

# Iowa Farm Outlook

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## June Hogs and Pigs Report Summary

USDA's June Hogs and Pigs report confirmed what the industry had been suspecting for the past quarter — lingering impacts of the Porcine Epidemic Diarrhea Virus (PEDv). Coming into the report there were broad expectations that: i) market hog inventory would be lower than a year ago, attributed primarily to lower year over year pipeline pig supplies, ii) breeding herd inventory would show some form of expansion as the profit margins seen so far in 2014 would be a driver of expansion, iii) PEDv had impacted the number of pigs per litter and reduced productivity during the Mar-May period, and iv) farrowing intentions for June-August 2014 and September-November 2014 would show the potential for solid growth. Most final estimates fell well below pre-report expectations; generally suggesting 2014 hog supplies may be even tighter than previously believed. As such, the latest hogs and pigs report confirmed much of the recent run-up in lean hog futures prices.

Table 1 provides a summary of the June 1, 2014 hogs and pigs estimates for the United States and Iowa. Revisions were made to past inventory estimates reported in the March 1, 2014 report to bring them in line with final pig crop, official slaughter, death loss, and updated import and export data. Specifically, USDA made an adjustment of 0.2% for the U.S. to the June 2013 total hogs and pigs inventory, an adjustment of -0.4% for the U.S. and -2.1% for Iowa was made to the March-May 2013 pig crop, and an adjustment of -0.4% for the U.S. was made to the June-August 2013 pig crop. The most notable contribution of these revisions is that the previous estimate of the March-May 2013 pig crop was over-estimated. USDA lowered their previous estimate of the March-May sows farrowing by 10,000 head where the entirety of the decrease came in Iowa. The pigs per litter estimates for this period remained the same. This resulted in the March-May 2013 pig crop decreasing by 105,000 head.

### U.S. Hogs and Pigs

The U.S. total hogs and pigs inventory, at 62.128 million head, was 4.7% below a year ago. The total market hog inventory was down 5.1% at 56.273 million head and the breeding herd inventory, at 5.855 million head, was down 0.5%. The decline in the kept for breeding inventory of 0.5% indicates that there has been no expansion. This slight decline comes at a time when the net of sow and gilt slaughter has been lower and thought to be low enough to suggest growth. Through the first 24 weeks of 2014 sow slaughter has been 6.0% below 2013 and 11.0% below the 2008-12 average. According to University of Missouri data, gilt slaughter year to date has been 0.6% above year ago levels. The slower than expected expansion is likely a result of the combination of hogs being hedged lower than the current cash market and the ongoing impacts of PEDv. Thereby, expansion has been limited as profits to fill the equity hole created over the last few years have not been filled as quickly as expected.

The inventory of pigs less than 50 pounds, at 17.999 million head, was down 5.9% and the inventory of pigs 50 to 119 pounds, at 16.071 million head, was down 5.9%. Pig inventory weighing 120 to 179 pounds, at 11.931 million head, was down 3.9% while inventory weighing 180 pounds and over, at 10.271 million head, was down 3.8%. Overall, these pipe-line and near-market ready hog supplies are below what is likely currently priced into the market, especially weaned and feeder pig supplies, as analyst expected much smaller year over year declines.

Table 1. Quarterly Hogs and Pigs Report

	U.S.			Iowa		
	2013	2014	2014 as % of 2013	2013	2014	2014 as % of 2013
June 1 inventory <sup>1/</sup>						
All hogs and pigs	65,188	62,128	95.3%	20,000	19,200	96.0%
Kept for breeding	5,884	5,855	99.5%	1,030	1,000	97.1%
Market	59,304	56,273	94.9%	18,970	18,200	95.9%
Under 50 pounds	19,135	17,999	94.1%	4,890	4,790	98.0%
50-119 pounds	17,078	16,071	94.1%	6,090	5,740	94.3%
120-179 pounds	12,414	11,931	96.1%	4,700	4,570	97.2%
180 pounds and over	10,678	10,271	96.2%	3,290	3,100	94.2%
Farrowing <sup>2/</sup>						
Dec-Feb farrowed <sup>3/</sup>	2,788	2,867	102.8%	465	495	106.5%
Mar-May farrowed	2,806	2,797	99.7%	465	470	101.1%
Jun-Aug intentions	2,890	2,893	100.1%	485	495	102.1%
Sep-Nov intentions	2,780	2,880	103.6%	455	485	106.6%
Dec-Feb pigs per litter <sup>3/</sup>	10.08	9.53	94.5%	10.35	9.90	95.7%
Mar-May pigs per litter	10.31	9.78	94.9%	10.50	10.60	101.0%
Dec-Feb pig crop <sup>1,3/</sup>	28,099	27,316	97.2%	4,813	4,901	101.8%
Mar-May pig crop <sup>1</sup>	28,921	27,361	94.6%	4,883	4,982	102.0%

Full report: <http://usda.mannlib.cornell.edu/usda/current/HogsPigs/HogsPigs-06-27-2014.pdf>

