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OCTOBER 2017

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Dear Ag industry associate:

We've launched a new look for CIH and Margin Manager!

We've updated our logo to reflect how we've grown, evolved and embraced technology since our founding in 1999. However, while our logo and colors are different, our philosophy, management and ownership remain the same. The new look simply reflects who we are today – and our mission to empower agricultural producers and end-users to manage commodity market volatility.

Livestock producers are currently facing mixed margin profiles, with cattle feeders experiencing strong profits against existing placements while dairy and swine operations are only seeing profit margins in the spot market around average or slightly above average at best. One common element though for all of these operations relates to the historically low cost of feed.

Our feature article this month, "Today's Opportunities: Low-Cost Feed Protection" discusses several characteristics of the current corn market that make flexible, long-term option strategies attractive right now. While it may be easy for buyers to remain complacent, there are risk factors present that may change the market dynamics over time and increase price volatility.

Also, our latest Margin Watch installments review the current profitability projections for the hog, dairy, crop and beef cattle industries, with updates on recent reports and their impact on forward margins.

As always, if you have questions, please feel free to contact me.

Respectfully,

Chip Whalen

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

Commodity Price Management Seminar
Chicago | Nov 15-16

Hog Margin Management
Ames, Iowa | Dec 7-8

IN THIS ISSUE

FEATURE

Today's Opportunities: Low-Cost Feed Protection

As both corn futures prices and corn option implied volatility hover near historical lows, livestock producers may want to consider securing low-cost protection now for corn purchases farther out in the future.

New Lows for Corn Option Volatility

After a growing season that was surprisingly better than most analysts expected, the U.S. is projected to harvest 14.28 billion bushels of corn which will allow ending stocks to build for the fifth straight year since the historic drought of 2012. As a result, corn prices are languishing at multi-year lows just above $3.00/bushel, a level that has established itself as a de-facto floor in the post-ethanol era (see Figure 1).

Given this knowledge, there isn't an expectation for prices to decline much further, especially considering that we are about halfway through harvest which seasonally marks a low point in futures as well as the cash market. At the same time, there isn't much of an expectation for prices to rise significantly either with the large stocks overhang and lack of any near-term catalyst to cause longer-term supply concerns. As a result, options on corn are priced accordingly, with expectations for future volatility very muted as we move forward through 2018. As an example, the implied volatility on July 2018 corn options is currently trading at 16%, a new 15-year low for not only this time of year, but at any point during the year (see Figure 2).

Risks Remain for Corn Buyers

While there certainly isn't much on the horizon to jolt the market higher and cause corn to break free from the 15-cent trading range it has been stuck in for the past two months, risks still remain for corn buyers. First, commodity funds now hold 213,806 contracts of short positions in the market, approaching a record level from early 2016 (see Figure 3).

In addition to the possibility of commodity fund short-covering, there is also the issue of a potential adverse weather development in South America as their growing season gets under way. According to the Rosario Board of Trade, corn planting progress in Argentina is almost 35% delayed compared to last year due to flooding. As of October 13, only 57% of the area had been planted, compared to 92% at this point last year. In addition, almost a million acres are still flooded in the north of Buenos Aires Province and south of Santa Fe. Meanwhile, a lack of rainfall has been a focus in the Midwestern growing region of Brazil. Although it is early in the growing season and there is no immediate concern to crops in

FIGURE 1

Continuous Corn Futures (Oct 2006 – Present)

