

Iowa Farm Outlook

Department of Economics
Ames, Iowa

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Large Hog Supplies Should be Manageable

Numbers in USDA's June Quarterly Hogs and Pigs report held few surprises. With one exception all numbers were within 1% of analysts' pre-report expectations (Table 1).

That one number, the larger year over year change in March through May sows farrowing, was partially offset by a deviation in the opposite direction of the March through May pigs saved per litter. These two numbers derive the March through May pig crop. The offsetting percentages leave me with little concern over the one deviation from expectations of a mere 1.4% in sows farrowing. The March through May pig crop, while slightly larger than expected, was within the range of expectations. And the pig crop is what matters at the end of the day for pipeline supplies.

Table 1. USDA Quarterly Hogs and Pigs Report Summary for the U.S.

	2016	2017	2017 as % of '16	Pre-Report Range	Pre-Report Estimate	Actual - Estimate
Jun 1 inventory *						
All hogs and pigs	69,281	71,650	103.4	102.8 - 104.0	103.3	0.1
Kept for breeding	5,979	6,069	101.5	101.0 - 102.0	101.4	0.1
Market	63,302	65,581	103.6	103.0 - 104.0	103.4	0.2
Under 50 lbs	20,356	21,017	103.2	102.6 - 104.0	103.2	0.0
50-119 lbs	18,198	18,831	103.5	102.6 - 104.0	103.3	0.2
120-179 lbs	13,291	13,856	104.3	103.0 - 104.0	103.5	0.8
180 lbs and over	11,456	11,877	103.7	102.7 - 105.0	103.8	-0.1
Sows farrowing **						
Mar - May	2,968	3,060	103.1	101.4 - 103.0	101.7	1.4
Jun - Aug ¹	3,057	3,064	100.2	99.6 - 102.0	100.6	-0.4
Sep - Nov ¹	3,046	3,055	100.3	99.2 - 102.0	100.4	-0.1
Mar - May pigs per litter	10.48	10.55	100.7	101.0 - 101.6	101.3	-0.6
Mar - May pig crop *	31,097	32,264	103.8	102.5 - 104.0	103.0	0.8

Full report: <http://usda.mannlib.cornell.edu/usda/current/HogsPigs/HogsPigs-06-29-2017.pdf>

* 1,000 head; **1,000 litters; ¹ intentions for 2017. Pre-report estimates available from Urner Barry.

The big picture numbers game helps project inventories and future pork supplies.