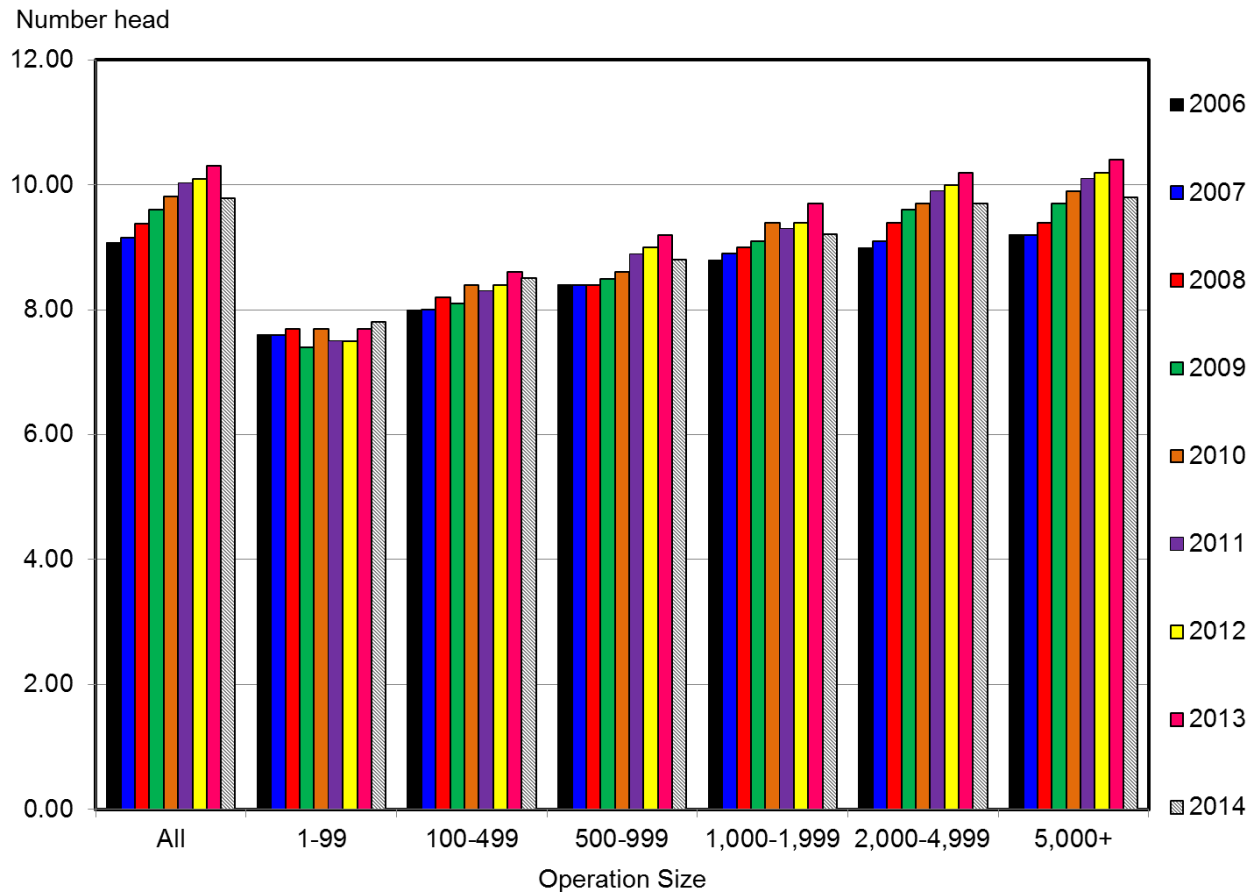
<sup>1/</sup> Thousand head. <sup>2/</sup> Thousand litters. <sup>3/</sup> Dec-Feb 2012/2013 and 2013/2014.

The March-May pigs saved per litter, at 9.78 pigs, was down 5.1% compared to a year ago; following the downward trend of the Dec-Feb pigs per litter and further confirming PEDv's impact on the industry. The March-May sows farrowing, at 2.797 million head, was down 0.3%. Thus netting a 5.4% decrease in the March-May pig crop.

June-August 2014 sows farrowing, at 2.893 million head, would be up 0.1% compared to a year ago and September-November 2014 sows farrowing, at 2.880 million head, would be up 3.6%. 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, especially the September-November 2014 estimate, 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 again this last quarter, there could be very limited growth potential in the pig crops in the upcoming quarters.

Figure 1 shows pigs per litter by herd size since 2006. The figure reveals three notable points. First, when compared with smaller operations, larger breeding operations perform markedly better by this productivity measure and also appear to have improved at a faster rate over time. That is, from 2006 to 2013 operations of 100-499 head have experienced 7.5% growth in pigs per litter while operations of 5,000+ head have experienced 13.0% growth. Secondly, so far as one can rely on these data, PEDv has set back productivity growth in this measure by four to five years, i.e., pigs per litter is currently at 2009-2010 levels. Third, the impact has not been uniform across scale of operation. The change in March-May pigs per litter from 2013 to 2014 is quite heterogeneous. For example, in operations of 100-499 head pigs per litter has decreased 1.2% while in operations of 5,000+ the decrease has been about 5.8%.