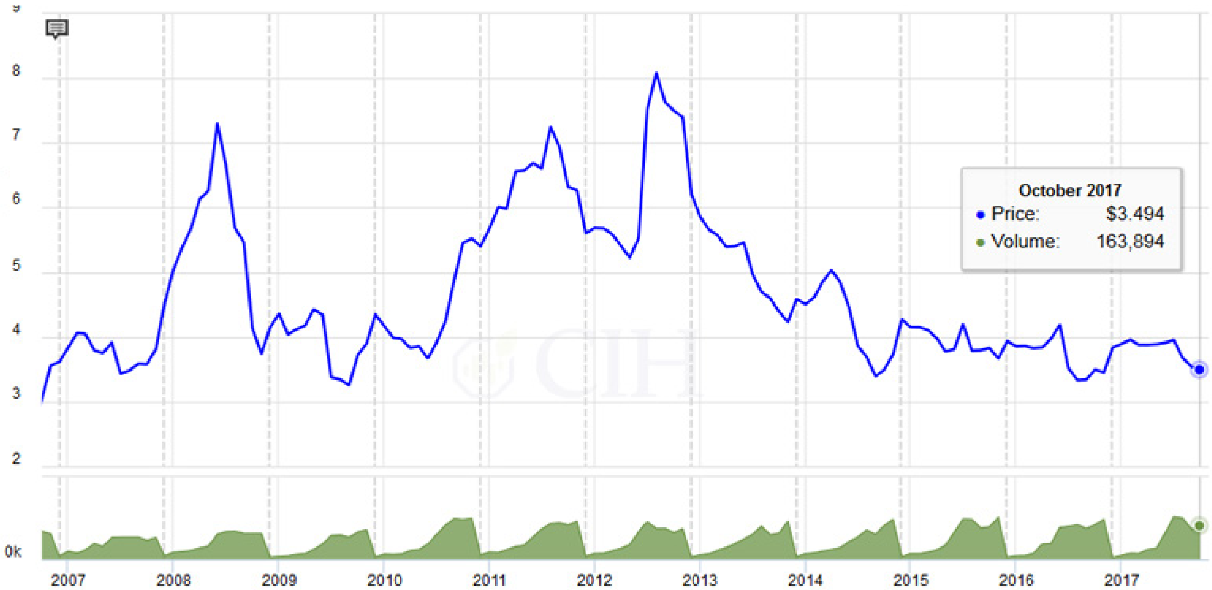


FIGURE 2

July 2018 Corn Implied Volatility vs. 15 Year Range

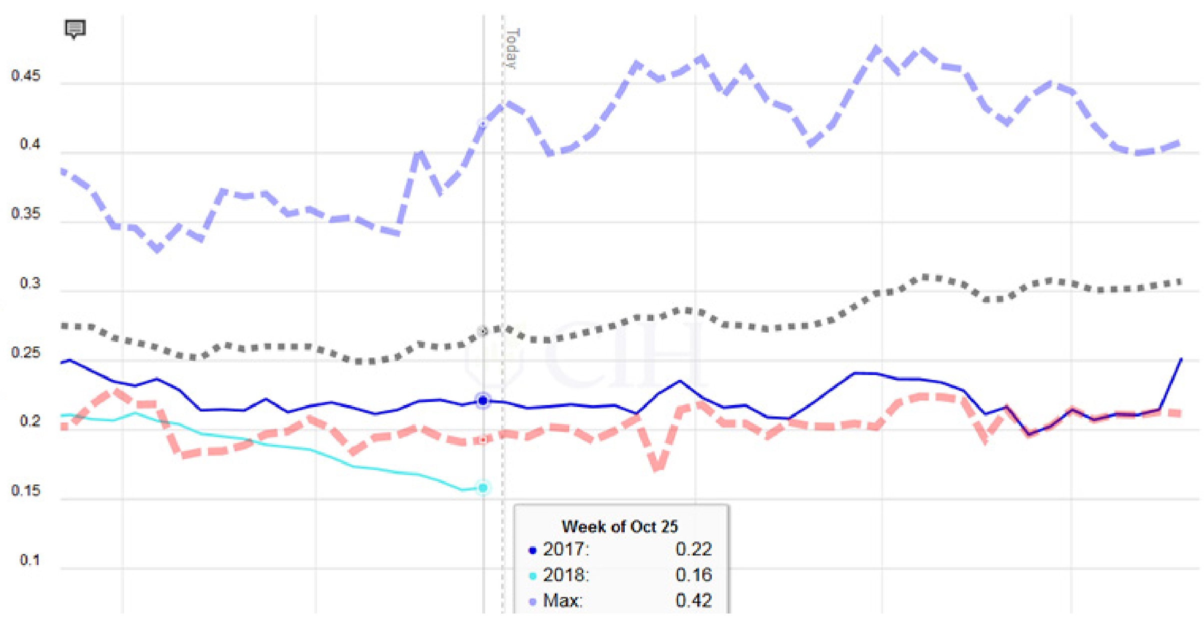
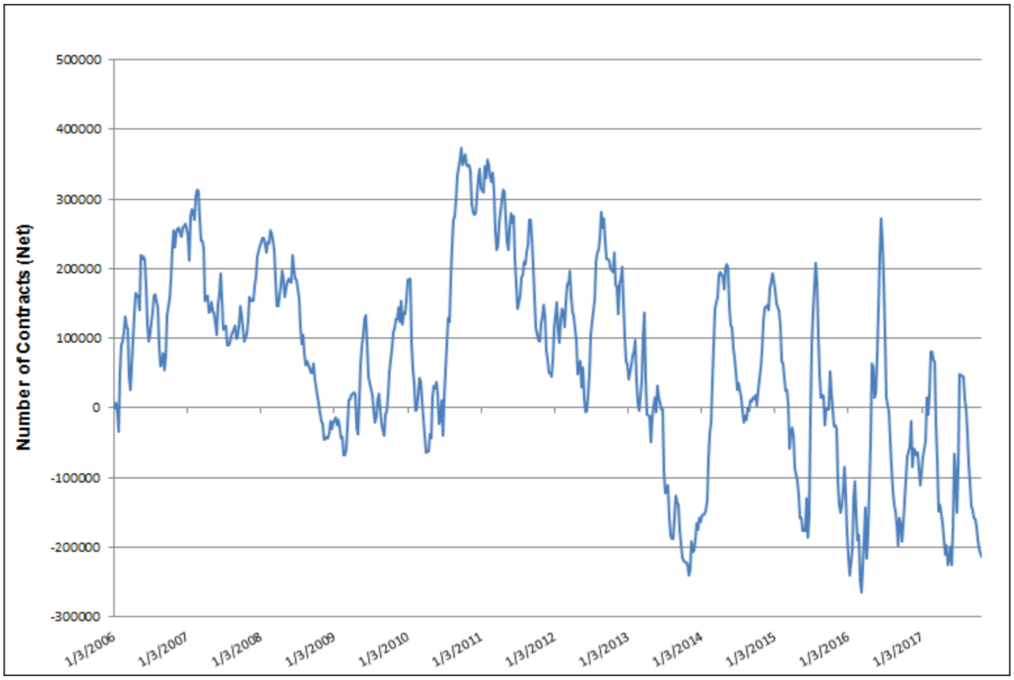


FIGURE 3

Commodity Fund Net Corn Position
Jan 1, 2006 - Oct 24, 2017



Source: CFTC.

either country, these are still risk factors for corn buyers to contend with over the next several months.

Purchase Protection When It's Cheap

Given these uncertainties and the low historical level of both corn futures prices and corn option implied volatility, it may be prudent for livestock producers and other purchasers to consider longer-term protection for projected purchases through 2018. While some corn buyers may be comfortable simply booking corn in the current market given the historically low price levels, others may be more cautious with deferred purchases. Even though the spot corn price is historically low, the "carry," or premium, of deferred corn futures prices to spot values is also historically wide. Figure 4 shows that at a current carry of around 30 cents/bushel, the spread between spot December and next year's July corn futures contracts is near a five-year low and at the 10th percentile of both the past 10 and 15 years. Therefore, a buyer of deferred corn would be paying into this historically wide premium to secure future purchases.

