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July 2015

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Dear Ag Industry Associate,

The summer always seems to bring added volatility to the corn market, as weather developments raise uncertainty or key USDA reports at the end of June change previous assumptions over new-crop acreage and old-crop demand. This year has definitely experienced its fair share of volatility as corn prices spiked from mid-June to mid-July, then fell all the way back to where they previously traded prior to the run up in price. This heightened volatility poses challenges for agricultural producers trying to manage forward margins as profitability can swing quite a bit following a 25% change in the value of corn. While most producers abhor this volatility and the added stress it brings along, it also affords opportunities that can be taken advantage of – particularly when viewed through a margin context. In this month's feature article: "Margin Management Adjustments – A Look at the Recent Corn Market", we explore some of those opportunities from both the producer and consumer perspectives, following separate adjustments made by a crop and hog farmer to improve on their respective sale and purchase prices.

Meanwhile, the significant drop in corn prices over the past few weeks has led to improving margins for livestock feeders and dairy farmers, though deteriorating profitability for row crop farmers. The latest installments of our Margin Watch reports discuss how the change in corn's value has impacted the unique margins for hog, dairy, cattle and crop producers over the past month.

Sincerely,

Chip Whalen
Managing Editor

*Managing Editor, Chip Whalen is the Vice President of Education and Research for CIH, a leader in Margin Management. He teaches margin seminars throughout the country and can be reached at cwhalen@cihedging.com*

## Upcoming Margin Seminars

# Margin Management Adjustments - A Look at Corn

Summertime tends to bring added volatility to the corn market and this year has certainly been no different. From a life of contract low price of $3.62 ½ scored on June 15, the December futures contract proceeded to rally 25% over the course of the following month to a high of $4.54 ¼ on July 14 before essentially retracing that entire move (see figure 1). As of this writing, the market is back to around $3.80 after dropping to as low as $3.75 ¾ on July 30. While the reasons behind increased volatility during the summer vary from year to year – drought, excessive rainfall, large changes between projected and final acreage, etc., the fact remains that this time of year represents the greatest period of uncertainty surrounding the crop. This in turn creates a more dynamic price discovery process as traders try to assess a moving target of value around the growing uncertainties. Many hedgers find this added volatility to be unsettling as it creates more risk around forward margins they are trying to protect, although with this risk there are also opportunities that can be exploited. Let's explore some of the opportunities recently presented from the perspective of both a crop farmer trying to protect the revenue value of corn they are growing, as well as a consumer raising hogs to protect the expense of corn as an input cost.

## Margin Management Adjustments - A Look at Corn
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The large upward adjustment in price was certainly a welcome development for crop farmers that have not had much to feel good about this year. Unfortunately, the rally probably only meant a move back to about a breakeven level from a margin standpoint after staring at a loss of around $0.88/bushel in the middle of June based on the model operation that we track. Despite this, the move allowed corn producers to make beneficial adjustments which have provided some help against their poor margin predicament as we head towards harvest. The particular producer we will examine started his 2015 new-crop corn hedging campaign back in March of 2014. At the time, December 2015 corn was trading around $4.80/bushel. With a projected breakeven near $4.50/bushel assuming average yields, a strategy could be put in place to protect a breakeven (notwithstanding basis) while allowing upside opportunity for the market to ideally work higher. This producer bought a 470 put option and sold a 550 call option for a net cost of 17 cents/bushel. This collar combination resulted in a minimum price of $4.53 (470 put minus 17 cent cost) and a maximum price of $5.33 (550 call minus 17 cent cost).

By late September just ahead of harvest, the market had declined to around $3.70/bushel – about $1.00 below where the contract had traded earlier in the spring. With over a year to go before the December 2015 harvest but realizing that we were approaching a time of year where the market historically bottoms, the producer decided to adjust their initial hedge. Specifically, they bought back the 550 calls for a cost of 4 cents/bushel, about 18% of the 22 cents they originally received for the calls. In doing so, they effectively removed their maximum price or ceiling although added cost to their initial position. At this point, they simply had a minimum price or floor of $4.70 (put strike price) minus the total cost of 21 cents, or $4.49/bushel – essentially right at their projected breakeven point.