**Figure 1. Pigs per Litter by Size of Operation – United States: March-May**



Data source: USDA/NASS. Compiled and analysis by Lee Schulz.

## Iowa Hogs and Pigs

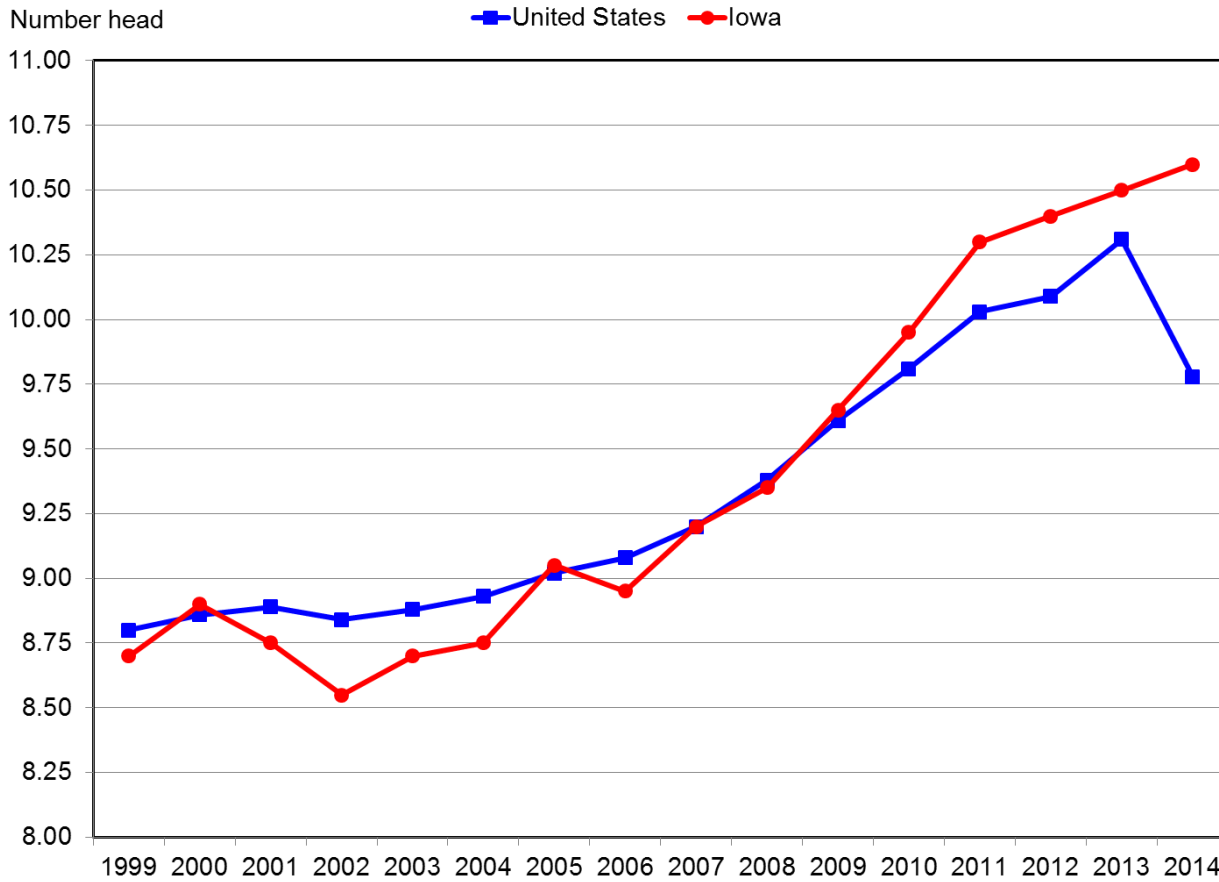
The total hogs and pigs inventory, at 19.200 million head, was 4.0% below a year ago. The total market hog inventory was down 4.1% at 18.200 million head and the breeding herd inventory, at 1.000 million head, was down 2.9%.

The inventory of pigs less than 50 pounds, at 4.790 million head, was down 2.0% while the inventory of pigs 50 to 119 pounds, at 5.740 million head, was down 5.7%. Pig inventory weighing 120 to 179 pounds, at 4.570 million head, was down 2.8% while inventory weighing 180 pounds and over, at 3.100 million head, was down 5.8%.

The March-May pigs saved per litter, at 10.60 pigs, was up 1.0% compared to a year ago. With the March-May sows farrowing at 470,000 head, being up 1.1%, the pig crop for this period was up 2.0%. With the considerable variability being reported in the pigs saved per litter, 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 coming reports USDA will go back and update, if needed, the pig crop numbers to match the slaughter data.

This last quarter, producers in Iowa realized progress in productivity, i.e., pigs per litter. In fact, the March-May pigs per litter of 10.60 was a record high for this period (figure 2). This is a bit surprising when considering the decline reported by the aggregate U.S. estimate which can be directly attributed to the impact of PEDv.

**Figure 2. Pigs per Litter – United States and Iowa: March-May**



Data source: USDA/NASS. Compiled and analysis by Lee Schulz.

