

Purdue Agricultural Economics Report

December 2012

The Bloom to Stay on Indiana Agriculture for 2013

The 2012 drought had very different impacts on incomes for crop versus animal producers. Corn yields for the state were down 39% from trend and soybeans were down 9%. But many crop farms were financially compensated for their production losses by much higher prices for what they did raise, and by record large indemnity payments from Crop Insurance.

Unfortunately, animal producers faced record high feed costs which thrust total costs above revenues resulting in heavy financial losses in the last-half of 2012 which will extend well into 2013.

Weather forecasts for early next year favor the Eastern Corn Belt for a return to more abundant moisture. At the same time those forecast keep the likelihood of dryness at a high level for Western Corn Belt states and the

Great Plains. A return to more normal yields in 2013 will lower prices of major crops from their drought related highs, but those prices appear to be well above costs of production. This means the cropping sector can continue to look forward to strong returns in 2013 that will support even stronger land values and cash rents.

Lower corn, soybean meal, and forage prices will help the animal industries return to profitability as well once forages become more abundant next spring, and grain crops reach maturity next fall. While income prospects appear to be favorable once again in 2013 there are uncertainties and possibilities of a wide range of outcomes that you will discover as you read our outlook articles.

U.S. Economy: More Improvement, Maybe

Larry DeBoer, Professor

The outlook for the general economy remains uncertain. Things likely will be a little better next year, but threats remain.

Gross domestic product grew 2.5% above inflation in the year through the 3rd quarter of 2012. The unemployment rate fell from 8.7% in November 2011 to 7.7% in November 2012, a

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bigger-than-expected drop given the slow GDP growth. Inflation was low. The Consumer Price Index inflation rate was 2.1% in the year through November 2012. Interest rates were exceptionally low. The 10-year Treasury bond rate averaged 1.65% in November, and the 3-month rate was 0.09%—yes, that's nine one-hundredths of a percent. Short-term interest rates have not been that low since the 1930's.

The economy has grown slowly, partly because households aren't spending. Consumer spending has grown only 1.8% above inflation in the past year. There is a glimmer of hope that households will spend more in 2013. Unemployment has fallen some. Debt payments have been worked back down to early 1990's levels. Home prices have stopped falling. The University of Michigan's Index of Consumer Sentiment is at its highest level since before the Great Recession.

The housing market has begun to recover. Home prices have begun rising again in some markets. Housing starts are up 42% in the past year, to an annual rate of just under 900,000 in November. Up is good, but there's still a long way to go as starts averaged 1.6 million per year during the *recession* of 2001. Non-residential investment spending is not faring quite as well, up only 4.4% in the past

year, and down 2.2% in the 3rd quarter.

Trade is making little contribution to economic growth one way or the other. Exports are growing slowly, just 3% over the past year, and so are imports, at 2.7%. Most of Europe is in recession, and growth in China may have tapered off, from amazingly fast to merely fast. The dollar remains strong against the euro, which keeps U.S. exports expensive. The dollar has fallen against the Chinese yuan in the past few months, however. The on-going financial crisis in Europe appears to have abated for the time being, but uncertainty remains.

Congress and the President are struggling with the "fiscal cliff." Taxes will rise and spending will drop by about \$500 billion beginning in January 2013, unless Congress acts. This represents more than 3% of our annual gross domestic product. Yank that much spending out of an economy growing at 2.5%, and the result is recession. Uncertainty about the outcome of these negotiations already may be suppressing business investment growth.

Of course, the benefit of jumping off the fiscal cliff is a smaller budget deficit. This is desirable once the economy has fully recovered. Deficits in a fully recovered economy can raise interest rates or raise inflation, crowd out private investment and

ultimately slow real GDP growth. That's not the problem now, though. Interest rates are at record lows and inflation is under control. Closing the deficit in our weak economy would lead to recession.

Assuming that the fiscal cliff is averted, we should see somewhat more confident consumers and businesses, and a continued recovery in housing would offset slow growth in government spending and slow growth in exports. This would allow GDP growth to continue at 2.5% above inflation in 2013. Such slow growth has usually not been enough to bring unemployment down. That would put the unemployment rate at about 7.8% by November 2013.

