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Margin Management
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# MARGIN MANAGER

*Your resource for understanding the margin management approach*

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## This Issue



Dear Ag industry associate:

As October came to a close, Chicago found itself in a rare position: their beloved Cubs were in the World Series for the first time in over 70 years and facing the very real possibility of winning a title that has eluded them since 1908. Many agricultural producers similarly find themselves in a rare spot, albeit not as fortunate, as margins across the hog, dairy, crop and beef cattle industries are challenging lows we have only seen a few times in the past few decades. As they struggle with restricted cash flows, many producers are now realizing that the coverage they had in place was insufficient when viewed in light of today's margin reality.

With that kind of hindsight in mind, we explore how producers can better position themselves to ride out future volatility. Our feature article, "Are You Asking the Right Margin Management Questions?" challenges producers to consider their hedging decisions from multiple perspectives, not just how much to hedge, but also how much you are willing to risk. We explore factors that support putting catastrophic "insurance" in place and present strategies producers can use that allow them to participate in gains while also protecting against the worst-case scenario.

In addition, our regular Margin Watch provides perspective on margin trends in each industry as well as strategies client are using now to navigate what promises to be a prolonged challenging landscape.

Sincerely,
Chip Whalen
Managing Editor

*Chip Whalen is the managing editor of MarginManager and the vice president of education and research for CIH. He teaches classes on margin management throughout the country and can be reached at cwhalen@cihedging.com.*

### Upcoming Education Events

**Manage Cattle Risk and Harness Volatility**
**Chicago**

Nov 29-30, 2016

**Dairy Margin Management**
**Phoenix**

December 7-8, 2016

*Futures and options trading involves the risk of loss.*

# Are You Asking the Right Margin Management Questions?

Whether your margin management is guided by a formal policy document or a loose set of rules, chances are that it essentially boils down to answering one question, “how much should I hedge?”

By prompting you to evaluate many factors – including current and historical margin levels, your operation’s debt and liquidity, and your market bias – that question can help indicate what kind and how much coverage is appropriate for your operation. But it may not cover every factor that affects your exposure. That’s why you should also ask a second question, “how much am I willing to risk?”

### What’s the difference?

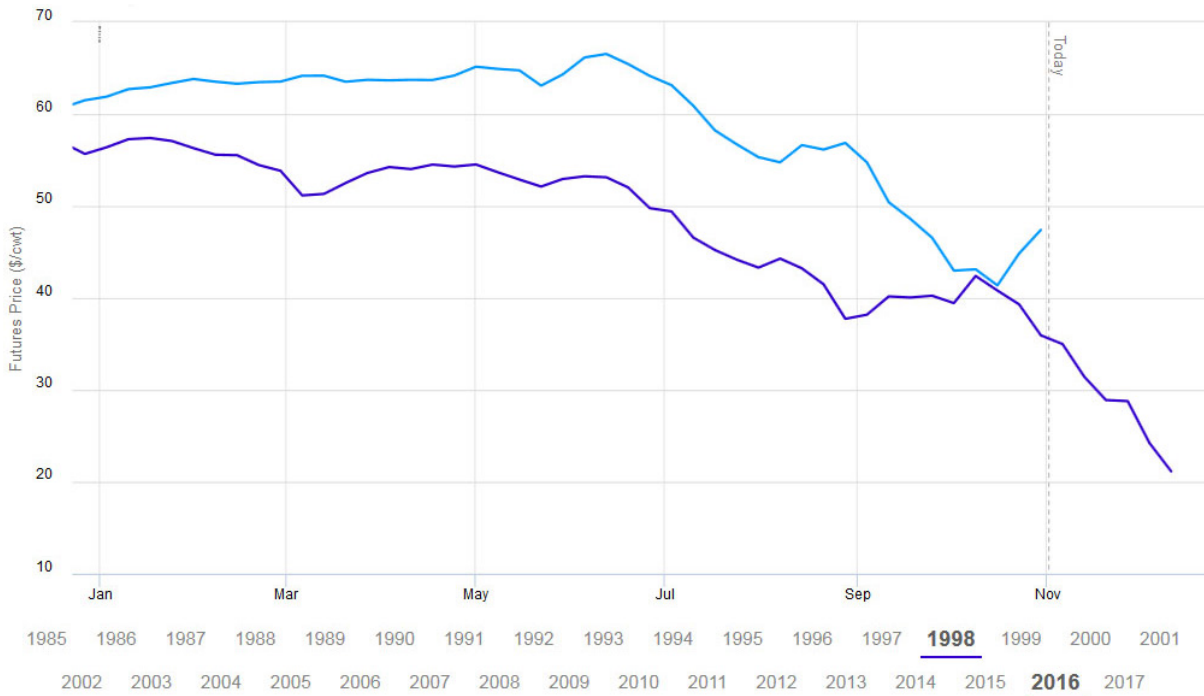
Since risk and opportunity are just opposite sides of the same equation, in theory, you could simply subtract the amount you will hedge from 100% to get the amount you will leave open. But asking both questions together prompts you to take a more complete view of your risk, increasing your chances of establishing a level of exposure that truly matches the level you are willing to accept.