**Commercial Hog Slaughter Projections and Lean Hog Price Forecasts**

Table 2 contains the Iowa State University price forecasts for the next four quarters and the quarterly average futures prices based on June 30, 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 Mar-May and farrowing intentions for Jun-Aug and Sep-Nov with commensurate pigs per litter to project supplies, one would expect hog slaughter in 2014.Q3 to be down about 4.76%, 2014.Q4 slaughter to be down 5.39%, 2015.Q1 slaughter to be down 3.52%, and 2015.Q2 slaughter to be down 1.26% 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 (06/30/14) Adjusted for Negotiated IA/So MN Basis (\$/cwt)
Jul-Sep 2014	-4.76	120-128	123.38
Oct-Dec 2014	-5.39	98-104	100.70
Jan-Mar 2015	-3.52	87-97	91.71
Apr-Jun 2015	-1.26	90-96	93.49

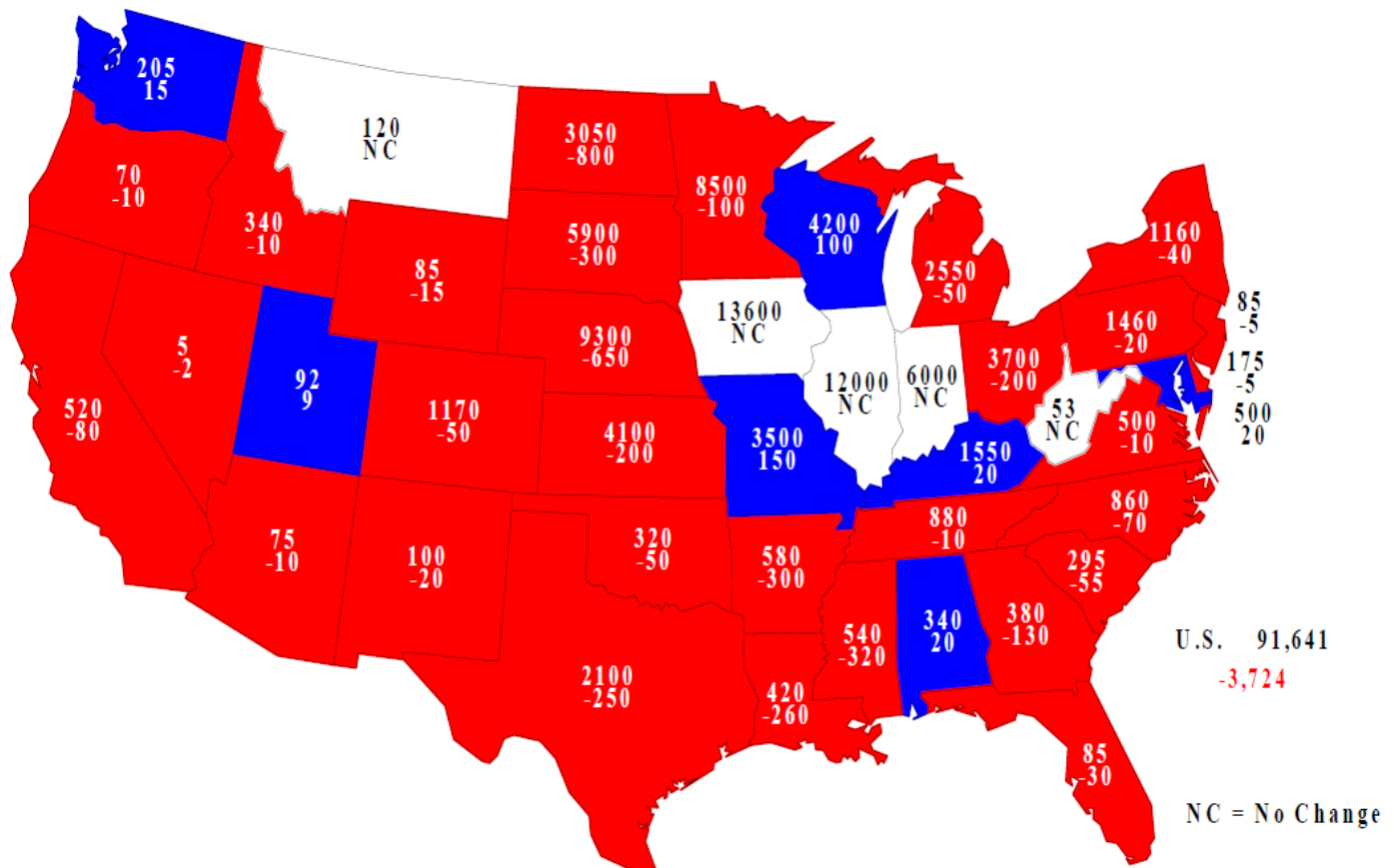
## Plenty of Acreage and Plenty of Rain

The USDA Acreage and Grain Stocks reports did not provide much hope for those who were looking for higher corn and soybean prices. In summary, the reports found more corn and soybeans still sitting in bins and more potential bushels out in the fields than previously thought. The markets' immediate reactions were to lower prices significantly. The issue is not necessarily a demand issue, as crop demands have been fairly strong over the past several months. The growing expectation of potential supplies has become the largest downward force on prices.

