly smaller decline that was expected in May.

Global recession and the financial crisis are important factors influencing these outcomes. U.S. GDP only rose 1.1% in 2008 and is expected to fall 2.5-3.0% in 2009. Unexpectedly, economic performance in the rest of the world has been worse than in the U.S., and USDA's projections are now based on slower recovery in Europe and Asia. As late as last October, world GDP was expected to grow at 3.9% in 2008 and 3.0% in 2009, but the most recent IMF projections suggest world GDP will fall 1.4% in 2009 and grow at only 2.5% in 2010. In the Europe GDP is expected to fall 4.8% in 2009, in China expected growth in GDP for 2009 has been reduced from 9.3% to 7.5%, and in newly industrialized Asia GDP is expected to fall 5.2% in 2009. Recession has led to reduced consumer spending, hence lower imports, and to lower prices worldwide.

The effects of the global recession and financial crisis on trade have been even more dramatic. The OECD, IMF and World Bank have all predicted that overall world trade may fall by over 10% in 2009, and USDA's forecast expects overall U.S. trade could contract 10% in volume and 20% in value this year. This first contraction of world trade since the early 1980s began in late 2008 and has been most severe in the first quarter of 2009, with some recovery in trade expected to accompany economic recovery in the second half of 2009. U.S. overall exports declined 21% from that quarter a year earlier, while imports fell 30%. U.S. agricultural exports in the first quarter of 2009 were 19.5% lower than a year earlier, while quarterly agricultural imports fell 5.3%. This short run contraction of trade accounts for the reduction in USDA's import forecast between May and August, though the export reduction was anticipated. It is likely that limitations on short run trade financing due to the financial crisis were as important as reductions in income and spending by consumers in explaining downturns in world trade. Agricultural was somewhat more resilient than other sectors as economies declined worldwide and as trade contracted, but it was not immune to these effects.

The global recession and financial crisis have led to calls for countries to avoid increased protectionism, a factor that exacerbated the economic decline of the Great Depression. Countries have mostly abided by their WTO commitments and there are only a few instances of increased protectionism, according to the WTO. The G8 has recently called for renewed efforts to complete the Doha round of WTO negotiations as well, and a ministerial meeting has been called for December, 2009. There is little evidence, however, that positions that stalled negotiations have been changed, so real progress toward a new agreement in December is unlikely. Moreover, lack of interest in trade issues has meant bilateral and regional trade agreement negotiations are stalled, as well, and ratification of bilateral agreements between the U.S. and Korea, Peru, Panama, and Colombia have not progressed since those agreements were signed in 2007. The WTO and GATT agreements remain in force, and so disputes are likely to influence any agricultural policy reform in the near future. A number of irritants, that could lead to disputes, particularly for meat trade, persist or have arisen in the last year. These include limitations on pork imports due to the possible H1N1 pandemic, continuing limits to beef trade to Korea and Japan, a U.S.-EU meat agreement, regulations under the COOL program, and reintroduction of U.S. dairy export subsidies. The U.S. also lost yet again its dispute over cotton policy with Brazil, and sanctions will now be imposed. Similar complaints against broader U.S. agricultural commodity programs brought by both Brazil and Canada remain under investigation.

Economic growth here and abroad, recovery of financial markets, and the evolution of exchange rates will determine agricultural trade outcomes over the next couple of years. Slow economic recovery is expected,

and recent news suggests economic performance is better abroad than USDA or IMF projections suggest, which could lead to a weaker dollar but improved agricultural exports. There is huge uncertainty over both economic forecasts and exchange rate expectations, and institutional factors like trade financing limitations were probably more important in shaping the extraordinary recent events.

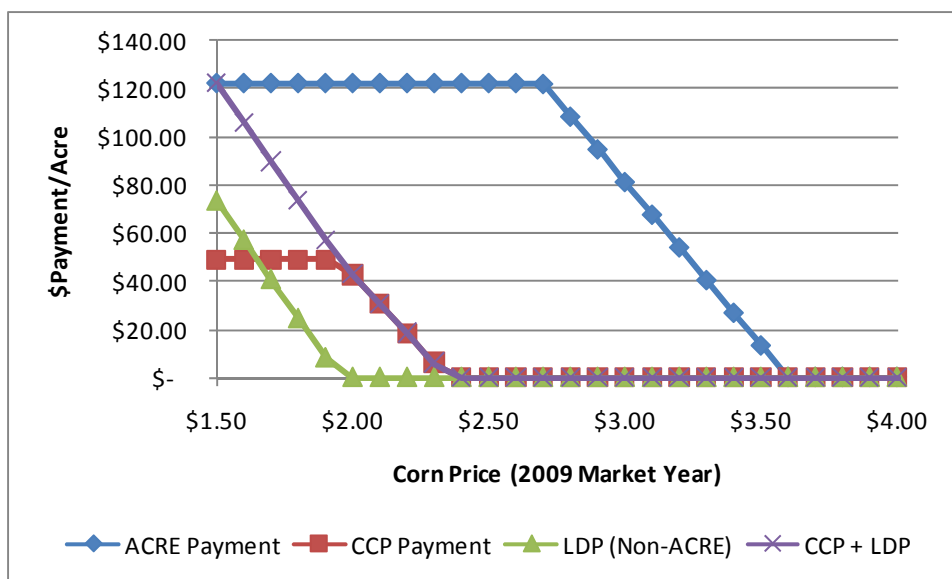
**Policy: Look At ACRE for 2010**

Roman Keeney

While the Obama administration spent much of the summer and fall of 2009 focused on moving forward its agenda on health care and climate change, the administration’s department of agriculture has been under the gun educating the public and implementing the farm policy changes enacted in the 2008 Farm Bill. Primary among these changes was the optional enrollment of program crops into the Average Crop Revenue Election (ACRE) program, a revenue counter-cyclical payment system that could be used to replace counter-cyclical price payments (CCP) for producers willing to forego twenty percent of their direct payments.

