IOWA STATE UNIVERSITY
Extension and Outreach

Iowa Farm Outlook

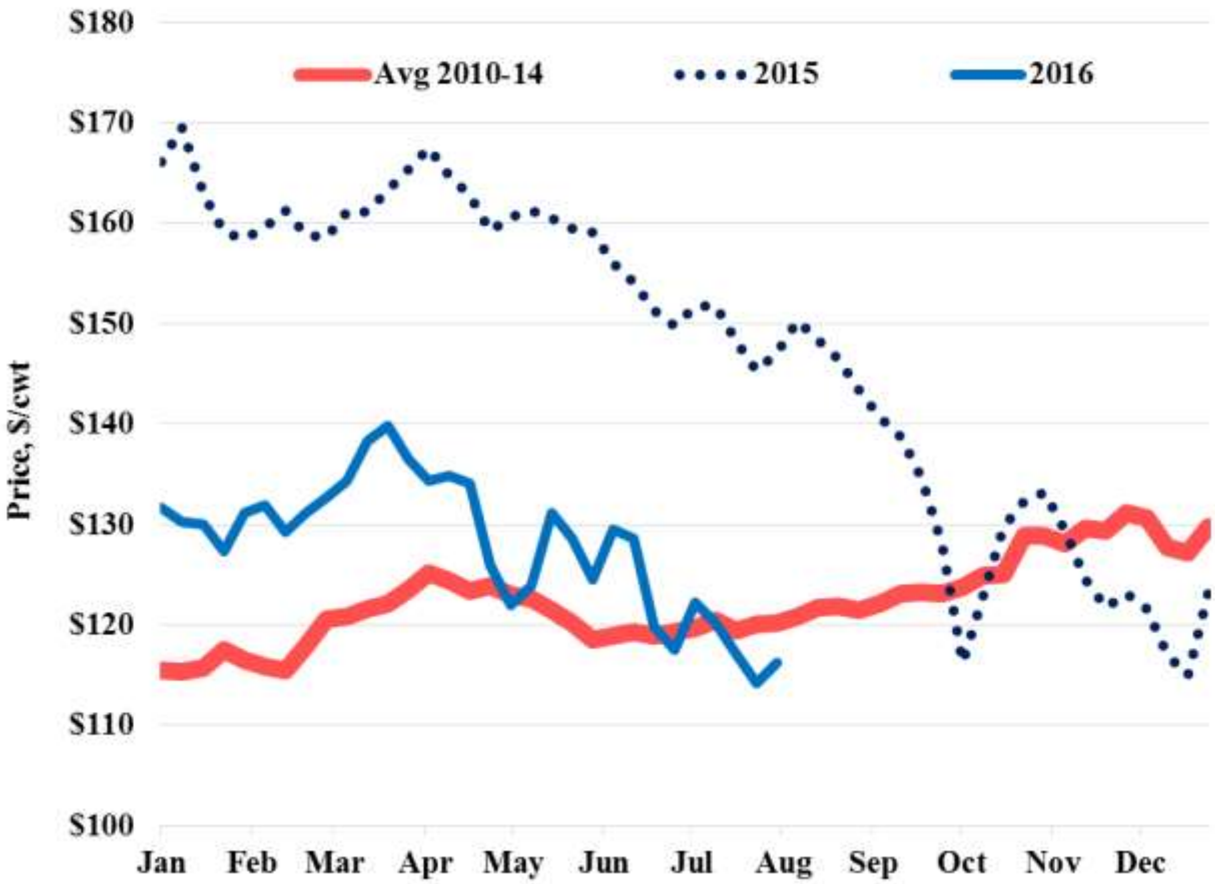
Department of Economics
August 2016 | Ames, Iowa | Econ. Info. 2076

Evaluating Basis Forward Contracts

Mid-summer has passed by. This is a good time of year to take stock of price levels and how the forward market is shaping up for fed cattle. It is also a good time to assess whether forward pricing fed cattle is warranted.

The negotiated Iowa-Minnesota slaughter (fed) steer price for the first seven months of this year averaged just above $128.00 per cwt compared to a shade below $159.00 last year, a drop of 19% (figure 1). Fed cattle typically have seasonal price lows in the summer, when supplies are typically the largest, making one argument that prices experienced in July could be the bottom.

Figure 1. Slaughter Steer Prices, Iowa-Minnesota Negotiated Weighted Average, Weekly

