IOWA STATE UNIVERSITY
Extension and Outreach

Iowa Farm Outlook

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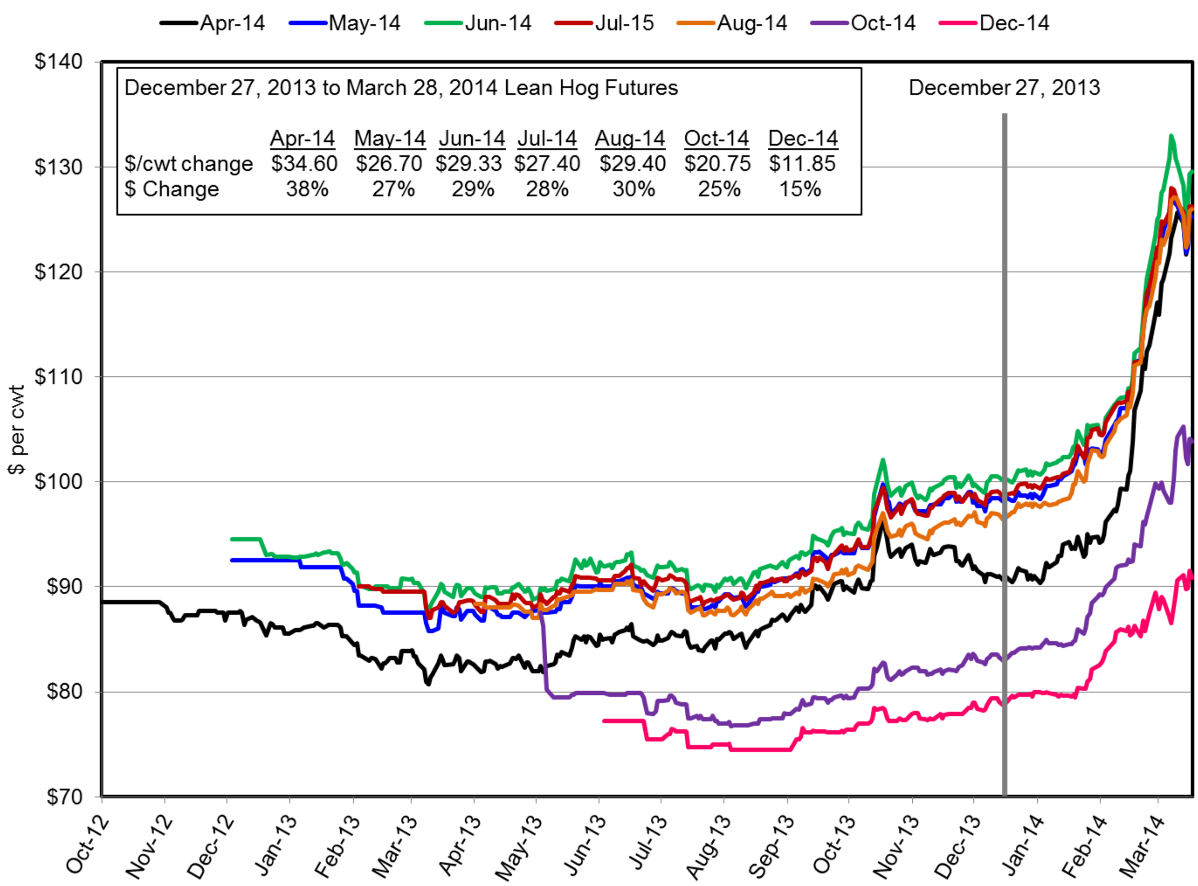
Hog Futures Price Rally Looks to USDA Hogs and Pigs Report for Confirmation

Hog futures have mounted an impressive rally since the beginning of 2014. Much of the run-up has been due to speculation that the spread of Porcine Epidemic Diarrhea Virus, or PEDv, has created a significant tightening of supplies that will be felt mostly during the June through August period. This anticipatory rally has bolstered hog futures by +25% to +30% through the October 2014 contract (table 1). June through August is a time of the year when hog supplies are seasonally low so any expectations of tighter than anticipated supplies can chase prices upward rather decisively. There are still a fair amount of questions to be answered regarding the risk posed by PEDv to hog supplies longer-term and until these questions are answered expect a significant risk premium to be priced into hog futures.