For corn, stocks were 39 percent higher than they were last year. The pre-trade expectation had been for 3.72 billion bushels of corn still in the bins. The report showed 3.85 billion. Third quarter corn disappearance was strong, 3.15 billion bushels, up 20% from last year. But the market expected even more demand.

And corn acreage came in slightly below expectations and below the March intentions, but only by 100,000 acres. Compared to last year, corn area fell 3.7 million acres. As Figure 1 shows, the I-states (Iowa, Illinois, and Indiana) maintained corn plantings at last year's levels. The big reduction came from the Great Plains and the Mississippi Delta. However, 91.6 million acres of corn is still enough to produce a record crop.

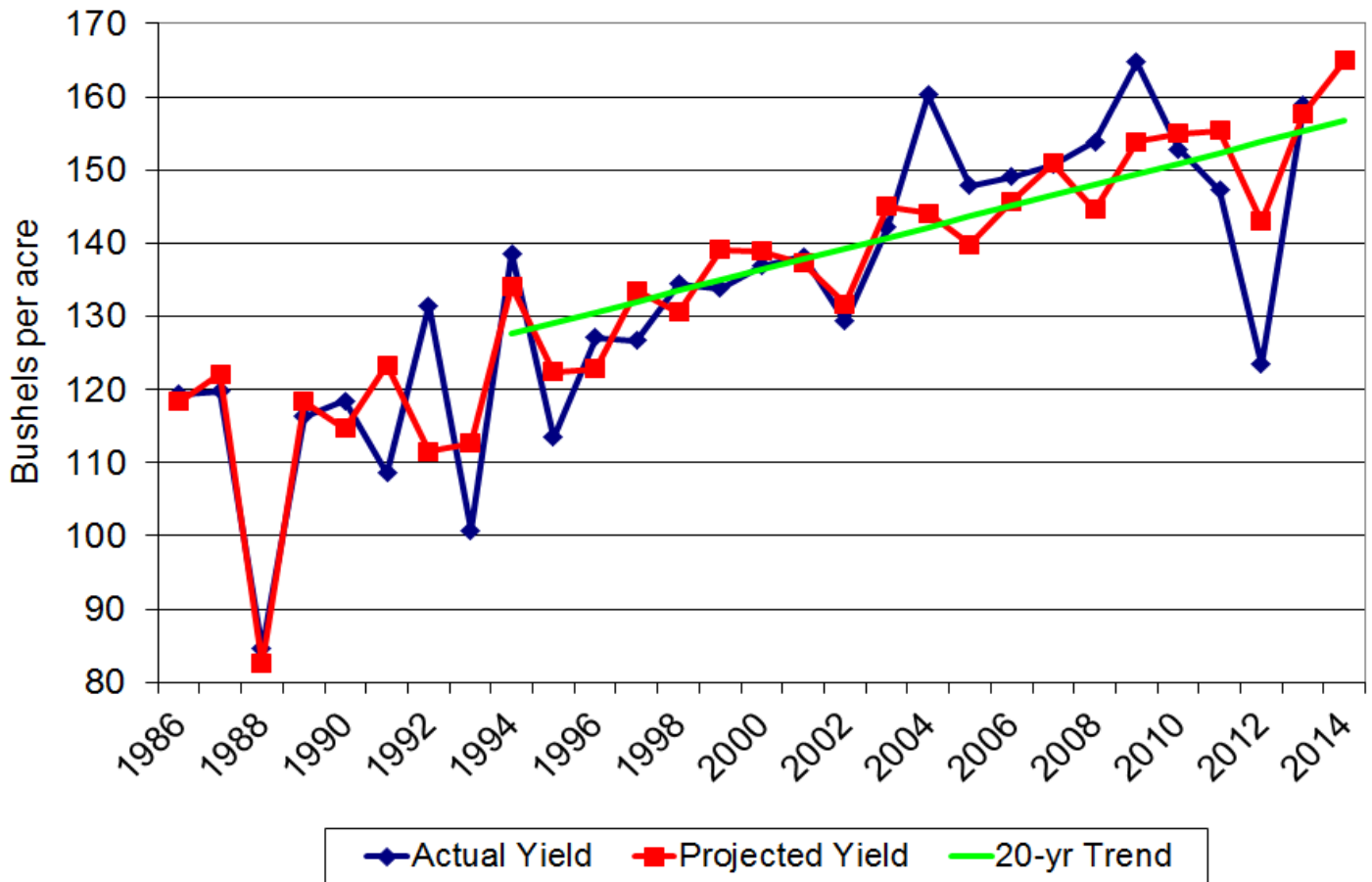
**Figure 1. U.S. corn planting (Source: USDA-NASS, Units: 1,000 acres).**



USDA has projected that 83.8 million acres of corn will be harvested this year. Given their current yield projection of 165.3 bushels per acre, that would create 13.86 billion bushels of corn, just 70 million off of last year's record. Crop conditions have indicated 75% of the corn crop is in good to excellent condition. These conditions support USDA's yield projection. Over the past few years, I have utilized a crop yield model based on the weekly crop conditions reports. Figure 2 displays the 20-year trend, actual yields, and conditions-based model projected yields for corn. The conditions-based model for corn provides its best yield estimates in late July (week 29 of USDA's crop calendar, the current report is for week 26), but the current model can roughly 80% of the variation in corn yields (pretty good for a simple regression). Given the 75% good to excellent rating on the corn crop, the model projects a national average yield of 164.9 bushels per acre, just 0.4 bushels

off of the USDA estimate. So the potential for another record crop is there, but it would take yields slightly above current estimates.