After recovering to around $4.40/bushel by the end of the year, the market continued lower through Q1 into the spring. The producer made a second adjustment in April, rolling down the 470 puts to capture equity while still maintaining protection to lower prices. The 470 puts were sold for 81 cents and replaced with 390 put that cost 16 cents. As a result, the producer received a net credit of 65 cents or 81% of the range between 470 and 390. This effectively gave them a new minimum price of $4.34/bushel. While some may wonder why a producer would rather have a minimum price of $4.34 (new position) versus $4.49 (previous position), it is important to remember that in the previous position there was a net cost of 21 cents where now there is currently a credit of 44 cents. This is a big difference. It should also be pointed out that the 390 puts that replaced the 470 puts were short-dated new-crop August options. The benefit of doing that is while the option is still priced off the December futures contract, it expires sooner and thus costs less. This effectively allowed for a larger credit to be received rolling down the 470 puts that were previously owned.
Finally, the market recovered sharply over the last half of June, getting close to the previous highs in December. The producer decided to capitalize on this rally by getting out of the short-dated August 390 puts and replace that position with a futures sale at $4.32/bushel. The 390 puts recovered 2 cents of residual value, so in total there was a net of 46 cents credit generated over the position's lifetime. Adding this credit to the futures sale at $4.32/bushel, the net price is now $4.78/bushel. This is 25 cents higher than the initial minimum price of $4.53 established back in March of last year, mainly because what was at first a net cost eventually turned into a credit over time following a series of thoughtful adjustments.

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### *Margin Management Adjustments - A Look at Corn*
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Now let's turn to a hog farmer and discuss how they managed their exposure to higher feed prices over time on this same December corn futures contract. This particular consumer purchased corn back in September of 2014 in one of their tranches of coverage for Q4 of 2015 when their projected profit margin hit the 80th percentile of the previous 10 years. Given their margin management policy which lays out a plan for the operation to add margin protection at this threshold, they purchased December 2015 corn futures at $3.84/bushel along with a similar long futures position to protect rising soybean meal costs and a flexible hog position using options to protect their sale revenue. By mid-July, the projected Q4 margin on the open market had deteriorated to under the 10th percentile of the previous 10 years, indicating a loss of around $8.00/cwt. The consumer made an adjustment to their corn position by selling the futures at $4.47/bushel and replacing it with a call spread. Specifically, they purchased the December 450 calls and sold the 500 calls at a net cost of 15 cents/bushel. This adjustment generated a net credit of 48 cents, based on receiving 65 cents for getting out of the futures position ($4.47 - $3.84) minus the 15 cent cost for the call spread. As a result, they had an effective maximum price of $4.02 (450 long call minus $0.48 credit) that was capped at $5.00/bushel (short call).

Similar to questioning why the crop farmer would want to have had a minimum price 15 cents lower than their previous position, some may be wondering at this point why the hog farmer in this example would want to have a maximum price 18 cents higher than what they had before and have their protection capped above the market? The answer again lies in the fact that the adjustment is generating a credit which can be put in the bank, although this benefit has a cost with a position that will not be as effective in protecting the risk of higher prices. As the crop farmer was making their adjustment at this price level in the mid-$4.00 range to capitalize on higher prices and strengthen their hedge by locking into futures, the hog farmer in this example is making the adjustment to weaken their hedge by making it more flexible – adjusting a long futures position into an option spread. In each case, both the crop farmer and the hog farmer expect the market to move lower. The crop farmer will be better off having a

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### *Margin Management Adjustments - A Look at Corn*
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stronger short hedge in a declining market while the hog farmer will likewise benefit having a weaker long hedge as the corn market goes down.

