CIH Commodity & Ingredient Hedging, LLC

MARGINMANAGER

Your resource for understanding the margin management approach

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One of the basic assumptions of margin management is that there is an opportunity to protect favorable margins. In past article, we discussed how the futures market provides a price discovery mechanism to identify forward margin opportunities, and allows a producer to place positions to protect input costs and revenue associated with those opportunities. A producer may establish various target levels for initiating and adjusting coverage based on historical margins. For example, a hog operation may plan to initiate protection when available margins for a given quarter reach the 70th percentile of historical levels, add protection at the 80th percentile, and further increase coverage at the 90th.

However, an obvious problem with this approach is that margins may never reach these thresholds. What's more, there's always the chance that they could further deteriorate. Given this challenging landscape, how can an operation effectively manage their profit margins?

The answer, as discussed in the following article, lies in finding the balance between risk and opportunity that's right for your operation.

Sincerely,

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Managing Editor

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Upcoming Education Events

Hog Margin Management
Chicago

August 17-18, 2016

Margin Management for Lenders
Chicago

Oct 19-20, 2016

Managing Risk When Margins are Low – or Negative

You may think that the goal of margin management is to capture and protect favorable margins. And you would be right – but only to a point.

While agriculture producers can indeed use various contracting strategies to take advantage of attractive available margin opportunities, the benefits of margin management don't end when margins are low – or even negative. By allowing you to maintain the precise balance between protection and opportunity that is right for your operation, practicing margin management can help you lower your risk at any margin level.

Find the Right Balance for Your Operation

Risk and opportunity are opposite sides of the same coin or strategy. If you stay completely open in the market, you retain 100% of the opportunity for improved profitability, but also have zero protection from losses. At the other extreme, you can establish 100% protection by locking in input costs and revenue, but the tradeoff is that you would not participate in any potential favorable price movements. In between is an range of possibilities. For example, you might want to cap your exposure at 75% of any market losses, which means you would participate in 25% of any improved profitability. The right risk/opportunity balance for your operation will depend on your several factors, including your competitive advantage, level of debt, cash flow and other balance sheet considerations as well as your tolerance for risk.

Take a Holistic View of Risk

As a producer, you face risks from both the cost and revenue sides of the margin equation. That's why you need to take a comprehensive approach that takes into account your entire portfolio of positions. Looking at the "delta" of each position gives you valuable insight into the risk of each, as well as your total net exposure. Delta refers to the sensitivity of an option price to a change in the price of the underlying futures contract. Expressed in percentage terms, delta values range from zero to negative or positive 100. When the underlying futures price rises, the price of an option with a delta of +100% will climb in lockstep, while the price of an option with a delta of +50% will rise by half that amount and an option with a delta of -50% would fall by half. You can use delta to identify your needs for coverage on both the input cost and revenue side of

the margin equation. For example, after purchasing feeder cattle, a cattle feedlot has exposure to input costs for the corn and other feed needed to finish the cattle. It also has exposure on the revenue side, on the value of fat cattle that will be sold to a beef packer. Assuming the feedlot has not yet purchased feed or entered into a sales agreement, the simple price risk profile is shown below:

Initial Position		**Position Delta**	**Net Exposure**
Corn	Short – Need to purchase	-100%	-100%
Cattle	Long – Need to sell	100%	100%

At this point, the feedlot may be facing negative margins – the price paid for the feeder cattle plus anticipated cost of corn may be greater than the current futures price for finished cattle. The feedlot might prefer not to lock in these losses, but they need to purchase corn to get the cattle started. Depending on the current costs of feed, they may consider purchasing as much as half of their total corn needs on the cash market. This step immediately cuts their input cost exposure by 50%. To cover the remaining half, they might purchase at-the-money call options against December corn futures. These call options, with a delta of +50%, further reduce their exposure by 25% (50% coverage x 50% delta). These positions and the resulting effect on net exposure are shown below.