**Figure 2. Corn yield projection, based on crop conditions.**



The largest factor that would bring corn production down right now is the amount of ponding in fields across the upper Midwest. The Prairie Pothole region has seen significant rains through May and June. The acres were planted, but some of them may not be harvested if the crops drowned out. Over the last 60 days, several areas throughout the Corn Belt have received at least 6 inches of additional rain above normal. In fact, much of northwest Iowa has seen 8-16 inches of additional rain above normal. So while the corn crop looks good now, it could use a little less rain in the future.

For soybeans, stocks were down 7% compared to last year, but the numbers were still a little higher than expected. The pre-trade estimate was 378 million bushels; the report showed 405 million. As with corn, quarterly disappearance was stronger than last year, up 4% to 589 million bushels. But now, it looks like we have enough soybeans to finish out the current marketing year. The big news story for soybeans was the record plantings for the current crop. In March, producers indicated they were going to ramp up soybean plantings to record levels. In June, producers indicated not only did they get all of their intended acres into soybeans, they found another 3 million acres to plant. Part of that acreage shift was due to soybeans' relatively higher price in comparison to corn and wheat, but part was also due to the weather. Delays in planting tend to shift acres away from corn and into soybeans. This year it seems, soybeans captured all of the extra acres.

Most of the soybean area growth is in the upper Midwest and Great Plains. North Dakota producers led the charge, adding 1.35 million from last year. But they weren't the only ones, Iowa and Minnesota producers added 800,000 acres each and Illinois and Nebraska soybeans expanded by at least 600,000 acres. In fact, only two states (Oklahoma and Virginia) reported soybean area at or below last year's levels and nine states reported record soybean plantings.

Figure 3. U.S. soybean planting (Source: USDA-NASS, Units: 1,000 acres).