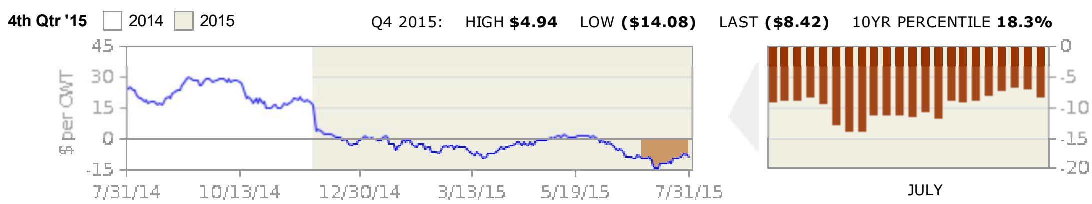
The hog farmer recently made another adjustment to their position in late July, getting out of the call spread and replacing with a long December futures position. Specifically, they received 4 cents of residual value getting out of the 450/500 call spread and purchased futures at $3.84/bushel – the same price level they originally purchased the contract at back in September. Let's now examine the math in retracing the two separate adjustments to determine the exact price level they have their corn fixed at now that they are long futures again. They received a net credit of 48 cents initially getting out of the futures and purchasing the call spread earlier in July. The second adjustment took on a 4 cent cost and fixed futures at $3.84/bushel. They therefore own the corn at a net price of $3.40/bushel ($3.84 futures price minus 44 cent net credit), or $0.44 below where they started. You will notice that while both the crop farmer and the hog farmer each made separate adjustments to address the unique impact the corn volatility had on their profit margins, in each case their prices were improved. The crop farmer ended up with a higher sale price than they started with while the hog famer has a corn cost lower than where they began.

Another point to make on these separate adjustments is that they were largely driven by margin considerations. The margin improving for the crop farmer triggered the decision to strengthen their short hedge while the deteriorating margin for the hog farmer triggered the decision to make their hedge more flexible. While not all adjustments are necessarily obvious, and certainly in each of these cases other adjustments could have been made to the corn positions over the timeframe referenced, the margin itself can help identify potential adjustment opportunities. The point with any adjustment is to improve the position and the overall profit margin as a result of managing volatility over time. While a large part of margin management is simply having a plan and executing margin strategies when targets are reached, as in the case of the hog farmer, improving margins over time through active adjustments is also a big part of what is meant by managing margins.

Our educational seminars focus on teaching ways to mitigate margin risks in producers' operations by first creating a plan to manage their forward risk exposures. From there, we discuss implementing that plan and how to evaluate margin protection strategies to initiate coverage. Regardless of the operation in question or the initial strategy chosen, positions need to be monitored periodically so we devote a section of the class to address position management over time and making strategic adjustments to strategies while weighing their costs and benefits. We invite you to come to one of our seminars and hope to leave you with some fresh ideas on how to manage margin risk in your business, as well as some best practices to help assure success in your margin management endeavors. ■

## Upcoming Margin Seminars

Margins strengthened to finish off the month, due primarily to a steep decline in corn prices with hogs steady to higher over the past two weeks. Despite the recent strength though, margins remain negative through the first quarter of 2016, with positive margins projected in Q2 next year although below average from a historical perspective. The main feature since the middle of July was the sharp selloff in corn, erasing much of the weather premium that had built up since mid-June. Corn crop conditions have held steady over the past few weeks and have improved in the Eastern Corn Belt with more beneficial weather. In addition, concerns are building that new-crop demand may be overstated with U.S. prices uncompetitive on the export market and lack of forward profitability in ethanol production margins. These same concerns are likewise putting pressure on soybean meal with the U.S. uncompetitive relative to forward offers from South America. Hog prices have been supported by cash market strength, with carcass weights declining seasonally although still high relative to previous years. Improved cutout values have also helped to support hog futures with a rebound in pork bellies and hams offsetting weakness in other primal cuts, particularly 72CL pork trim. Despite recent strength though, concerns remain that demand pressure after Labor Day combined with a seasonal uptick in weights will put new pressure on the market into the fall. Our clients have taken advantage of the recent uptick in forward margins by initiating new positions in Q2 with flexible strategies that will benefit from continued margin improvement. In addition, our consultants are working with clients to identify opportunities to make strategic adjustments on existing positions – particularly strengthening corn hedges following the recent selloff.