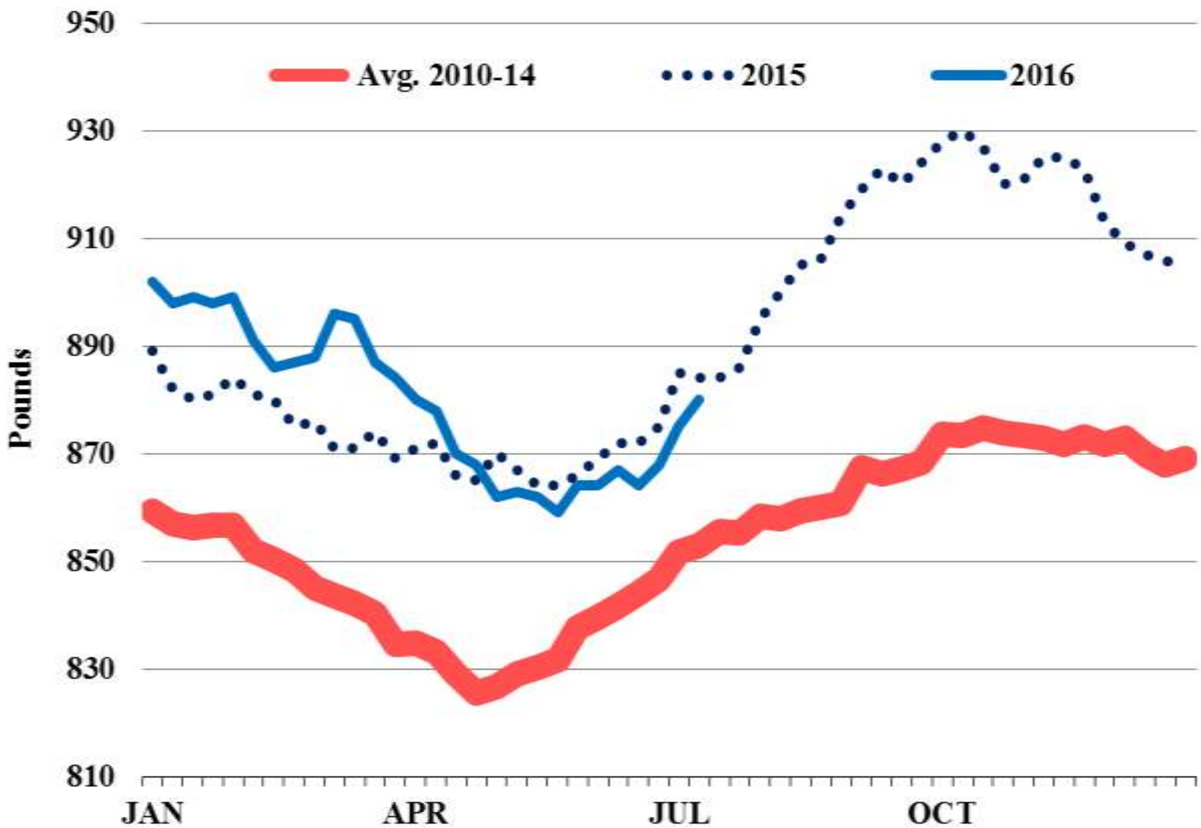


Data Source: USDA-AMS. Updated August 1, 2016.

Live cattle futures found some legs during the last week of July and settled near limit-up to begin August. It appears traders have scaled-back bets on the market continuing to fall, since the release of the Cattle on Feed Report, which eased much of the supply pessimism that had weighed on the market throughout July. The report showed the number of cattle in the nation's feedyards are growing but much more gradually than had been expected. Feedlot placements in June were up year over year but less than expected at 103% of last year. June marketings were as expected at 109% of last year—the largest June marketing level since 2012. The July 1 feedlot inventory was 101% of last year, which was up slightly less than expected as a result of the smaller placements.

Lower carcass weights is also positive sign for prices. Steer dressed weights in June averaged 865 pounds, 5 pounds below year ago. From May to June, steer dressed weights only increased 4 pounds. Over the past 10 years the average May-to-June increase was 13 pounds. In the latest weekly data, steer carcass weights were 880 pounds, 4 pounds less a year ago (figure 2). Seasonally, carcass weights should increase into the fall but are expected to be much lower than one here ago as a result of a much better managed slaughter cattle marketing flow than compared to last year.

Figure 2. Steer Dressed Weight, Federally Inspected, Weekly



Data Source: USDA-AMS. Updated July 28, 2016.