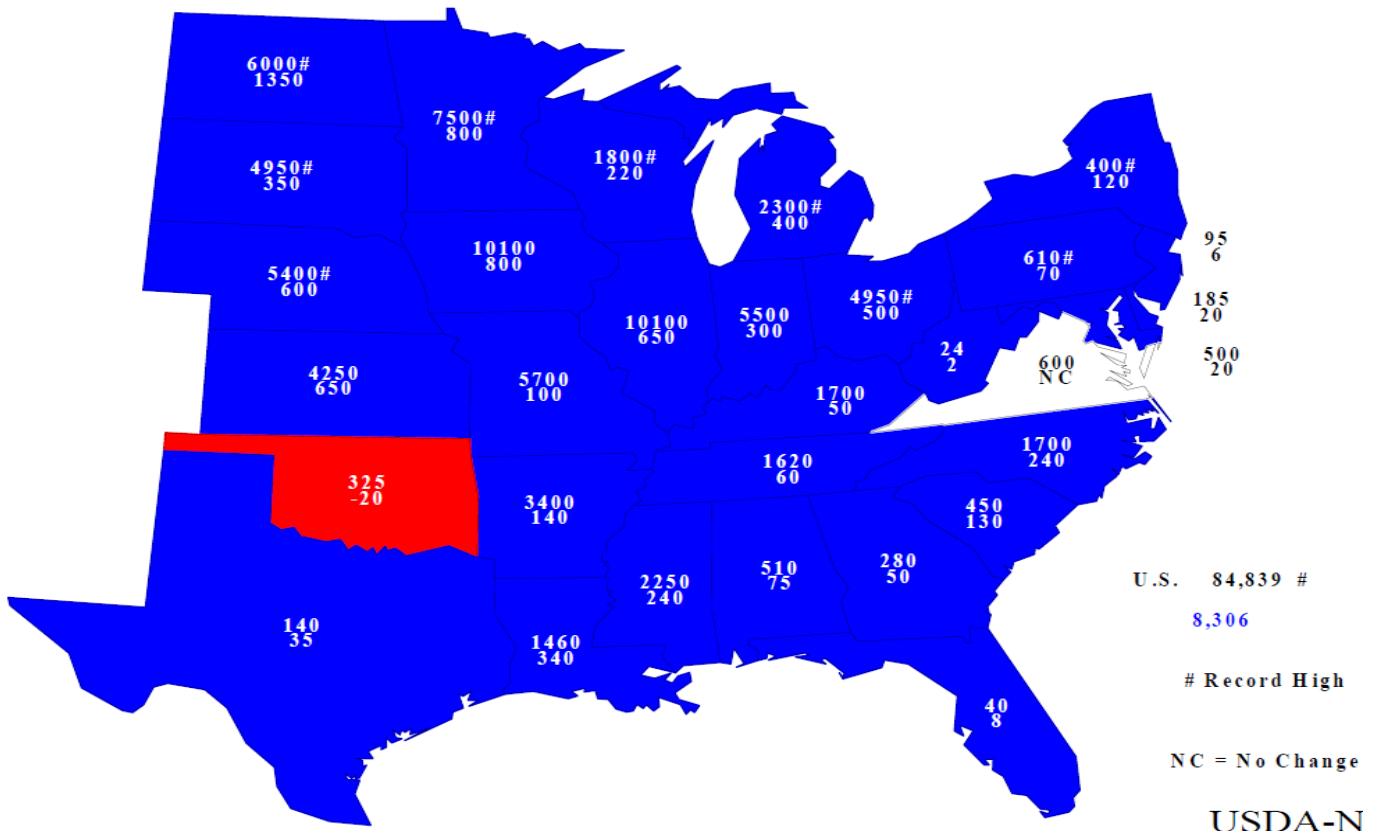
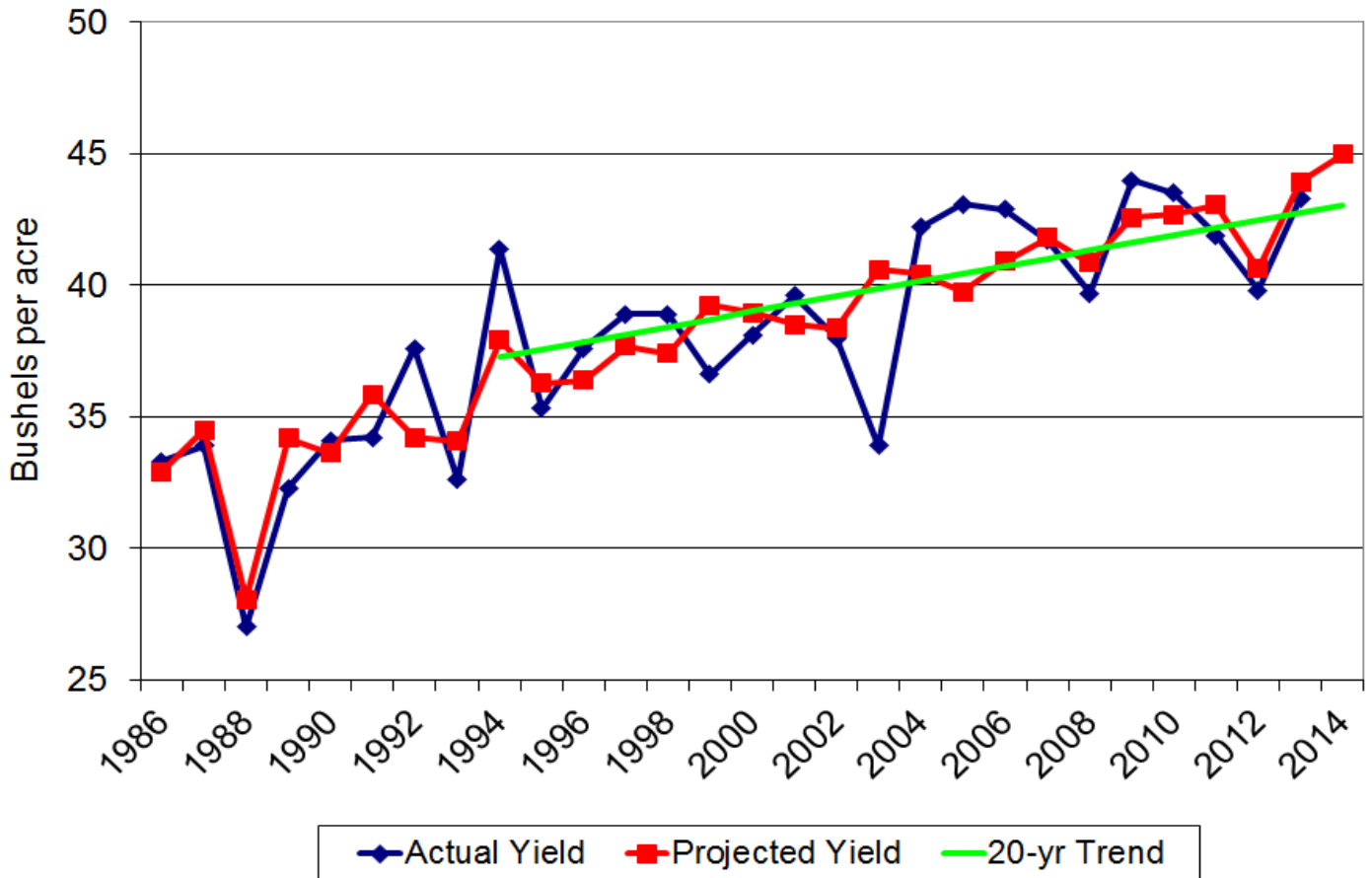