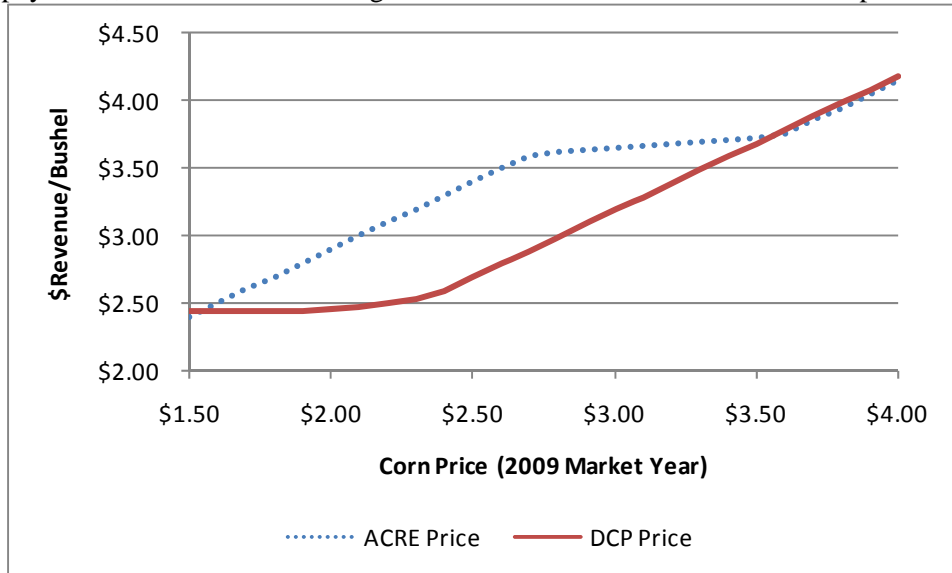
Many analysts were forecasting significant enrollment in ACRE for Midwest farmers, as the ACRE program built in significant price protection relative to the traditional program suite, through its use of current plantings, recent yield history, and averages of the past two years prices. This last aspect in particular, meant that producers opting into ACRE and raising corn would have their corn acre revenue payments tied to a price of nearly \$4.00 per bushel as opposed to the \$2.35 per bushel effective guarantee offered under the CCP program.

Figure 1 provides this comparison of expected payments (excluding direct payments) for corn producers assuming a farm yield of 163 bushels and a state yield of 160 bushels, for different prices for the 2009 marketing year (from September 2009 through August of 2010). In the graph, we see that the ACRE payments begin to trigger at around \$3.60 and increase as the expected 2009 market price falls. ACRE payments max out at \$120.00 per acre for this example corn acre and remain flat due to the twenty-five percent maximum of the state guarantee built into ACRE payments. The graph similarly shows that CCP payments begin at \$2.35 and continue to increase until the loan rate for corn of \$1.95 is reached, which stops CCP payments and triggers loan deficiency payments. At the extreme left hand side of the graph we see that for a 2009 market year price for corn of \$1.50 ACRE payments are equal to the combination of LDP and CCP payments received.



**Figure 1. ACRE, CCP, and LDP Expected Corn Payments for different 2009 Market Prices**

The ACRE corn payment being triggered in the example of Figure 1 is due to the price of \$3.60 being low enough to generate a shortfall of revenue at both the state and farm level relative to guarantee levels based on recent yields and prices. Figure 2 makes the comparison of the two program explicit, taking the total of market revenue (assuming the acre of corn is sold at the national market year price for 2009) and government payments (including fixed direct payments) to calculate an effective price (\$ of revenue/ bushel of corn). Here we see that when no ACRE payments are made (at a price above \$3.50) the effective price per bushel of corn is slightly lower (~\$0.03 per bushel) due to the foregone direct payments, but for the entire range between \$3.50 and \$1.50 the effective price under ACRE is higher.



**Figure 2. Effective Corn Price under ACRE and DCP Options**

Over the summer of 2009, as crop reporting began to indicate a strong year for Cornbelt yields and futures prices for the 2009 crop help at around \$4.00, interest in the optional ACRE program was low due to the low probability of revenues being low enough to trigger ACRE payments. By late summer, futures prices for the 2009 marketing year has weakened and interest in the program increased to the point that Farm Service Agency (FSA) offices agreed to take names of those intending to sign-up for ACRE at their office on August 14<sup>th</sup> and allow those individuals to sign-up in the weeks following this date. As a result, final enrollment in ACRE is unknown at this point for most states, including Indiana. Current reporting indicates that 88 percent of farms in Indiana have been enrolled in either DCP or ACRE with around 8.4% of farms opting for ACRE. This enrollment percentage is about one half of the sign-up rate for Illinois and three-fourths of that for Iowa.

For those that enrolled in ACRE, the key item to watch over the next year will be the evolution of the national average price forecast for all of their covered crops on an enrolled farm. Any covered crop on the farm can trigger its own payment regardless of the expected revenue for other crops on the same FSA number. Similarly, operators that declined to enroll in ACRE for the 2009 crop year will face the ACRE decision in the spring of 2010 so following the national average market price forecasts over the fall of 2009 and spring of 2010 will represent important information for those producers revisiting the ACRE decision. Of course, interested parties can continue to follow the implementation and prospective payments from ACRE and DCP at the Purdue AgEcon farm policy website located at <http://www.ag.purdue.edu/agecon/Pages/agpolicy.aspx>.

Those that did not sign-up for ACRE for the 2009 crop will have the opportunity to reconsider entering the ACRE program starting with the 2010 crop.