Portfolio Position	**% Corn Needs**	**Position Delta**	**Net Exposure**
Initial position: Short corn	All (100%)	-100%	-100%
Buy cash corn	Half (50%)	50%	-50%
Buy at-the-money calls (50% delta)	Half (50%)	25%	-25%

To address the revenue side of the equation, the feedlot may purchase at-the-money put options, which carry a delta of -50%, against all of their exposed cattle. In this way, they effectively cut their revenue risk exposure in half, as shown below:

Portfolio Position	**% Cattle Inventory**	**Position Delta**	**Net Exposure**
Initial position: Long cattle	All (100%)	100%	100%
Buy at-the-money puts (50% delta)	All (100%)	-50%	50%

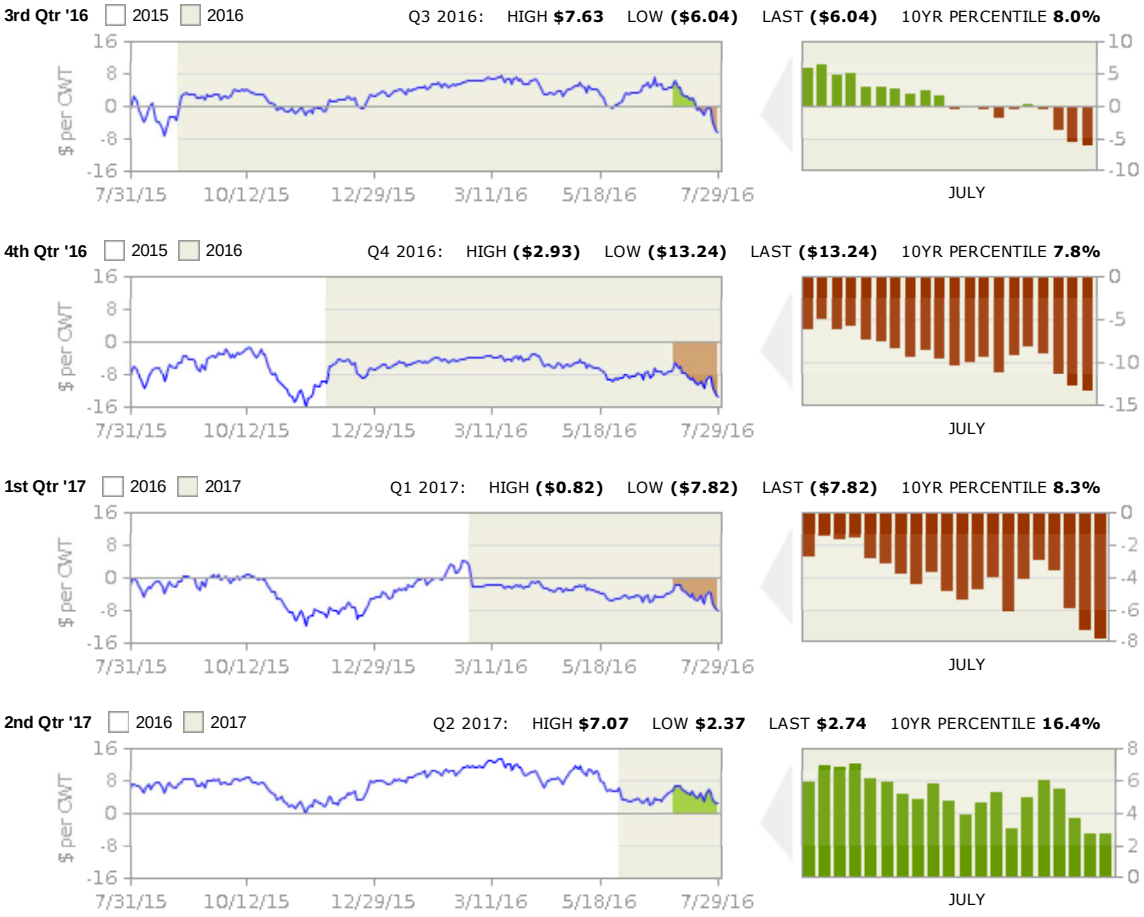
As prices change over time, the feedlot can make adjustments to capture gains and maintain a comfortable risk/opportunity balance. For example, if corn prices drop, the feedlot can further reduce their net input exposure by replacing their call options with additional purchases on the cash market. If cattle prices rise in early fall, they may lock in the sale price by selling cattle futures contracts. By replacing the put options with fixed sales, the feedlot increases delta on the positions and further reduces their revenue exposure.

