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Extension and Outreach

Iowa Farm Outlook

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Hog Slaughter Capacity and Pork Exports, Major Market Forces this Fall

Producer sold Iowa/Minnesota hog prices for all purchase types reached their year to date high in the third week of June at almost $82/cwt. Since then, prices fell to a low of $46/cwt to end August and recovered to finish September near $65/cwt. Purchase types include negotiated, other market formula, swine or pork market formula, and other purchase agreement. Prices on the spot market or negotiated basis declined even more severely falling to the upper $30s in late August before rebounding to the low $60s by the end of September. The spread between negotiated and total weighted average prices, at times recently, highlights the plight of producers trying to negotiate in the current market environment.

Commercial pork production this year has been up 3.9% compared to the first 8 months of 2017. Pork production will hit record levels in 2018 at about 26.5 billion pounds. That record is forecasted to be surpassed in 2019 when production may reach 27.1 billion pounds. The supply could pressure packing capacity limits during peak hog slaughter weeks in the fourth quarters of both 2018 and 2019. Traditionally the peak in slaughter numbers occurs one or two weeks after Thanksgiving. In addition to processing the large supply of hogs, there must also be a market for the product.

The key feature shaping the U.S. pork market this summer was the anticipated negative impacts of Mexican and Chinese tariffs on U.S. pork exports. The duty rate on most U.S. pork entering Mexico increased from 0% to 10% in early June and from 10% to 20% in early July. In China, the duty rate on U.S. pork and pork variety meat increased from 12% to 37% on April 1, and to 62% on July 6. The lean hog futures market took this news as a huge hit on market clearing prices. October lean hog futures prices, as an example, fell from about $63 in June to under $50 by early August.

October futures did recover from the early August swoon, rising back to $62/cwt by the end of September. Futures markets anticipate supply and demand conditions into the future, and sometimes the anticipation of bad news is not as severe as originally thought. July exports of U.S. pork (excluding pork variety meat) were 8% higher than a year ago, according to data released by USDA and compiled by the U.S. Meat Export Federation (USMEF). But in general more pork moved to export destinations at lower prices, with export value falling 3%.

July export volume to Mexico was unchanged from a year ago but value fell 24%. The good news is that with the announcement on Sunday, September 30 of the trade agreement between the United States–Mexico–Canada (USMCA) there should be relief at some point from Mexican tariffs that have impacted U.S. hog prices. It is important to note that the retaliatory duties imposed by Mexico on U.S. pork remain in place for now.

July exports to China were down 12% from a year ago, while value dropped 17%. For January through July, pork exports to China dropped 14% year over year in volume and 11% in value—due in part to the higher duty rates, but also due to an upward trend in China's domestic pork production. As a share of total exports, U.S. pork exports to China were 7% in 2017. For Mexico this share was 35%.

Pork exports have been quite strong to other major markets. For January through July, exports to Japan were unchanged from last year in volume and 1% higher in value. South Korea has been the star market for U.S. pork in 2018, with exports up 42% from a year ago in volume and 47% in value. Pork exports to South America increased 40% in volume and 36% in value. Growth in all seven Central American nations pushed pork exports to the region 17% above last year's pace in volume and value. The Dominican Republic has also been a top growth market this year, with exports up 21% in volume and value up 18%. Exports to the Philippines in 2018 year to date climbed 4% higher in volume and 3% higher in value.

USDA's World Agricultural Supply and Demand Estimates for September have U.S. pork exports for 2018 over 6% higher than in 2017. Next year, 2019 exports are expected to increase of about 2% over this year's forecast. Those increased exports will be needed to absorb production increases.

The USDA released its September 1 hogs and pigs inventory estimates on the 27th. These estimates are based on producer surveys. Historically, the September 1 inventory is the largest inventory of the calendar year and this year is no exception. The report showed an inventory of 75.486 million total hogs and pigs with a 6.330 million head breeding herd inventory and 69.156 million market hogs (Table 1). The market hog inventory was 2.9% higher than in September 2017. The breeding herd inventory was up 3.5% from the year before. The breeding herd expanded only 10,000 head in the last quarter (June to September), suggesting some expansion is still dialed in but producers may be tempering expansion plans with the lower markets. Overall, the report numbers were near pre-report trade expectations, and should be neutral to futures prices.