The goal of any margin management plan is to establish a systematic framework for managing your overall risk. In an era of strong margins, it may make sense to focus mostly on the up side, since the chance of a catastrophic loss is negligible. But when margins remain unusually depressed or negative  for prolonged periods — as they have recently in the crop, hog and cattle industries — it becomes increasingly important to ensure you’ve protected against the worst-case scenario.

### How bad could it get?

For hog producers, it may feel as if margins can’t go any lower, but history tells us differently. Year-to-date margins in 2016 have been closely following those of 1998. In that year, a steady decline, starting in mid-summer, was followed by a small uptick. Then a decrease in processor demand triggered a quick and dramatic drop in early November. Hogs lost about 80% of their value on the cash market, as prices fell from nearly $40/cwt., to just $8. The December CME

**Hog Margins: 1998 vs. 2016**




Margins for the 2016 year to date have tracked very closely with those in 1998.

spot futures, which had been in the same range as cash, dropped by half. Today, growing uncertainty over shackle space for this winter has raised the likelihood that a decline in packer demand could drag prices below their already-depressed levels. If your margin policy calls for hedging 60% of your hogs at today's margin levels, that means it also calls for leaving the remaining 40% fully exposed to the risk of a further decline.

Likewise, beef prices have fallen since earlier this summer, and cattle feeders may want to retain opportunities to participate in a rebound by leaving some of their fats unprotected. They will need to make a difficult decision about how much of this production to lock in at a loss and, by consequence, how much to leave exposed to the risk that the steady downward trend in the cattle market will continue.

With crop prices that are below the cost of production, growers may be holding onto their bushels while waiting for the price to rise. They now need to determine how far they will allow prices to drop before they give up hope for gains on any still-unpriced production.

While dairy margins are currently above zero, deeply negative margins earlier in the year put a strain on cash flow for many producers. As a result, they are even more driven to participate in any and all price gains in the milk market, perhaps losing sight of the possibility that prices could dip back down to where they were earlier in the year. That would further strain a dairy operation's cash flow, complicating their financial planning and possibly forcing them to contract their operations.

## So how much should I hedge/risk?

Periods of unusually strong margins support the notion that the optimal level of coverage is always less than 100%. At the same time, periods of historically depressed margins remind us to protect 100% of risk from catastrophic losses. The ideal, of course, is for a margin management policy to address the possibility of both extremes, as well as the middle ground.

One way to do this is by taking positions to establish coverage for the amount of your production that you would normally hedge at a given margin level, and additional positions that represent “catastrophic insurance” coverage on the remainder. For example, a dairy margin policy may call for hedging 25% of milk volume when forward margins are at about the 70th percentile of 10-year averages, as they are today. To establish that level of protection, the dairy risk manager could purchase puts against 25% of production at a strike price that is close to the current market level. By simultaneously selling call options on that same 25%, the producer lowers the cost of the puts by the amount of the premium received for the calls. That offset allows them to purchase puts at a higher strike price – and thereby establish stronger protection – than he might otherwise feel comfortable doing.

For the remaining 75% of production that remains unhedged, the dairy can establish a floor by purchasing put options at a strike price that is lower than the current market. Because the puts are out-of-the-money, these options would be relatively inexpensive. In this way, the dairy is protected across 100% of production against the risk that margins could revert to historically depressed levels – and at a relatively low cost.