Because of the historically wide carry and amidst the uncertainty over the future price outlook, corn options may be an attractive way to protect forward purchases and upside risk in the current environment. As an example, let's say a hypothetical corn buyer has to purchase the equivalent of 100,000 bushels for the months of May and June against July 2018 futures. The July 2018 corn futures contract is currently trading at a price of $3.76 ½, about 30 cents/bushel over the spot December 2017 price. The buyer wishes to protect this price level but at the same time, preserve the opportunity for the price to decline in a falling market. A July 380 call option is trading for a premium of 17 ½ cents/bushel. If the buyer purchases this call option, their maximum price for corn in this purchase period (exclusive of basis) would

FIGURE 4

Corn Futures Historical Spread Statistics (Dec 17-July 18)

	1 Year	3 Year	5 Year	10 Year	15 Year
Current Price	$-0.298	$-0.298	$-0.298	$-0.298	$-0.298
Percentile	6.35%	2.11%	1.83%	10.23%	10.66%
High	$-0.128	$-0.063	$0.125	$0.278	$0.278
90th	$-0.150	$-0.158	$-0.158	$-0.150	$-0.103
80th	$-0.178	$-0.180	$-0.183	$-0.183	$-0.145
70th	$-0.185	$-0.188	$-0.193	$-0.198	$-0.173
Average	$-0.208	$-0.205	$-0.213	$-0.230	$-0.213
30th	$-0.225	$-0.228	$-0.240	$-0.258	$-0.250
20th	$-0.263	$-0.238	$-0.258	$-0.275	$-0.270
10th	$-0.288	$-0.258	$-0.280	$-0.298	$-0.298
Low	$-0.303	$-0.303	$-0.303	$-0.440	$-0.440

FIGURE 5

July 2018 Corn 380 Call at 135 DTE

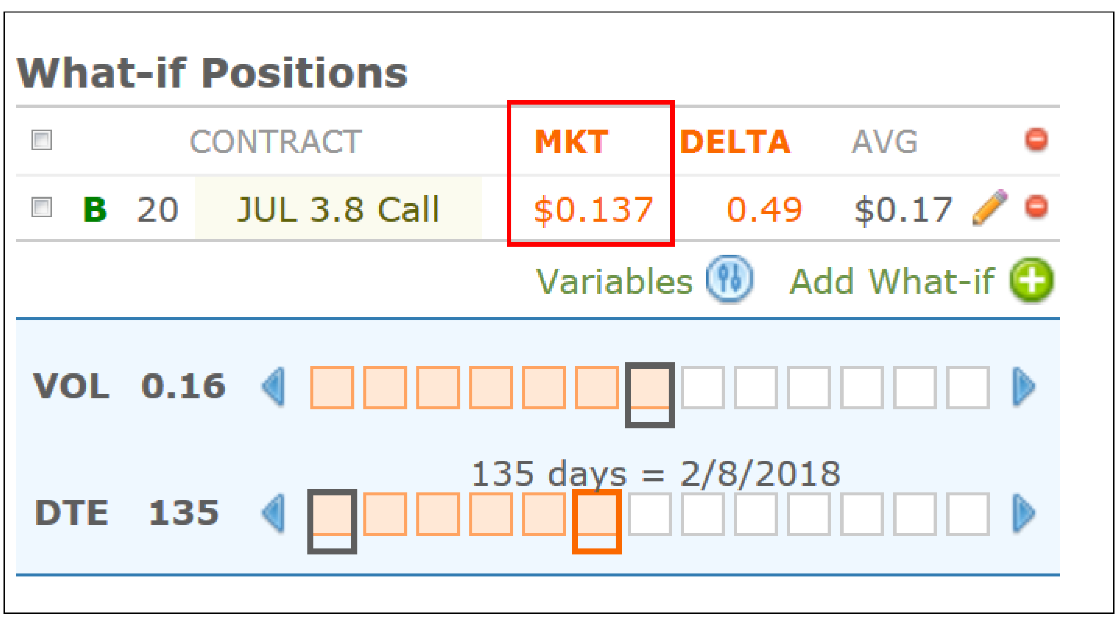
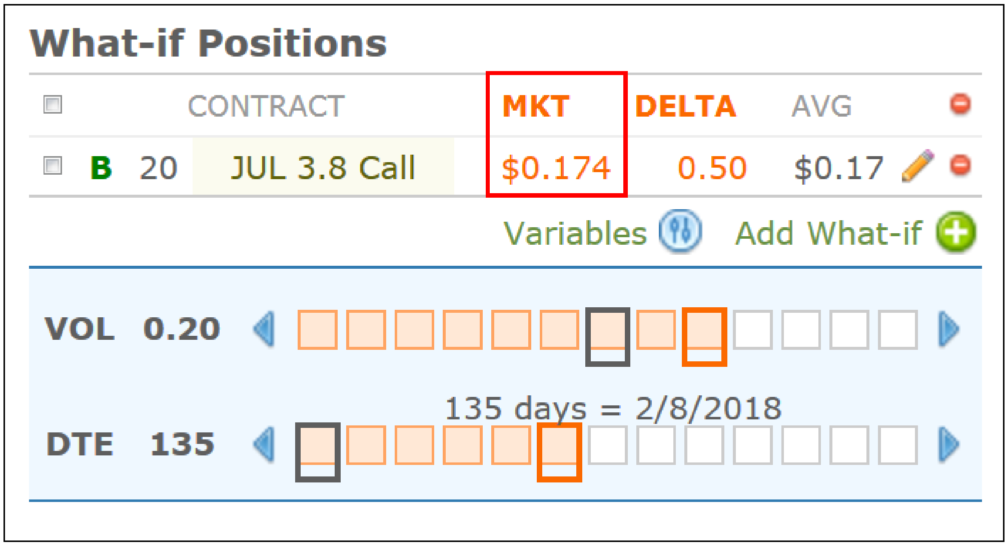


FIGURE 6

July 2018 Corn 380 Call at 135 DTE and 20% Implied Volatility



therefore be $3.97 ½, which is the equivalent of the strike price of the option plus the cost of the premium. Should the market move lower, the buyer will be open to price and effectively 17 ½ cents above the market for their purchase.