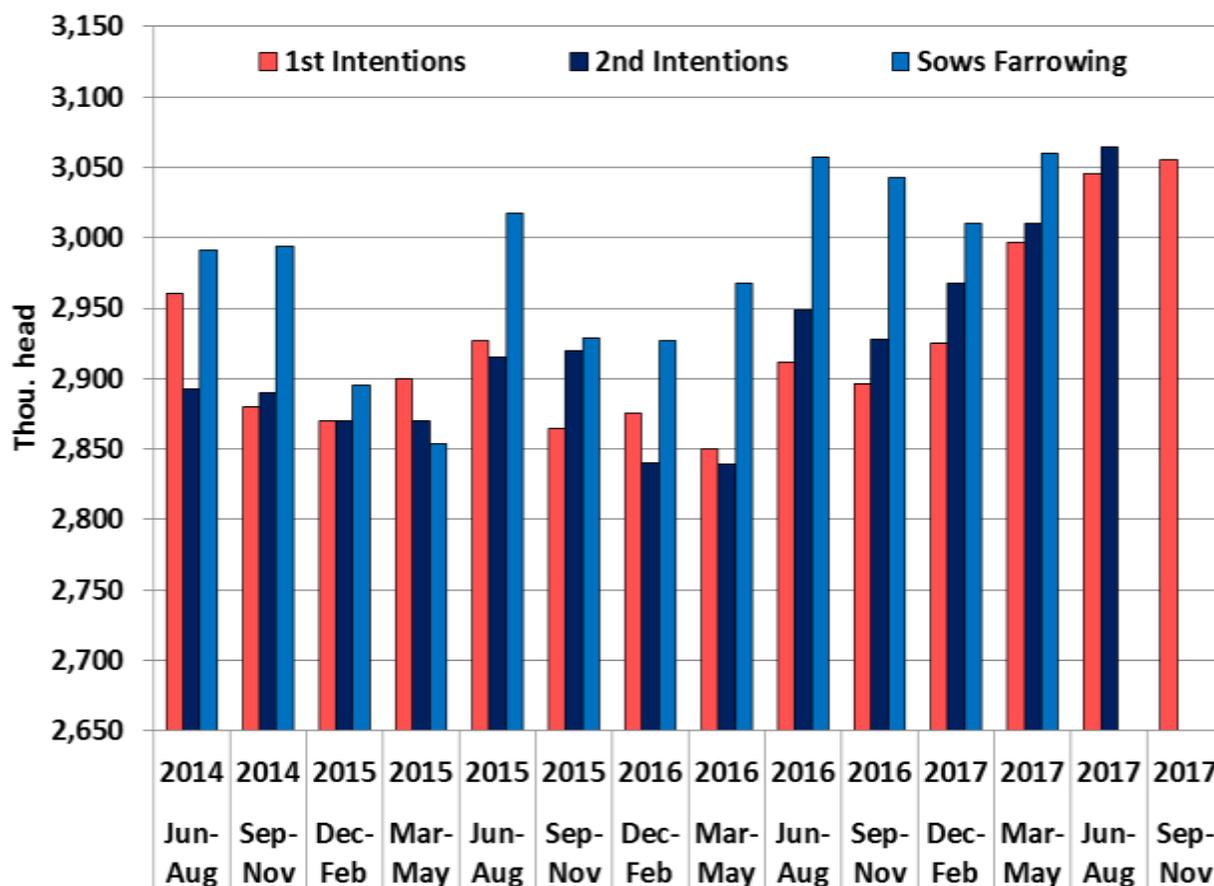
Farrowing intentions are the number of sows expected to give birth in the future. This number is important because it acts as the best indicator of hog supplies farthest into the future. However, farrowing intentions have considerable variability. None of the sows have given birth. Some have not been bred. Producers may change plans in response to production and market opportunities and risks. USDA uses data gathered from producers for each new report to update and revise farrowing intentions. For example, the June Hogs and Pigs report provides:

- Actual (realized) sow farrowings for the March through May time period.
- Updated (second) intentions for the June through August period.
- A first estimate for September through November farrowing intentions.

Farrowing intentions and pre-report estimates continue to underestimate the number of litters that are actually farrowed. The most important data analysts evaluate in making pre-report estimates are prior USDA Hogs and Pigs reports. So, pre-report estimates missing the mark can be somewhat rationalized.

March through May sows farrowing came in 3.1% higher than one year ago, after being listed as intentions at 1.0% and 1.4% higher in the December and March reports, respectively (Figure 1). In addition, 19,000 litters were added to the June through August intentions. Should that addition materialize, it means about 200,000 more pigs are expected this summer and in the slaughter mix from roughly January through March. I would not be surprised to see actual June through August sow farrowings even higher when the next report is released on September 28th. This has been going on for a couple of years. One has to go back to March through May of 2015 for the last time actual sows farrowing came in below intentions estimates.