This combination of strategies results in a net position with a minimum margin on 100% of production and a maximum margin on only 25% of the same production. And without any sales obligation on 75% of production, the dairy is able to participate in any improvements in margins.

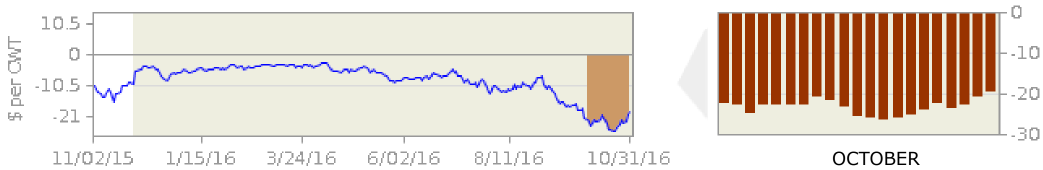
## How can I afford it?

For some producers, their restricted cash flow means any capital outlay for options feels out of reach. In that situation, one solution is to use a swap account. Swap accounts allow you to execute a hedging strategy without paying any up-front premiums or day-to-day margin calls. Settlement occurs when you close out the position. A dairy producer could, for example, choose a settlement date that corresponds to the receipt of their milk check.

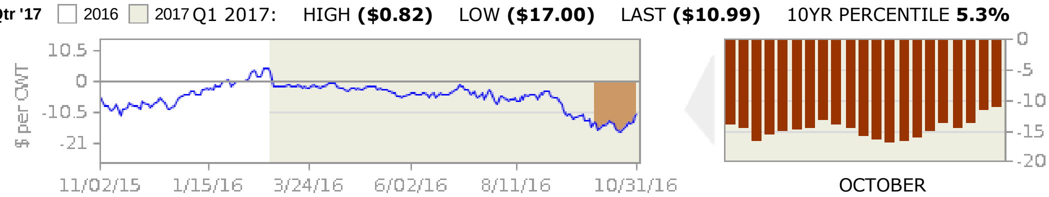
Option strategies are complex and the positions that are right for your operation will depend on a number of factors. But regardless of the hedging strategy you choose, asking the right questions about your risk is the right first step. If you have questions or would like more information about hedging strategies, please call us at 1.866.299.9333.

Margins improved over the second half of October as feed costs held relatively steady and hog prices moved higher. As a result, Q2 forward margins inched above breakeven, to within the 13th percentile of the past decade. Hog prices found some support from the cattle market, which experienced a similar recent rally. Pork remains cheap relative to beef, and the pork cutout has held up quite well despite production that is relatively high for this time of year. Moreover, hog weights have not risen as much as would be expected from a seasonal perspective, helping to offset the effects of some large recent slaughter runs. On the feed side, corn prices trended sideways over the past two weeks, while soybean meal slowly crept higher. As the harvest is currently winding down across much of the Midwest, attention has increasingly turned towards demand. Weekly export sales and shipments of both soybean meal and corn have been quite strong, although in line to meet current estimates, helping to support prices. The possibility of larger ethanol exports due to high prices in Brazil may help support a stronger domestic corn grind. Attention will also focus on the weather in Brazil and Argentina as corn and soybean planting accelerates in those countries. Early conditions in that region have been favorable for seeding. Our hog producer clients have benefited from recent adjustments that added flexibility to hog positions, and are now focused on strengthening those hedges. They are also looking to create similar flexibility on feed hedges following recent strength in the corn and soybean meal markets.

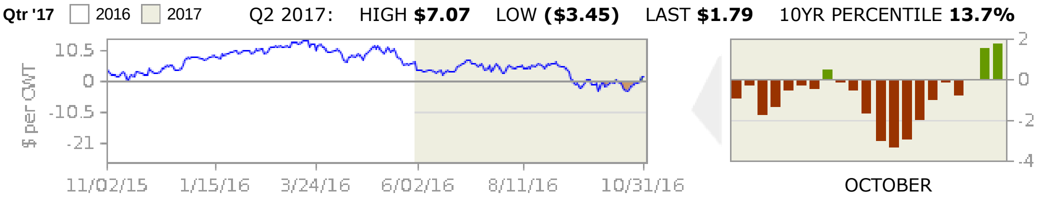
**4th Qtr '16** ☐ 2015 ☐ 2016 Q4 2016: HIGH **($2.93)** LOW **($26.09)** LAST **($19.60)** 10YR PERCENTILE **2.6%**