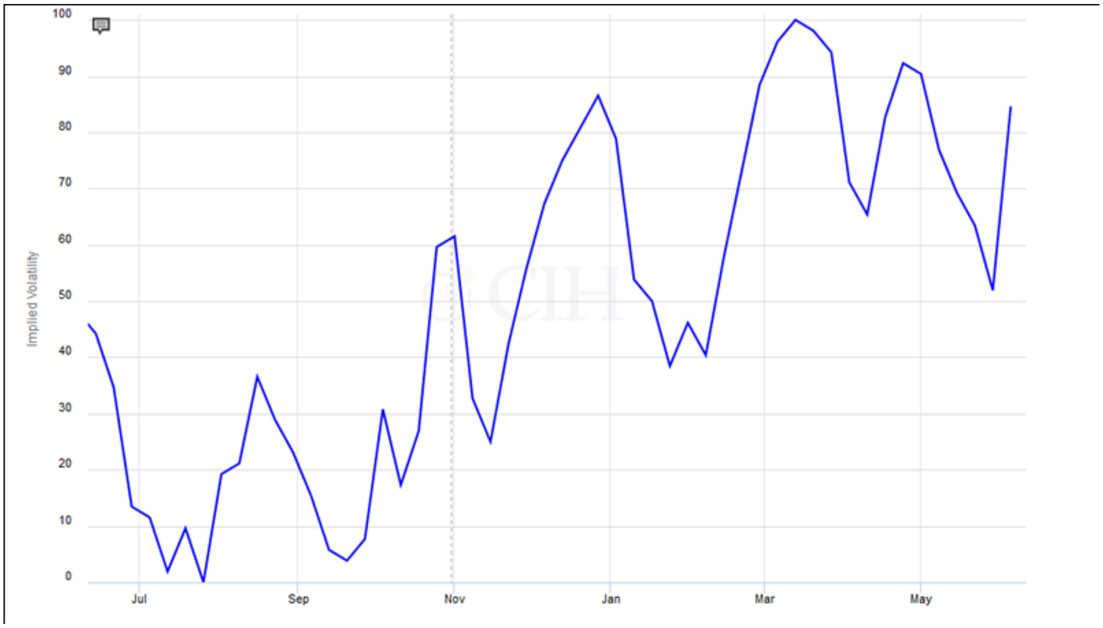
While this scenario assumes the option is held until expiration in late June, the buyer will most likely exit the option ahead of expiration following a change in price. Ideally, if the market moves lower, the buyer will be able to purchase the corn cheaper while still retaining some of the residual call option value. Even if the market does not move, this premium will erode very slowly with the passage of time. Figure 5 illustrates the theoretical value of the option about three months from now on February 8. Assuming no change in the corn futures price or in the implied volatility of the option, the July 380 call would still be worth almost 14 cents, thus only losing about three cents of value in the next 98 days.

Now let's consider another scenario in which there is still 135 days to expiration on February 8, but the implied volatility of the option has risen four points to 20%, about the same level as this year's implied volatility for July corn options in early February, and still well below average from a historical perspective. Figure 6 shows that the increase in implied volatility in this scenario will give the option a theoretical value of about 17 ½ cents, completely offsetting the time decay of holding the option over the next three months.

While the implied volatility of July corn options may also decline between now and February, there is a seasonal tendency for it to gradually increase into the spring (see Figure 7). Thus, a corn call option buyer can leverage a few characteristics of the current market profile to their advantage: the fact that prices are historically low, but the carry is also wide; that corn option implied volatility is trading at a new 15-year low; and that there is a seasonal tendency for this implied volatility to rise over the winter – potentially mitigating the impact of time decay during this holding period. While it may be unlikely for corn prices to rise significantly over the medium term, there remain risk factors in the market and it is not necessarily wise for

FIGURE 7

July Corn Option Implied Volatility 10-Year Seasonal Tendency



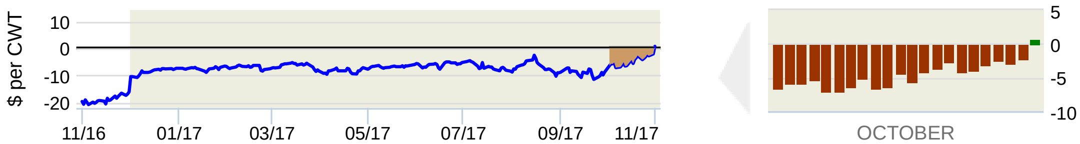
buyers to be complacent. Call options can help draw a line in the sand against deferred purchases, protect historically low price levels, and preserve opportunities for better pricing opportunities down the road.

If you'd like more information about how to protect forward corn prices and livestock margins, and how options can help you maintain the flexibility you need to navigate an increasingly uncertain landscape, please call CIH at 1.866.299.9333.

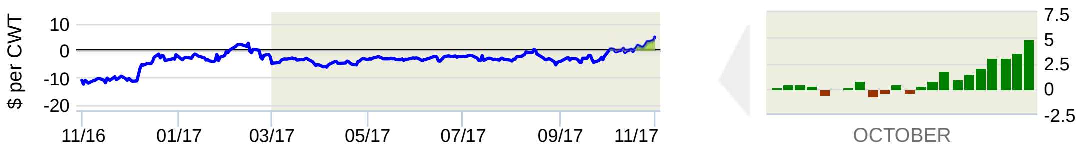
Hog Margin Watch: October

Margins appreciated sharply over the second half of October on the back of a strong rally in hog futures and weakness in feed prices. While spot hog finishing margins remain negative in Q4 and only slightly above average from a historical perspective, deferred margins in Q1 and Q2 are both positive and over the 70th percentile of profitability within the past decade. Some producers are even seeing margins above the 80th percentile now, which has spurred a wave of activity this past week to add new positions and increase forward protection. The hog market has been supported recently by strength in cash hog prices, which gained 5% in the past week alone and are as much as 26% higher than a year ago at this time. The two new pork processing facilities in Sioux City, Iowa and Coldwater, Michigan appear to have helped support the cash hog market despite record production, with hog supplies expected to remain record large through year-end. In addition to cash hog prices though, the pork cutout is also 4.9% higher than last year despite a 4.6% year-to-date increase in pork production, indicating that demand remains very strong. Moreover, despite the increase in pork production, pork availability in the spot market is down 13% from a year ago due to a larger amount of product already spoken for on previous forward purchases. A surge in September export sales also appears to have reduced the amount of pork available in the spot market. Feed costs meanwhile remain subdued with ongoing weakness in the cash market due to advancing harvest progress. Following the recent margin improvement, our hog producer clients have been adding protection in forward periods with flexible hog hedges that will allow for further margin strength over time.