The Federal Reserve made an unusual pledge in recent months, to continue monetary expansion until the unemployment rate comes down. They pledged to hold the federal funds interest rate near zero through mid-2015 or until inflation rises above 2.5% or unemployment drops to 6.5%. We can count on interest rates remaining low. Expect the 3-month Treasury rate to be near zero, and the 10-year rate to remain under 2%, by this time next year.

Someday all that money could result in higher inflation, but probably not in 2013. Continued slack in the economy should hold inflation down, near 2.0% in the coming year.

Record Exports Due to High Prices, Not Big Buyers

Phil Abbott, Professor

USDA is forecasting another record for agricultural exports in the 2013 fiscal year (FY). Exports at \$145 billion are \$8.2 billion higher than in FY2012 and \$7.6 billion more than in FY2011 when the previous record was set. Agricultural imports are also expected to set another record at \$115 billion, yielding an expected trade surplus of \$30 billion that is somewhat lower than in most years since 2007.

Record exports are the result of the higher commodity prices due to drought and persistent demands, not by increases in trade volume for the grains and soybeans. Corn exports will fall sharply to 31 million metric tons for 2013, down from 38.4 million tons in 2012 and 61.9 million tons in 2008. In 2008 US corn exports amounted to 67% of world trade in corn, while in 2012/13 they are only 32%.

Soybean exports are expected to be 36.6 million metric tons in 2013, down from 38.4 million tons in 2012 and over 40 million tons in 2010 and 2011. U.S. soybean exports now represent

about 37% of world soybean trade, down from about 44% a few years ago.

Reduced export volumes are a consequence of the drought that led to short supplies. Agricultural exports are playing a disproportionately large role in rationing those short supplies. The behavior of exports in response to limited supplies and high prices is markedly different this year than from the outcome in the 2007/08 crop year. In 2007/08, even with prices at record high levels, export volumes hit record highs for both corn and soybeans. According to WASDE reports, corn exports are expected to account for 18% of the reduction in total corn use, while amounting to only 10% of that use. Weekly export sales reports for corn have suggested the limited activity for corn, but export demand for soybeans has been stronger than expected. Sustained Chinese soybean imports account for much of the persistence of soybean export demand.

Declining corn exports, and to a lesser extent soybean exports, are the consequence of worldwide supply response to high international agricultural prices. Importers have sought greater self-sufficiency and competing exporters have expanded production and exports in response to those high prices. High world prices have been in place long enough for non-U.S. countries to expand. The longer run trend toward greater foreign production has accelerated since the 2007-08 food crisis. Since the late 1990s, area planted to crops has increased 50% in South America, 25% in countries of the former Soviet Union, and 15% in Africa and Oceania. By contrast, overall area planted to crops in the U.S. has remained nearly flat over that period, although U.S. land has been shifted into corn and soybeans and away from other crops like wheat and cotton. Once foreign production has expanded, it is likely to remain at higher levels even if market conditions change in the U.S. and future prices fall from current high levels.

Continued High Food Prices for 2013

Corinne Alexander, Associate Professor

Food shoppers are struggling in a period of above normal food price inflation that is persisting for multiple years. Overall food price inflation was 3.7% in 2011, with 2012 expected to average between 2.5 to 3.5% and 2013

expected to average between 3 and 4%. So far, food price inflation in 2012 is building on the very high inflation in 2011 as manufacturers, retailers and restaurants are forced to pass on record high ingredient prices.

The four primary drivers of food price inflation are: 1) strong global demand for commodities largely driven by a growing middle class in developing countries such as China; 2) major agricultural production

problems due to extreme global weather events such as the record drought in the U.S. Midwest in 2012 which compounds the record drought in the Southern Plains which affected both crops and livestock in 2011, as well as production problems in Brazil, the Black Sea region, etc.; 3) continued high crude oil prices; and 4) Government mandates that use food products for ethanol and soy biodiesel production.