Figure 1. CME Lean Hog Futures Prices

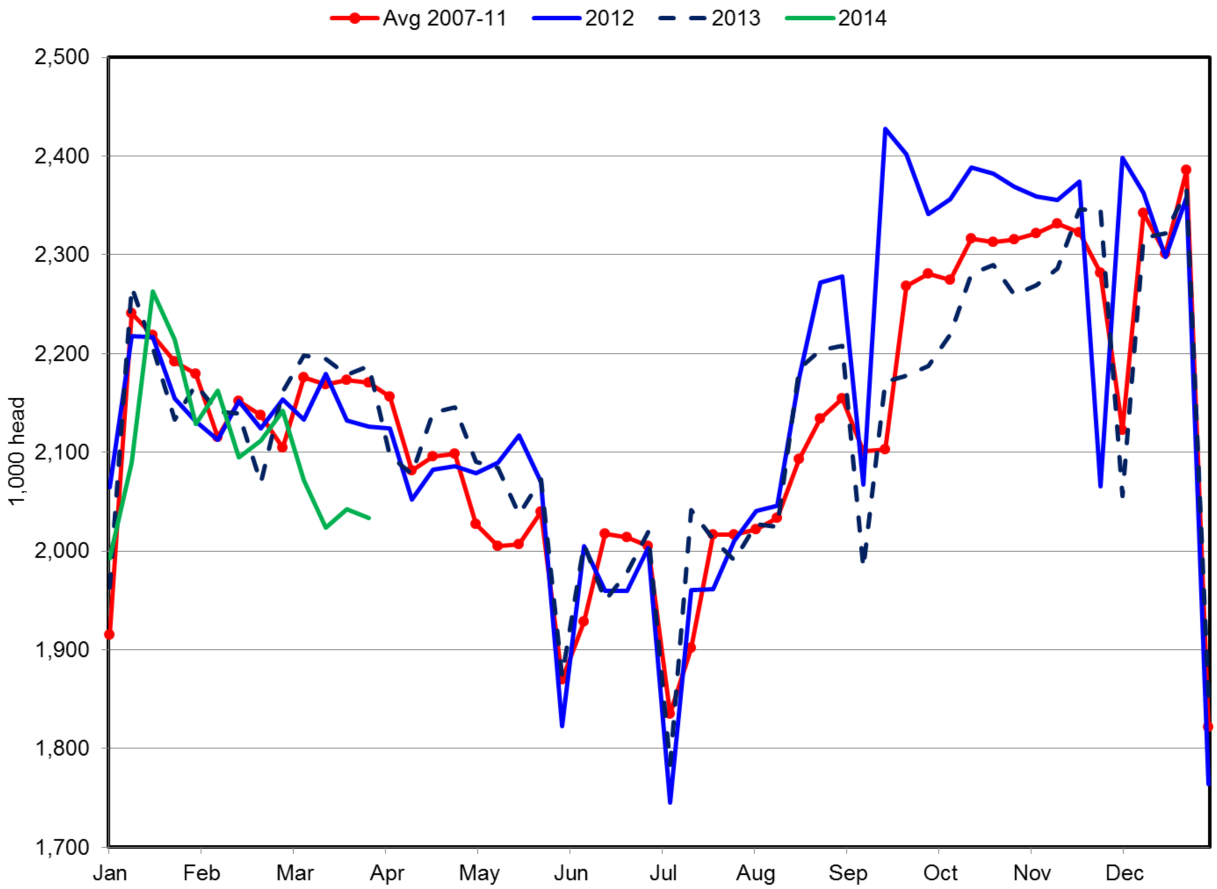


Data source: CME Group, compiled by BarChart.com

Market participants have thus far primarily relied on hog slaughter data for an indication of the impact of PEDv on pork supply. December 2013 was the beginning of the time period in which the market was expected to see slaughter impacts of PEDv. This was based on the assumption that pig losses reached significant levels in mid-June 2013, a time that corresponds to marketings beginning in December 2013. Hog slaughter in December 2013 was 2.4% below previous year levels and through the first thirteen weeks of 2014 hog slaughter has been 2.3% below 2013 levels. Weekly hog slaughter in the last four reported weeks has averaged 6.7% below year ago levels. Thus far the market should be cautious about relying solely on year over year slaughter data.

Remember, high feed costs in late-2012 and early-2013 forced more hogs into the marketplace than this year, when inventories were smaller and lower feed costs incentivized feeding hogs to higher weights. However, given the latest slaughter numbers, the market is likely to see forthcoming totals fall below what USDA projected in the December Hogs and Pigs report. The December report suggested only about a 1 percent decline in market hog inventories.

Figure 2. Weekly Federally Inspected Hog Slaughter



Data source: USDA/NASS, compiled by LMIC

On March 28 USDA released the Quarterly *Hogs and Pigs Report* reporting inventories as of March 1, 2014. The estimates provide another measuring stick for the supply of hogs on the ground and possible hog slaughter numbers during the spring and summer months. Table 1 provides a summary of the report.

U.S. Hogs and Pigs

All inventory numbers came in significantly higher than pre-report estimates. The question now becomes how much will the futures market react to the report. The market had an anticipatory rally beginning early 2014 and this report, in several regards, does not favor a confirming rally. But, with the lack of a clear indication yet of forthcoming supplies the psychology of the market may remain somewhat in flux, ever responding to new signals as they become available.

The total market hog inventory was down 3.3% from a year ago at 62.889 million head and the breeding herd inventory, at 5.851 million head, was up 0.3% compared to a year ago. This March 1 breeding herd inventory was 94,000 head larger than the December 1 inventory, only three months ago. This increase in in the breeding herd over the last three months comes at a time when sow slaughter has been down 1.7% but gilt slaughter has actually been 0.2% higher compared to a year ago. And, let’s not forget PEDv impacts on breeding stock during the Dec - Feb period. Combined, these factors would have likely negated any growth.

The inventory of pigs less than 50 pounds, at 18.852 million head, was down 4.0% and the inventory of pigs 50 to 119 pounds, at 15.717 million head, was down 3.3%. Pig inventory weighing 120 to 179 pounds, at 12.793 million head, was down 2.9% while inventory weighing 180 pounds and over, at 10.436 million head, was down 4.8%. These pipe-line and near-market ready hog supplies seem above what is currently priced into the market as analyst expected much larger year over year declines.