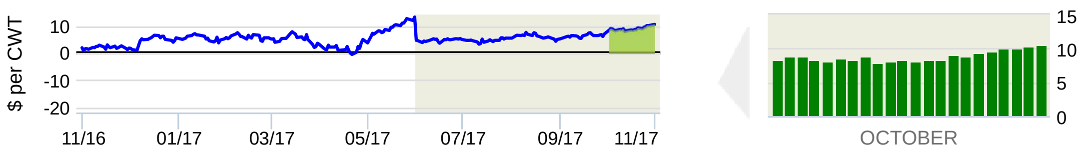
4th Qtr '17 ☐ 2016 ☐ 2017 Q4 2017: HIGH **$0.73** LOW **($11.54)** LAST **$0.73** 10YR PERCENTILE **65.5%**



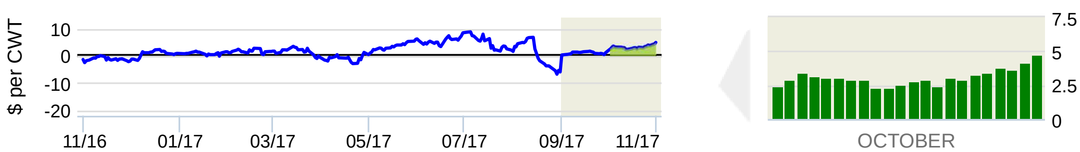
1st Qtr '18 ☐ 2017 ☐ 2018 Q1 2018: HIGH **$4.87** LOW **($6.22)** LAST **$4.87** 10YR PERCENTILE **78.1%**



2nd Qtr '18 ☐ 2017 ☐ 2018 Q2 2018: HIGH **$10.48** LOW **$3.09** LAST **$10.48** 10YR PERCENTILE **71.8%**



3rd Qtr '18 ☐ 2017 ☐ 2018 Q3 2018: HIGH **$4.79** LOW **$0.21** LAST **$4.79** 10YR PERCENTILE **53.1%**



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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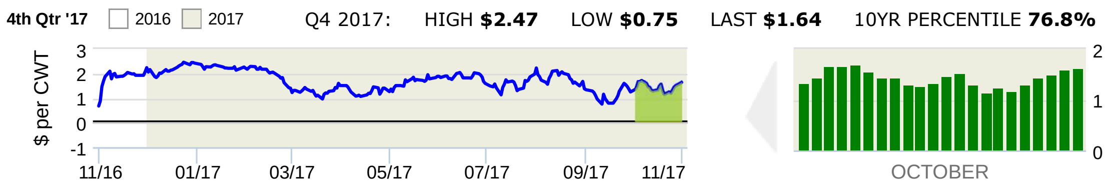
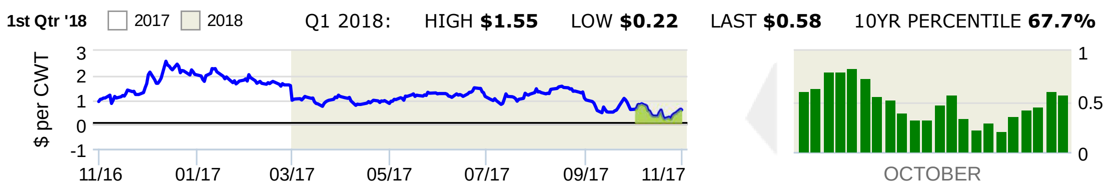
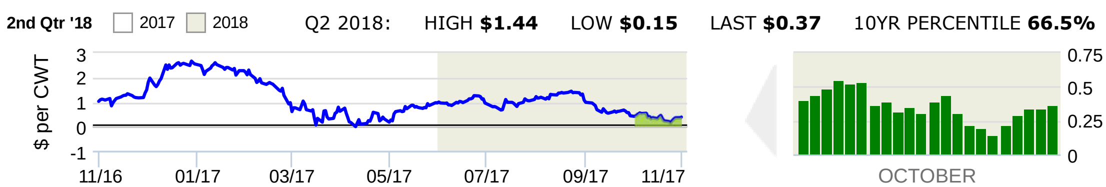
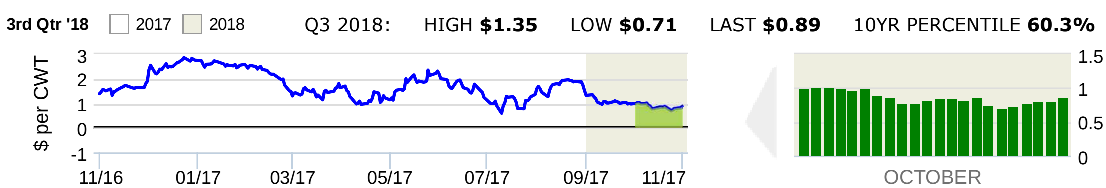
Dairy margins have been steady to a little better since the middle of October, following slightly higher milk prices in nearby months along with weakness in feed costs. Milk prices have stabilized after recent weakness with mixed tones in the market. USDA reported September milk production at 17.17 billion pounds, down 4.9% from August, but up 1.1% from last year. The milking cow herd was pegged at 9.4 million head, down 4,000 from August, but still 69,000 above 2016. Cold storage stocks were considered neutral to bearish, with September 30 cheese stocks at 1.306 billion pounds, down 27.9 million or 2.1% from August, compared to the average August-September decline over the previous decade of 1.91%. Butter stocks were reported at 256.9 million pounds, down 23.3 million, or 8.3%, from August versus the average seasonal decline between August and September over the previous 10 years of 11.12%. Milk prices remain under pressure from the large stocks overhang in the EU, with milk supplies growing in the Continent and ideas that the European Commission may institute measures to make the SMP Intervention program resemble a tender process. At the same time, weaker growth in New Zealand milk output due to a wet spring that has compromised pasture conditions is helping to underpin the market. New Zealand's milk output totaled 2.529 million tons in September, down 1.6% from last year, representing the lowest September output since 2012. Calendar-year 2017 milk production is now estimated at 21.5 MMT, up 1.3% from last year versus previous estimates for 3.1% year-over-year growth. Meanwhile, feed prices have remained steady to weaker under continued pressure from advancing harvest progress. Our dairy producer clients recently have been making tactical position adjustments to existing milk hedges to take advantage of current price opportunities between milk classes.