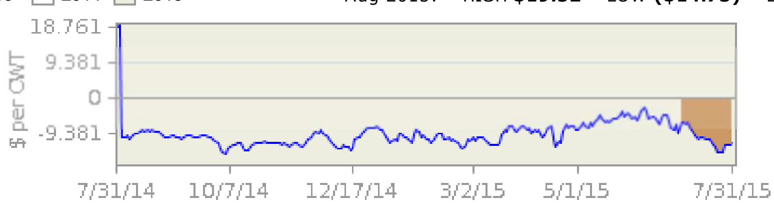


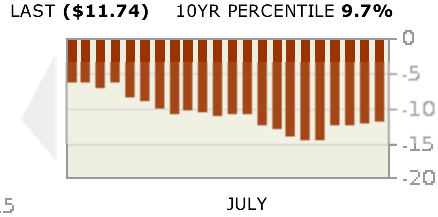

*The Hog Margin calculation assumes that 73 lbs of soybean meal and 4.87 bushels of corn are required to produce 100 lean hog lbs. Additional assumed costs include $40 per cwt for other feed and non-feed expenses.*

With the exception of far deferred marketing periods where cattle have yet to be placed on feed, beef finishing margins deteriorated since the middle of July with weaker cattle prices more than offsetting the benefit of a sharp selloff in corn. Margins continue to project negative through next summer and remain historically weak, in the bottom decile through winter marketing periods and in the bottom quintile next spring. Corn succumbed to heavy pressure in the second half of July as the market has basically retraced the entire weather rally that saw prices increase 25% from mid-June into early July. While excessive June rainfall in the eastern Midwest has created yield concerns, crop conditions have held steady over the past few weeks and have even improved in Eastern Corn Belt states, raising doubts over how much of an impact the wet spring weather will have on final yields. Meanwhile, traders are also beginning to question new-crop demand assumptions with negative forward ethanol margins and heavy competition on the world export market raising doubts over current USDA projections. Cattle prices continue to be pressured by demand concerns amid signs that production is slowing expanding. The average price of all beef sold at retail was calculated at $6.114/lb., the highest ever recorded while prices of competing proteins are declining. The premium of the average retail steak price has grown to 207% of a pork chop compared to a premium of 164% back in June 2011. Meanwhile, USDA's monthly Cold Storage report showed beef stocks on June 30 up 30.4% from a year ago, with strong imports from Australia driving the increase. The latest monthly Cattle on Feed report reflected June placements up 0.9% from last year and 1.8% higher than market expectations, while total feedlot inventories of 10.236 million head were 1.9% higher than a year ago and also slightly larger than expected. Our clients continue to focus on making strategic adjustments to existing positions with forward margin opportunities limited. Strengthening feed hedges has been the main feature recently.

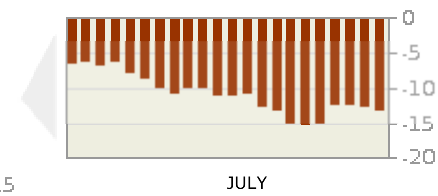
## Live Cattle Marketing Periods:

**Aug '15** ☐ 2014 ☐ 2015 Aug 2015: HIGH **$19.52** LOW **($14.73)** LAST **($11.74)** 10YR PERCENTILE **9.7%**

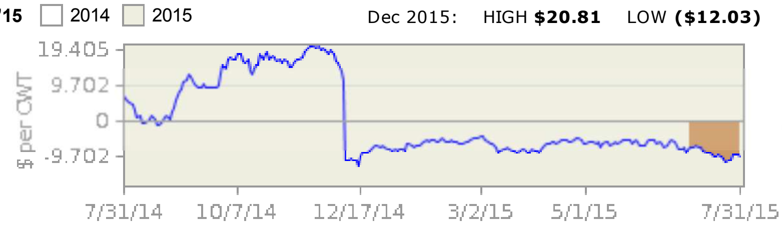


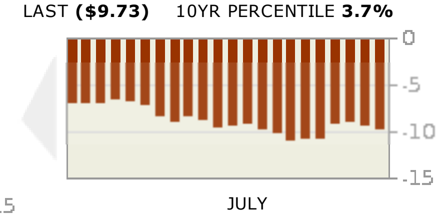




**Oct '15** ☐ 2014 ☐ 2015 Oct 2015: HIGH **$25.83** LOW **($15.42)** LAST **($13.14)** 10YR PERCENTILE **1.9%**

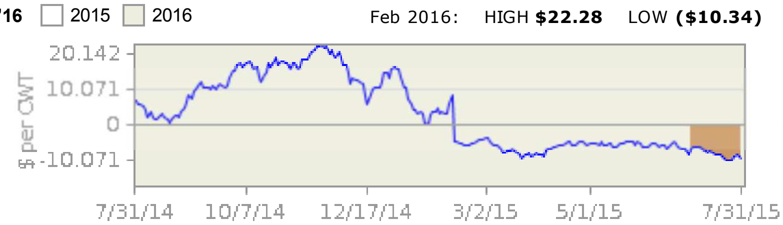



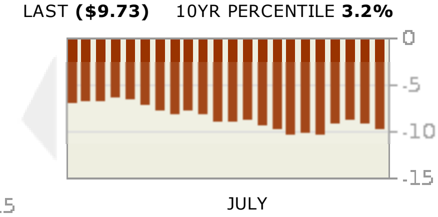

**Dec '15** ☐ 2014 ☐ 2015 Dec 2015: HIGH **$20.81** LOW **($12.03)** LAST **($9.73)** 10YR PERCENTILE **3.7%**



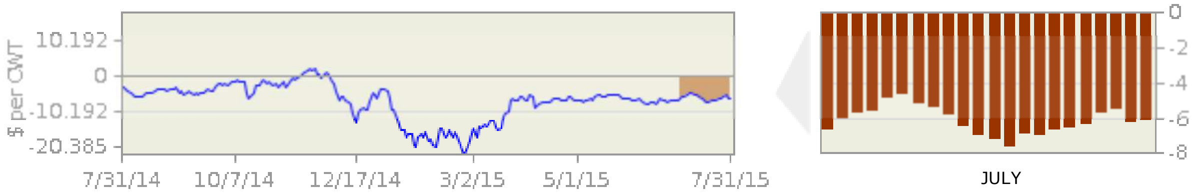




**Feb '16** ☐ 2015 ☐ 2016 Feb 2016: HIGH **$22.28** LOW **($10.34)** LAST **($9.73)** 10YR PERCENTILE **3.2%**

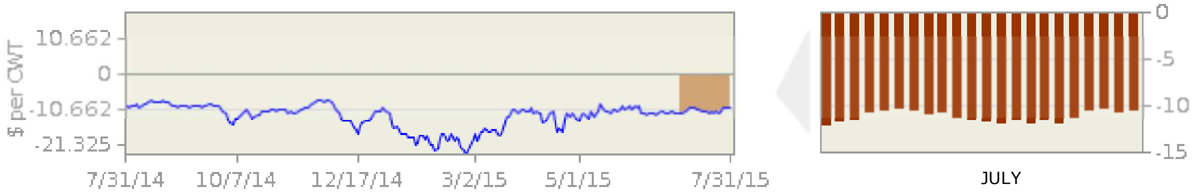


**Apr '16** ☐ 2015 ☐ 2016 Apr 2016: HIGH **$2.16** LOW **($22.77)** LAST **($6.15)** 10YR PERCENTILE **17.4%**




**Jun '16** ☐ 2015 ☐ 2016 Jun 2016: HIGH **($7.84)** LOW **($24.65)** LAST **($10.45)** 10YR PERCENTILE **17.3%**




*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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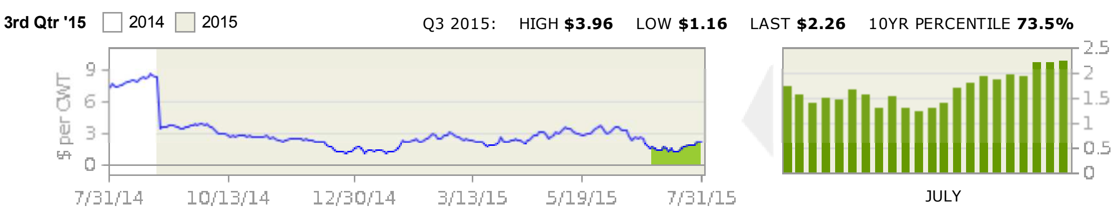
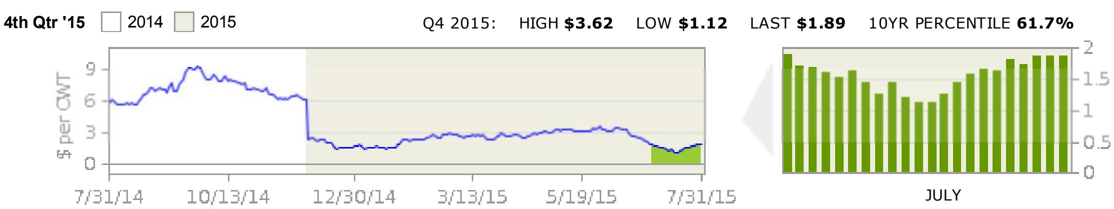
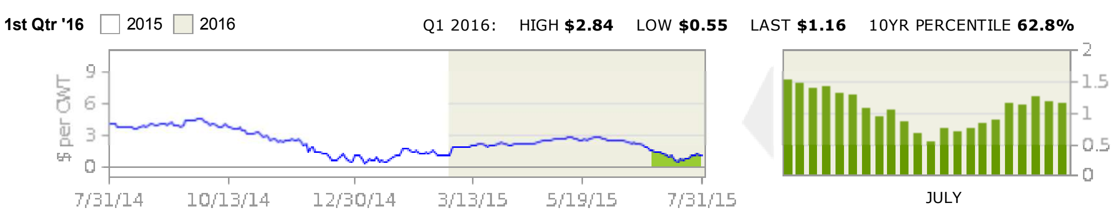
## Upcoming Margin Seminars

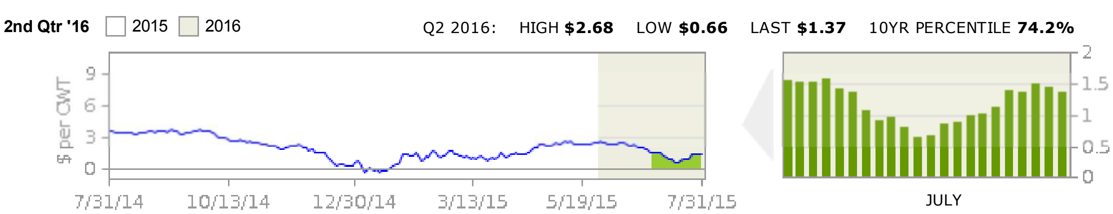
| Dairy Margin Management<br>Chicago, Illinois<br><br>**August 11-12, 2015**<br>**(866) 299-9333** | INCLUDES<br>CUBS GAME<br>vs. BREWERS! | Margin Management for Lenders<br>Chicago, Illinois<br><br>**October 21-22, 2015**<br>**(866) 299-9333** |
|---|---|---|