The Dec-Feb pigs saved per litter, at 9.53 pigs, was down 5.5% compared to a year ago; further confirming PEDv's impact on the industry. Prior to the Dec-Feb 2013/14 pigs saved per litter estimate the industry had averaged a 1.4% year over year increase the last five years for the Dec-Feb period. The Dec-Feb sows farrowing, at 2.867 million head, was up 2.8%. Thus netting only a 2.8% decrease in the Dec-Feb pig crop, but the pig crop of 27.316 million was still the lowest Dec-Feb pig crop since 2007.

Table 1. U.S. Quarterly Hogs and Pigs Report

	2013	2014	2014 as % of 2013	Pre-Report Estimate	Actual - Estimate
March 1 inventory 1/					
All hogs and pigs	65,072	62,899	96.7	94.6	2.1
Kept for breeding	5,836	5,851	100.3	99.4	0.9
Market	59,236	57,048	96.3	94.1	2.2
Under 50 pounds	18,852	18,101	96.0	93.5	2.5
50-119 pounds	16,251	15,717	96.7	94.2	2.5
120-179 pounds	13,169	12,793	97.1	94.1	3.0
180 pounds and over	10,965	10,436	95.2	95.2	0.0
Farrowing 2/					
Dec-Feb farrowed 3/	2,788	2,867	102.8	100.0	2.8
Mar-May intentions	2,816	2,884	102.4	100.5	1.9
Jun-Aug intentions	2,902	2,960	102.0	100.9	1.1
Dec-Feb pigs per litter 3/	10.08	9.53	94.5	96.4	-1.9
Dec-Feb pig crop 1,3/	28,099	27,316	97.2	96.4	0.8

Full report: http://usda01.library.cornell.edu/usda/current/HogsPigs/HogsPigs-03-28-2014.pdf

Pre-Report estimates compiled by Urner Barry.

1/ Thousand head. 2/ Thousand litters. 3/ Dec-Feb 2012/2013 and 2013/2014.

Mar-May 2014 sows farrowing, at 2.884 million head, would be up 2.4% compared to a year ago and Jun-Aug 2014 sows farrowing, at 2.960 million head, would be up 2.0%. The potential for strong and sustained profits this next year and the opportunity to offset losses from PEDv continues to encourage producers to maximize sows farrowing but the initial farrowing intention estimates may be too optimistic given the size of the breeding herd. And, if the number of pigs saved per litter continues to reflect a direct impact from PEDv as was experienced this last quarter, there could be very limited growth potential in the pig crops in the upcoming quarters.

Iowa Hogs and Pigs

Table 2 provides a summary of the March 1, 2014 hogs and pigs estimates for Iowa. The total hogs and pigs inventory, at 19.800 million head, was 1.5% below a year ago. The total market hog inventory was down 1.5% at 18.790 million head and the breeding herd inventory, at 1.010 million head, was down only 1.0%. Recall, the March 1 breeding herd inventory for the U.S. was 94,000 head larger than the December 1 inventory and Iowa attributed 40,000 head to that increase according to the report. Taking the report as is, this is the largest quarter over quarter increase in the Iowa breeding stock since 1997.

The inventory of pigs less than 50 pounds, at 4.720 million head, was down 5.4% while the inventory of pigs 50 to 119 pounds, at 5.830 million head, was up 0.5%. Pig inventory weighing 120 to 179 pounds, at 4.950 million head, was up 1.0% while inventory weighing 180 pounds and over, at 3.290 million head, was down 2.9%.

Table 2. Iowa Quarterly Hogs and Pigs Report

	2013	2014	2014 as % of 2013
March 1 inventory [1/]			
All hogs and pigs	20,100	19,800	98.5
Kept for breeding	1,020	1,010	99.0
Market	19,080	18,790	98.5
Under 50 pounds	4,990	4,720	94.6
50-119 pounds	5,800	5,830	100.5
120-179 pounds	4,900	4,950	101.0
180 pounds and over	3,390	3,290	97.1
Farrowing [2/]			
Dec-Feb farrowed [3/]	465	495	106.5
Mar-May intentions	475	500	105.3
Jun-Aug intentions	485	510	105.2
Dec-Feb pigs per litter [3/]	10.35	9.90	95.7
Dec-Feb pig crop [1,3/]	4,813	4,901	101.8

Full report: http://usda01.library.cornell.edu/usda/current/HogsPigs/HogsPigs-03-28-2014.pdf
[1/] Thousand head. [2/] Thousand litters. [3/] Dec-Feb 2012/2013 and 2013/2014.

The Dec-Feb pigs saved per litter, at 9.90 pigs, was down 4.3% compared to a year ago. However, because Dec-Feb sows farrowing, at 495,000 head, was up 6.5%, the pig crop for this period was up 1.8%. The survey continues to show that producers will try to offset the impact of death losses due to PEDv by increasing their breeding programs. With the large changes in the pigs saved per litter estimates, sows farrowing, and farrowing intentions and implications for pig crops it will be imperative to verify these numbers. The slaughter numbers are the best data we have and in the next report USDA will go back and update, if needed, the pig crop numbers to match the slaughter data.