Table 1. USDA Quarterly Hogs and Pigs Report Summary

	U.S.				Iowa		
	2017	2018	2018 as % of '17		2017	2018	2018 as % of '17
Sept 1 inventory *							
All hogs and pigs	73,309	75,486	103.0		22,600	23,600	104.4
Kept for breeding	6,117	6,330	103.5		980	1,040	106.1
Market	67,192	69,156	102.9		21,620	22,560	104.3
Under 50 lbs	21,533	22,092	102.6		5,640	5,850	103.7
50-119 lbs	19,757	20,262	102.6		7,210	7,650	106.1
120-179 lbs	13,874	14,356	103.5		5,070	5,260	103.7
180 lbs and over	12,028	12,445	103.5		3,700	3,800	102.7
Sows farrowing **							
Mar – May	3,014	3,121	103.6		510	570	111.8
Jun – Aug	3,106	3,185	102.5		520	570	109.6
Sep – Nov [1]	3,115	3,163	101.5		550	560	101.8
Dec – Feb [2,3]	3,055	3,115	102.0		560	540	96.4
Jun – Aug pigs per litter	10.65	10.72	100.7		11.20	11.20	100.0
Jun – Aug pig crop *	33,075	34,159	103.3		5,824	6,384	109.6

Full report: http://usda.mannlib.cornell.edu/usda/current/HogsPigs/HogsPigs-09-27-2018.pdf.
* 1,000 head; **1,000 litters; [1] intentions for 2018; [2] December preceding year; [3] 2019 intentions.

For the first time, Iowa had 23 million hogs and pigs in inventory. This increase was due to both the increase in the kept for market category up 4.3% compared to a year ago and growth of the breeding herd of 6.1%. Iowa producers are producing more pigs as a result of expansion of herds rather than from gains in productivity. A flip of what has been leading to growth in pig numbers in the past. The Iowa pig crop was estimated at 6.384 million pigs for the June through August quarter, up 9.6% from the previous year. This all came from the 9.6% more sows farrowing. Pigs saved per litter were unchanged from the year before.