Food price inflation is composed of expenditures at the grocery store and restaurants. Grocery store prices are much more sensitive to commodity prices. As of October, grocery store price inflation was 1% which reflects deflation for products such as pork, and fresh fruits and vegetables. The primary impact

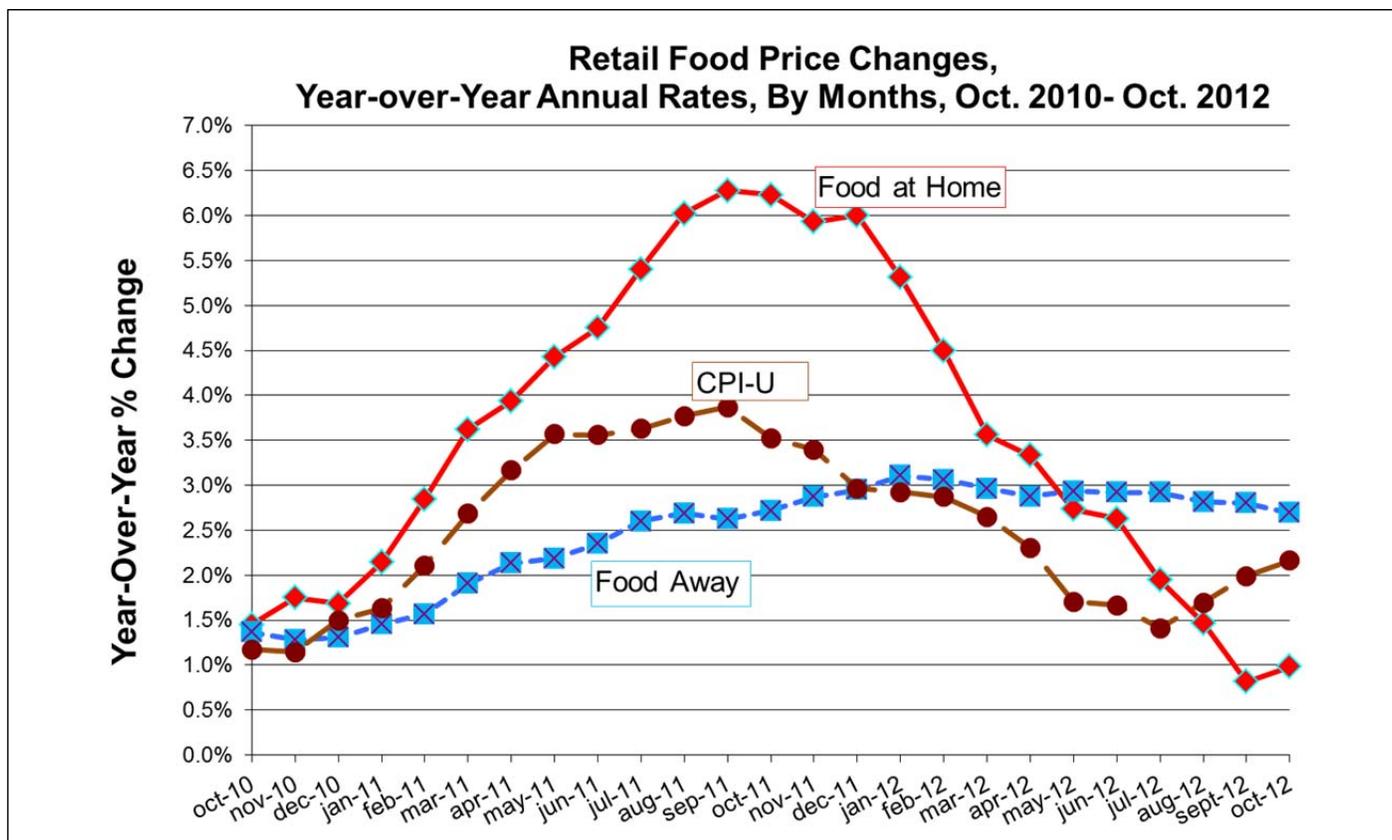
of the drought is on the livestock industries which are being forced to liquidate animals and resulting in a glut of meat products that is driving down prices in the short term. Restaurants price inflation is 2.7% as restaurants struggle with higher ingredient costs and higher energy costs.

Over the last 12 months, the product categories with the largest food price increases have been peanut butter, beef, and chicken. The household staple with the largest price increase is peanut butter at 30%. Beef and chicken prices are up over 5% as these industries adjust to higher feed costs.

At present, there are very low U.S. and global inventories of food commodities such as food grains, feed grains, sugar, fats

and oils. Given the adverse weather conditions in 2012 which are reducing supplies, U.S. inventories of these commodities will remain low until at least mid-to-late 2013. In order for basic commodity prices to fall, there needs to be large harvests where supply exceeds demand and thus inventories can be rebuilt to more comfortable levels. High commodity prices are likely to persist at least through the summer of 2013 and thus retail food prices will continue to be high through 2013.