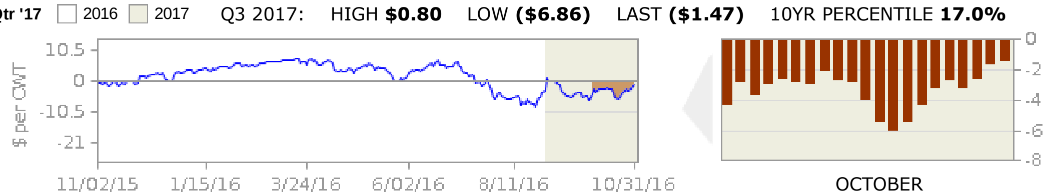

**1st Qtr '17** ☐ 2016 ☐ 2017 Q1 2017: HIGH **($0.82)** LOW **($17.00)** LAST **($10.99)** 10YR PERCENTILE **5.3%**




**2nd Qtr '17** ☐ 2016 ☐ 2017 Q2 2017: HIGH **$7.07** LOW **($3.45)** LAST **$1.79** 10YR PERCENTILE **13.7%**




**3rd Qtr '17** ☐ 2016 ☐ 2017 Q3 2017: HIGH **$0.80** LOW **($6.86)** LAST **($1.47)** 10YR PERCENTILE **17.0%**




*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.*

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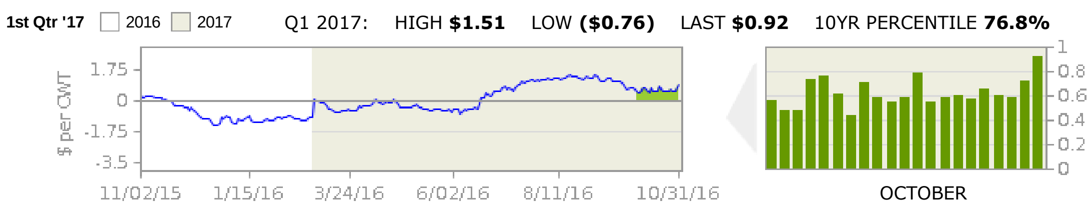
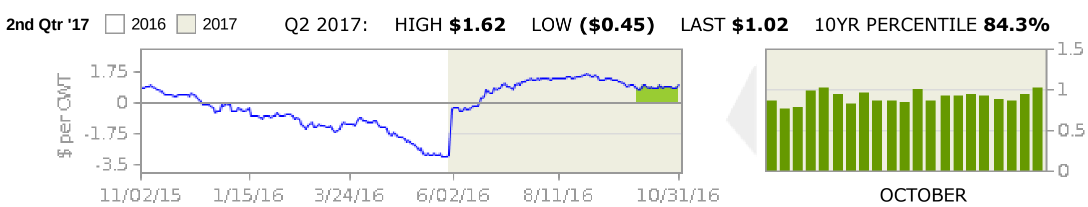
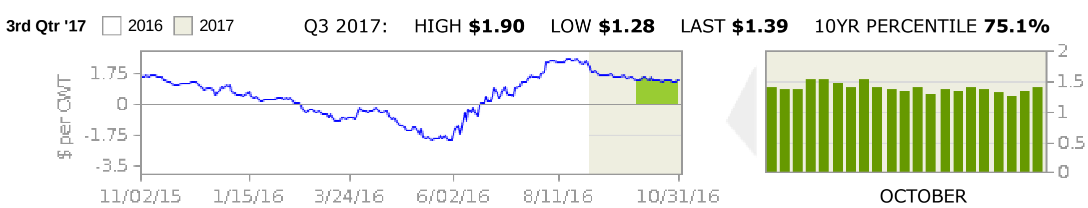
# **Dairy Margin Watch:** October