Figure 1. Quarterly U.S. Sows Farrowing and Intentions



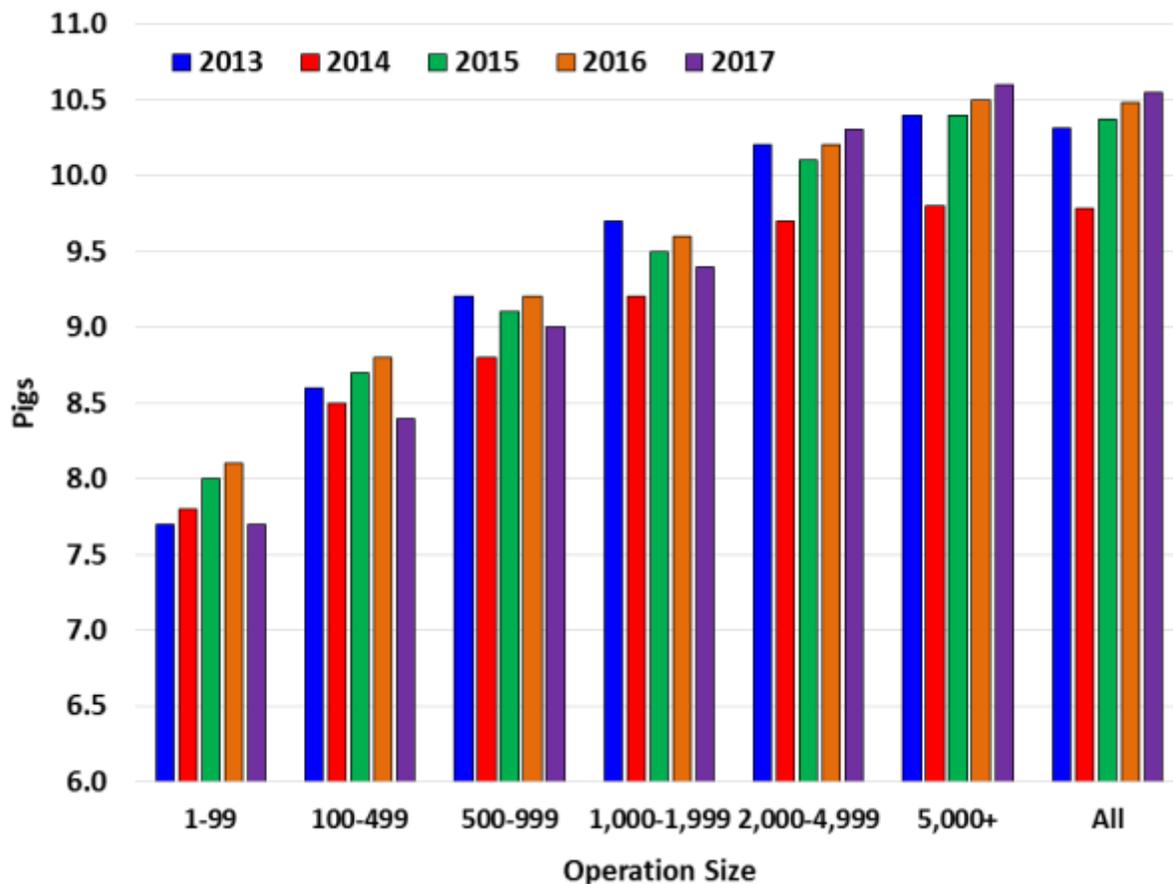
Data Source: USDA's National Agricultural Statistics Service.

Beyond this historical relationship, I believe intentions are too low for two primary reasons. First, back to the numbers game. If the June 1 breeding herd is 6.069 million head and the June through August farrowing intentions are 3.064 million head, this would mean a farrowing ratio (sows farrowing divided by breeding herd) of 50.5%, which would be the lowest for the June through August period since 2013. The farrowing ratio has been as high as 51.1% (June through August of 2016). This same logic follows for the September through November sows farrowing, especially if the breeding stock continues to increase.

Second, producers have likely become more optimistic about profit prospects since reporting inventories and intentions as of June 1. The Iowa State University estimated returns model for farrow to finish production shows that profit projections from the beginning of June to the end of June increased on average \$4 per head for each of the next five quarters. Farrow to finish returns are projected at \$15 per head in 2017 and \$8 per head for January through October 2018. Low feed cost and the promise of profits will likely encourage producers to maximize farrowings and add fuel to breeding herd expansion decisions.

One generally consistent driver of growth in the hog industry is pigs saved per litter. It has averaged 1.5% annual growth over the last ten years. However, measurements in June's report were mixed. On the one hand, the March through May average number of pigs saved per litter was record- high at 10.55 (Figure 2). However, this was only 0.7% above the same period a year earlier.

Figure 2. U.S. Pigs Saved per Litter by Operation Size, March through May



Data Source: USDA's National Agricultural Statistics Service.