The food industry is in a classic costs-price squeeze. The food industry is learning to manage the financial risks due to a volatile ingredient price environment.



Crop Prospects Remain Positive with Large Uncertainties

Chris Hurt, Professor

Income forecast for cropping agriculture remain strong for 2013. Current futures market prices for 2013 crops are favorable if Indiana's yields can return closer to normal. The official winter weather forecasts from NOAA favors continued moisture improvements in the Eastern Corn Belt with continued dryness concerns for the Western Corn Belt and Great Plains states where a large region of drought is expected to persist. At this early point, this forecast suggests much improved yields in the Eastern Corn Belt, but still strong prices because of potential lower yields further west. Thus, the extent of a continuing 2013 drought and its impact on national yields and prices will likely be one of the primary unfolding stories in determining the final outcomes for Indiana crop producers. Accurately predicting weather is difficult and increases the uncertainty of financial outcomes for farm families.

Old crop corn usage has had to be sharply curtailed due to a lack of supply. The ethanol industry has cut usage by 9%. Ethanol plant margins are negative and will likely continue that way for the remainder of old crop marketing. Further plant cutbacks can be expected with Indiana plants reducing corn use by 20% or more. Corn export sales have been a drag on corn prices as well. Export commitments are down 45% from last year at this time. Finally the livestock

industry has probably cut corn usage about 10% as they have imported about 100 million bushels of added feed supplies and are also using at least 200 million bushels of other feed ingredients such as wheat and barley in rations. In addition, they have cut herds and flocks and sharply reduced placements of cattle in feedlots.

Cash corn prices are expected to remain in a range of \$7.40 to \$8.25 this winter. Corn is in very short supply, but high prices have forced most end users into large financial losses. This means there is a limit to how high corn prices can go, unless another production setback becomes evident in South America or the U.S. next summer.

Corn basis will remain very strong through mid-summer and end users are concerned about controlling sufficient inventory to run plants and livestock facilities. What happens to prices in the spring and summer of 2013 will be highly dependent on growing season weather, but old crop prices will remain high through at least mid-summer. Harvest prices of corn are currently near \$6 a bushel, but would be expected to move lower if a decent crop becomes assured late next summer. Normal U.S. yields might result in harvest prices dropping to \$5.25 or lower. But new crop prices are not likely to drop that low until the crop is assured next summer.

Old crop soybeans are expected to trade in a range of \$14 to \$16 a bushel this winter before movement to lower prices beginning in the early spring with the arrival of South American production. China, the big world buyer, has remained committed to buying, even at record high prices last summer. The export sales pace is currently 35% ahead of last year. A huge South America crop is expected which will be nearly two times larger than the U.S. crop. World buyers are expected to shift their purchases quickly to South American origins. Late next summer soybean prices are expected to drop sharply making a quick transition to new crop prices. Bids for new crop harvest beans are near \$13 a bushel, but would probably drop to below \$12 a bushel if national yields are near normal.

There remains considerable upside potential for new crop corn and soybean prices if the current drought continues into the 2013 growing season. The Great Plains drought will first impact hard red winter wheat yields in 2013 and then corn and soybeans if it persists into the spring and summer. All this uncertainty means there can be wide outcomes for grain prices in 2013. That wide variability means producers need to manage these wide possibilities. The three tools producers have to manage those risks are: crop insurance; probably the new farm program; and marketing decisions.

Total Input Costs to Level Off

Alan Miller, Farm Business Management Specialist

The good news for 2013 is that total input costs per acre will stay about the same as last year for both corn and soybeans.

However, some individual inputs will rise, some fall, and others stay the same. The biggest increases are expected in seed prices. Nitrogen fertilizer prices are also expected to increase. Fuel prices are forecast by the U.S. Energy Information Administration to decrease.

The drivers of higher seed prices in 2013 are higher commodity prices, short seed supplies due to the 2012 drought, and prospects for strong crop returns in 2013. The transition to more biotech seed continues to be a driver of higher seed prices as well. The use of herbicide-tolerant-only varieties decreased in 2012, but the use of the higher priced stacked trait varieties is still increasing.

Seed corn prices are expected to be up 5-7% on average.