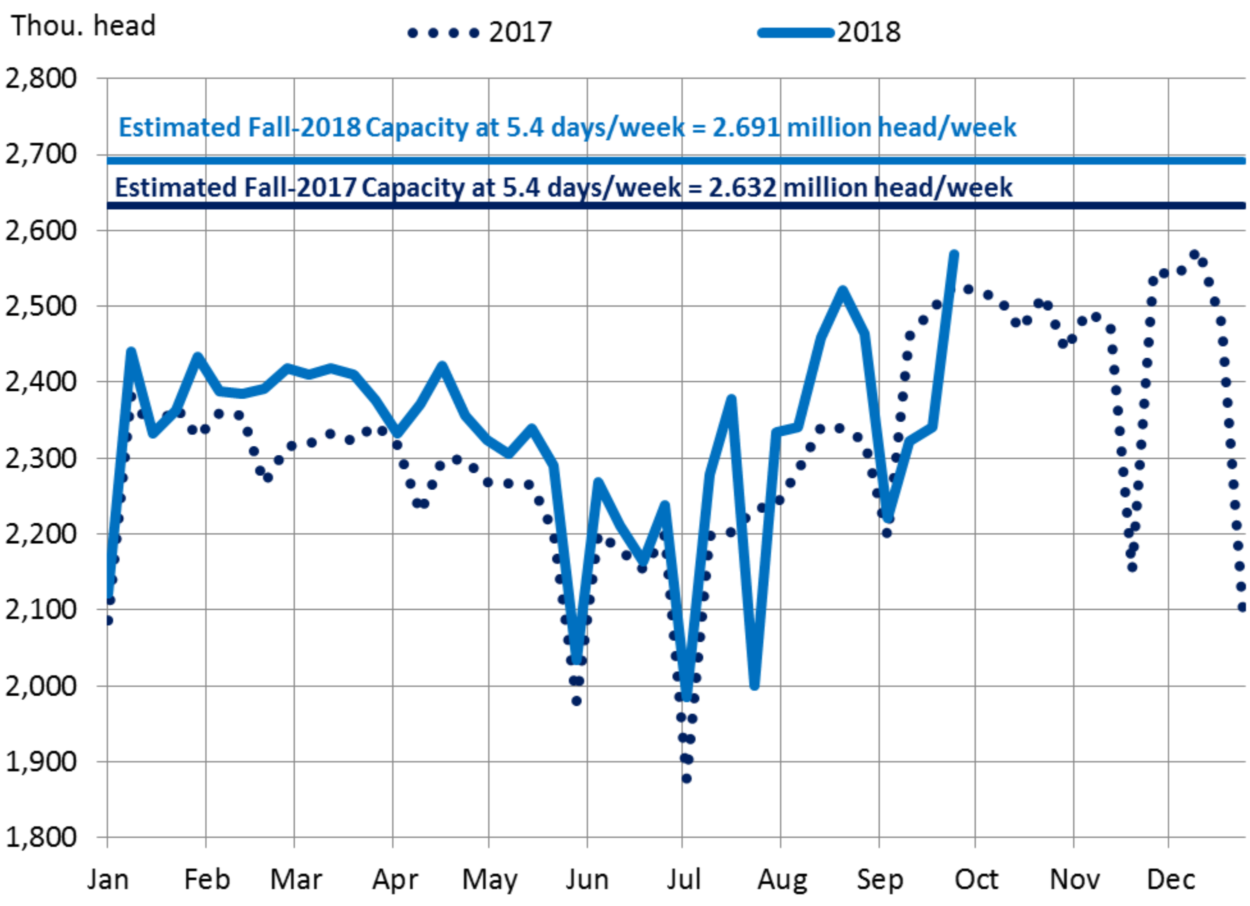
Iowa's farrowing intention estimates don't quite jibe with the current size of the breeding herd. For September through November farrowing intentions, a year over increase of only 1.8% is projected. Given the size of the September 1 breeding herd, one would expect September through November sows farrowing to be about 5.8% higher than the previous year. This would be consistent with a farrowing ratio (farrowings divided by breeding herd) of 56.1%, which is in line with the last two September through November quarterly estimates.

Iowa/Minnesota sow slaughter has been up 14% compared to last September. This may help explain the smaller than expected farrowing intentions.

Iowa remains the primary destination for weaned and feeder pigs, both from other U.S. states and Canada. In the latest USDA Market News Service National Direct Delivered Feeder Pig Report, Iowa was the destination for over 80% of the reported volume. Iowa was also the origin for 16.8% of state outshipments likely bolstered by the large pig crop.

With the larger market hog inventories it will be imperative that hogs aren't being backed up on the farm this fall. The best indicator of how current producers are in their marketing is hog weights. In November and December of 1998 when the available supply of slaughter hogs clearly exceeded slaughter capacity, hog prices dropped below $20 per live hundredweight for two months and Iowa-Minnesota slaughter weights jumped 10 pounds from the start of October to the start of December. This fall, slaughter weights have been holding steady. This is an early indication that a backlog of hogs hasn't developed that will have to be worked through.

Figure 1. Hog Slaughter, Federally Inspected, Weekly



Source: USDA-AMS. Dr. Steve Meyer, Economist with Kerns and Associates

Few pork producers will ever forget December 1998 when hog prices dipped to $10/cwt and averaged below $15/cwt for the month. These were the lowest prices in current dollars since mid-1965, and, adjusted for inflation, the lowest prices ever in the history of the United States. If the old adage is right and history repeats itself, it's worth taking a look back to reflect on some things that can be learned. Or, importantly for the pork industry, what was learned and remedied.