## **Food Prices Increases will be Small**

Corinne Alexander

After several years of record food price inflation, food shoppers are seeing moderate food price increases and even some food price decreases. The food price increases so far in 2009 are about half of the price increases in 2008 due in large part to the global recession and anticipated large grain crops to be harvested in the coming months. For 2010 we are expecting a return to normal food price inflation of about 2.5 to 3.5%. With the global recession, there has been a dramatic decrease in export demand for US agricultural products which in turn increases the domestic supply of those products, driving down the prices. In particular, US exports of pork have fallen 22% and dairy exports have almost ceased. Looking forward, food price inflation will depend on weather conditions and the pace of the global economic recovery. Favorable weather conditions for good yields will continue to moderate food prices. Hurricanes and fall storms can affect fruit and vegetable supplies, while drought in the Midwest can affect feed grain supplies.

Grocery store prices declined 0.9% from July 2008 to July 2009, well below the 2008 increase of 6.4% and even below the 1997-2006 average annual food and beverage retail price increase of 2.5%. Restaurant prices are expected to increase at 3.5% to 4.5% for 2009, only slightly above the typical 3% increase. Restaurant prices are not moderating as fast as grocery store prices because the restaurant bill includes the labor to prepare the food and overhead. The food price increases in 2008 are building on large food price increases from 2007, which makes the food price increases much more visible.

Over the last 12 months, many food product prices have returned to levels from two years ago. One household staple that illustrates this is eggs. In July 2007 the US city average price for a dozen grade A eggs was \$1.50 and this increased to \$2.01 in July of 2008 and then fell back to \$1.50 in July of 2009. Another household staple where prices have moderated is milk; the July 2009 US city average price for a gallon of whole milk was \$2.99, compared to \$3.96 in 2008 and \$3.74 in 2007. The reason dairy prices are lower in 2009 compared to the previous two years is that with the global recession export demand for dairy products has declined dramatically, increasing domestic supplies. One food category where prices are increasing is fruits and vegetables which are increasing at 1.5 to 2.5% in 2009, which is a more moderate increase than the 2008 increase of 6.2%. In the case of cereal and bakery products, these prices are expected to increase 3% to 4% in 2009, again much lower than the 10.2% increase in 2008. As global grain supplies increase due to large crops, prices of cereal and bakery products would continue to moderate.

Over the next 12 months, food price inflation will depend on the direction of food ingredient costs and energy costs which in turn depend on the pace of recovery for the US and global economies. So far in 2009, energy prices and commodity grain prices are substantially below the records of 2008 which will lead to more moderate food price inflation over the next 12 months.

## **Pork Losses Continue Till Spring**

Chris Hurt

Pork producers have lost a lot of equity since the fall of 2007. Two years of almost continuous losses have likely put some producers on the verge of financial failure. Yet, they have only reduced the size of the breeding herd by three percent in the past two years.

The major culprits for the financial setback have been high feed costs, and more recently, sharp reductions in demand due to dropping exports and weak domestic demand from the recession and from H1N1 being falsely linked to pork consumption in some consumers' minds.

Each of these factors is expected to reverse in the coming year. Falling corn and soybean meal prices are expected to reduce costs from \$52 per live hundredweight in the spring of 2009 to about \$44 by this fall. USDA expects pork exports in the next three quarters to be up 9% compared to the same period a year-ago. A slow economic recovery is expected in the last-half of 2009 and 2010, and the negative impacts of H1N1 will be reduced after this fall and winter flu season. Another positive will be some further liquidation of the breeding herd that will further reduce pork supplies by the summer of 2010.

Hog prices are expected to rise this fall, a rare occurrence. The last time hog prices moved up from August to October was 1990. The reason for some optimism this fall is because retail pork prices are expected to move down more rapidly and pork exports are expected to recover.

Estimates are for the per capita availability of pork to be down about five percent this fall and in the first-half of 2010. Beef per capita availability will be down near three percent for the same period. These smaller supplies along with the beginning of better demand may bring prices upward from the dismal low-to-mid \$30s in late summer.

Expect live prices to average in the higher \$30 in the final quarter of this year and then be in the low \$40s for the first quarter of 2010. By spring, prices are expect to reach the mid-\$40 and move to averages in the higher \$40s for the summer.

Costs for farrow-to-finish production are expected to be about \$44 to \$46 for the next year given current anticipated feed prices. If so, losses this fall would be around \$5 to \$7 per live hundredweight and moderate to near breakeven in the first quarter of 2010. A return to profitability would occur in the spring of 2010. This means losses would have extended from the final quarter of 2007 through the first quarter of 2010 or 10 consecutive quarters of loss.

### ***Cattle Industry Trying to Hold On Until 2010***

Chris Hurt

The cattle industry has suffered from high feed costs over the past three years and the recession has weakened beef demand. Consumers have cut back on purchasing high value steaks and other higher priced cuts both in restaurants and in their at-home consumption.

Beef cow numbers have been in a long term decline that has totaled 11% since 1995 and 2% in the past two years. The herd is expected to continue to decrease by another 1% to 2% in 2010 as a result of low margins for cow-calf producers and drought in the Southern Plains. Indiana beef cow numbers have dropped by 40% since 1995, sharply outpacing the national rate of decline.

As a result of smaller cow numbers and a smaller calf crop, beef production is expected to drop by about 3% in 2010. This follows of decline of 2% in 2009. Thus beef supplies will tighten at a time when the economy is showing slow improvement. Both should be positive for cattle prices in late-2009 and especially 2010.

The impact of the recession has been felt heavily by cattle producers. In 2008, finished cattle prices averaged \$92 per live hundredweight, but only \$85 in 2009, and that was with smaller beef supplies this year. For next year, Nebraska steers are expected to average about \$92. Prices in the Eastern Corn belt tend to be \$1 to \$3 lower.