Soybean prices are expected to increase more than seed corn prices on average because the cost of the commodity is a larger component of the seed price.

Seed costs per acre on average yield farmland are forecast to increase \$8 for corn and \$7 for soybeans. Seed supplies are expected to be tight.

Nitrogen fertilizer supply during the spring planting period of 2012 was very tight and as a result nitrogen prices at New Orleans spiked upward as much as \$300 per ton for urea fertilizer in late April and early May 2012. A significant percentage of the total

nitrogen fertilizers used in the US are imported and nitrogen importers struggled to move product into the U.S. last summer with nitrogen fertilizer production cutbacks in Trinidad and difficulty moving product up the Mississippi River. This may set up another tight supply situation for nitrogen fertilizers next spring. Currently the price for urea fertilizer used in Purdue's budget for 2013 is about 5% higher than in January of 2012. The price for anhydrous ammonia fertilizer is up 2%.

A lengthy period of profitable margins for ammonia production has the U.S. fertilizer industry considering new investments in nitrogen fertilizer production capacity, which may help in the longer term to bring down the high price of nitrogen fertilizers. The use of urea and nitrogen solutions has been increasing over the past several years relative to anhydrous ammonia which is less expensive per pound of nutrient.

The price of phosphate is down 6% from what was used in Purdue's January 2012 budgets and the potash price is currently down 7%. US phosphate fertilizer inventories were below the 5-year average going into the fall 2012 application season. Ammonium phosphate products (DAP and MAP) account for a large part of the phosphate fertilizer market in the U.S. Phosphate prices are expected to increase 3-5% into the spring of 2013 as suppliers rebuild inventories and due to the influence of the nitrogen in many

phosphate products. North American potash supplies are in an oversupply situation, so potash prices are expected to remain stable into the spring of 2013 as the two main North American potash producers make production adjustments to maintain current price levels.

Prices paid for chemicals are not expected to increase much in 2013. For the 12-month period ending in November 2012 prices paid for chemicals increased a little over 3%. Fungicide prices led the increases followed by herbicides. Prices paid for insecticides were basically unchanged. As a group, all chemical prices actually fell at an average annual rate of 2% from 2009 through 2011.

Propane fuel prices during the fall of 2012 were down significantly from the previous fall. Propane prices are forecast at \$1.60 per gallon in Purdue's 2013 crop budgets. This would be higher than local prices in the fall of 2012, but well under the prices a year ago. Diesel fuel prices are expected to decrease almost 4% in 2013 relative to 2012 according to the U.S. Energy Information Administration's most recent short term outlook. The state of the global economy and higher domestic oil production are factors driving the forecast for lower fuel prices.

Markets for both new and used farm machinery have been very strong. The average annual rate of increase in machinery prices has averaged nearly 7% over the last ten years.

Crop Economies Favor Corn

Alan Miller, Farm Business Management Specialist

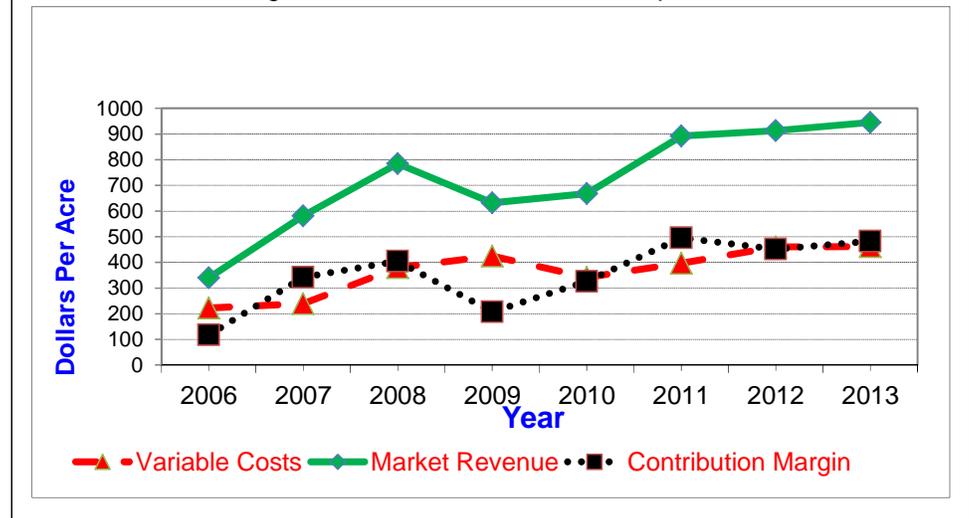
Purdue's returns and costs estimates for 2013 corn and soybeans are based on forecast crop prices that are 4% higher than they were last January. Crop prices at these levels are indicative of the strong demand for farm commodities on the heels of the drought-reduced crop in 2012. The total estimated variable costs of production per acre for 2013 are expected to be very similar to the costs expected last spring (see the section above titled "Total Input Costs to Level Off"). Purdue's 2012 crop budgets are available [here](#).