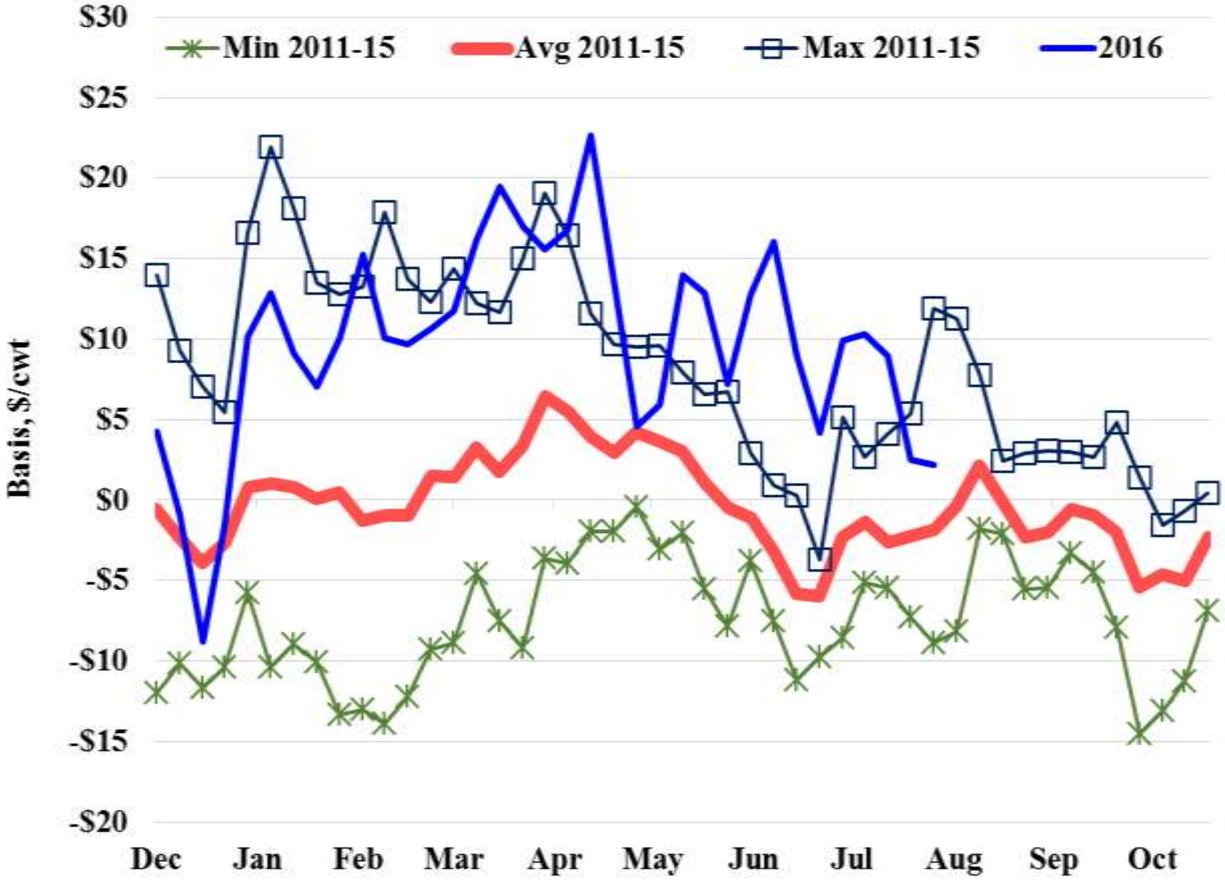
Huge strides in regaining currentness in feedlot marketings have been made this year and this has helped cattle feeders regain some leverage. With under two months to go until expiration of the August futures contract, the basis (cash price minus futures contract price) was around +$10 per cwt. Normally the August contract basis would have narrowed more by this time of year. The deep discount in August futures relative to the current cash price incentivized cattle feeders to market cattle early and hold on to the basis premium. This was evident in the recent cattle on feed inventory data.

However, it appears a basis change is in the wind. The long-lived futures market discounts are on their way out and a narrowing of the basis is on its way in.

With a few weeks to go until expiration of the August futures contract, the Iowa-Minnesota price is close to par with the August futures contract and only around $2 per cwt above the October futures contract (figure 3).

Basis information is a critical part of forward pricing and spot market decisions. Many cattle feeders are interested in pricing fed cattle with a basis forward contract and many packers stand ready to provide a basis for the month of delivery priced off the appropriate delivery month futures price. Once the basis bid is accepted the transaction price will move in lock-step with the futures market price.

Figure 3: October Fed Cattle Basis: Iowa-Minnesota Negotiated Weighted Average Slaughter Steer Price Minus August Live Cattle Futures Price, Weekly



Data Source: USDA-AMS and CME Group. Updated August 1, 2016.

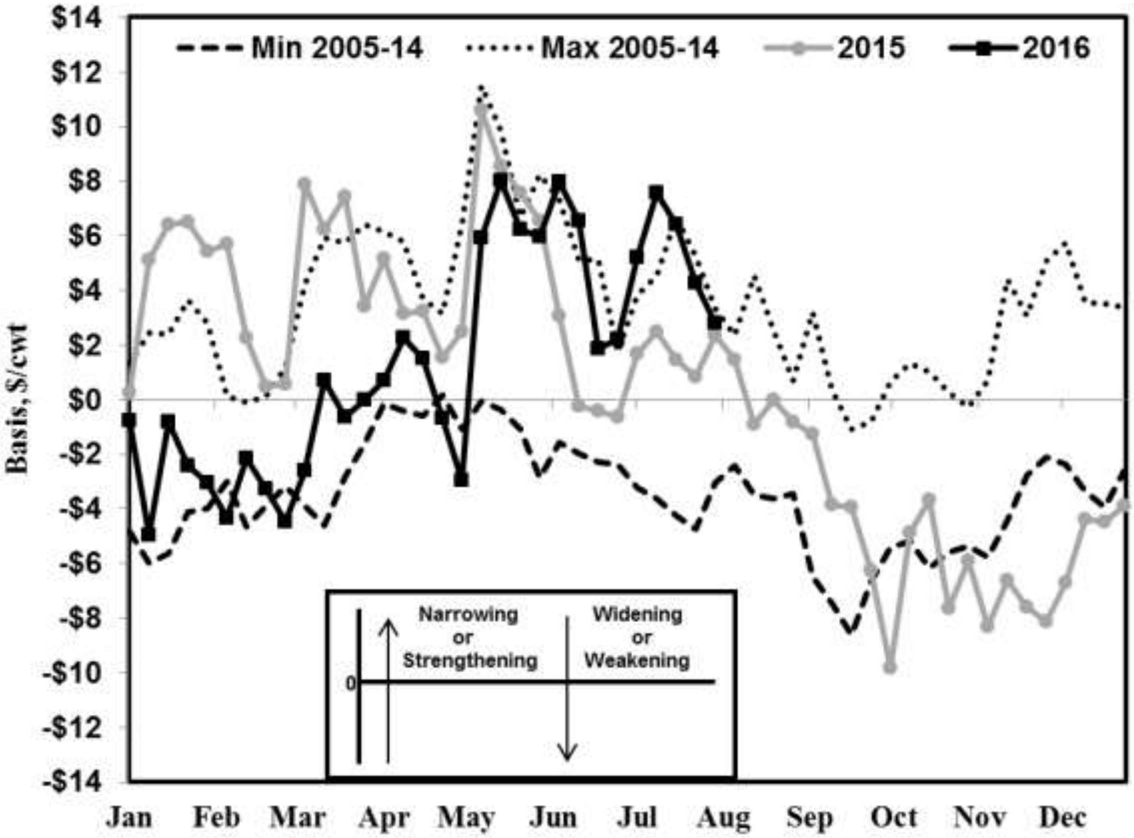
Packers do not provide this service for free and implicitly deduct a risk transfer premium. Since packers are assuming the basis risk, or cattle feeders are transferring the basis risk to packers, packers typically adjust a historical basis estimate by some amount that represents their added risk. Figure 4 provides a historical picture of the Iowa-Minnesota fed steer basis. Basis risk is eliminated for the cattle feeder but futures market hedging or options to should be used simultaneously to reduce price level risk.