Commercial Hog Slaughter Projections and Lean Hog Price Forecasts

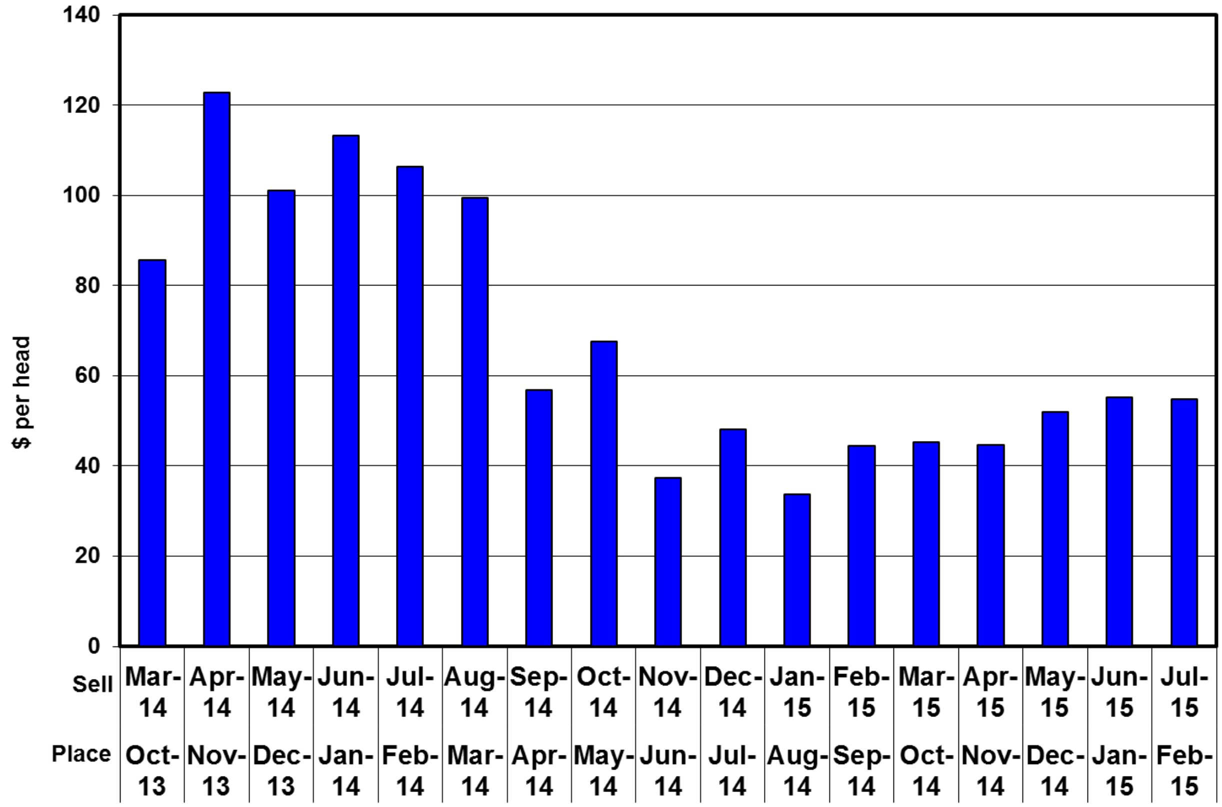
Table 3 contains the Iowa State University price forecasts for the next four quarters and the quarterly average futures prices based on March 31, 2014 settlement prices. The futures price forecasts are adjusted for a historic Iowa/Southern Minnesota basis. The table also contains the projected year over year changes in commercial hog slaughter. Taking the report as is, using pig crop numbers for Dec-Feb and farrowing intentions for Mar-May and Jun-Aug to project supplies, one would expect hog slaughter in 2014.Q2 to be down about 3.7%, 2014.Q3 slaughter to be down 4.5%, 2014.Q4 slaughter to be down 0.9%, and 2015.Q1 slaughter to be up 2.9% compared to previous year levels.

Table 3. Commercial Hog Slaughter Projections and Lean Hog Price Forecasts, 2014-15

	Year over Year Change In Commercial Hog Slaughter (percent)	ISU Model Price Forecast ($/cwt)	CME Futures (03/31/14) Adjusted for Negotiated IA/So MN Basis ($/cwt)
Apr-Jun 2014	-3.69	122-128	125.27
Jul-Sep 2014	-4.51	110-118	113.31
Oct-Dec 2014	-0.87	90-95	92.34
Jan-Mar 2015	+2.86	81-91	85.26

Figure 1 is a graph of the computed wean to finish "crush" margins (crush margin = lean hog – weaned pig – corn – soybean meal) based on the futures market at the close of the futures market on Monday, March 31. Margins suggest returns well above breakeven levels in the coming months reflecting strength in lean hog prices. After October, margins may tighten if current futures market prices for lean hogs, corn, and soybean meal prove to be a true prediction.

Figure 3. Projected Wean to Finish Crush Margin, March 31, 2014



Source: ISU Livestock Crush Margins. Available at http://www.econ.iastate.edu/margins/.