Dairy margins strengthened since the middle of July following a sharp selloff in corn with milk prices mixed over the past two weeks. From a historical perspective, margins are above average through Q2 of next year, ranging from just over $1.00 positive in Q1 to over $2.00/cwt. in spot Q3. Corn prices have been in a freefall since the middle of July, essentially retracing the entire weather-driven rally that caused the market to spike 25% since the middle of June. With crop conditions holding steady to improving slightly in the Eastern Midwest, market participants are starting to question how much damage was done to corn following excessive June rainfall and what impact this will have on final yields. Moreover, demand concerns are building with ideas that USDA new-crop projections may be overstated given negative forward ethanol margins and strong competition in the global export market. Milk futures continue to be pressured by heavy stocks despite indications that milk production gains are slowing down. U.S. milk production of 17.5 billion pounds in June was up just 0.7% on 2014 and down 1.87% from May. The increase from last year was lower than expected, as production losses in western states, particularly California, appear to be weighing down gains in the Midwest. Meanwhile, June cheese stocks totaled 1.14 billion pounds according to USDA, up 2.6% from May and 8.1% higher than last year. Butter stocks of 254 million pounds were down 3.8% from May but remain 27.8% more than a year ago. While monitoring targets to initiate new margin coverage, our clients have taken advantage of recent opportunities to make strategic adjustments on existing positions - particularly strengthening corn hedges following the significant drop in price.