Account for Time and Opportunity

Rather than guess at what the market will do or simply hope that margins will improve, you should aim to maintain a net exposure that matches your risk/opportunity profile as it changes over time. When you have a long time to manage a specific risk, the balance of your margin portfolio should tilt toward the opportunity side. As margin opportunities arise and time grows shorter, you should adjust your portfolio to account for the change in your risk tolerance. In the end, the right margin management strategy will aim to maintain the balance between limiting risk and leveraging opportunity that matches your current exposure – regardless of margin levels.

Hog Margin Watch: July

Margins have deteriorated sharply since the middle of the month as a steep selloff in the hog market failed to offset the savings from lower corn and soybean meal prices. Hog finishing margins are now projected negative into Q2 and are hovering in the bottom decile of profitability over the past 10 years. Hog prices have come under significant pressure recently due to weakness in the carcass cutout. In particular, both the belly and ham primals have each experienced counter-seasonal price declines, contributing about $4.00/cwt. of losses to the cutout value in the past couple of weeks. Lackluster export demand from China amidst a backdrop of large hog supplies coming to market have exacerbated the pressure on cash prices in recent days, while hog slaughter weights remain high. On a positive note, feed prices continue to moderate as beneficial weather and growing conditions across the U.S. Corn Belt are raising optimism for corn and soybean yields this season. The next WASDE report on August 12 will incorporate updated yield estimates from NASS that will take into account actual field surveys. In contrast, the WAOB assumptions used in the first three new-crop balance sheets were based on econometric models. In addition, recent rainfall across the Midwest and reduced heat forecasts in updated models have lessened weather concerns. With limited opportunities to establish new margin protection in deferred marketing periods, our hog producer clients have primarily been focused on making adjustments to existing positions that add flexibility to hog hedges while strengthening feed coverage.



The Hog Margin calculation assumes that 73 lbs of soybean meal and 4.87 bushels of corn are required to produce 100 lean hog lbs. Additional assumed costs include $40 per cwt for other feed and non-feed expenses.