Now for the puzzling part. Operations with 2,000 to 4,999 head saved 10.3 pigs per litter and operations with 5,000 or more head saved 10.6 pigs per litter. This was a 1.0% year over year increase for both operation size categories. The average for operations with less than 2,000 head was 8.6 pigs per litter. This represented a 3.4% year over year decrease. Operations with 1 to 99 head and 100 to 499 head had over a 4% year over decrease. The pigs saved per litter estimate for these smaller operations is indicative of levels during the PEDV outbreak. However, data from Dr. Bob Morrison's Swine Health Monitoring Project, tracking just under half of the nation's sows, shows disease incidence this year has been comparable, actually probably a little lower, than a year ago.

Most of nation's pigs are being produced by larger operations as evidence by the 0.7% year over year average increase for all operations. We will be watching the next couple of reports to see if there is recovery in this productivity measure, especially for smaller operations.

Potential market action

June's report suggests U.S. pork production will continue to post year over year increases for at least several more quarters. Larger supplies generally result in lower prices. However, this year's hog market is going against that adage with both larger supplies and higher prices. That reflects strong demand, fueled by the surge in U.S. pork exports, up 15% at the end of April.

Remember that prices are still determined by both supply and demand factors. If demand were to flatten or soften, larger supplies will depress prices. This reports reaffirmation of strong supplies, both near and longer term, underscores the heightened role realized demand strength will have on observed prices.

Commercial slaughter and 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 29, 2017 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. Market hog inventories indicate second quarter 2017 hog slaughter will be up 3.56% with the forth quarter up 3.75%. Calendar year 2017 hog slaughter is forecast to be up 3.49%. Slaughter in the first quarter is projected up 2.18%, reflecting larger summer farrowings and more pigs per litter. Slaughter in the second quarter of 2018 will come from sows farrowing this fall. With larger farrowings and more pigs per litter expected, second quarter 2018 slaughter is projected 1.95% larger.

Table 2. Commercial Hog Slaughter Projections and Lean Hog Price Forecasts, 2017-18

	Year-over-Year Change In Commercial Hog Slaughter (percent)	ISU Model Price Forecast, Negotiated IA/So MN (\$/cwt)	CME Futures (06/29/17) Adjusted for Negotiated IA/So MN Basis (\$/cwt)
Jul-Sep 2017	3.56	73-77	75.50
Oct-Dec 2017	3.75	58-62	60.39
Jan-Mar 2018	2.18	61-65	63.84
Apr-Jun 2018	1.95	69-73	71.28

Lee Schulz

Some Fireworks for the 4th

As usual, July started off with a lot of fireworks. In this case, some of the fireworks weren't just for Independence Day. The combination of weather issues in a few parts of the Midwest, significant crop usage through the spring, and an acreage report that showed more corn area than soybean area provided a spark for a price rally going into the holiday. And given the amounts of the crops left in storage, the price rally is needed by those still holding grain.

Let's start with the stock levels. National corn stocks, as of June 1, stood at 5.23 billion bushels. That is 11% higher than at the same time last year. The higher stocks are not surprising given the record crop last fall. Corn stocks at commercial elevators and other off-farm locations were set at 2.38 billion bushels, up 6% from last year. Meanwhile, on-farm stocks jumped to 2.84 billion bushels, up 15%. So farmers are holding on to relatively more corn on the farmstead this year. Partially offsetting these large stock levels are some strong corn uses. The livestock reports throughout June showed continued growth across the entire sector. The hog and cattle on feed numbers were up 3% year over year, while the broiler and dairy cow numbers were up 2%. The larger herd and flock numbers translate into larger feed usage, which shows in the quarterly disappearance. Corn usage over the months from March to May totaled 3.40 billion bushels, a 9% surge above last year's levels.

The soybean stocks and usage pattern is very similar. National soybean stocks were up 11%, to 963 million bushels. Farmers are holding relatively more in on-farm storage than in off-farm facilities. On-farm stocks are up 18%, at 333 million bushels, while off-farm stocks are up 7%, at 630 million bushels. As with corn, the larger animal numbers translate into larger needs for soybean meal. March-May soybean disappearance totaled 775 million bushels, up 18% compared to last year.