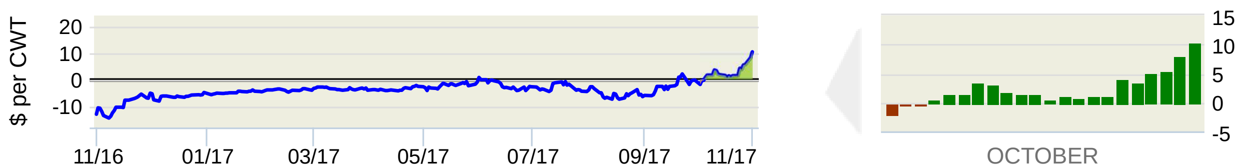
The Dairy Margin calculation assumes, using a feed price correlation model, that for a typical dairy 62.4 lbs of corn (or equivalent) and 7.34 lbs of meal (or equivalent) are required to produce 100 lbs of milk (includes dry cows, excludes heifers not yet fresh). Additional assumed costs include $0.90/cwt 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: October

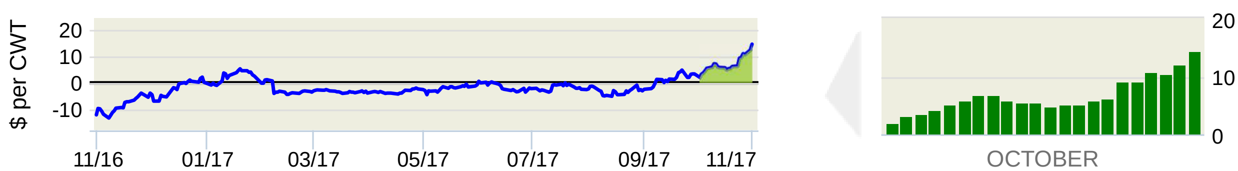
Beef margins moved sharply higher over the second half of October in nearby marketing periods against existing placements due to a strong rally in live cattle futures, while deferred margins against forward crushes held steady. Live cattle futures prices have been supported by recent strength in both the fed cattle cash market as well as the beef cutout. According to USDA's Agricultural Marketing Service (AMS), the five-area average cattle market price last week was $116.98/cwt., up $6.11 from the prior week and $12.83/cwt. from last year. Fed cattle prices were also the highest since early August, supported by strength in beef cutout values. The comprehensive beef cutout last week was $198.80/cwt., representing a gain of $2.72 from the prior week and the highest since mid-August. For October, the beef cutout was up $2.83/cwt. from September and up $13.97, or 7.7%, from last year. USDA reported Cattle on Feed as of October 1 at 10.813 million head, up 5% from last year versus expectations for a 4.6% increase from 2016. September placements totaled 2.15 million head, which was up 13% from last year and considered bearish relative to expectations for a 7.3% average increase from pre-report estimates. Beef supplies in Cold Storage on September 30 totaled 487.8 million pounds, up 11.2 million pounds or 2.4% from August compared to an average build from August to September over the past 10 years of 3.33%. Year-over-year beef inventories were down however, decreasing 31.2 million pounds, or 6.0%, from September 2016. Corn prices have been steady to a touch weaker since the middle of the month, as the market remains under pressure from advancing harvest progress. Following the recent advance in the market, our beef producer clients have been strengthening cattle hedges to take advantage of improving margins, while setting targets to reduce delta if the market breaks.

Live Cattle Marketing Periods:

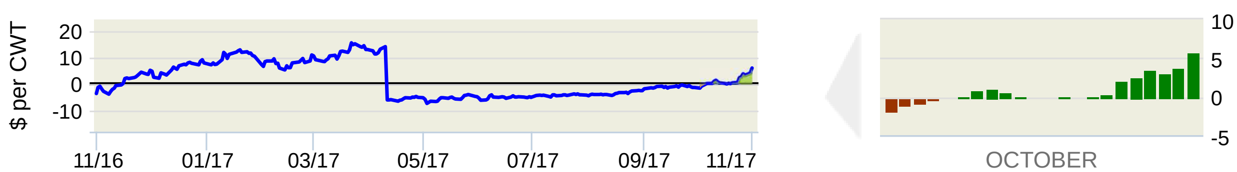
Dec '17 2016 2017 Dec 2017: HIGH **$10.34** LOW **($14.53)** LAST **$10.34** 10YR PERCENTILE **95.7%**



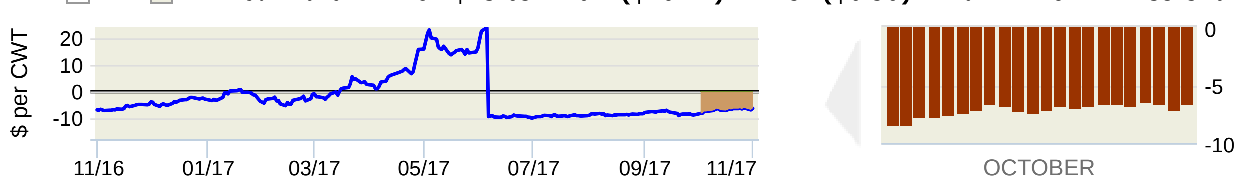
Feb '18 2017 2018 Feb 2018: HIGH **$14.27** LOW **($13.38)** LAST **$14.27** 10YR PERCENTILE **96.6%**