The USDA Agriculture Marketing Service National Weekly Direct Slaughter Cattle – Prior Week Slaughter and Contract Purchases Report (LM_CT153), issued each Monday, provides weekly fed cattle volume contracted with related basis levels. These basis forward contracts provide information about packers' view of the future market for fed cattle and their availability of fed cattle supplies for a particular period. However, this is only one collective view of expectations regarding future supply and demand conditions and the market can be shocked by new information, resulting in the need to reassess what the new equilibrium price will be in the future.

Figure 5 displays the distribution (minimum basis, maximum basis, and weighted average basis) of basis forward contracts for the next 12 months. Forward basis levels are lower, but not much lower than what have been observed in the market currently and in the ballpark of historical basis levels. Knowing this should help feedlots as they evaluate new offers from packers.

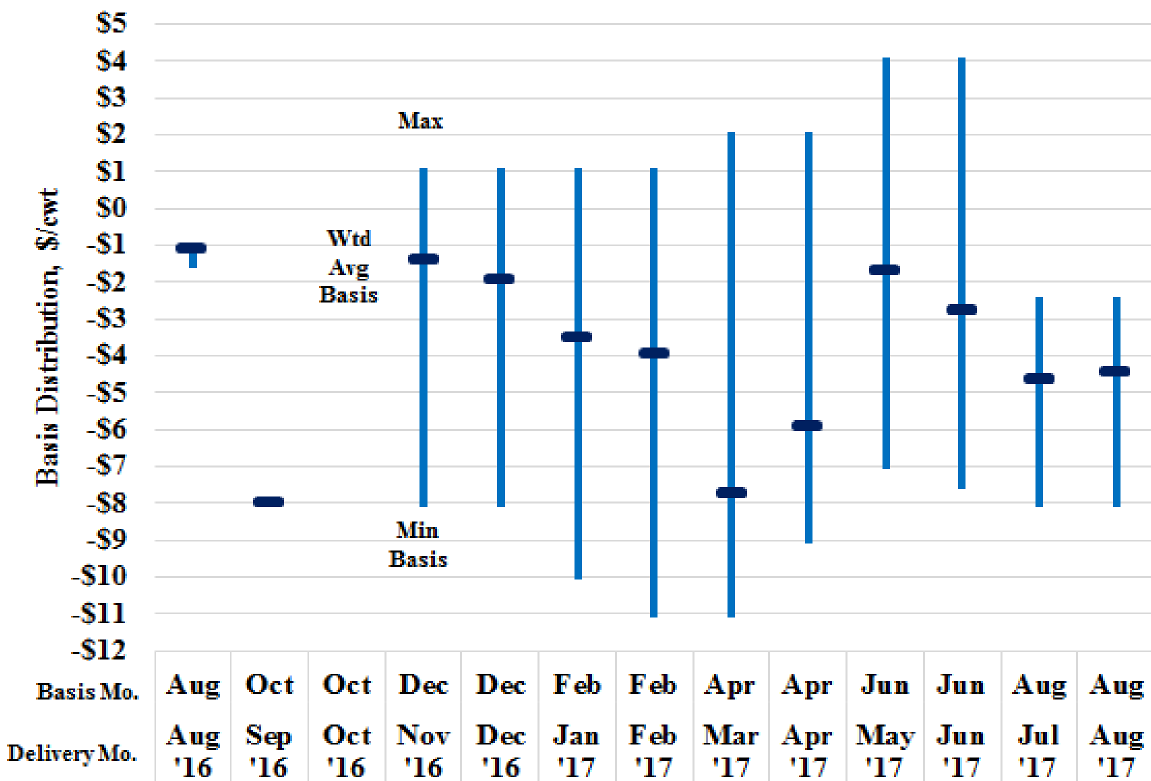
With the long sustained positive basis to futures that persisted for much of the year, there had been little interest on the part of feeders to basis forward contract cattle anywhere close to par with the deferred futures. However, the situation appears to have changed. Taking price protection with basis forward contracts could become more attractive if historical basis levels prevail.