Dairy margins have been flat to slightly stronger since the middle of October as higher milk prices offset slightly higher feed costs. Forward margins remain in the top quartile of the past decade, with Q2 near the 85th percentile. Milk prices have been supported by recent strength in cheese and butter trade at the CME. Prices have firmed, despite recent USDA Cold Storage data indicating lofty stocks of both products. Cheese in cold storage as of September 30 totaled 1.238 billion pounds, down 3.1 million pounds or 0.25% from August, but 7.42% higher than last year. The September draw was also much more modest than the average of 2.09% over the past decade. Butter in cold storage totaled 269.17 million pounds, down 15.6% or 49.6 million pounds from the previous month, but 81.642 million pounds or 43.5% higher than last year. USDA also reported September milk production at 16.97 billion pounds, down 0.9% from August, but 2.1% higher than last year. While total U.S. production experienced a seasonal decline, milk production in the main cheese-producing states continued to advance, led by Wisconsin and Idaho. Feed costs held relatively steady over the past two weeks with corn trading sideways and soybean meal slightly higher. Harvest is winding down across much of the Midwest and attention has increasingly shifted to demand. Weekly export sales and shipments of both soybean meal and corn have been quite strong, although in line to meet current USDA projections. Our clients are currently looking to take advantage of recent price volatility in the milk market by strengthening hedges, while contemplating similar adjustments to feed positions.


*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.*

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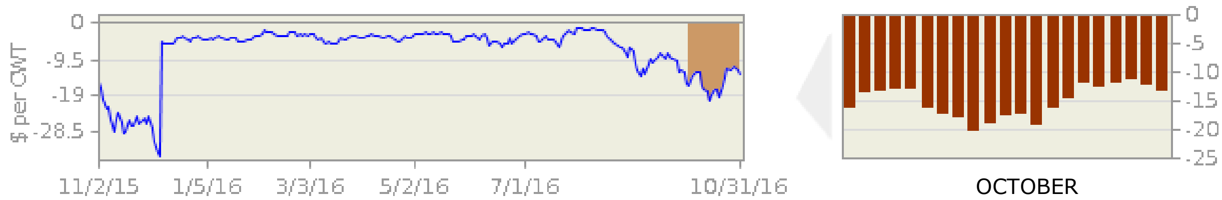
# **Beef Margin Watch:** October

Beef margins have improved since the middle of October due to a recovery in cattle prices as feed costs held relatively steady. USDA's latest Cattle on Feed report seems to have sparked the recent rally, helping the market recover from extremely oversold levels. The total inventory of cattle on feed as of October 1 was reported at 10.266 million head, up 0.4% from last year when the market was anticipating an average increase of 1.1%. However, the big surprise of the report was the September placement figure of 1.905 million head, which was down 2% from last year when the market was expecting an average increase of 4% over 2015. This year's September figure was the lowest on record for that month going back to 1996. In its quarterly report, the USDA broke out cattle on feed by class, reporting a NASS figure of 3.437 million heifers on feed. That represents a 4.4% increase from last year and the third consecutive quarter that heifers on feed were up from last year. The data would appear to support the theory that heifer retention in the industry is slowing. Meanwhile, USDA reported total beef in Cold Storage on September 30 at 520.7 million pounds, up 44.1 million or 9.26% from August, in contrast to an average August-September build of 2.56%. The figure also represented a gain of 22.371 million pounds or 4.5% over last year. On the feed side, the corn market has been relatively quiet as harvest winds down across much of the Midwest. Attention is increasingly shifting towards demand, which has generally been firm. Strength in ethanol margins in particular should help support a strong domestic grind. Our feedlot clients have benefited from recent adjustments that added flexibility to cattle hedges, and are now taking advantage of recent volatility in the market to strengthen those positions.