The infamous hog market crash of 1998 was not the result of a lack of demand. Pork moved relatively well in consumer markets in spite of retail prices that were near record levels at the time. Retail pork demand in 1998 was 7% higher than in 1997 and was the highest since 1992 based on a demand index that takes into account per capita consumption and inflation adjusted prices. U.S. pork exports from January through September 1998 were

26% higher than during the same period in 1997. October through December 1998 exports were down 2% compared to the 4th quarter of 1997. Still pork exports were up 18% year over year in 1998.
Record low hog prices in the last quarter of 1998 were primarily attributed to a decrease in the demand for hogs due to a significant decrease in packer capacity. The 10% increase in production in 1998 should have brought just a 20% decline in the hog price from the 1997 average of $52 per live hundredweight. Prior to 1998, the long-standing rule was a 1% change in production led to a 2% change in price. Instead, prices fell by an alarming 38%, a ratio of almost four-to-one. The culprit, as it turned out, was a rather sudden 8% drop in hog slaughter capacity. Several U.S. packing plants closed or reduced capacity, e.g., Apple Valley plant in Michigan and Dakota Pork plant in South Dakota closed and Smithfield in North Carolina reduced capacity.

The market hit a packer capacity constraint as most plants were operating double shifts, Saturdays, and in some cases Sunday. Accelerated plant operating and added labor costs tend to further depress hog prices. Beginning in the last week of September 1998, weekly hog slaughter exceeded 2 million head for 12 consecutive, non-holiday weeks. In 1997, only the week before Christmas recorded a slaughter of 2 million head. What began as a slaughter capacity crisis quickly created a liquidity crisis for most pork producers and then a business crisis for pork production in the United States.

While no one is predicting a repeat of 1998, slaughter capacity will be a factor this fall. Dr. Steve Meyer, Economist with Kerns and Associates, has maintained a detailed database of hog slaughter plants and capacity for many years and his survey pegged the weekly slaughter capacity at 2.691 million head per week for fall 2018 (Figure 1). This is a 2% increase from fall 2017. In 2017, the largest weekly slaughter was 2.576 million head for the week ending December 16. Fourth quarter hog slaughter in 2018 could be up as much as 5% to 6%. The peak week(s) of slaughter could pressure packing capacity limits. Saturday operations will be an important factor for slaughter capacity.

While packer capacity is an issue to watch, as it could significantly impact prices, there are other factors that could impact hog prices this fall and beyond.

Domestic consumer demand for pork has been strong and is expected to continue. However, prospects for a further boost in domestic demand are limited. Therefore, export markets will have to absorb the production increases. U.S. producer access to foreign markets will be critical to preventing a domestic supply glut as well as deterioration in margins for both producers and processors. Trade issues with Mexico and Canada have improved but remaining trade disagreements with China continue to escalate.

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 September 28, 2018 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.

Table 2. Commercial Hog Slaughter Projections and Lean Hog Price Forecasts, 2018-19

	Year-over-Year Change In Commercial Hog Slaughter (percent)	ISU Model Price Forecast, Negotiated IA/So MN ($/cwt)	CME Futures (9/28/18) Adjusted for Negotiated IA/So MN Basis ($/cwt)
Oct-Dec 2018	4.33	53-57	55.76
Jan-Mar 2019	2.84	61-65	64.05
Apr-Jun 2019	3.11	69-73	72.69
Jul-Sep 2019	3.45	68-72	71.65