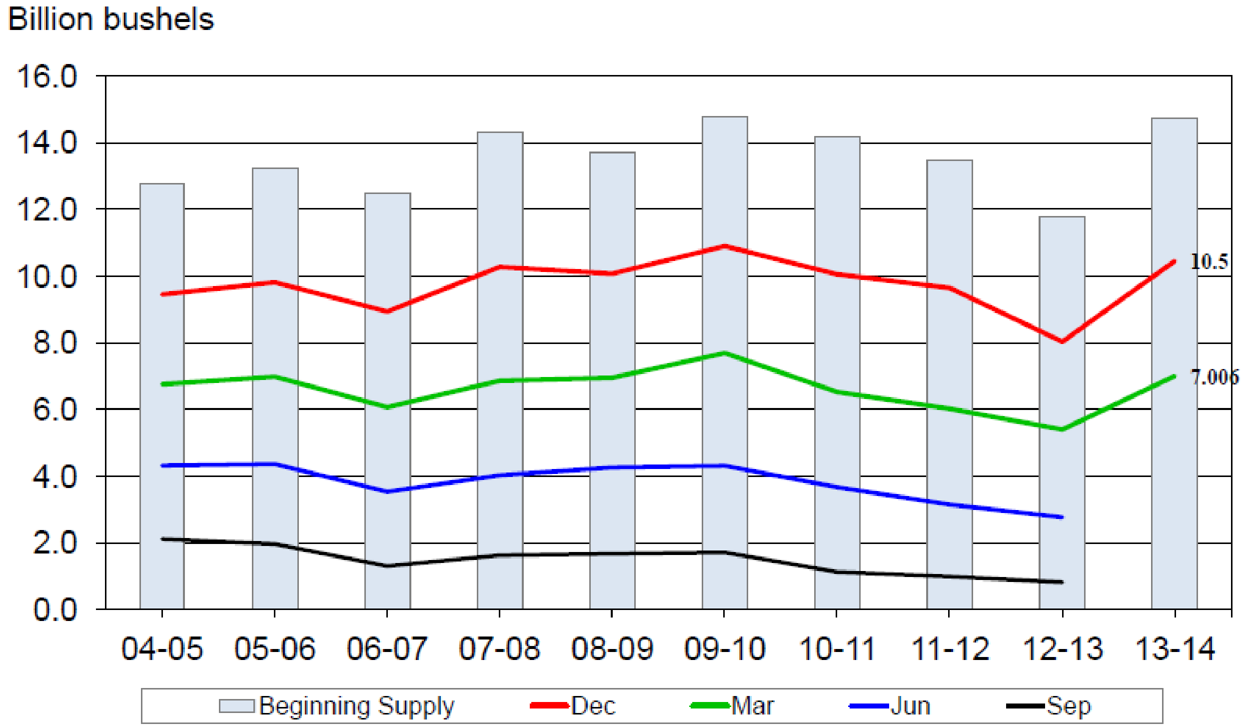
Lee Schulz

Springing into the 2014 Crop

The crop markets have been on quite the rally recently. Old crop prices have started to reward storage. While for the new crops, projected season-average prices for corn and soybeans have moved above projected production costs. This rally is based on several factors: the slow movement of the South American crops, the instability in the Black Sea region, continuing strong demand for U.S. crops both internationally and domestically, and the lingering dry conditions across the western U.S. At the end of last month, USDA provided two reports looking into the situations for old and new crop corn and soybeans. The markets, for the most part, have reacted bullishly to those reports.

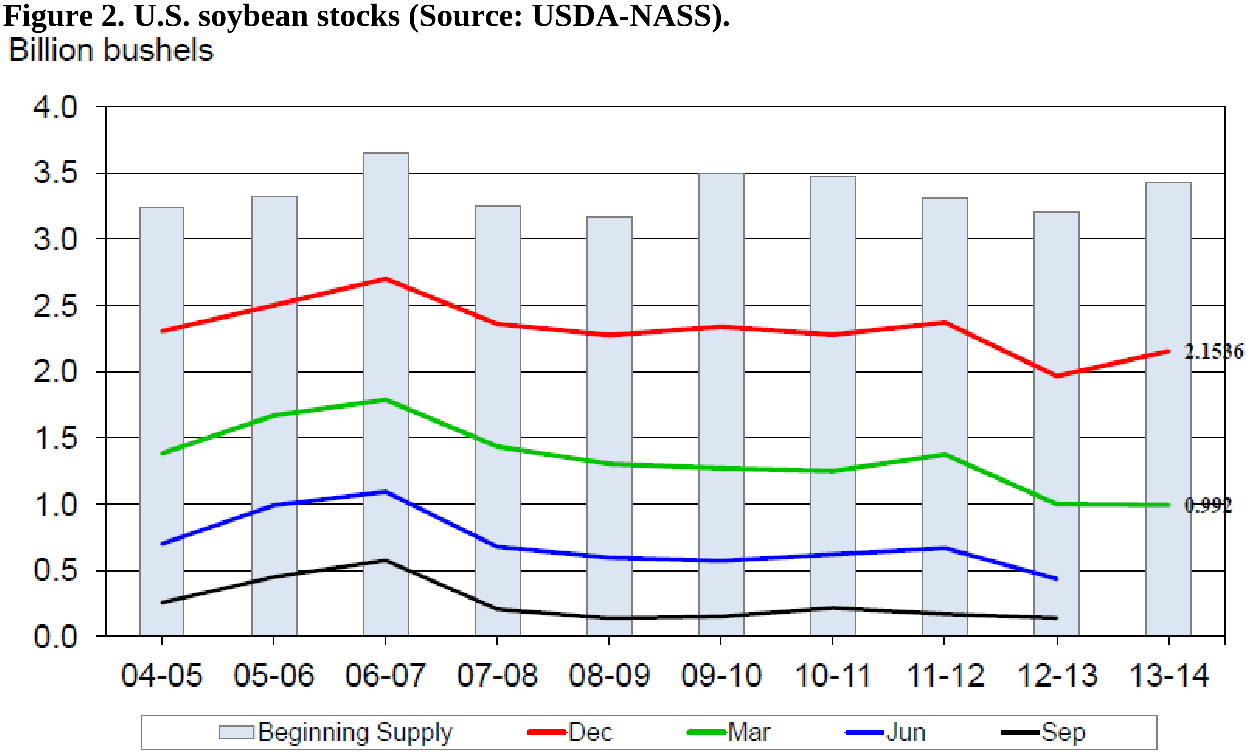
Let's start with the stocks report. Figures 1 and 2 below show the picture for corn and soybean movement over the past decade. The 2013 corn marketing year started with nearly 15 billion bushels in supply. Over the course of the first six months in the marketing year, nearly 8 billion bushels have been utilized. Overall corn demand is as strong as it has ever been. Compared to last year, 800 million more bushels of corn were consumed in the 2nd quarter. So the corn market has experienced a consistent and strong rebound in demand across the board, from ethanol and exports to feed and sweeteners.