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

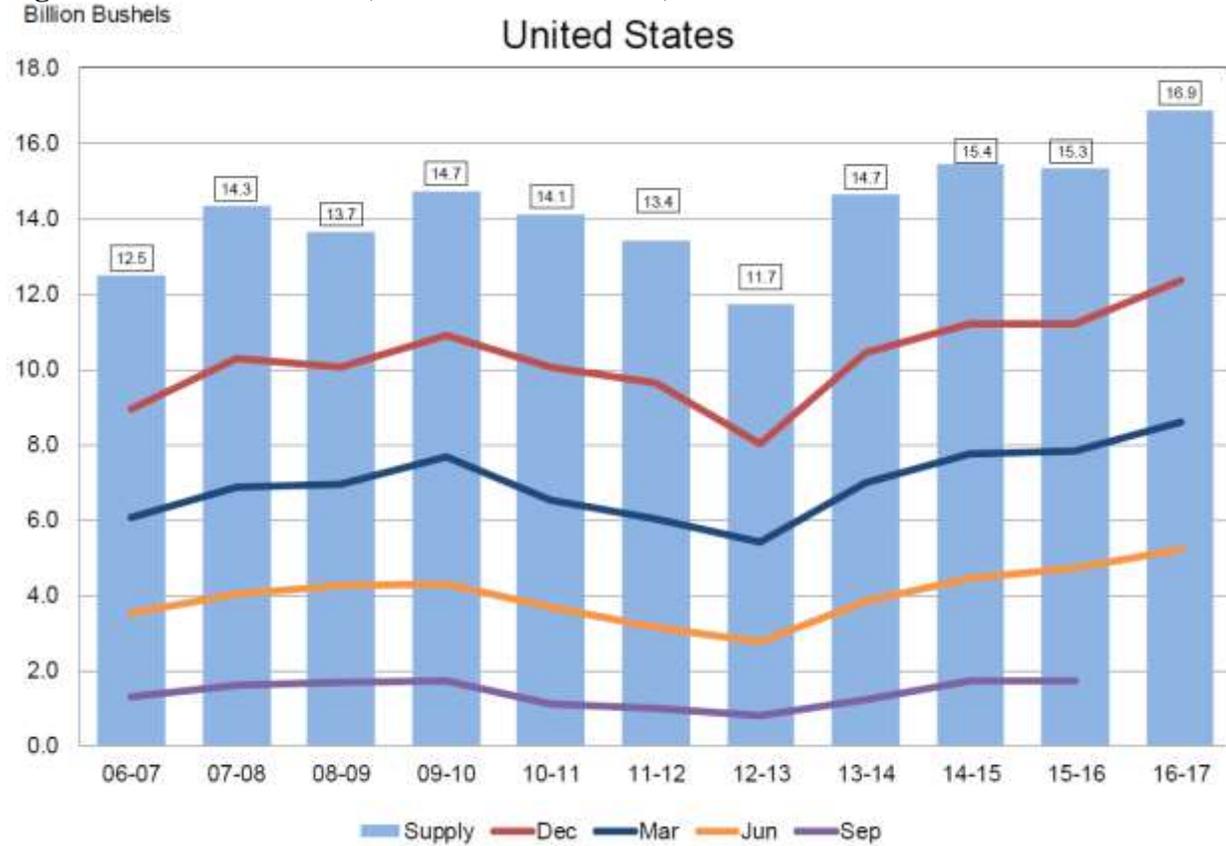
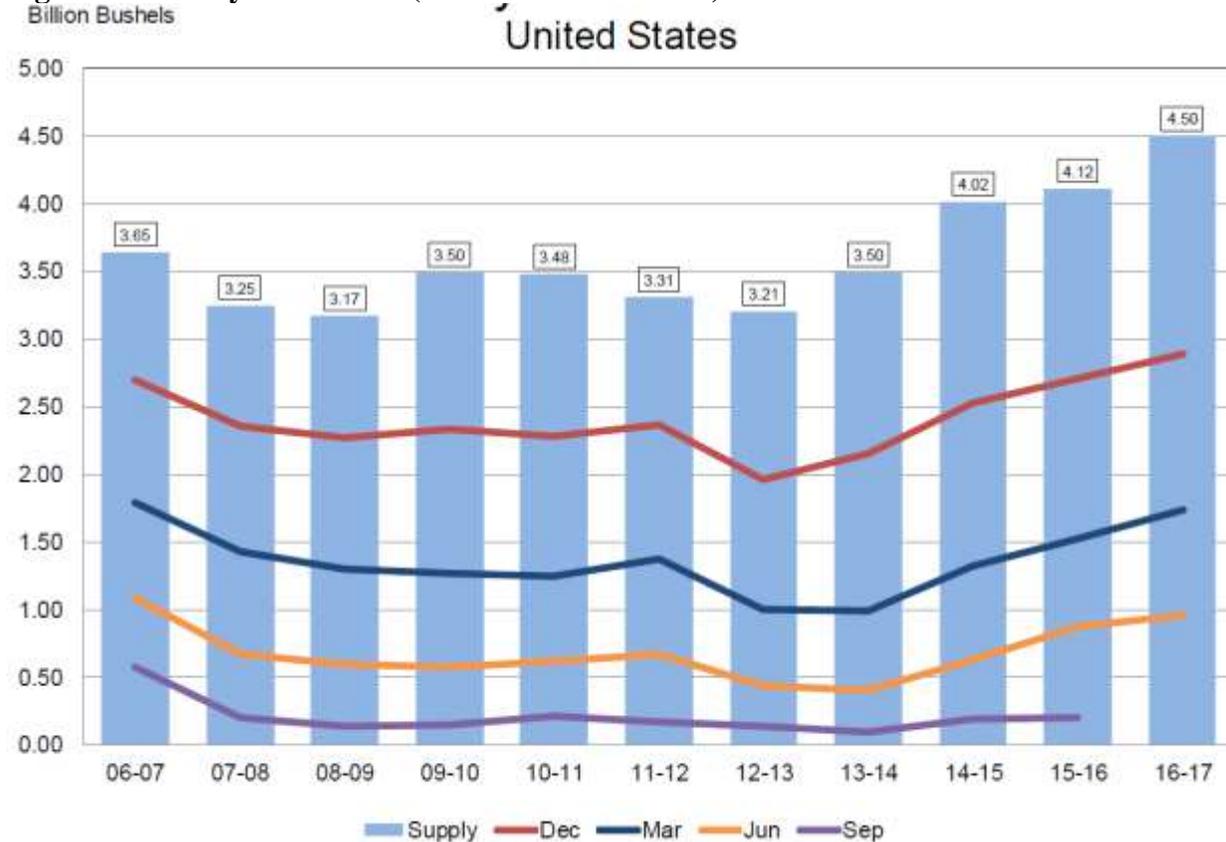