Figure 4. Iowa-Minnesota Fed Steer Basis, Negotiated, Weighted Average of All Grades



Data Source: USDA-AMS. July 29, 2016.

Figure 5. Basis Distribution, National Forward Contract Purchase Slaughter Cattle



Data Source: USDA-AMS. Updated August 1, 2016.

Lee Schulz

Another Year, Another Bumper Crop

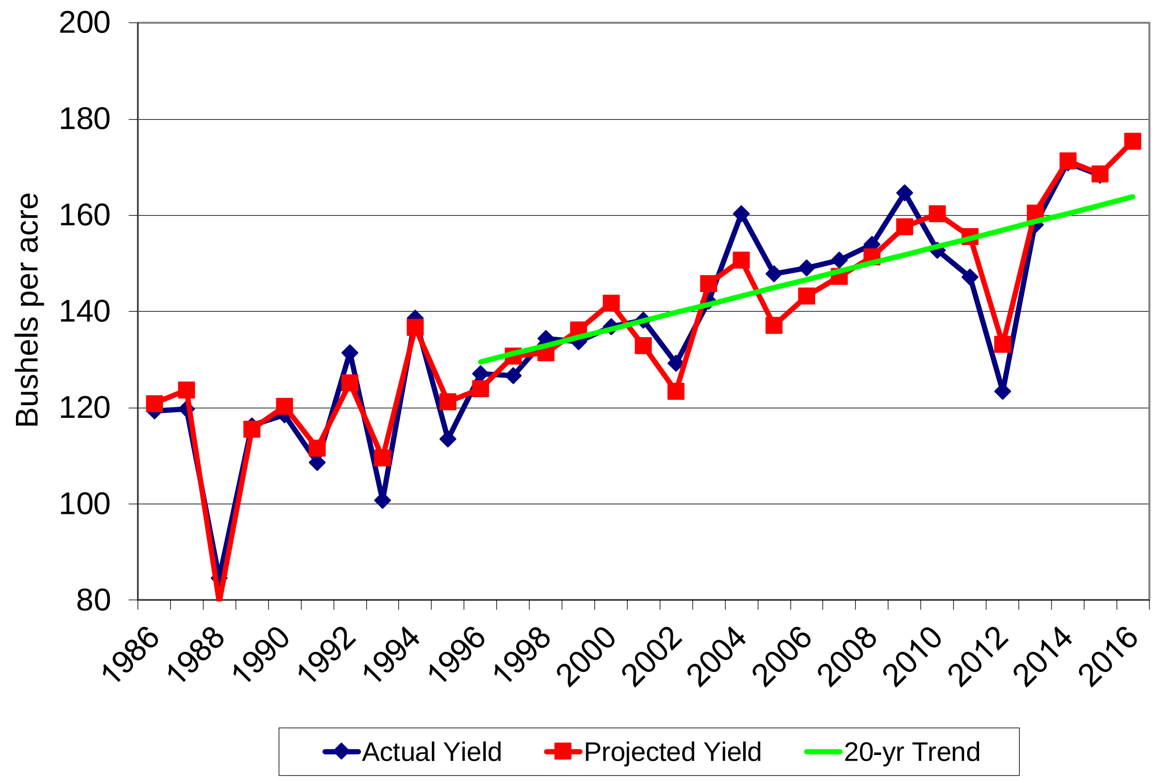
If crop conditions continue to hold up, the string of great crops will continue in 2016. And while crop demands remain strong, it's the supply situation that will dictate prices for the crops growing in the fields. And despite the heat and some dry spells this summer, the crops look good and the markets are adjusting quickly to another great production year.

Corn and soybean demand is being projected at record levels by USDA. Feed demand is set at 5.5 billion bushels as basically all of the livestock sectors are expected to continue to grow as we enter 2017. Ethanol production has been on record pace through the 1st half of 2016. Thus, USDA projects nearly 5.3 billion bushels of corn from the 2016/17 crop will be used for ethanol. Food, seed, and other industrial demand for corn is holding steady at roughly 1.4 billion bushels. And corn exports have been stronger than anticipated, given the strength of the dollar. Projections for 2016/17 corn exports are holding over 2 billion bushels. Combined, projected corn demand is set at 14.2 billion bushels. That's 450 million bushels more than the current record for corn usage, set with the 2014/15 crop.

A similar demand story holds for soybeans. Domestic crush is projected to exceed 1.9 billion bushels. Seed and other domestic uses jumped with the increase in soybean plantings. And soybean export demand is expected to set another record. So overall soybean demand is approaching 4 billion bushels, running over 100 million bushels above record pace. The crop markets are not having a problem finding demand. The issue is the giant waves of crop supplies we have had over the past four years.