Summer lows reached \$80 and have improved a few dollars. It is expected that finished cattle will continue to move into the mid-and-higher \$80 this fall. Prospects look promising for spring highs to reach into the very low \$90s. Summer 2010 prices are expected to be in the higher \$80 to low \$90s.

Prospects for cow-calf producers are expected to turn upward as well. In the fall of 2009, Oklahoma City steer calves averaged \$1.05 per pound. This fall, similar calves are expected to be \$1.10 to \$1.15 a pound. The fall 2010 calf crop may see calf prices strengthen to \$1.15 to \$1.20 a pound. However, cattle prices will depend heavily on the magnitude of the economic recovery. Eastern Corn Belt calves tend to be about 3 to 5 cents per pound lower.

### **Poultry Sector Expects Improvement**

Broiler producers faced large losses in early 2009. As a result, broiler production was down 4% in 2009. By mid-2009, several chicken companies were reporting small positive returns. For 2010, USDA expects production to be up 3%. With an improving economy, prices are also expected to rise. In 2009, 12 city broiler prices will average about 80 cents per pound and USDA expects an improvement to 83 cents per pound for an average in 2010.

Turkey production was off sharply in 2009 dropping 8%. USDA expects production to rebound by 2% in 2010 with prices rising to 82.5 cents per pound compared to an estimated 81 cents per pound for 2009.

Egg prices should also recover somewhat in 2010 to \$1.03 per dozen in New York markets compared with \$.98 in 2009. This was a sharp drop from the \$1.28 a dozen in 2008. Production dropped a small amount in 2009 and a similar decline is expected in 2010.

### **Dairy Prices Put Squeeze on Farmers**

Mike Schutz, Professor of Animal Sciences

The record annual milk prices of 2007 and 2008 are now a distant memory as Indiana and US dairy farms are now receiving record low prices relative to input costs. Class III (cheese prices) drive the overall milk price and have averaged only \$10.15 for the first seven months of 2009 and only \$9.93 for the summer. These class III prices are right at the targeted price at which government support programs are activated and are also far below the averages of \$18.04 and \$17.44 for 2007 and 2008, respectively.

At the farm gate, the low prices reflect paychecks of less than \$12.00 per cwt (\$1.00 per gallon) for most dairy farms. The situation is especially alarming given that average costs of milk production on farms were in excess of \$17.00 per cwt (\$1.42 per gallon) over the first months of 2009. These negative margins (more than \$5.00 per cwt or \$0.42 per gallon) over a considerable time have had dire consequences for many dairy farms, including erosion of equity earned over years or even generations of dairy farming, exiting the dairy business, and in some cases bankruptcy.

This is certainly not the first time that milk prices have been this low. Since USDA revised the Federal Milk Marketing Orders and the way milk prices are established in 2000, this is the third major downturn in milk prices. What's different this time is that costs of production are much higher. Compared to 2002-2003 when milk prices were roughly the same level, feed prices have been at least 50% higher this year. USDA routinely reports a milk to feed price ratio that reflects the value of a pound of milk relative to the price of feed to produce it. That ratio has been at record lows since March of 2008, initially from escalating feed prices, then shifting more to moderating feed prices with starkly reduced milk prices.

Interestingly, monthly milk production in the US has continued to increase slightly compared to year-ago. However, monthly production has increased only by around 0.1% in recent months compared to the typical 2% to 3% of recent years. Clearly, the slightly higher milk production in July 2009 relative to

July 2008 was driven by more milk production per cow, because nationally, the size of the US dairy herd has shrunk by 145,000 head to 9.2 million during that time.

Undoubtedly, the very mild summer in the Midwest played a role in increased production per cow. While numbers of slaughter cows going to market have increased, there appears to be an ample supply of replacement heifers to take their place, possibly resulting from the industry's recent use of gender selected semen.

So why have milk prices taken such a beating? Lots of individual factors have created the perfect storm to reduce prices, but simply put the reason for lower prices is—the economy. While there have been some shifts in which dairy products Americans are consuming, dairy consumption has remained remarkably stable given the recent recession. However, export markets have eroded quickly. In 2007-2008 approximately 11% of the milk produced in the US was exported in the form of various products, especially powdered milk and dry whey. In the first half of 2009, that has slipped to around 4% of US dairy production. Reasons for declining exports include the strengthening of the US dollar which pushed dairy products out of the price range of some trading partners, and increased availability of dairy products from New Zealand and Australia as they recovered from recent drought conditions. Loss of export markets resulted in the need to clear an additional 7% of milk production domestically. An industry geared toward an annual increase of 2% was quickly flooded by milk. It should also be mentioned that early this year it was difficult for wholesalers to obtain capital to invest in purchases of stores of cheese, powder, and butter, further eroding prices.

Presently, the outlook for milk prices in the near term is better, but not spectacular. According to Chicago Mercantile Exchange Class III futures, prices are expected to average around \$12.65 for September to December. This is nearly \$3.00 more than prices over the summer. Combined with Milk Income Loss Contract countercyclical payments (expected to average about \$0.60 over those months), these prices will move some low cost dairy producers back to profitable margins. A steady increase in prices is expected into 2010, but Class III prices are not expected to break \$15.00 until August, 2010. However, keep in mind that each of the previous downturns in milk price has been followed by dramatic price increases to largely unexpected highs. Anything that affects demand could lead to a more rapid increase in prices. While it appears that the US is coming out of the recession, which could assist in strengthening demand; it is unclear how quickly or to what extent consumer confidence will return in 2010.