Figure 1. U.S. corn stocks (Source: USDA-NASS).



Soybean stocks have worked their way down quickly as well. Export demand has led the way as all of our top five soybean export markets have provided double digit growth this year. For the 2nd quarter, soybean disappearance is up 20 percent. So U.S. soybean stocks will remain tight, at least until the next crop.

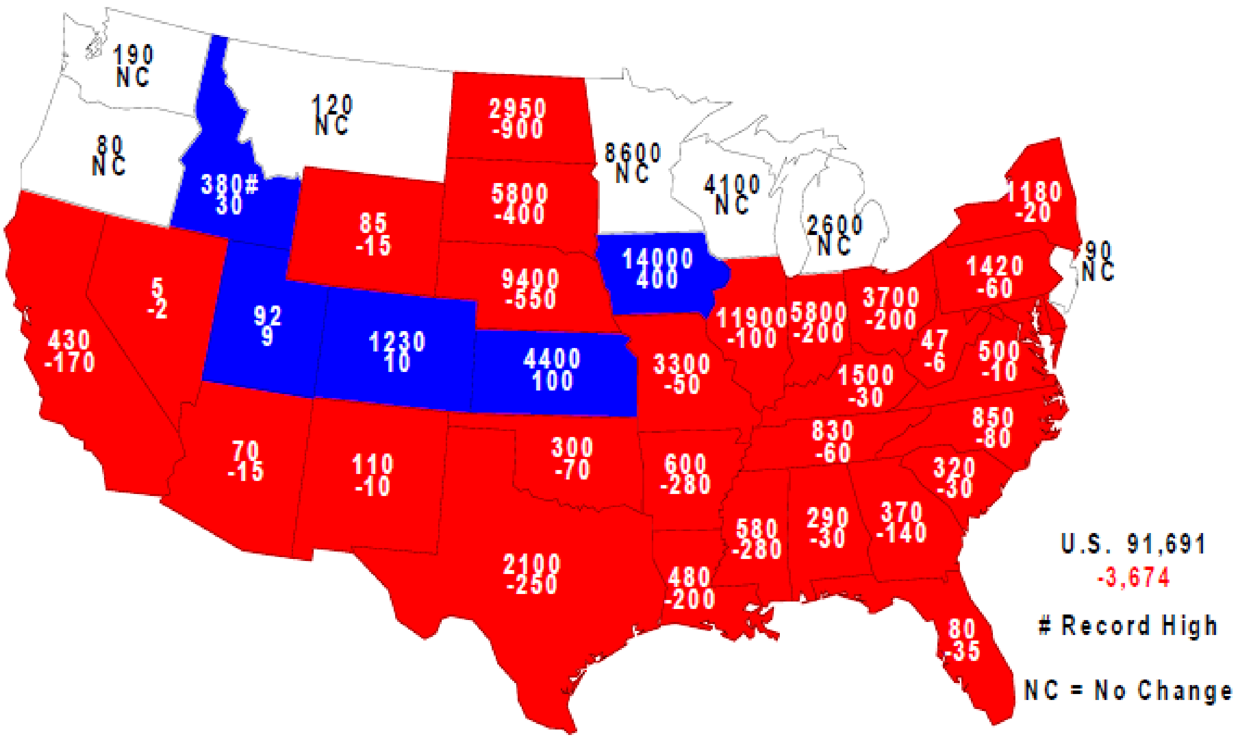
Figure 2. U.S. soybean stocks (Source: USDA-NASS).