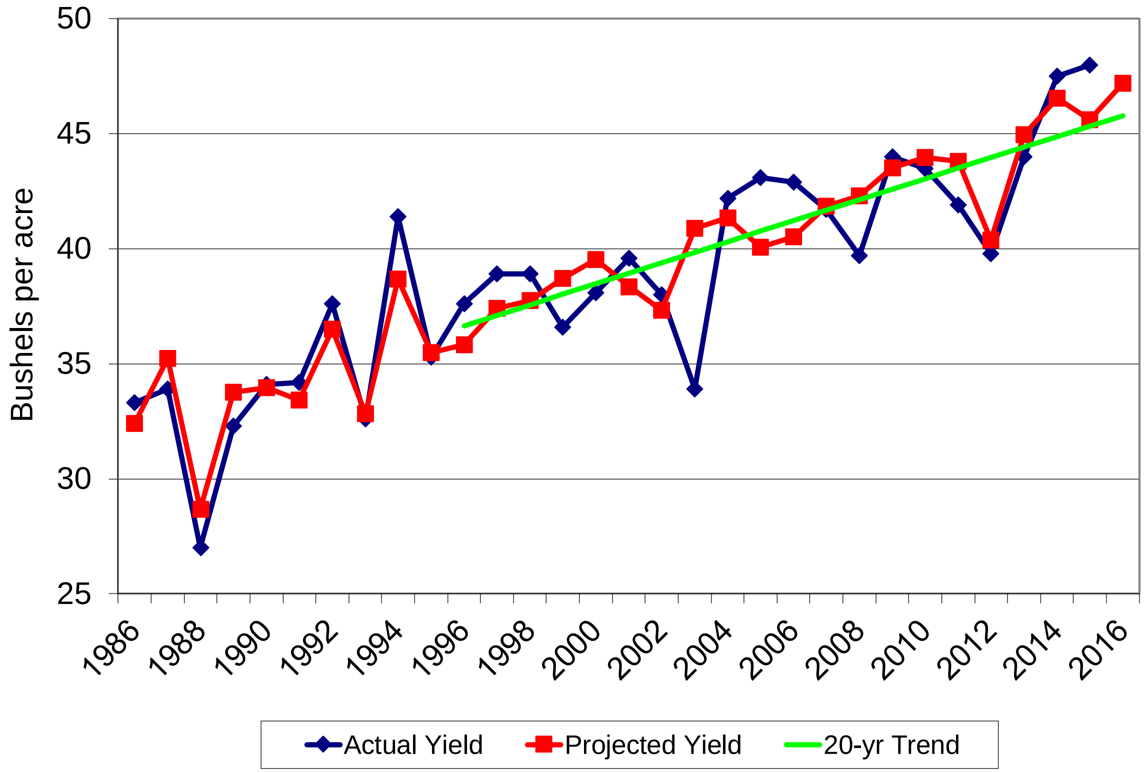
With 76% of the nation's corn crop and 71% of the nation's soybean crop rated "Good" to "Excellent" in the latest USDA Crop Progress report, the table is set for another bumper set of crops. As I've mentioned in previous summer articles in the Iowa Farm Outlook, the crop conditions data from the Crop Progress reports provides a pretty good snapshot of the crops and is useful to project the final crop yields we'll harvest this fall. Figures 1 and 2 show the results of those projections for the upcoming harvest. In the figures, the smooth green line represents the 20-year trend for yields, the blue line with diamonds provides the actual yields since 1986, and the red line with squares shows the projected yields based on the crop conditions.

Figure 1. Corn yield projection, based on crop conditions.



For corn, the 76% Good to Excellent rating translates to an average national yield of 175 bushels per acre. If realized, that would be a record, surpassing the 2014 yield of 171 bushels per acre. Given the 94 million acres planted to corn this spring, that would also indicate potential production exceeding 15 billion bushels this year. For soybeans, the 71% Good to Excellent rating points to a national yield of 47 bushels per acre, not quite the record, but pretty close. It would be the 3rd highest national soybean yield, trailing only the 2014 and 2015 crops. But with the increase in soybean planting this year, production could be a record.

Figure 2. Soybean yield projection, based on crop conditions.



So it is another year, another set of bumper crops. Throughout the spring and early summer, the crop markets ran higher on the strong demand picture and the potential for weather problems. But as the growing season has progressed and the weather issues have not substantially impacted production, prices have retreated significantly. Figures 3 and 4 show two sets of price projections for the current crops. The red lines display the midpoints of USDA's season-average price range. The blue lines detail my projection of season-average prices based on the futures prices at the close of each day.

For both crops, it has been a case of the market giveth and the market taketh away. For corn, the USDA has maintained a fairly stable price projection. Currently, it's at $3.40 per bushel. The futures market indicates stronger prices for the 2016 corn crop for the 1st half of 2016. But as the calendar turned to July and the corn crop still looked good, corn futures have sunk and now the futures based price projection has moved below $3.25 per bushel.