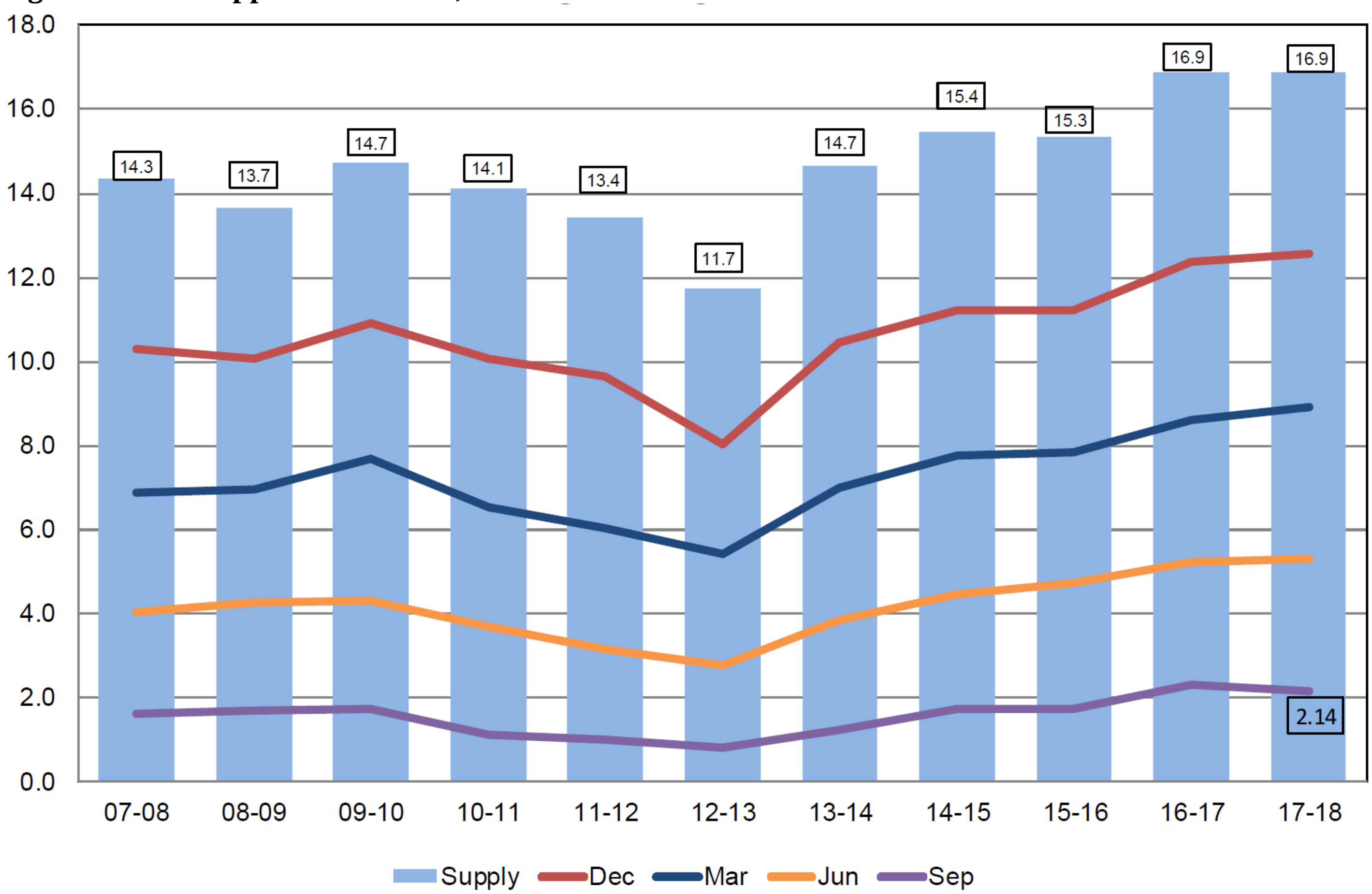
Lee Schulz

A Big Pile of Leftovers

The 2017/18 crop year was very similar to a Thanksgiving dinner. A whole lot of consuming went on, but in the end, there are a lot of leftovers. When USDA released the Grain Stocks report at the end of September, the stock levels exceeded market expectations. If the markets were searching for good news, the report did not provide it. The general story remains as it has been for the past few years. The marketing year starts with record supplies on hand. Crop usage expands over the year, but usually falls short of production. Stock levels build over time.