In recent days, futures prices have trended up despite declining cheese prices based on tight supply of milk internationally. Milk supply also remains a big unknown depending on how many dairy producers will be able to continue business operations while decreasing equity for loans to pay operating costs. Further, price increases, unless based on solid increases in demand may be short-lived because there seems to be a glut of replacement heifers available to fuel future expansions; and replacement costs are lower than they have been for several years. In the past 2 years it has become especially evident that margins and not milk price are critical to dairy farm income, so producers will want to keep close tabs on the commodity prices for feed and fuel as well.

At each downturn in milk prices, there has been discussion of supply control programs, either self-funded or government driven. This time is no exception. What is different is that there appears to be more organization this time to the Dairy Price Stabilization Program, a type of quota system to stabilize supply of milk, endorsed by Holstein Association USA and other industry partners. Some in the industry, especially those interested in future expansion of their business, oppose that program. However, there is large agreement that changes are needed to stabilize milk prices and assure that they offer a margin of profitability. USDA has temporarily increased the support price through cheese and powder purchases during August and September, which will lead to around \$0.50 per cwt increase in milk prices, but this has already been factored into futures prices. Expect considerable discussion on milk price programs after Congress returns following the Labor Day recess.

## **Corn Harvest Price Lows: Then Recovery**

Chris Hurt

After two years of tight corn supplies and high prices the 2009 crop is going to reverse that direction. As a result of a record high yield of 161.9 bushels per acre U.S. production will reach 12.95 billion bushels, the second largest crop ever according to USDA's September estimate.

Consumption is expected to increase primarily due to greater use of corn for ethanol to meet the Renewable Fuels Standard (RFS). The RFS grows to 12 billion gallons of conventional biofuels in 2010 and will require about 4.2 billion bushels of corn. That is 550 million bushels more than was used to make ethanol from the 2008 crop.

Corn exports are also expected to grow to 2.2 billion bushels as a result of a relatively weak U.S. dollar and stronger world income growth. This is a growth of 19% in corn export volume.

Ending stocks from the 2009 crop will be 1.6 billion bushels which is not burdensome. World stocks will be somewhat tighter than last year with ending stocks about 18% of use. These levels of world stocks are not burdensome in a historical context. In the late 1990s and early 2000s, world corn stocks averaged between 25% and 30%. This points out that one large crop should not return the world to permanent surpluses.

Storage looks to be the best strategy for corn. USDA expects the U.S. average farm price of corn to be \$3.30 per bushel for the 2009 crop. This is down from \$4.20 for the 2007 crop and \$4.08 for the 2008 crop. Harvest prices are expected to be under \$3.00 per bushel—perhaps as low as the \$2.70 to \$2.80 range for some Indiana locations. Prices are expected to increase after harvest and move back toward the \$3.50 level by spring and early summer. This means the price appreciation from harvest could be 50 to 80 cents. This greater than normal increase will be due to the depressed harvest prices and to a recovering world economy that begins to increase usage by next spring and summer.

Storage returns are expected to be 35 to 45 cents above interest costs for on-farm storage (using 6% interest). Expectations for commercial storage are for a positive return of at least 5 to 15 cents per bushel above interest and storage charges.

Basis levels will be somewhat stronger than usual because storage demands will be more easily met by storage supply this year. There has been an estimated 150 million bushels of new storage added in Indiana in 2007, 2008, and 2009. This is the most rapid expansion of storage since the 1970s. In addition, with cash prices under \$3.00 per bushel, most producers will not want to sell a crop that has costs them much more than this to produce. The lack of farmer selling at harvest may also strengthen basis levels. If basis is very strong at harvest, then basis contracts would be a good pricing alternative. Basis contracts establish the basis but allow the producer to wait on the futures price to hopefully move higher.

## **Soybeans Face Tough Year**

Chris Hurt

The USDA estimated national soybean yields at 42.3 bushels per acre in their September report. This is just under record yields of 43 bushels per acre. Total production at 3.3 billion bushels is record large. Production will be greater than usage, so ending stocks will grow to 220 million bushels which is more comfortable than the extreme tightness in recent months.

Prices may be higher in the fall than they are next spring and summer. This is due to the poor yields and small crops produced in South America last spring. World inventories have been low and the world's buyers have turned to the U.S. for soybeans in recent months. This strong world demand will continue this fall as the U.S. is the primary source of soybeans, however, if South America returns to more normal production next spring, this will cut into U.S. exports. In addition, soybean meal use for domestic feeding is not expected to grow as pork, dairy, and beef herds are all being cut due to losses for those producers.

Bean prices are expected to average about \$9.10 for the 2009 crop. Prices are expected to move under \$9.00 a bushel for harvest prices. These could even drop below \$8.50 if the size of the U.S. crop grows even larger in later reports. The price recovery for the 60 days after harvest might be about 50 to 75 cents per bushel. Beyond that the expected size of the South American crop will become important. If acreage and crop conditions look favorable for a large crop there, our soybean prices may struggle into early 2010.

Most producers will be hoping for a recovery back toward \$10, and that might happen if the South American crop growing conditions develop some concerns. If not, \$10 may be hard to reach.

Soybean storage does not look as profitable as corn. The "carry" or price premiums for later delivery in the bean market are small. While the current corn market is expecting maybe 40 to 50 cent price premiums for storage to next spring, that is only about 30 to 40 cents for soybeans, and storage costs for soybeans are higher than for corn.

The "carry" is enough to cover on-farm interest costs for storage into December or January, but not much beyond this as the market is worried about the potential for a large South American crop and flat to lower U.S. cash soybean prices after February 2010. There is currently not enough expected price premiums for later delivery to cover commercial storage charges. Thus the market is suggesting selling out of the field for those who do not have on-farm storage.

If storage is limited, the first choice is to store all the corn and then allocate the remaining space to soybeans. Thus, consider being more aggressive in selling soybeans at harvest and holding more tightly to corn.