Dairy Margin Watch: July

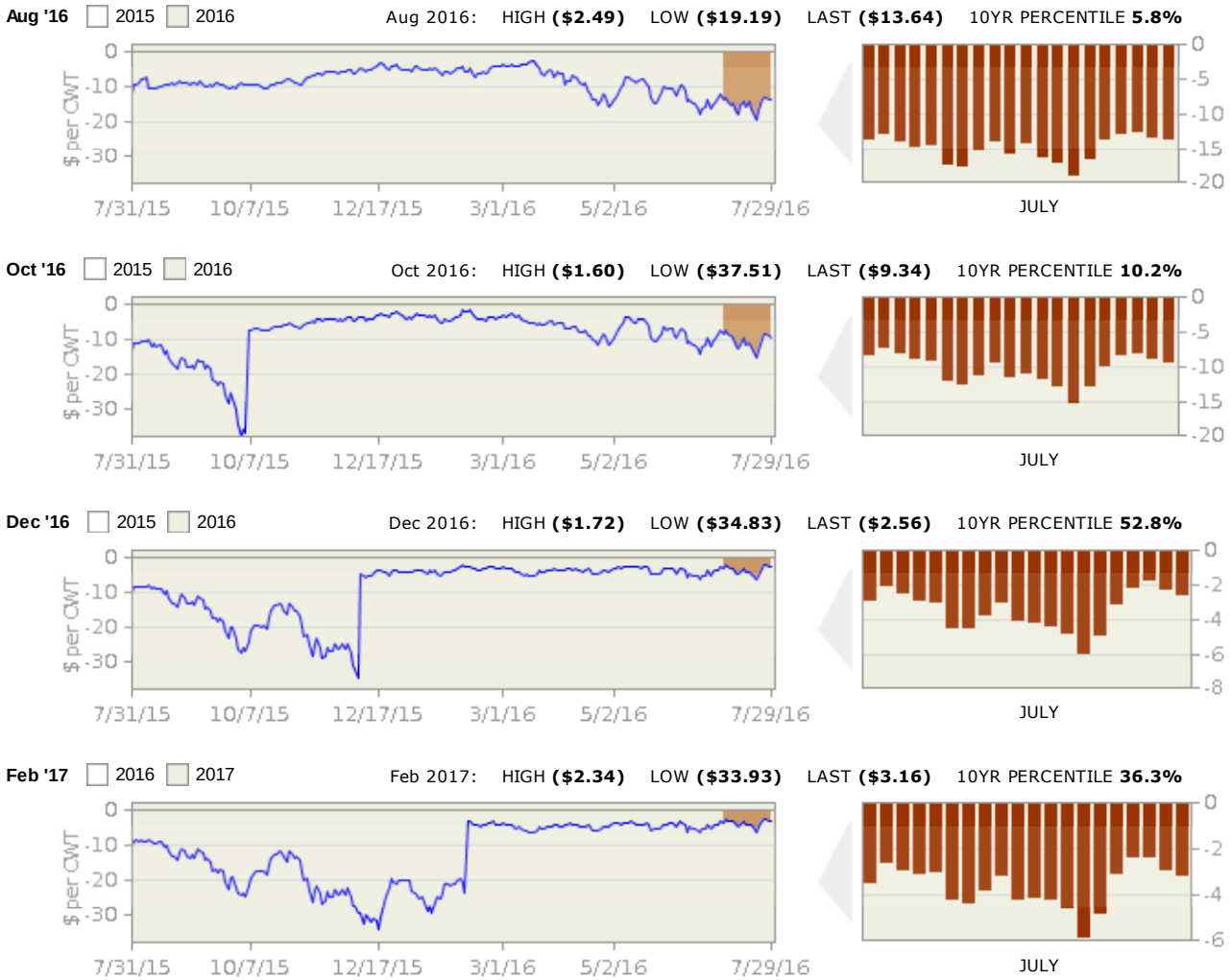
Dairy margins continued to strengthen over the last half of July following a further drop in feed costs, while milk prices trended steady to higher. Margins through the first half of 2017 remain near or above the 80th percentile of profitability over the past ten years. The feed market has been under heavy pressure recently following moderating weather forecasts and historically high crop condition ratings for this point in the season. The next crop report from USDA will be the first to incorporate yield estimates from NASS based on actual field surveys. That is in contrast to the previous three reports that used a WAOB forecasting method based on an econometric model that typically assumes a trendline average. Strong crop condition ratings in the current season would suggest we may see yields well above trend for both corn and soybeans, while recent rainfall and moderating temperatures have lessened concerns over August weather. Milk prices have been supported by strength in the spot cheddar market, with both blocks and barrels advancing recently at the CME. Hot weather across a large area of the U.S. has adversely impacted both milk production and cow comfort, which has in turn supported prices. Upcoming milk production reports from NASS should provide more detail on the exact impact from recent weather. Our dairy producer clients have scaled into new positions recently as improved margins offer opportunities to protect historically attractive profitability levels. They favor flexible strategies that allow for continued margin improvement on strengthening milk prices, and/or lower feed costs over time.

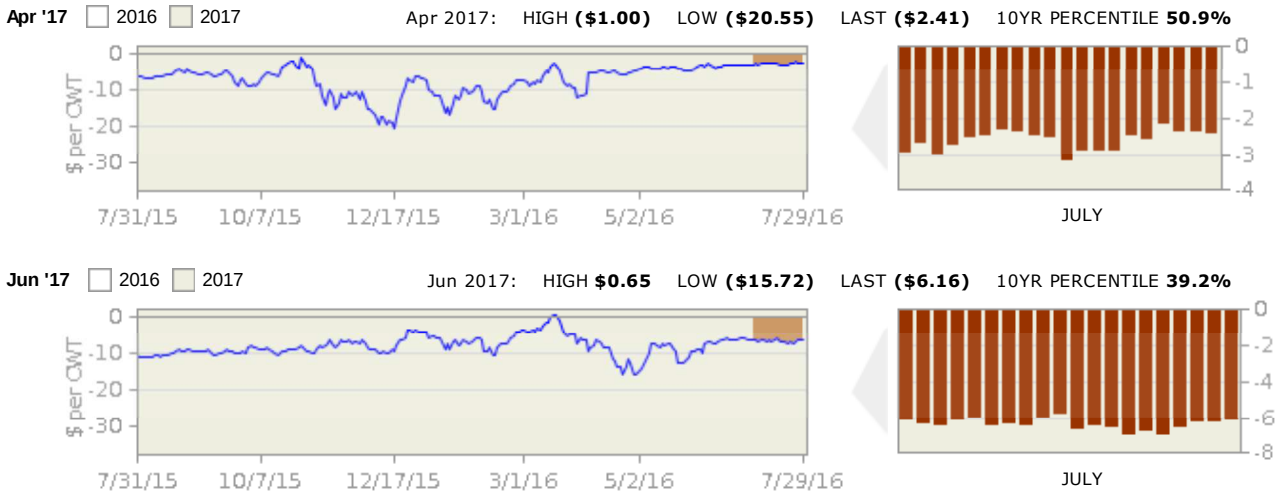
The Dairy Margin calculation assumes, using a feed price correlation model, that for a typical dairy 62.4 lbs of corn (or equivalent) and 7.34 lbs of meal (or equivalent) are required to produce 100 lbs of milk (includes dry cows, excludes heifers not yet fresh). Additional assumed costs include $0.90/cwt for other, non-correlating feeds, $2.65/cwt for corn and meal basis, and $8.00/cwt for non-feed expenses. Milk basis is $0.75/cwt and non-milk revenue is $1.00/cwt.