For soybeans, USDA has increased its price projection significantly since the spring, with the current projection at $9.50 per bushel. The soybean futures market did the same, but even more aggressively, raising expectations from $8.50 per bushel in early 2016 to nearly $11 per bushel in June. But as with corn, the strong crop ratings have brought the bears back in the market. And currently, the USDA and futures based projections are equal at $9.50.

Figure 3. Projected 2016/17 season-average prices for corn.

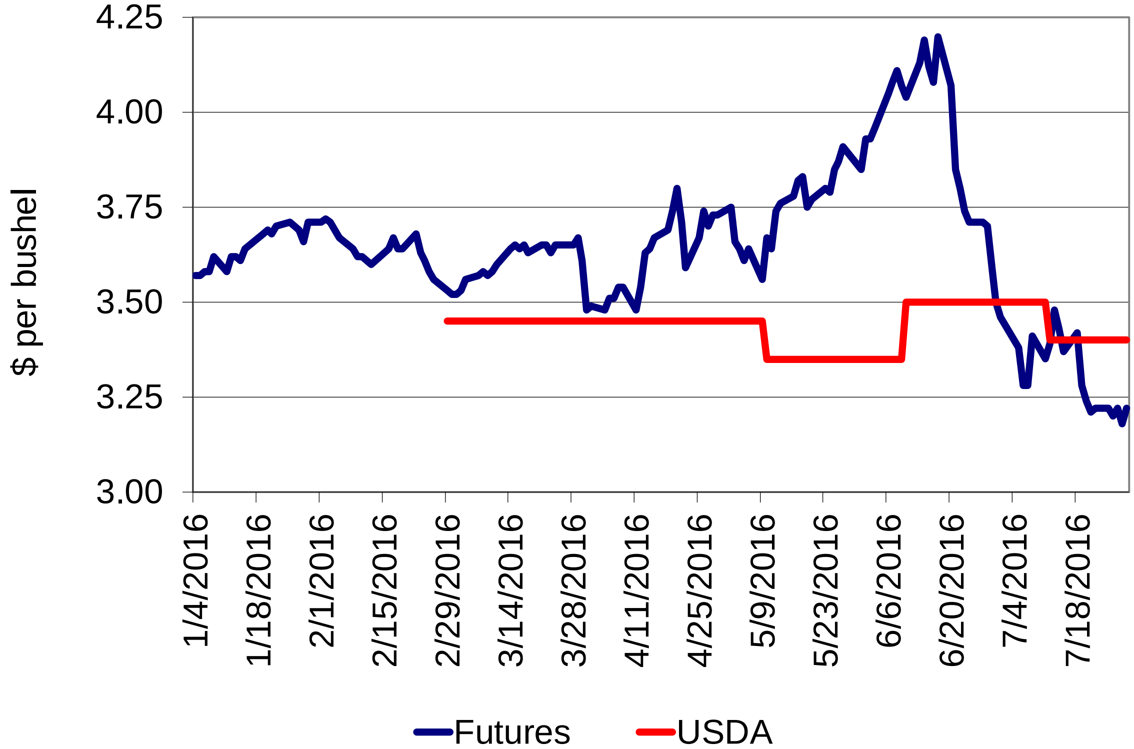
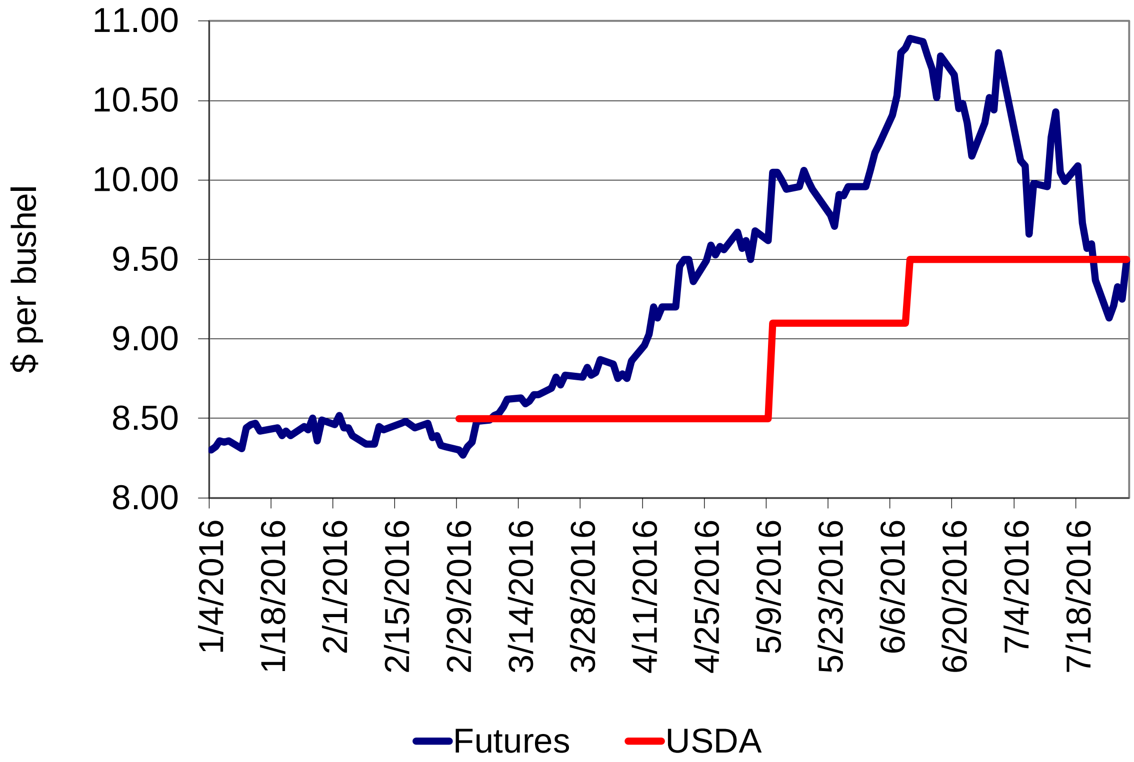
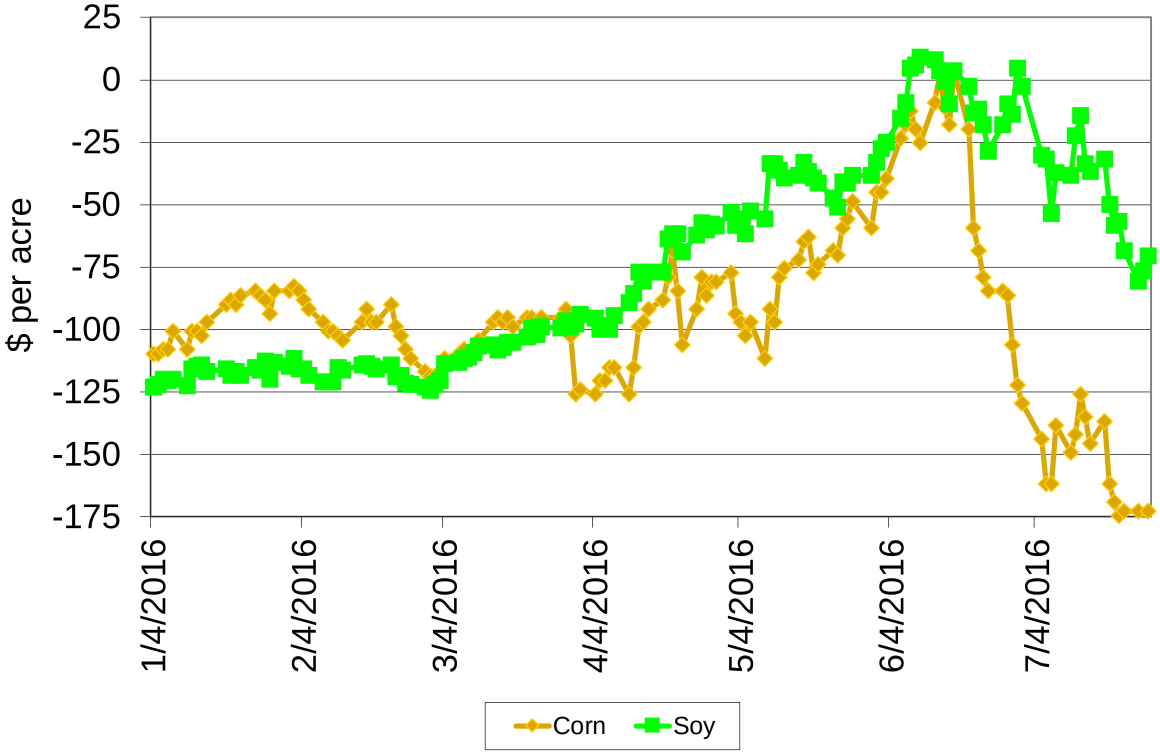