Crop demands are working through corn and soybeans at a strong pace. The question for the 2014 crops is whether that pace is strong enough. Along with the stocks report, USDA published the prospective plantings report. These acreage numbers are based on a survey of roughly 84,000 farmers across the U.S. And the survey indicated that U.S. farmers are shifting a significant number of acres from corn to soybeans this spring. Overall, the numbers show an additional 1.1 million acres entering crop production. Some of these acres are from the prevented plantings last spring. So while crop prices are significantly lower than they were last spring, more acreage is still coming into production.

For corn, farmers in only five states indicated they would plant more corn. The key one is Iowa as we recapture those prevented planting acres. That would bring our corn acreage to an even 14 million acres. But farmers in many states are shifting out of corn. The biggest drops are in the plains states as North Dakota, South Dakota, and Nebraska are all reducing corn area by at least 400,000 acres each. But it’s not just the plains that are shifting. Illinois, Indiana, and Ohio are each reducing corn by at least 100,000 acres. And there are sizable reductions in the South and Southeast as well. With 91.7 million corn acres, it would be the smallest corn planting in the last three years. So the potential for another record corn crop has decreased slightly with the lighter plantings.

Figure 3. U.S. projected corn acreage (Source: USDA-NASS).



The issue for the soybean market is that basically all of the area that shifted out of corn is headed to soybeans. In fact, while corn lost nearly 3.7 million acres, soybeans picked up nearly 5 million acres. It seems everyone wants to produce soybeans as only two states are projected to decline in soybean area (Missouri and Oklahoma) and only one state is expected to hold steady (Virginia). Everywhere else, soybeans are suddenly the hot commodity. The biggest jumps in soybean acreage are in the northern states. Six states are projected to have record soybean area this spring (North Dakota, South Dakota, Nebraska, Wisconsin, New York, and Pennsylvania). In fact, North Dakota farmers plan to add one million acres to the crop by themselves. With 81.5 million acres in soybeans, it’s not hard to project a record soybean crop this coming fall (weather permitting).

Throughout the fall and winter, the markets lowered the expectations for profits on the 2014 crops as they concentrated on the strong production from 2013. As the temperatures have begun to warm, the heat coming from demand has lifted profit prospects for the new crops. And while soybeans had been the favored crop over the winter, the latest rally has provided a strong lift to corn. So market prices are now working to pull some acreage back to corn. But typically weather events cause some shifting of corn area to soybeans as planting is delayed. It will be very interesting to see how the planting season plays out. Will the colder than usual winter lead to a significantly delayed planting year as we wait for 50 degree soil temperatures? If so, the soybean market will continue to face more pressure than the corn market.

Figure 4. U.S. projected soybean acreage (Source: USDA-NASS).