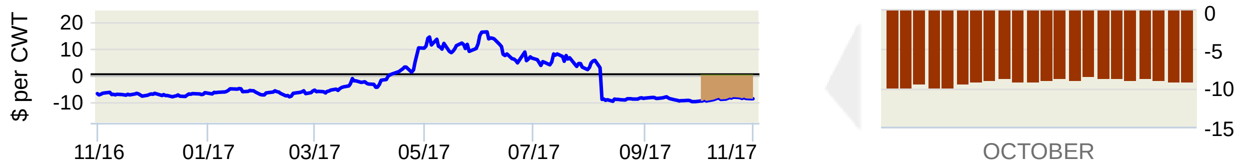
Apr '18 2017 2018 Apr 2018: HIGH **$15.25** LOW **($7.54)** LAST **$5.77** 10YR PERCENTILE **92.8%**



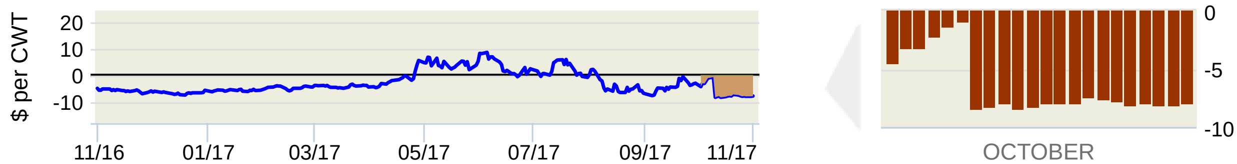
Jun '18 2017 2018 Jun 2018: HIGH **$23.69** LOW **($10.24)** LAST **($6.50)** 10YR PERCENTILE **39.5%**



Aug '18 2017 2018 Aug 2018: HIGH **$16.06** LOW **($10.15)** LAST **($9.00)** 10YR PERCENTILE **20.2%**



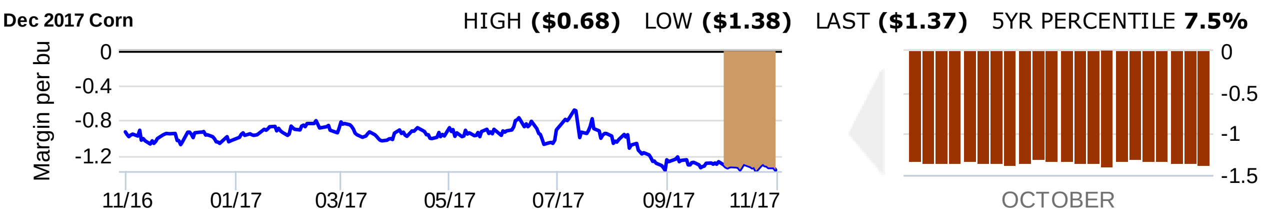
Oct '18 2017 2018 Oct 2018: HIGH **$8.37** LOW **($8.36)** LAST **($7.94)** 10YR PERCENTILE **15.2%**



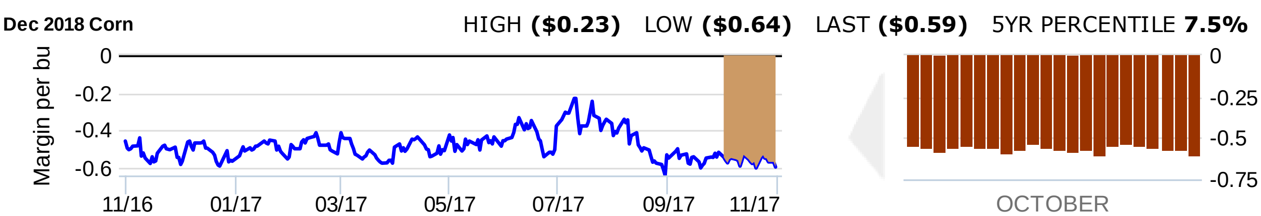
The Beef Margin calculation uses Feeder Cattle futures to price inbound animals and assumes each will consume 55 bushels of corn and cost approximately $250 per head (for other feed and non-feed expenses) to gain 550 pounds and reach a market weight of 1,250 pounds.

Corn Margin Watch: October

Corn prices and margins continue to waffle within an extremely tight trading range. Corn prices were confined to a ten cent range over the prior two weeks and seem content to continue to be bound to the range. U.S. corn harvest is 54% complete, which is 18% behind the five-year average. Sporadic heavy rains have delayed progress and put Iowa, Minnesota and Wisconsin among the laggards. While there does continue to be wetness in the forecast, the market has not priced in any large potential production losses due to the harvest delays. U.S. corn exports have continued their lackluster start to the marketing year, as cumulative inspections of 199 million bushels are so far almost just half as much as last year. The competition from Brazil has been stiff, as they continue to ship out record levels of corn. The corn seeding progress in Brazil stands at 51% now, with Argentina at 33% in the ground. The NAFTA renegotiation talks have taken a pause, but will resume in mid-November amidst thoughts of fruitful progress wrapped around tough demands thus far. Without any hiccups to U.S. harvest, South American weather is likely to be the main driver of the corn market going forward. The tight range has limited opportunity, but corn producers stand ready to act when the time turns more favorable.



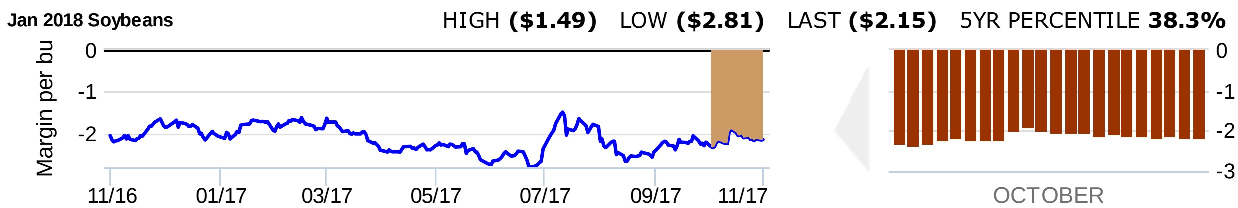
The estimated yield for the 2017 crop is 182 bushels per acre and the non-land operating cost is $595 per acre. Land cost for 2017 is estimated at $238 per acre [1]. Basis for the 2017 crop is estimated at $-0.25 per bushel.