Beef Margin Watch: July

Beef margins have improved slightly since the middle of July, as feed costs continued to moderate while cattle prices held relatively steady. Corn prices have dropped to fresh contract lows as concerns lessen over weather conditions and yield prospects. On August 12, USDA will release their next crop report, which will incorporate actual field surveys from NASS in yield estimate updates to the corn and soybean balance sheets. Condition ratings for both crops in weekly reports have held up very well since early releases and have not experienced the seasonal declines that would be expected by late July. As a result, most analysts are looking for yields to come in well above trendline projections which would add to stocks and loosen the supply/demand balance. Meanwhile, recent rainfall in the Corn Belt and moderating temperatures have reduced concerns over late-season weather as corn finishes its growth cycle. The cattle market was supported by the latest monthly Cattle on Feed report that indicated lower placements than expected. USDA reported June cattle placements into feedlots up 3.0% from a year ago when the market was anticipating an average increase of 6.5% over 2015. Factors cited for the lower figure included weaker finishing margins in May, generally good pasture conditions and lower feeder imports from Mexico relative to a year ago. USDA also reported total beef in cold storage at the end of June at 451.2 million pounds, 4.9% lower than last year, but 1.8% higher than the five-year average. Our beef producer clients benefited from having added flexibility to existing cattle hedges and are currently strengthening delta on feed hedges following the drop in corn.

Live Cattle Marketing Periods:





The Beef Margin calculation uses Feeder Cattle futures to price inbound animals and assumes each will consume 55 bushels of corn and cost approximately $250 per head (for other feed and non-feed expenses) to gain 550 pounds and reach a market weight of 1,250 pounds.

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Corn Margin Watch: July

Corn prices and margins were lower over the past two weeks. Confirmation of non-threatening weather pressured prices, leaving corn futures across the board near contract lows. With corn conditions hovering around the mid-70's in the Good-to-Excellent categories throughout this entire crop season, at this point the market is pricing in a large crop of corn. The August WASDE report is the first this year that will incorporate actual field surveys in yield projections. On the demand side, U.S. exports of corn continue to push toward the end of the marketing year at a strong pace. To date, total corn export sales commitments measure just over 100% of the USDA expectation of 1,900 million bushels. Meanwhile, with five weeks remaining to fulfill sales commitments, actual shipments stand at 81.4% of the export projection. The U.S. export market continues to make up for lower supplies out of Brazil to address global needs. Following reductions to the Safrina corn crop in Brazil in July, there are whispers of even greater reductions to the August crop reports. Lower corn price and strong margins have encouraged ethanol producers to continue to accelerate production, which averaged nearly 1,000,000 barrels of production per day over the last seven weeks. Given the uncertainty over the eventual size of the current crop, as well as significantly lower prices over the past month, some corn producer clients are considering adjustments to current positions that would reduce the strength of their hedges to capture equity and allow for the opportunity to benefit from a rebound in prices.

The estimated yield for the 2016 crop is 184 bushels per acre and the non-land operating cost is $555 per acre. Land cost for 2016 is estimated at $220 per acre [1]. Basis for the 2016 crop is estimated at $-0.2 per bushel.