*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 $7.00/cwt for non-feed expenses. Milk basis is $0.75/cwt and non-milk revenue is $1.00/cwt.*

Corn margins are moderately lower since the middle of July as weather prospects have improved greatly. With much demand news absent, the marketplace has focused on summer temperatures and precipitation through the pollination period. Heat and moisture came on cue with the most recent crop progress report showing 70% of the national crop in good-to-excellent condition with 78% of the crop pollinated. The main problem spots remain in the Eastern Corn Belt with Illinois, Indiana and Ohio showing below average conditions. Otherwise, the overall crop is rated as one of the best in recent history. The coming WASDE report will be the first report to incorporate actual field surveys and will give the marketplace a baseline for yield expectations this year. On the demand side, old crop exports continue to lag the pace needed to meet the USDA forecast with four weeks remaining in the crop year. At the same time, new crop export sales amount to 169 million bushels or roughly 9% of the current USDA forecast for 2015/16 exports. This compares to 13% sold on average for this point in the marketing year. Besides the world having ample supplies, currencies have also played a role in the export market. The Brazilian Real continues to lose value relative to the U.S. Dollar making Brazilian corn more competitively priced on the global market. With economic slowdowns occurring in South America, Europe and Asia, weakness in those currencies relative to the U.S. Dollar could continue, putting U.S. supplies at an even greater price disadvantage. Our consultants have begun the discussion with our clients on margins for the coming years and have taken advantage of the recent move higher by extending coverage for the coming crop years. Together they are setting a margin management plan to protect attractive margins as the opportunity arises.


*The estimated yield for the 2015 crop is 182 bushels per acre and the non-land operating cost is $595 per acre. Land cost for 2015 is estimated at $246 per acre [1]. Basis for the 2015 crop is estimated at $-0.18 per bushel.*


*The estimated yield for the 2016 crop is 184 bushels per acre and the estimated operating cost is $586 per acre. Land cost for 2016 is estimated at $236 per acre [1]. Basis for the 2016 crop is estimated at $-0.18 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.*

Soybean margins have fallen moderately since the middle of July as wet weather ceased and warm temperatures began. The lower prices over the last month imply that the marketplace has resolved this year's production debate on harvested acres and yields in favor of record production due to record harvested acres and trendline yields. That said, the coming WASDE report will be the first report to incorporate NASS survey data and will also include the results of planted acreage for re-surveyed states. While impossible to forecast what the USDA will report for yields and harvested acres, the marketplace does look at NASS crop progress reports to gauge crop conditions as a barometer for yields compared to previous years. Currently the national crop is rated at 62% good-to-excellent and above average for this point in the growing season, implying the crop still has potential to meet and exceed trend yields. Like corn, there is a corridor of poor performing states mainly in the Eastern Belt: Missouri, Illinois, Indiana and Ohio, where crop conditions are below average that will drag national yields. On the demand side, old crop soybean export sales have slowed to a near halt as China suffers from domestic oversupply. China's demand for soy products has fallen sharply mainly due to less need for soybean meal. Sow slaughter is ramping up as domestic producers face poor margins. New crop soybean exports are running behind the average pace needed to meet the USDA projection. Exporters have committed to ship 260 million bushels thus far which represents 17% of the forecast compared to 22% on average for this point in the marketing year. The last few Soybean Margin Watch reports have demonstrated the power of margin management for our clients that actively manage forward profit margins. Recent volatility has allowed producers to take advantage of higher and lower prices by making strategic adjustments over time to protection strategies. Our consultants have begun evaluating with our clients strategies that would reduce delta to capitalize on the lower price while maintaining protection to all lower prices.

**Nov 2015 Soybeans** HIGH **($1.09)** LOW **($2.94)** LAST **($2.55)** 5YR PERCENTILE **3.4%**


*The estimated yield for the 2015 crop is 52 bushels per acre and the non-land operating cost is $365 per acre. Land cost for 2015 is estimated at $246 per acre [1]. Basis for the 2015 crop is estimated at $-0.2 per bushel.*