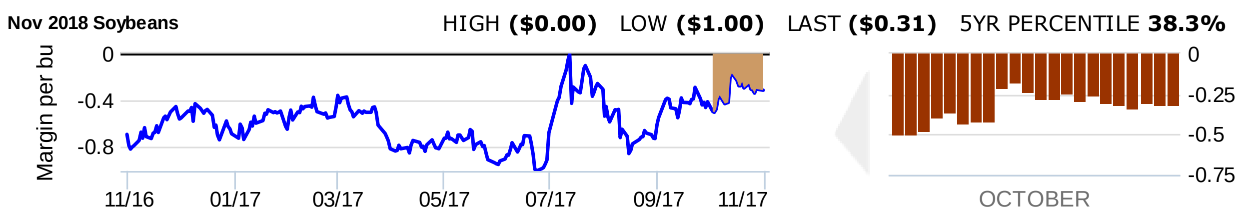
The estimated yield for the 2018 crop is 184 bushels per acre and the estimated operating cost is $547 per acre. Land cost for 2018 is estimated at $228 per acre [1]. Basis for the 2018 crop is estimated at $-0.3 per bushel.

[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.

Soybean prices and margins were slightly lower over the past two weeks and continue to hold in a tight range. The spread from high to low over the period was just less than twenty cents, as not much fresh fundamentally entered the market. The U.S. bean harvest is nearing completion at 83%, just shy of the five-year average for this period of 87% complete. U.S. exports of soybeans have picked up the pace lately, which is common as the beans come off the combine. Cumulative shipments of 15.6% are running ahead of the average 10.3% pace needed to meet the expanded USDA expectation of 2,250 million bushels. However, forward sales are trailing the average pace by almost ten percent, casting concerns of meeting the number once the new crop beans are available in South America and hit the marketplace in first quarter 2018. Brazilian soybean planting near 30% is catching up to average after a slow start, as Argentina's seeding is just getting underway. With the U.S. harvest close to being finalized, the soybean market will now focus squarely on South American weather. The initial dryness in the main bean growing regions in Brazil is giving way to more seasonal rain opportunities, adding needed moisture to soils. The limited price movement has also limited opportunity, but soybean producers are ready to act whenever more favorable market levels occur.



The estimated yield for the 2017 crop is 52 bushels per acre and the non-land operating cost is $365 per acre. Land cost for 2017 is estimated at $238 per acre [1]. Basis for the 2017 crop is estimated at $-0.4 per bushel.

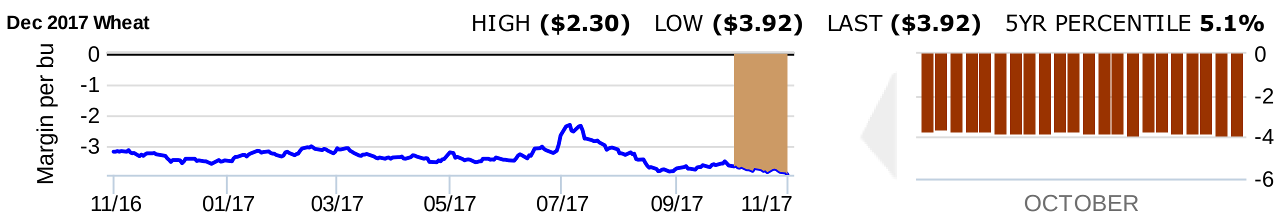


The estimated yield for the 2018 crop is 53 bushels per acre and the estimated operating cost is $290 per acre. Land cost for 2018 is estimated at $228 per acre [1]. Basis for the 2018 crop is estimated at $-0.5 per bushel.

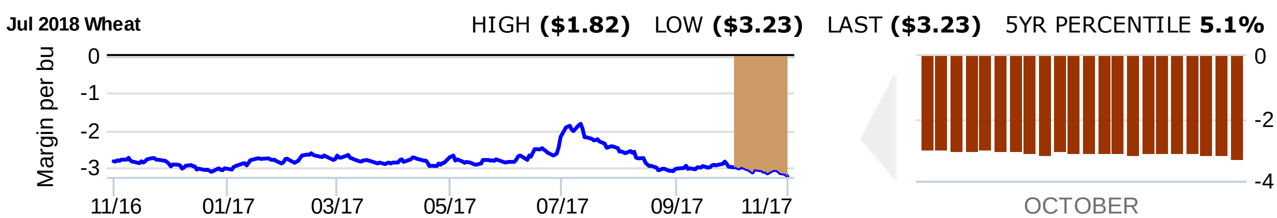
[1] The Soybeans Margin Watch yield, land and non-land operating cost values are based upon central Illinois low productivity farmland crop estimates in the "Historic Corn, Soybean, Wheat, and Double-crop Soybeans" report published by the Department of Agricultural and Consumer Economics at the University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

Wheat Margin Watch: October

Wheat prices and margins were lower over the past two weeks, and have closed out the month near contract lows in the Chicago and Kansas City contracts. Minneapolis wheat finished the second half of the month near unchanged. Record global surpluses are weighing on prices; with the spring contract holding up better given this year's diminished production. Production records in Russia are more than making up for the smaller deficits that Brazil and Australia, among others, are currently experiencing. The U.S. all wheat export numbers are holding up amongst the global competition, with sales so far of 57% and shipments of 38% of the 975 million bushel expectation. However, both need improvement to catch up to the average pace needed to meet the estimate. Some help may come from Brazil as they are rumored to be considering relaxing the import tariff on a limited amount of wheat flowing into the country. With the move lower, some wheat producers who proactively added coverage this summer are now considering adding some flexibility back into hedge positions.



The estimated yield for the 2017 crop is 67 bushels per acre and the non-land operating cost is $358 per acre. Land cost for 2017 is estimated at $158 per acre [1]. Basis for the 2017 crop is estimated at $-0.4 per bushel.



The estimated yield for the 2018 crop is 68 bushels per acre and the estimated operating cost is $358 per acre. Land cost for 2018 is estimated at $150 per acre [1]. Basis for the 2018 crop is estimated at $-0.4 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.