Figure 1 shows that corn market revenues per acre and contribution margin per acre (market revenue minus variable costs) are both expected to be higher for 2013 crops. The contribution margin per acre for rotation corn on average yield land in 2013 is expected to be \$61 per acre more than for rotation soybeans, signaling that the market continues to encourage higher corn acreage for next year. Figure 2 shows a similar upward trend in both market revenue and contribution margin per acre for soybeans in 2013. Using 2013 expected harvest cash prices based on futures market prices from November 15, 2012, the forecast returns above variable costs from a corn-soybean rotation on average yield land in Indiana is \$457 per acre.

Purdue's estimates for 2013 indicate that continuous corn has a contribution margin about \$30 per acre less than rotation beans

higher expected wheat price. Wheat and double-crop soybeans are estimated to have the highest contribution margins

Figure 1. Trends in Forecast Corn Market Revenues, Variable Costs, and Contribution Margins Per Acre, Purdue Extension publication ID-166-W.



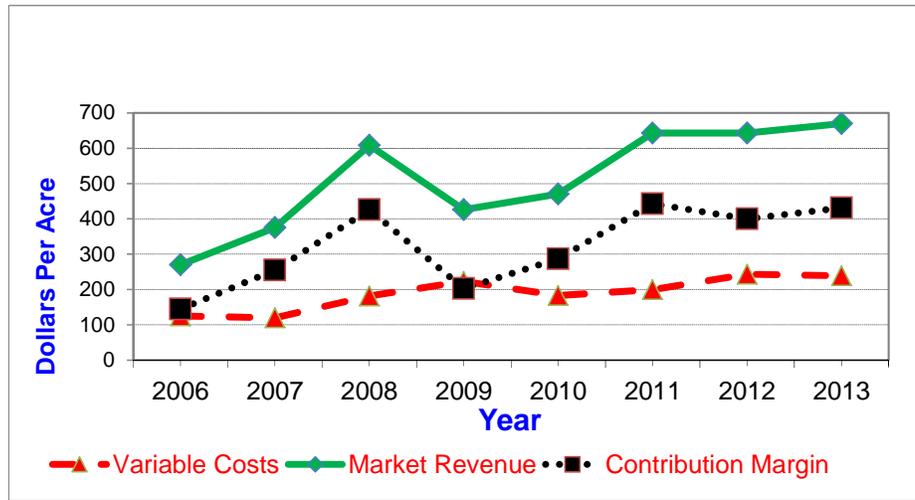
on average yield soils. This implies that corn returns on average quality land are not sufficient to bring corn into the crop mix if one has to move from a corn-bean rotation to corn-on-corn. However, on high yield Indiana soils, continuous corn may be more competitive versus rotation soybeans. Purdue's estimates indicate a slight contribution margin advantage of \$17 per acre for continuous corn as compared to rotation soybeans.

Purdue's forecast contribution margin per acre for single crop wheat on average yield ground in 2013 is \$124 per acre higher than the year before due to a 28%

per acre in 2013 of all the cropping alternatives considered in the Purdue budgets and should be very competitive with rotation corn and soybeans in those areas of the state suited for double-crop soybeans.

While contribution margins per acre are expected to increase in 2013, overhead costs are also expected to increase. As a result, the average returns above all costs per acre for the 3,000-acre corn-soybean rotation in Purdue's budgets are estimated to decline by 5%, 8%, and 28% for the high, average, and low yield scenarios, respectively.

Figure 2. Trends in Forecast Soybean Market Revenues, Variable Costs, and Contribution Margins Per Acre, Purdue Extension publication ID-166-W.