However, it will be hard to sell beans out of the field, especially if prices drop below \$8.50 per bushel. In the past three years bean prices have rallied sharply during the storage season. On average over the past three years (the 2006, 2007, and 2008 crops) the cash price of beans has risen by \$3.30 per bushel from mid-October until mid-May the following spring. The last three years have been unusual, yet those who "stored away and sold in May" were richly rewarded. That could still be the case for the 2009 crop if China is a bigger buyer than expected or if South American weather jeopardizes production again this winter.

### **Some Crop Input Prices Headed Down**

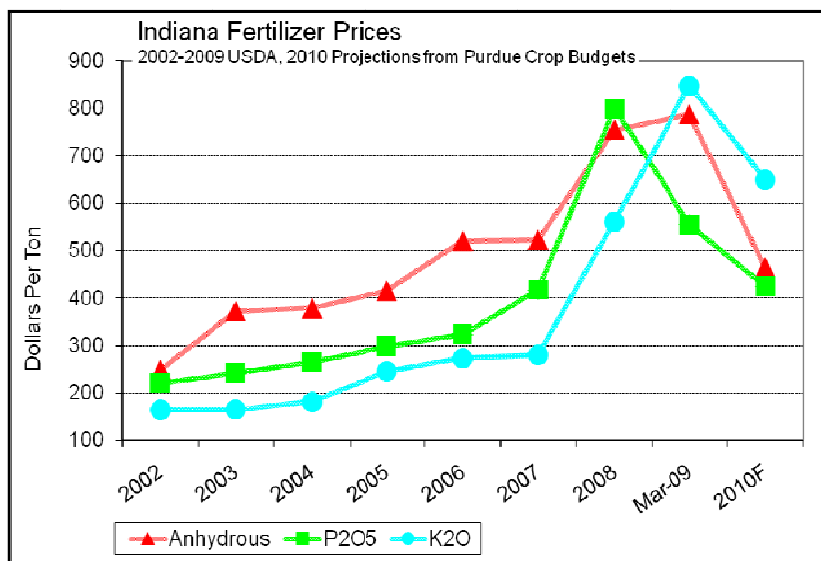
*Bruce Erickson, Alan Miller, and Craig Dobbins*

The costs for growing corn, soybeans, and wheat in Indiana are predicted to be sharply less for 2010 than 2009, led by the dramatic decreases in fertilizer prices resulting from recession and lower commodity prices. While these general price trends are obvious, the real questions are at what level will prices find equilibrium, what factors will affect them, and what is in store for certain inputs. Preliminary 2010 budgets show variable costs per acre for corn, soybeans, and wheat dropping from 13% to 22%.

**Fertilizer** prices in Indiana have done an about-face in the last year. Prior to the global financial crisis of 2008, retail price reports of potash of over \$900 per ton, anhydrous ammonia of over \$1000 per ton, and diammonium phosphate (DAP) of over \$1100 per ton were reported. This was during a time of high

commodity prices for many crops, substantially increasing the demand for fertilizers, and high energy prices, a key component of fertilizer manufacturing and distribution. Since that time prices of nearly all fertilizer products have dramatically fallen, but nitrogen and phosphorus fertilizers have declined more than potassium (see figure). Fertilizer industry information shows that overall fertilizer use in North America declined 15% to 20% from 2008 to 2009, with potassium fertilizer application declining around 30%. September 2009 survey information from Illinois shows anhydrous ammonia for fall application selling for \$395-\$450, DAP at \$359-430, and potassium at \$555-672. See: [http://www.ams.usda.gov/mnreports/gx\\_gr210.txt](http://www.ams.usda.gov/mnreports/gx_gr210.txt)

Depending on when fertilizers were purchased, some Indiana farmers may have spent \$200/A or more to fertilize their 2009 corn crop, but our budget projections for 2010 put corn fertilizer expenses in the \$100-\$130 range depending on previous crop, soils, and other factors (includes N as well as P, K, and lime replacement). Published industry sources indicate that prices for nitrogen and phosphorus fertilizer sources may have reached lows and could work upward; potassium prices could still come down more.



**Seed/Genetics:** More value continues to be delivered through seed in the form of increasing yields and crop protection traits each year. But with lower grain prices the value of that additional production is less. Seed prices rose dramatically for the 2009 crop, and list prices for some of the highest-performing, most fully-equipped hybrids will be well over the \$300 mark for next spring's planting, and some soybeans will be over \$60/unit. Yet allowing for discounts and adjusting for seeding rates, seed budgets for 2010 will be in the \$75 to \$95 per acre range for many corn fields and about \$50 per acre for soybeans, similar to those of 2009.

Biotech traits continue to heavily influence the seed industry, product offerings, and prices. Technology fees charged to seed companies from the bioscience provider's account for a large share of the pricing formula. The percentage of genetically modified corn acres in Indiana is catching up to soybeans, but the dramatic increases also appear to be leveling off as the market is becoming saturated and farmers are exploring additional options to spread their risks for pest control.

**Crop Protection:** Prices for herbicides, insecticides, and fungicide products have been relatively flat in recent years. Last year prices for glyphosate-based herbicides were up substantially overall. But indications are for a corresponding decrease this year, and there is speculation of substantial price decreases. It will be a mixed bag for other pesticides depending on each particular market, but the overall trend appears relatively flat.

**Energy:** The Energy Information Administration predicts diesel prices will increase about 15% in 2010 as compared to 2009—remembering that diesel fuel prices were relatively low during the first part of this year. The outlook for propane for dryer fuel is mostly flat. Propane prices that have been relatively low this summer because of abundant supplies will likely increase with the onset of the winter heating season, but after that are predicted to be relatively flat into next year's harvest period. See: <http://www.eia.doe.gov/oiaf/forecasting.html>

**Machinery:** Farmers' expenses for machinery have been increasing in recent years. Sales numbers of smaller tractors across the industry have been down since 2004 due to housing and construction woes.