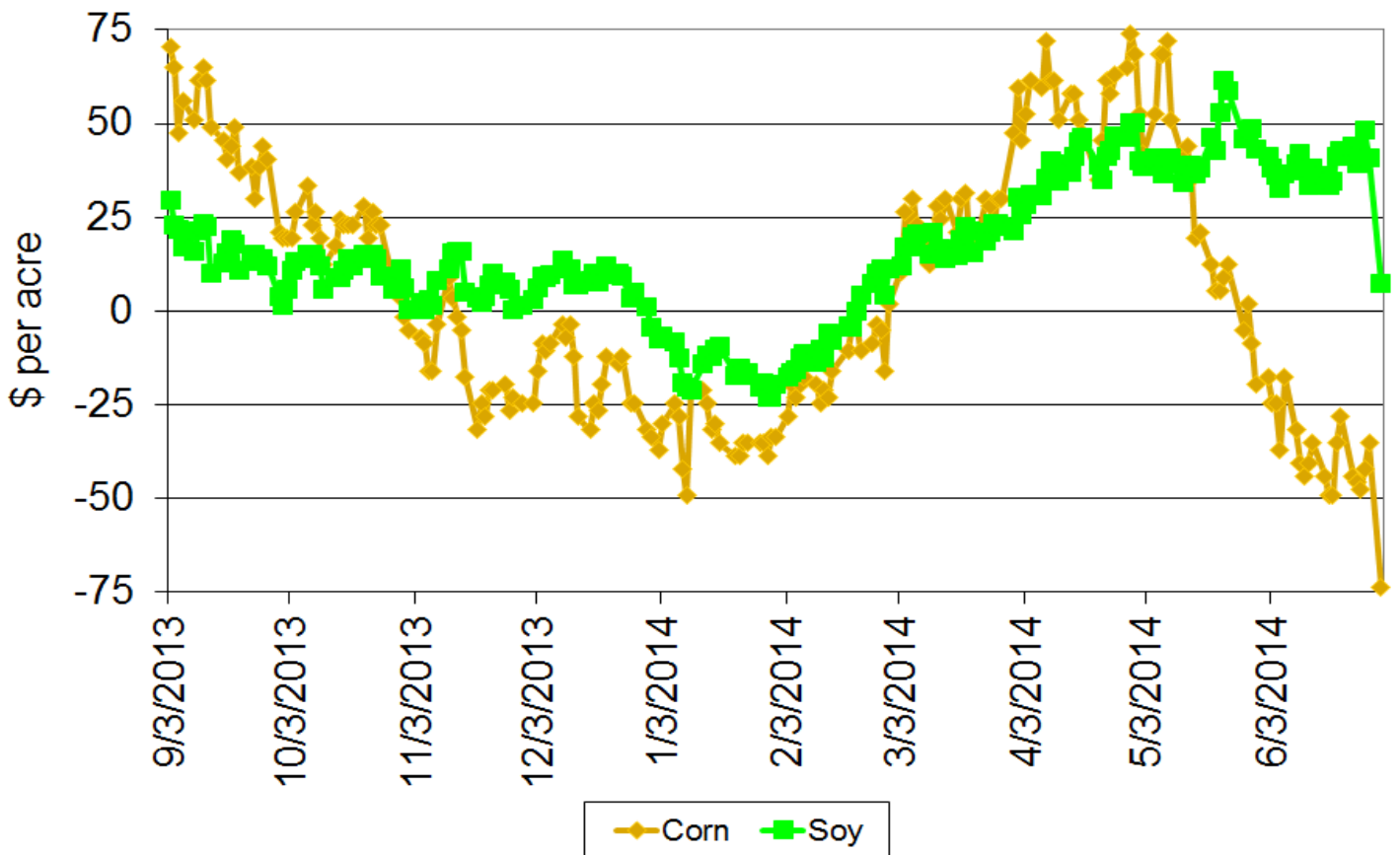
Figure 4. Soybean yield projection, based on crop conditions.



The record soybean plantings translate into a projected record soybean harvest. Based on the planted acres, USDA is currently estimating 84.06 million acres of soybeans will be harvested. Given the current USDA yield estimate of 45.2 bushels per acre, that would create 3.8 billion bushels of soybeans. And as with corn, the crop conditions report supports the yield estimate. Figure 4 displays the 20-year trend, actual yields, and conditions-based model projected yields for soybeans. The conditions-based model for soybeans provides its best yield estimates at the end of the growing season (week 37 of USDA's crop calendar), but the current model can roughly 75% of the variation in soybean yields. Given the 72% good to excellent rating on the soybean crop, the model projects a national average yield of 45 bushels per acre, just 0.2 bushels off of the USDA estimate.

The market reaction was swift for both crops. The midpoint of USDA's season-average price forecast range is \$4.20 per bushel for corn and \$10.75 per bushel for soybeans. Following the reports, futures-based forecasts of those season-average prices are \$4.09 for corn and \$11.27 for soybeans. Both are down significantly from pre-report levels. As Figure 5 shows, the drop in prices lowered the expected margins for both crops by at least \$25 per acre. Soybean margins fell to nearly breakeven, while corn margins sank even deeper below breakeven.

**Figure 5. 2014 projected crop margins.**



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