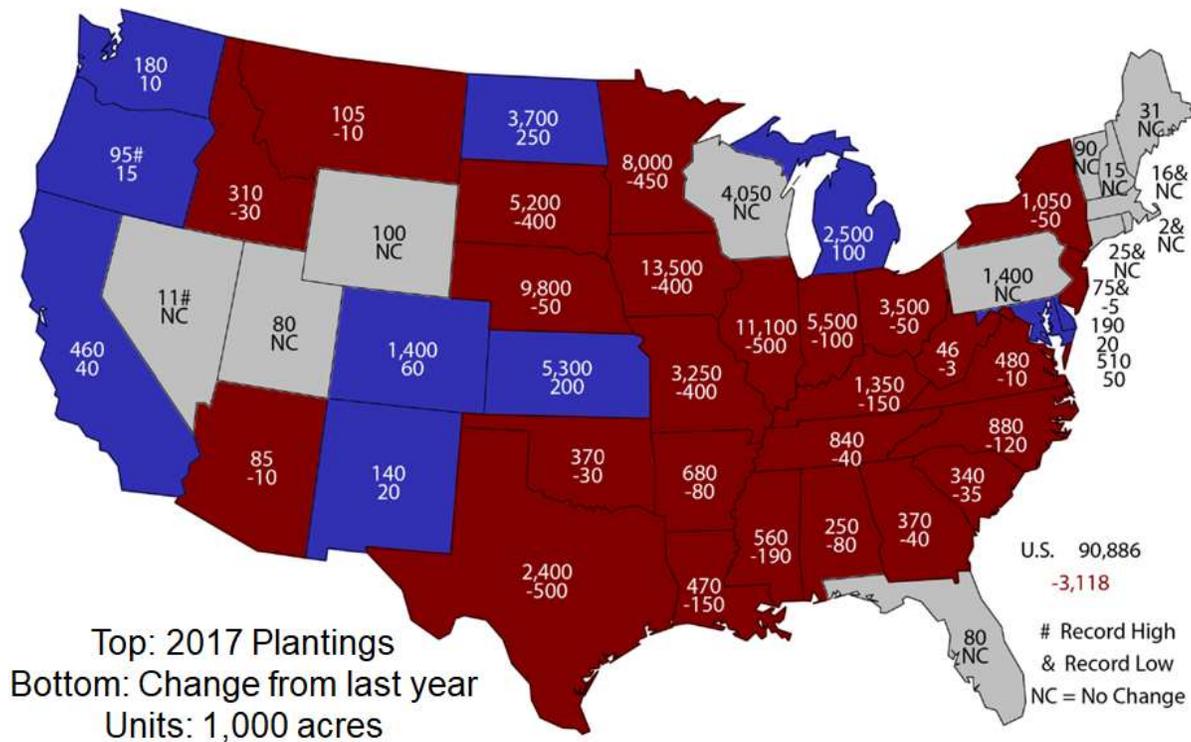
Figure 2. U.S. soybean stocks (Source: USDA-NASS).