Until this year, larger horsepower tractor and combine sales had been on an upward trend, but the forecast shows declining sales for 2009, which could result in softer prices. See:

<http://www.aem.org/Trends/USAg/>

**Nitrogen Usage:** While input prices are down substantially, market prices for most crops are down, too. The economically optimum rates of fertilizer application are important to consider. For nitrogen fertilizer, the ratio of N price per pound and the per bushel price for corn may be an indicator to lead to the optimum nitrogen rate. The following chart shows that at current price ratios, nitrogen is relatively less expensive compared to corn than in some recent years.

Corn Price/Nitrogen Cost Ratio, 2005 to 2010, Purdue Crop Budgets

Year	Corn Price \$/bu	N Price \$/lb	Ratio N price/Corn price
2005	2.12	.26	.12
2006	2.31	.34	.15
2007	3.71	.28	.07
2008	5.00	.46	.09
2009	4.00	.49	.12
2010 F	3.30	.28	.08

### **2010 Brings Increasing Pressure to Drive Crop Costs Down**

Alan Miller, Craig Dobbins, and Bruce Erickson

The last several years have been notable for a remarkable run-up in the variable costs of producing corn, soybeans, and wheat in Indiana. These costs include seeds, fertilizers, pesticides, fuels, and other production inputs. Fortunately, a change in direction in this long-running trend is coming in 2010. Primarily due to lower fertilizer prices and flatter price trends for other inputs, such as seeds, the total variable costs of growing these crops in 2010 is expected to decline from 13% to 22% in 2010.

Despite the declines for 2010, production costs will remain relatively high by historical standards. The average cost of growing corn and soybeans will still be about \$150 per acre higher than in 2000. Production costs in 2010 are expected to be lower than in 2008 as well, but still significantly higher than in 2007 and earlier years.

Variable costs of production for rotation corn in Indiana in 2010 are forecast to range from \$317 per acre, or \$2.50 per bushel of yield, on low yield soils to \$367 per acre, or \$1.92 per bushel, on high yield soils. Rotation soybeans are forecast to range in cost from \$182 per acre, or \$4.67 per bushel, on low yield soils to \$206 per acre, or \$3.49 per bushel, on high yield soils. The variable costs of growing wheat are forecast to range from \$141 per acre, or \$2.27 per bushel of yield, on low yield soils to \$172 per acre, or \$2.05 per bushel, on high yield soils.

Fixed costs of production including the farm operator's land, labor, and machinery costs are forecast to range from \$227 to \$339 per acre for Indiana corn-soybean farms. Fixed costs vary significantly from farm to farm for a number of reasons including size of farm. But the biggest factor affecting fixed cost typically is land cost. For budgeting purposes we assume all land is cash rented and rents vary with corn yields. Rent estimates for 2010 are based on Purdue survey data in June of 2009.

Our forecast for 2010 indicates that the breakeven prices for a farmer who produces corn and soybeans in rotation on average yield cropland will be around \$3.94 per bushel for corn and \$9.57 per bushel for soybeans. These breakevens are currently well above the market price indicated by the futures market for the fall of 2010. The magnitude of the shortfall suggests that Indiana corn and soybean farmers will be

under economic pressure to look for additional opportunities to drive down their operating costs and that ultimately cash rents are likely to come under pressure if the current cost-price squeeze continues. The forecast profit shortfall is currently poised to be larger than in 2009.

Farmers can afford to produce in 2010 as long as their revenues from crop production exceed their variable costs of production. The difference between crop revenues and variable costs is called the contribution margin. Crop farmers can maximize their income available to pay fixed costs with a crop mix that maximizes contribution margins. The crop prices used in this forecast are \$3.30 for corn, \$8.40 for soybeans, and \$4.20 for wheat, which were based on the closing futures prices on the Chicago Mercantile Exchange on September 4, 2009, for July wheat, November soybeans, and December corn in 2010.

Contribution Margins (Returns above Variable Costs) Per Acre			
	Low	Average	High
	Productivity	Productivity	Productivity
	\$/acre		
Continuous Corn	64	129	214
Rotation Corn	102	174	263
Rotation Soybeans	146	218	290
Wheat	119	142	181
Wheat-Double Crop Beans	157	224	305

Wheat and double crop soybeans show the potential for the highest contribution margin per acre in those south and central areas of Indiana where they are double cropping is a good fit and are an alternative to single crop soybeans in a rotation with corn. The premium for wheat-double crop soybeans at \$28 to \$33 per acre is small enough that timeliness, convenience, risk, and other management considerations will constrain the number of acres double-cropped on individual farms.

Wheat planted this fall looks relatively competitive with corn and soybeans planted next spring only on the lesser productive soils. The average contribution margin on the low productivity soils is only \$5 per acre less than the average contribution margin for the corn-bean rotation at \$124 per acre. The opportunity cost of growing wheat on average and high productivity soils is large enough at \$54 and \$95, respectively, to severely limit the wheat acreage planted on better soils.

The new Average Crop Revenue Election (ACRE) program should be considered when making cropping plans for wheat in 2010. At the 2010 harvest price of \$4.20 per bushel used in this forecast, wheat revenue is approximately \$13 per acre below the ACRE revenue guarantee we have projected for wheat for 2010. This ACRE payment should be added to the contribution margin shown in the table above. ACRE reduces the downside risk associate with low prices and yields. Because wheat is already “in the money” in terms of the 2010 ACRE revenue guarantee, it may look like a less risky alternative to corn and beans, which are not, particularly on the less productive soils where wheat is already competitive. Even if you did not sign up for ACRE for 2009 crops by August 14, producers will have the opportunity to sign up for 2010 crops which means the wheat that will be planted this fall.