There is a lot of financial risk per acre if prices or yield outcomes drop. Crop profitability would change a much greater percentage than would the falling prices or yields. For example, the \$457 per acre budgeted return above variable costs for a corn–

soybean rotation on average yield land for 2013 minus \$123 for machinery overhead and \$214 an acre for cash rent leaves an economic profit margin potential of \$120 per acre. A 10% drop in the price of corn and soybeans reduces economic

profit for the average yield corn–soybean rotation from \$100 per acre to just \$39 per acre, a reduction of over 67% in profit margin.

Producers should regularly update their crop cost and return estimates. The bidding for acres is likely to be intense with crop prices, in particular, expected to vary sharply over time. Variable costs per acre can vary significantly from farm to farm and may increase substantially during the peak demand period for inputs next spring. Producers should take steps to manage the financial risks associated with revenue and cost variability which include effectively coordinating input purchasing plans and crop marketing plans with the use federal crop insurance coverage.

Dairy Situation Improving After Price/Cost Squeeze

Nicole Olynk Widmar, Assistant Professor Agricultural Economics and Mike Schutz, Professor Animal Science

The December 2012 Class I base milk price was up over \$2.92 from December 2011 and up \$0.69 from November, to \$21.39/cwt (Dairy Profit Weekly, Dec 3, 2012). While current higher milk and dairy product prices are welcome, very high feed costs are keeping margins under stress, especially for those purchasing large proportions of their feed. According to USDA, October 2012 U.S. average milk production costs hit \$29.13/cwt in October 2012, with feed representing about 59% of total costs. Cost of production in 2012 represents an increase of

\$4.99/cwt from the year prior. Adding insult to injury, producers noticed a Producer Price Differential of more than -\$4.00 on their October milk checks, resulting from the sharp price increase that left Class I prices lower than Class III.

Cow culling has increased due to strong cull cow prices and tight margins. A total of 285,400 dairy cows were slaughtered under federal inspection in October of 2012, the highest monthly total since 1997. Moderate U.S. herd contraction is expected to continue through 2013 with the

U.S. dairy cow herd dropping to 9.125 million head, according to USDA.

Both grain and forage prices are key factors in the record high production costs. Alfalfa hay was reported at \$215/ton nationally in mid-November, 11% higher than the year previous. Assuming weather conditions return to normal in 2013, alfalfa prices may ease. But, while dairy feed ration costs will likely be lower in 2013 than 2012, feed costs are expected to remain high compared to historic levels. As of November 29, Class III milk

prices were expected to average \$19.94 for the remainder of 2012, and \$18.75 for the first 6 months of 2013, resulting in mailbox milk prices less than costs of production for many dairy farms. The direction for dairy policy in

the next farm bill remains murky. The Milk Income Loss Contract (MILC) program expired with the previous farm bill on September 30, 2012. Had the MILC program continued, there would have been payments for eligible

producers well into 2013 because of the recently added feed price adjuster. Absence of the MILC program changes the forecasting of future milk prices.

Pork and Beef Producers Hope for Better Times by Late-2013

Chris Hurt, Professor

The 2012/2013 drought is a dominant force for the pork and beef industries as it has raised feed costs and pushed total costs of production above revenues. The resulting financial losses will continue for much of the first-half of 2013. If pastures, forages and feed crops can return to more normal production in 2013, then both the pork and beef industries will face a profitable last-half of the year. That welcome return to positive margins should begin interest in expansion in the fall of 2013.

Pork producers have lost about \$30 per head on average during the last-half of 2012. Fears in July and August that losses could be even greater caused some sow liquidation that is thought to have resulted in about a 2% reduction of the sow herd. This cut back in sows in combination with lower market weights will eventually help modestly cut pork production and lead to improving pork prices. Losses are expected to continue at about \$20 per head in the first quarter of the 2013, but improvement will be on the way by spring as feed costs may begin some decline with lower soybean meal prices and

with a strong spring hog price rally. A return to breakeven is expected by mid-spring. If so, the losses from the drought will have been intense, but relatively short in duration.

Live hog prices averaged near \$62 for 2012 with costs closer to \$68. Hog prices should progress upward through the first-half of 2013 reaching the lower \$70s for second and third quarter averages. Costs reached their crest last summer near \$75 per live hundredweight. Those will drop to near \$70 next spring and summer. A further drop in costs to the low \$60s will be in order by the fall if near-normal crops become a reality next summer.