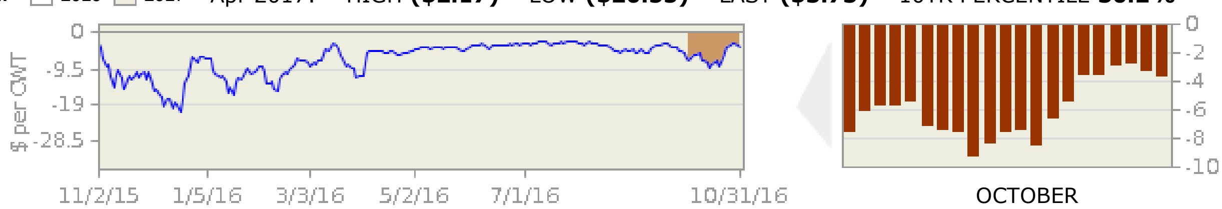
## Live Cattle Marketing Periods:

**Dec '16** 2015 2016 Dec 2016: HIGH **($1.19)** LOW **($34.83)** LAST **($13.05)** 10YR PERCENTILE **3.9%**

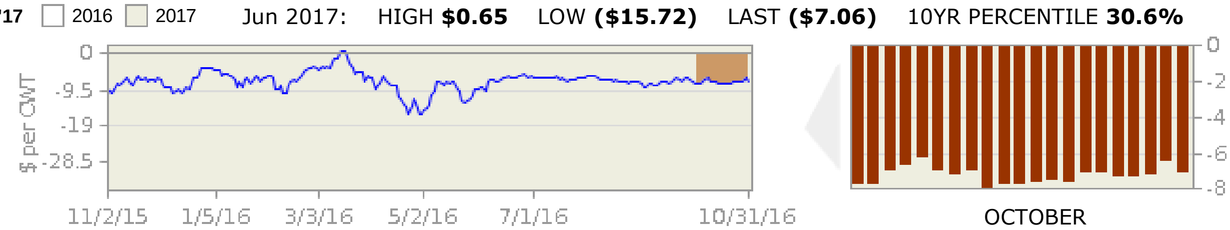



**Feb '17** 2016 2017 Feb 2017: HIGH **($1.65)** LOW **($33.93)** LAST **($12.25)** 10YR PERCENTILE **7.4%**

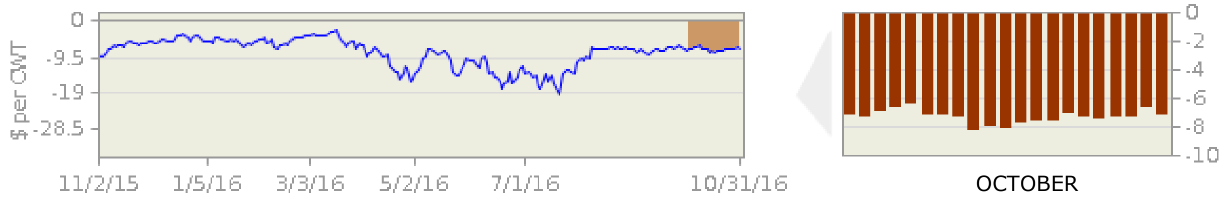

**Apr '17** 2016 2017 Apr 2017: HIGH **($2.17)** LOW **($20.55)** LAST **($3.73)** 10YR PERCENTILE **30.2%**




**Jun '17** 2016 2017 Jun 2017: HIGH **$0.65** LOW **($15.72)** LAST **($7.06)** 10YR PERCENTILE **30.6%**



**Aug '17** 2016 2017 Aug 2017: HIGH **($2.49)** LOW **($19.19)** LAST **($7.15)** 10YR PERCENTILE **28.9%**




**Oct '17** 2016 2017 Oct 2017: HIGH **($1.60)** LOW **($21.47)** LAST **($5.06)** 10YR PERCENTILE **26.3%**


*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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Corn prices and margins spent the past two weeks within a tight trading range. The U.S. harvest is nearing completion. With 75% of the corn currently off the combine, we are right at the average pace of the last five years. Export sales and shipments remained strong and are running at the seasonal pace needed to meet the USDA export expectation for the year. The U.S. Grain Council recently opined that U.S. corn should be flowing into Brazil as soon as December, as livestock feeders there are struggling from tight local supplies and Brazilian authorities recently relaxed restrictions of U.S. corn imports to mitigate the situation. Also easing supply concerns there has been the accelerated pace of Brazilian soybean seeding, especially in the largest-producing state of Mato Grosso. The sooner the soybean crop is made and harvested, the earlier the Safrina, or second crop corn, can be sown, thus potentially avoiding late summer hot and dry patterns that devastated this year's crop. The Safrina crop normally represents roughly two-thirds of Brazil's corn production, so its development is critical, particularly coming off such disappointing production. The Brazilian first crop corn is largely in the ground, while Argentinian corn planting has been somewhat delayed by heavy rains. The forecast is for drier weather, which should allow planting progress to be made within the next couple of weeks. Weekly readings of corn ethanol production have continued to stay elevated, fueling hopes that current ethanol pricing structures favor U.S. export expansion. As U.S. harvest activity concludes, the corn market will be focused on South American weather and continued demand creation to clear the fresh ample stocks. Our corn producer clients are considering tailoring hedges to take advantage of potential opportunities to participate in seasonal price movements.