The estimated yield for the 2017 crop is 184 bushels per acre and the estimated operating cost is $555 per acre. Land cost for 2017 is estimated at $220 per acre [1]. Basis for the 2017 crop is estimated at $-0.25 per bushel.

[1] The Corn Margin Watch yield, land and non-land operating cost values are based upon central Illinois low productivity farmland crop estimates in the "Historic Corn, Soybean, Wheat, and Double-crop Soybeans" report published by the Department of Agricultural and Consumer Economics at the University of Illinois.

Soybeans Margin Watch: July

Soybean prices and margins were lower over the past two weeks. The extended heat that was predicted to linger in the Midwest broke and favorable moisture has fallen across much of the region, taking additional weather premium out of prices. As the critical pod-fill stage nears, current weather outlooks are mostly benign. Soybean crop conditions have been highly rated thus far, and have not experienced any seasonal (mid-summer) deterioration. The August WASDE report will incorporate the first field-based surveys from NASS into updated projections of yield and acreage. Further crop evidence will be forthcoming later in August, with various crop tours offering anecdotes from the fields about plant population and pod counts. On the demand side, U.S. soybean export sales have been brisk, standing at 106.4% of the USDA projection of 1,795 million bushels, while soybean shipments to date are running at 93% of the estimate. There are five weeks left in the marketing year to ship the balance of the orders. NOPA June crush was reported at just over 145 million bushels and remains just behind the pace needed to meet the USDA's lofty estimate. With prices falling over $2 per bushel since the middle of June, some of our soybean producer clients are considering making adjustments to current hedges that would allow for more opportunity to participate in higher prices, while maintaining protection to all lower prices.

The estimated yield for the 2016 crop is 53 bushels per acre and the non-land operating cost is $336 per acre. Land cost for 2016 is estimated at $220 per acre [1]. Basis for the 2016 crop is estimated at $-0.4 per bushel.

The estimated yield for the 2017 crop is 53 bushels per acre and the estimated operating cost is $336 per acre. Land cost for 2017 is estimated at $220 per acre [1]. Basis for the 2017 crop is estimated at $-0.4 per bushel.

[1] The Soybeans Margin Watch yield, land and non-land operating cost values are based upon central Illinois low productivity farmland crop estimates in the "Historic Corn, Soybean, Wheat, and Double-crop Soybeans" report published by the Department of Agricultural and Consumer Economics at the University of Illinois.

Wheat Margin Watch: July

Wheat prices and margins were lower over the past two weeks and are now back to levels last seen in September 2006. Expectations for record-level global production and stocks, as well as ballooning domestic supplies, are weighing on prices despite reports of production shortfalls in Europe. Weather issues have damaged wheat across the E.U., particularly in Germany, Poland and France. There is some doubt that the quality of much of the E.U crop will be up to the standards set by the Paris bourse. Despite the lower available supply in Europe for the export market, it appears as though the U.S. will not earn much of that business. In the U.S., the winter wheat crop is 83% harvested and should finish within the next few weeks. The spring wheat crop is rated 68% in the Good-to-Excellent categories, slightly behind last year's rating but still historically good. On the demand side, all wheat exports sales are running slightly ahead of the pace needed to meet the USDA forecast, at 38.8% sold versus 37.4% on average over the last ten years. Current prices continue to favor feeding wheat over corn in certain regions of the country and could help to support prices over the medium term. With prices near decade lows, some of our wheat producer clients are considering adjustments to current protection to capitalize on the lower price while also retaining protection over a range of lower prices.

The estimated yield for the 2016 crop is 68 bushels per acre and the non-land operating cost is $347 per acre. Land cost for 2016 is estimated at $151 per acre [1]. Basis for the 2016 crop is estimated at $-0.2 per bushel.

The estimated yield for the 2017 crop is 68 bushels per acre and the estimated operating cost is $347 per acre. Land cost for 2017 is estimated at $151 per acre [1]. Basis for the 2017 crop is estimated at $-0.2 per bushel.

[1] The Wheat Margin Watch yield, land and non-land operating cost values are based upon central Illinois low productivity farmland crop estimates in the "Historic Corn, Soybean, Wheat, and Double-crop Soybeans" report published by the Department of Agricultural and Consumer Economics at the University of Illinois.