Stocks are large, but as expected. Crop demand remains robust. Beyond the strong domestic feed needs, export sales are holding above last year's levels and biofuel and industrial uses have been firm. The old crop story remains the same, with record supplies and ample demand.

But the new crop story could have a few twists and turns to it. At least, the markets are reacting as such. At the end of June, USDA provided the latest acreage numbers. While the overall picture fit within the range of trade expectations, the acreage tilt was a little more in favor of corn than was anticipated. Nationwide, 90.9 million acres are planted to corn, down 3% from last year. But that is roughly 900,000 acres more than farmers indicated in March. Producers in Iowa, Nebraska, Kansas, North Dakota, Michigan, and Colorado increased corn plantings, raising corn acreage by at least 100,000 acres in each state when compared to the March projections. Meanwhile, producers in Illinois, Indiana, and South Dakota reduced corn area by at least 100,000 acres in each state. Overall, 26 states reduced corn plantings, while 12 held steady. Given trendline yields, the national corn crop would be 14.25 billion bushels. That would be 900 million bushels less than last year's record crop. Still a very large crop, but given USDA's current usage projections, it would allow demand to catch up and delay stock building.

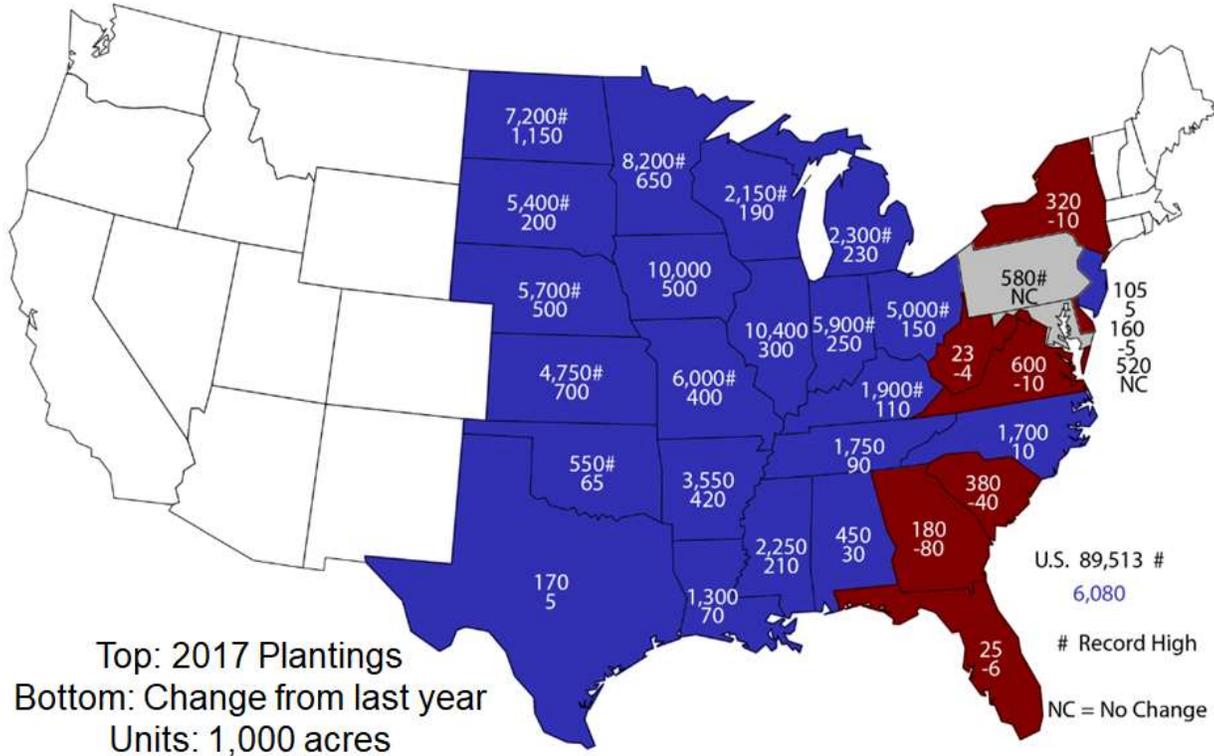
Figure 3. U.S. corn acreage (Source: USDA-NASS).



For soybeans, we knew it would be record acreage. The question was would soybean catch corn in planted area. The June results showed a 7% surge in soybean plantings, reaching 89.5 million acres. But this was just 31,000 acres higher than farmers indicated in March. So overall soybean plantings aligned very well with intentions. While farmers in Illinois, North Dakota, and Missouri increased soybean plantings significantly when compared to intentions, farmers in Iowa, Indiana, Kansas, and Louisiana offset those gains. Out of the 31 states where soybean area is reported, 22 saw an increase in soybean plantings, with record acreage in the Great Plains and northern tier. Given trendline yields, the national soybean crop would come in at 4.26 billion bushels. That would be roughly 50 million less than last year's record, but also roughly in line with USDA's projection for soybean usage.

Thus, for both crops, if weather issues can shave a few bushels off of the national yield, we could see crop usage exceed production. That seems to be the main rallying cry for the markets at the moment. The markets have shown over the past couple of years that if supply growth is thought to be slowing (such as right now and in May-June of last year), prices will rise quickly. The problem has been that once the supply concerns subside, so do prices, even more quickly.

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



And one demand area to watch is export demand. While the current set of crops has been selling at a brisk pace, advance export sales for the 2017 crops have been running behind. Corn sales are down almost 100 million bushels at this point, while soybean sales are roughly 150 million bushels below last year's levels. The world market for corn and soybeans is much like the U.S. market, with plenty of supply on hand to meet demand.

But for now, with the price rally of July 3rd, projected national cash prices are holding in a decent spot. Based on the futures prices going into the 4th and a return to normal basis levels, the national average prices for the 2017 corn crop sits right at \$4.00 per bushel, providing an opportunity to cover production costs. For soybeans, the price estimate rose to \$9.67 per bushel, also roughly in line with production costs. However, basis levels remain wider than usual and the stocks report shows that there's enough supply around to keep basis levels wide. For prices to maintain the recent gains, the weather issues will need to move beyond just threatening yield potential and actually reduce yields out in the fields.

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