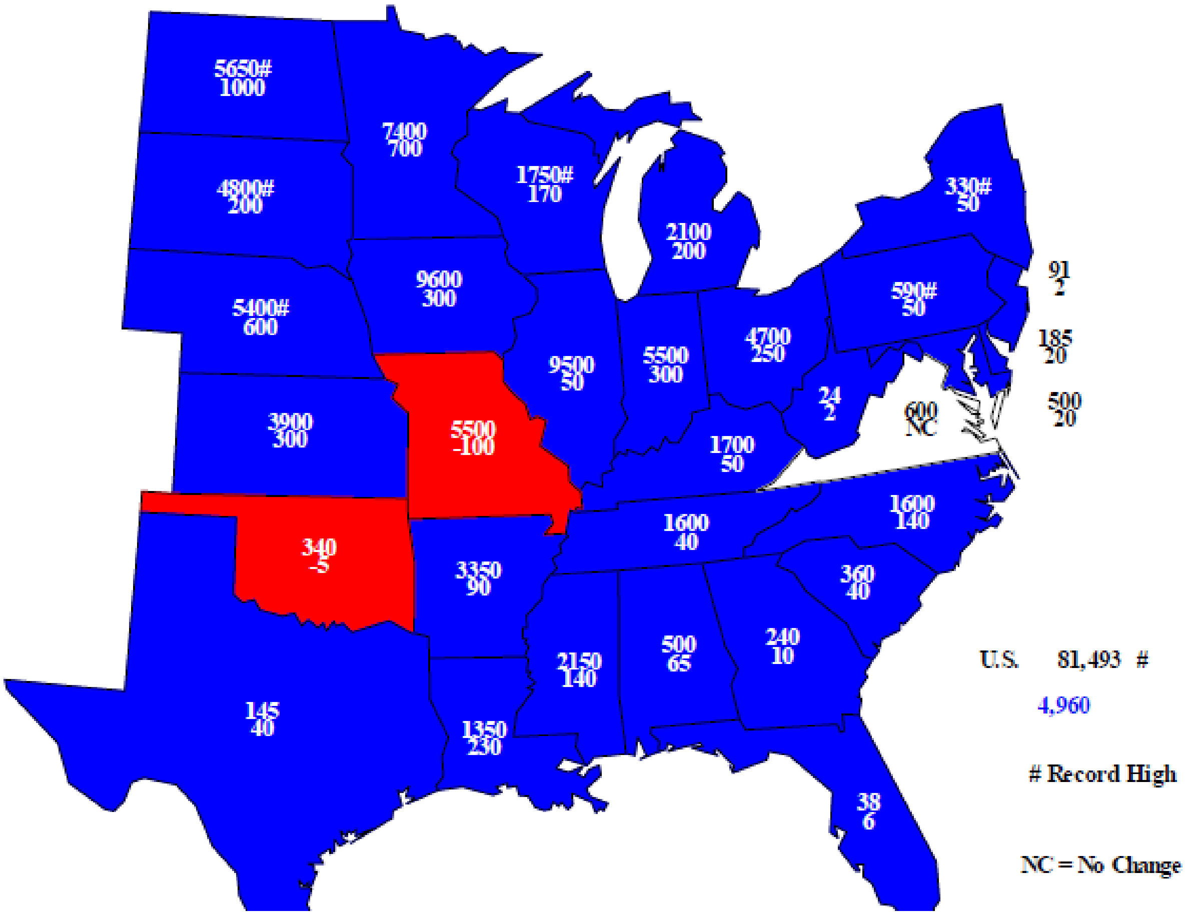
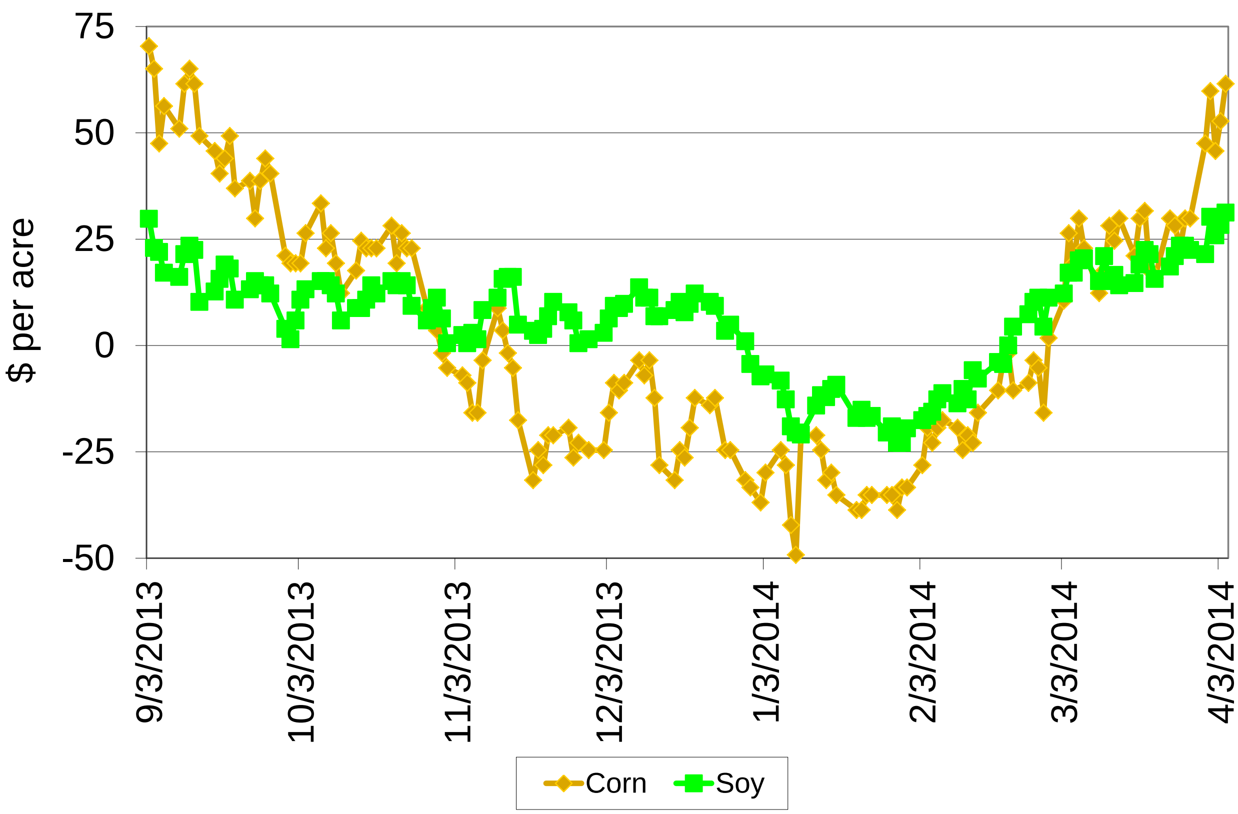


Figure 5. 2014 projected crop margins.



However, as the markets currently stand, both corn and soybeans have profitable prices on the board. Based on our ISU estimated production costs, the corn market is offering around $50 per acre above production costs (given trend yields). The soybean market is offering around $30 per acre. Both of those numbers is up significantly from this winter. And both of these values are significantly better than the projections USDA has for where the 2014 crops will settle out. Currently, the futures markets are aligned with a projection of the 2014 season-average price in the $4.80 to $4.90 range for corn and $11 to $11.40 range for soybeans. Meanwhile, USDA's projections for the same 2014 season-average prices are $3.90 for corn and $9.65 for soybeans. With production costs of $4.50 for corn and $11 for soybeans, the futures markets and USDA are on opposite sides of the price fence. The futures markets are offering some profit, while USDA's projections show losses on the way. Given this situation, I think back to a line I've attributed to my predecessor in this job, Bob Wisner. It's hard to lose money making a profit.

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