Figure 4. Projected 2016/17 season-average prices for soybeans.



However, if the crops are as large as the crop ratings model suggest, then further price erosion can be expected. The spring and early summer run had put projected crop margins at breakeven for both crops. But the price drops have left the breakeven margins in the rear view mirror. In many ways, this pattern is a repeat from last year, where June provided a breakeven moment that disappeared with the growing crops. And I fear last year's pricing pattern will continue to be replayed, with prices moving lower as we approach harvest.

Figure 5. 2016/17 projected crop margins.



As Figure 5 shows, soybean margins haven't retreated as far as corn, but both crops have experienced a sizable drop. August weather tends to have a larger impact on soybeans, hence the market still has a bit of weather premium built into prices. Given the corn crop's advanced stage, an early freeze is not much of a threat. The last major concern for the corn crop would be hotter than usual August nights that would shorten the grain fill period and reduce yield. But barring an assist from Mother Nature, it looks as though we are repeating the crop market story of the past few years: supplies exceeding demands, with lower prices and margins.

Chad Hart

Dr. Chad Hart
Associate Professor of Economics
Extension Crop Marketing Specialist
478F Heady Hall
Phone: (515) 294-9911
Fax: (515) 294-0221
chart@iastate.edu
www2.econ.iastate.edu/faculty/hart/

Dr. Lee Schulz
Assistant Professor of Economics
Extension Livestock Economist
478 Heady Hall
Phone: (515) 294-3356
Fax: (515) 294-0221
lschulz@iastate.edu
www.econ.iastate.edu/people/faculty/schulz-lee