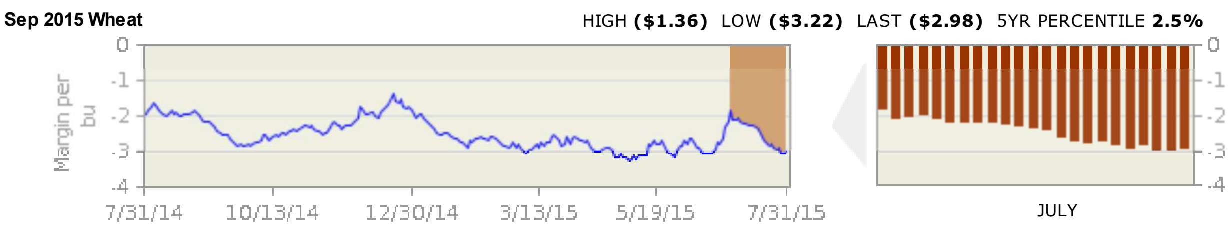
**Nov 2016 Soybeans** HIGH **($0.81)** LOW **($2.48)** LAST **($2.43)** 5YR PERCENTILE **0.6%**


*The estimated yield for the 2016 crop is 53 bushels per acre and the estimated operating cost is $362 per acre. Land cost for 2016 is estimated at $236 per acre [1]. Basis for the 2016 crop is estimated at $-0.2 per bushel.*

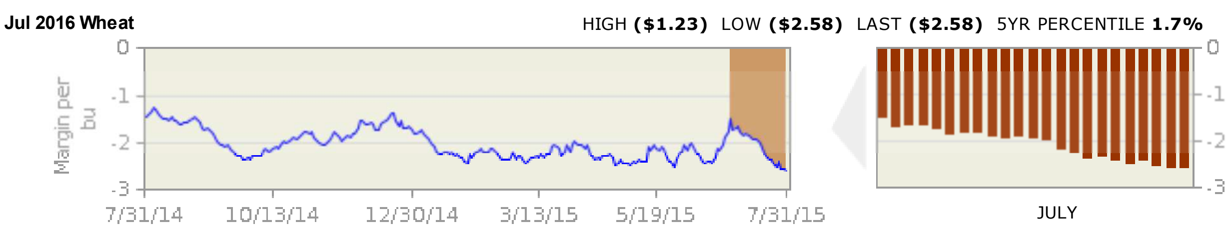
*[1] The Soybeans Margin Watch yield, land and non-land operating cost values are based upon central Illinois low productivity farmland crop estimates in the "Historic Corn, Soybean, Wheat, and Double-crop Soybeans" report published by the Department of Agricultural and Consumer Economics at the University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

## **Wheat Margin Watch:** July

Wheat margins are again lower from the middle of July as supplies fill the pipeline with Winter Wheat harvest wrapping up and Spring Wheat harvest beginning. The most recent crop progress report showed 93% of the Winter Wheat crop has been harvested along with 8% of the Spring Wheat crop. Early harvest results have shown excellent yields. The Wheat Quality Council's tour of North Dakota has pegged spring yields at 49.9 bushels per acre, a record. Crop conditions remain above average for the spring crop which implies production risk is limited. Meanwhile, export sales have continued to lag in the new crop year. With global ending supplies still expected to be above 215 million metric tons, near record high, global competition for sales will remain throughout the crop year. Besides the world having ample supplies, currencies have also played a role in the export market. The Russian Ruble continues to lose value relative to the U.S. Dollar making Black Sea wheat more competitively priced on the global market. With economic slowdowns occurring in South America, Europe and Asia, weakness in those currencies relative to the U.S. Dollar could continue, putting U.S. supplies at an even greater price disadvantage. The last few Wheat Margin Watch reports have demonstrated the power of margin management for our clients that actively manage forward profit margins. Recent volatility has allowed producers to take advantage of higher and lower prices by making strategic adjustments over time to protection strategies. Our consultants have begun evaluating with our clients strategies that would reduce delta to capitalize on the lower price while maintaining protection to all lower prices.




*The estimated yield for the 2015 crop is 67 bushels per acre and the non-land operating cost is $358 per acre. Land cost for 2015 is estimated at $166 per acre [1]. Basis for the 2015 crop is estimated at $-0.15 per bushel.*




*The estimated yield for the 2016 crop is 68 bushels per acre and the estimated operating cost is $359 per acre. Land cost for 2016 is estimated at $158 per acre [1]. Basis for the 2016 crop is estimated at $-0.15 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.*