Drought has been particularly unkind to the beef industry. Not only have higher corn and soybean meal prices caused feedlot managers to lose large amounts on feedlot cattle, but lack of forages has forced brood cow operations to cull cows and reduce the size of the herd. Brood cow numbers were down 3% at mid-2012, and the deepening Midwest and Great Plains drought is expected to mean cow numbers will drop again in the

upcoming January inventory count.

Beef will be in really short supply in the U.S. for 2013. Per capita availability will be down another 4% next year making a total reduction of 16% since feed prices began rising during the 2006 crop marketing year. Consumers will eat the smallest amount of beef per person since the 1950's. The small supplies mean that retail beef prices will be at record highs. If crop production can return to more adequate production levels and if pastures and forages also recover, then all of the animal industries are likely to begin expansion by the fall of 2013. The broiler industry will be able to increase consumer supplies of chicken by late 2013. Expansion in the pork industry means that increased consumer supply will not reach consumers until the last-half of 2014. However, because of the long production periods for beef, the start of expansion of the beef cow herd in late 2013 will not increase consumer beef supplies until 2016.

Higher Farmland Values and Cash Rents in 2013

Craig Dobbins, Professor

Over the past several years, farmland values have been on a double-time march upward. Based on the Purdue Farmland Value Survey from June 2012, Indiana farmland values increased 67% to 75% from 2007 to 2012. This upward march has been propelled by large crop production net returns, the limited supply of farmland for sale, record low interest rates, the cash position of borrowers, and the attractiveness of farmland investments.

At the beginning of this year's growing season, many speculated that the corn and soybean supply was beginning to catch up with demand and that prices and net returns would decline. Because of a drought across the Midwest, crop yields were sharply lower. Rather than a decline in corn and soybean prices, they went sharply higher. Compared to 2011, USDA expects 2012 net farm income to decline by 6.5%, but will still be the second highest.

The forces that pushed farmland values to levels that were unthinkable five years ago are still in place. Budget estimates for 2013 indicate there are possibilities for strong net returns from corn and soybean production (Table 1). With help from the Federal Reserve's quantitative easing, interest rates are expected to remain low. The drought has likely reduced the liquidity position of some potential buyers, but reports from farmland auctions indicate

buyers are still in financially strong positions. The demand for farmland continues to exceed the supply. If dry weather continues to linger, buyers may become more cautious, but at this time farmland values are expected to continue to march upward.

For 2013, an increase of 10% to 20% in farmland values is a possibility. This is an increase similar to the last several years. Longer term the demand increases for corn and soybeans are expected to slow and supplies are expected to catch up, causing corn and soybeans prices to decline. The speed at which this adjustment takes place will determine if the increase in farmland simply slows down or whether there will be a downward correction.

The factors influencing farmland values are also influencing cash rents. Using the 2013 Purdue Crop Cost and Return Guide, it is estimated that a corn and soybean rotation could generate a return to land of \$307 (Table 1). This estimate used a corn price of \$5.80 and a soybean price of \$12.40. Yields for corn and soybeans were 163 and 54 bushels per acre, respectively. The Purdue Land Value Survey indicates that the estimated 2012 cash rent for farmland capable of consistently producing 163 bu.

per acre corn would be \$214 per acre. These estimates indicate there will be an economic profit of \$93 per acre. In a competitive industry, economics stipulates that economic profits will be zero over time. While there will be many changes in expected prices and yields between now and next

Table 1 Estimated 2013 Return to Land from a Corn-Soybean Rotation

	Corn	Soybeans
Gross Revenue	\$945	\$670
Variable Cost	\$462	\$239
Machinery & Labor Overhead	\$150	\$150
Return to Land	\$333	\$281
Rotation Return to Land	\$307	
2012 Cash Rent	\$214	
Economic Profit	\$93	

fall, this estimate indicates there will continue to be upward pressure on cash rents in the market.

Adjustments in cash rent will be influenced primarily by expectations about 2013 including national yields (drought concerns for the western Corn Belt and Great Plains) and new crop prices. Cash rents are expected to increase 7% to 11%, a bit less than the 12% to 15% increase from the previous year. The amount of change will vary with the situation. For cash rents that have been adjusted annually, there may be less change. For cash rents associated with leases that have not had a change or several years, the adjustment could be higher.

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