Corn and soybean prices would have to drop significantly, assuming normal yields in 2010, before an ACRE payment would appear to be a possibility based on our projections. Forecast crop revenues for these two crops are still \$70 to \$80 per acre higher than the projected revenue guarantee.

Rotation soybeans are currently showing the potential to contribute more toward fixed costs than rotation corn. The opportunity cost for corn acreage in a corn-bean rotation is larger on less productive and average soils, primarily because corn seed costs are lower per bushel of yield on the high productivity soils thereby improving the contribution margin of high yield corn. The relatively large advantage for

rotation soybeans will likely moderate or disappear if South American bean growers respond to the market signal to plant more beans this fall.

Indiana crop farmers are coming off two high net income years in 2007 and 2008. The average net farm income for those two years was nearly double the average net income for the 10-year period from 1998 to 2007. In fact, 2008 saw a record high net income of \$3.17 billion dollars for Indiana farmers driven almost entirely by favorable crop prices received by grain and soybean farms.

### **Farmland Values and Cash Rents Weaken**

Craig Dobbins

From 1986 to 2008 Indiana farmland values have been marching steadily higher. Data from the Purdue Farmland Value Survey indicates the increase from June 2006 to June 2008 was especially strong. Driven by unusually large margins from crop production, low interest rates, a limited supply of farm land for sale, and expectations of continued strong grain prices, farmland values during this period increased 33% to 35%. The 2009 Purdue Farmland Value Survey indicated that Indiana's farmland values had taken a change of direction. For the state as a whole farmland values declined 0.2% to 1.7%.

Several factors are contributing to the weakness of Indiana's farmland market. Most apparent is the decline in grain prices and increase in production costs. This has resulted in much tighter margins from crop production than in 2007 and 2008. These changes have resulted in expectations about future returns being much less optimistic. The severity of the recession and the continuing declines in the value of homes and other nonfarm real estate has also been negative influences.

While the overall tone of the farmland market has become much more cautious, there are still positive aspects. Long-term interest rates continue to be near historic lows. The low interest rates allow farmland buyers that use debt to make a purchase to more easily cash flow the purchase. In addition, compared to stock and bond investments, farmland investments have been less volatile and the annual dividend paid in the form of rent provides a steady income. There also continues to be a limited amount of land for sale.

During the year ahead, the farmland market will continue to adjust. At this time the negatives seem stronger than the positives. While it is possible for farmland values to have a sharp and large downward adjustment, such an event is rare and in the past has occurred only under extreme economic circumstances. For the year ahead, farmland values are expected to remain close to their current values or have a small decline. Additional information on current Indiana farmland values can be found at: <http://www.agecon.purdue.edu/extension/pubs/paer/2009/august/paer0809.pdf> or on the USDA web site at <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1446>.

The June 2008 Purdue Farmland Value and Cash Rent Survey reported the largest increase in cash rents since 1977. The 2009 survey indicated that for the state, cash rent of top land increased 2.1%, average land increased 0.6% and poor land declined 1.6%, a significant shift from the previous year. These changes in cash rent, reflect a much tighter margin available for rent payments. Unless some event occurs that will reduce grain supplies, it appears likely that 2010 margin will tighten even further. Declining grain prices combined with the high cost of production inputs leaves a smaller net return for paying overhead costs and cash rent. In addition, the increased variability of grain and input prices has added to the difficulty of determining an appropriate cash rent.

When estimating the return to land from crop production, economists treat farmland as the residual claimant. This means farmland receives the revenue that remains after all other production resources have received a payment. Given what is known today, what would be the estimated return to land? Making such an estimate requires several assumptions. Using trend yields and the fall 2010 futures market prices for corn and soybeans as a guide, provides estimated sales of \$525 per acre for corn (159 bu. per acre at

\$3.30 per bu.) and \$412 per acre for soybeans (49 bu. per acre at \$8.40 per bu.). Including an estimated direct government payment provides total revenues of \$489 per acre for a corn-soybean rotation. The 2010 variable production costs (fertilizer, seed, pesticides, fuel, repair, etc.) for corn and soybeans are estimated to be \$351 and \$194 per acre, respectively. Subtracting these costs from revenue leaves a contribution margin of \$216 per acre for a corn-soybean rotation. This contribution margin can be used to pay the tenant's overhead costs and cash rent.

Overhead costs are associated with investments in machinery and facilities, and labor and management. These costs were estimated to be \$126 per acre but vary widely from farm to farm. Subtracting the overhead cost estimate of \$126 per acre from the contribution margin leaves \$89 per acre for rent. This is a return that is well below most current cash rents. Last year the estimated residual return for cash rent from a corn-soybean rotation was \$225 per acre. This dramatic decline in the residual return for cash rent payments indicates that an increase in cash rent is not likely and that tenants may be insist on lowering rents.

Has the estimated margin for paying cash rent declined to a level that will result in a general reduction in cash rents? Given the highly competitive nature of this market, wide variations in production and overhead costs across farms, and variability in expected grain prices, a sharp and significant downward adjustment in cash rents seems unlikely. At the same time, it appears that we have returned to a period when it will be difficult for farmers to recover all costs.

This is a period when it is important to budget through your own situation using your expected revenues and costs. Tools for helping this process can be found on the Web. There are spreadsheet tools and other information the Purdue Department of Agricultural Economics Web site at [http://www.agecon.purdue.edu/extension/pubs/farmland\\_values\\_resources.asp](http://www.agecon.purdue.edu/extension/pubs/farmland_values_resources.asp). The USDA Agricultural Statistics Service has also begun publishing cash rents by county. This information can be found at [http://quickstats.nass.usda.gov/?source\\_desc=CCROP&commodity\\_desc=RENT](http://quickstats.nass.usda.gov/?source_desc=CCROP&commodity_desc=RENT).