*The estimated yield for the 2016 crop is 182 bushels per acre and the non-land operating cost is $595 per acre. Land cost for 2016 is estimated at $238 per acre [1]. Basis for the 2016 crop is estimated at $-0.1 per bushel.*


*The estimated yield for the 2017 crop is 184 bushels per acre and the estimated operating cost is $547 per acre. Land cost for 2017 is estimated at $228 per acre [1]. Basis for the 2017 crop is estimated at $-0.3 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.*


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# **Soybeans Margin Watch:** October

Soybean prices and margins moved higher over the past two weeks. Higher vegetable oil prices worldwide are motivating processors, particularly in China, to secure beans to capture favorable crush margins. U.S. inspections of soybeans have seen back-to-back weeks where shipments topped 100 million bushels, the largest weekly totals in over two years. Roughly 80% of these beans were bound for China. As a result, both bean sales and shipments are well ahead of the seasonal pace needed to reach the current USDA export expectation. The U.S. soybean harvest is reported to be 87% complete, just behind the five-year average, and should conclude this week if favorable weather outlooks come to pass. Brazilian soybean planting progress is off to a fast start, especially in Mato Grosso, the largest bean-producing state. Overall, Brazilian beans are 41% sown, as compared to last year's pace of 31%. Within Mato Grosso, progress is reported to be even further ahead, at 67% sown compared to 38% last year. Planting in Argentina is off to a slow start due to excessive rains; however it is not unusual for planting to last until mid-December. Given the recent move higher, our soybean producer clients are considering adding delta to positions.


*The estimated yield for the 2016 crop is 52 bushels per acre and the non-land operating cost is $365 per acre. Land cost for 2016 is estimated at $238 per acre [1]. Basis for the 2016 crop is estimated at $-0.25 per bushel.*


*The estimated yield for the 2017 crop is 53 bushels per acre and the estimated operating cost is $290 per acre. Land cost for 2017 is estimated at $228 per acre [1]. Basis for the 2017 crop is estimated at $-0.35 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.*


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# **Wheat Margin Watch:** October

Wheat prices and margins were largely unchanged over the past two weeks after some range-bound movement. The U.S. winter wheat crop is at 86% complete, and 58% of crops are reported to be in good or excellent condition, which is 10% greater than last year at this time. Soil moisture deficits in parts of the U.S. plains are to be monitored, given outlooks for dry weather and the fast approach of dormancy. Other weather concerns stem from Argentina, where excessive rains over the past few weeks have sparked worries of flooding and crop loss. U.S. wheat exports are running behind the seasonal pace needed to meet the USDA's expectation of 975 million bushels. That figure, if achieved would outstrip last year's shipments by 200 million bushels. Given the current uncertainties, our wheat producer clients are considering tailoring hedges to capitalize on potential volatility in the wheat market.

**Dec 2016 Wheat** HIGH **($2.42)** LOW **($4.07)** LAST **($3.79)** 5YR PERCENTILE **3.3%**


*The estimated yield for the 2016 crop is 67 bushels per acre and the non-land operating cost is $358 per acre. Land cost for 2016 is estimated at $158 per acre [1]. Basis for the 2016 crop is estimated at $-0.25 per bushel.*

**Jul 2017 Wheat** HIGH **($0.20)** LOW **($1.69)** LAST **($1.42)** 5YR PERCENTILE **3.3%**


*The estimated yield for the 2017 crop is 68 bushels per acre and the estimated operating cost is $240 per acre. Land cost for 2017 is estimated at $150 per acre [1]. Basis for the 2017 crop is estimated at $-0.3 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.*

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