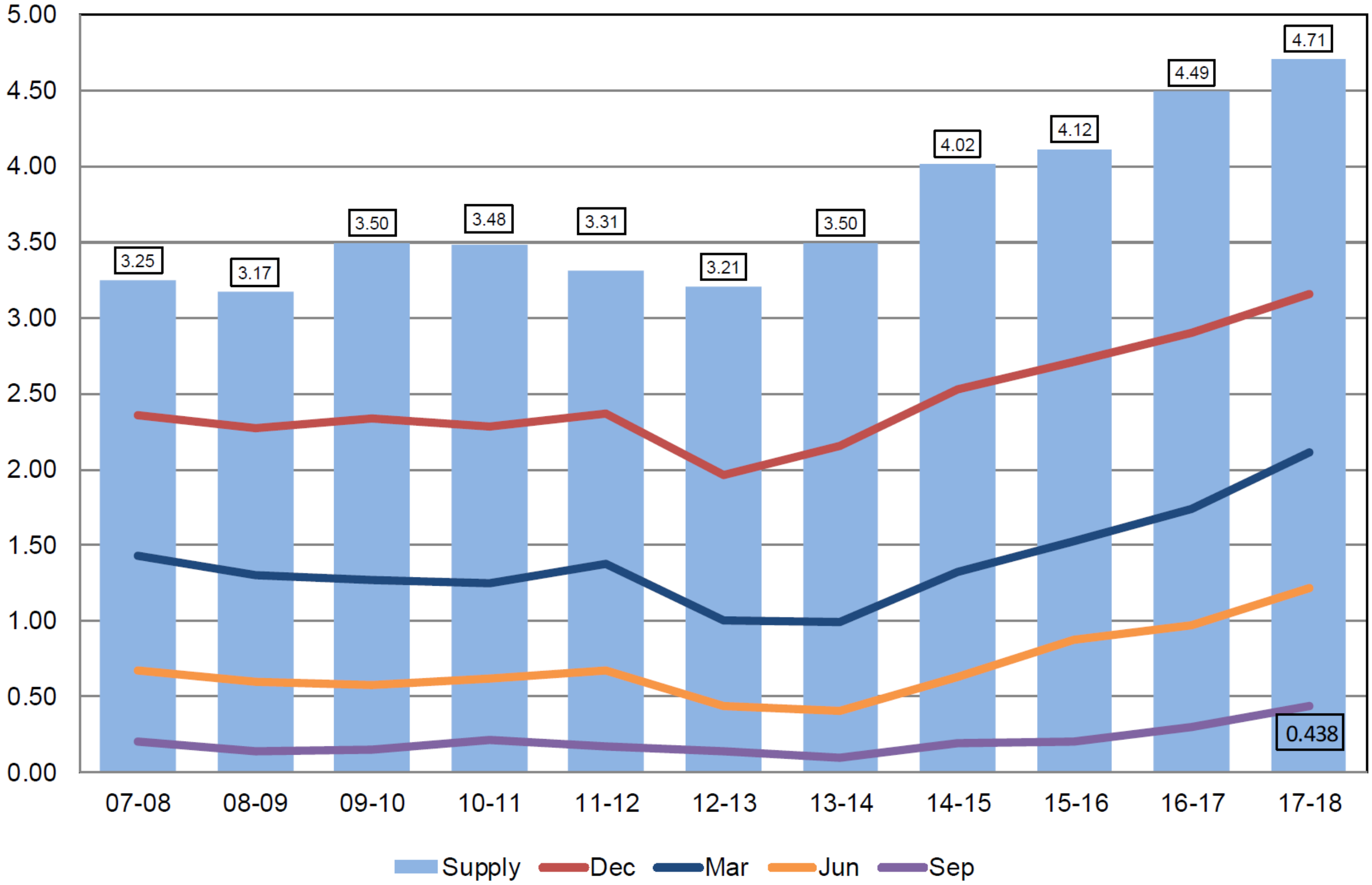
For corn, the marketing year has started off with nearly 17 billion bushels available for the past two years. And given the current production estimate for 2018, we'll start off at that same level again. Ending stocks for 2017/18 are estimated at 2.14 billion bushels. That is 153 million bushels lower than the 2016/17 ending stocks, but it is also around 135 million bushels more than the trade was expecting. Off-farm stocks are up 1 percent from last year, while on-farm stocks are 21 percent lower. Corn disappearance from June to August totaled 3.16 billion bushels, up 7.5 percent year-over-year. In Iowa, both on- and off-farm corn stocks shrank, with on-farm stocks falling 20 million bushels and off-farm stocks dropping nearly 9 million bushels. So some storage area opened up with less corn, but that area was taken up by soybeans.

Figure 1. Corn supplies and stocks, billion bushels. Source: USDA-NASS.



As Figure 2 shows, soybean supplies have steadily marched higher over the past five years, setting records along the way. And while soybean usage has been marching higher as well, stocks have been building. The 2017/18 soybean marketing year started with 4.71 billion bushels and ended with 438 million bushels still in the bin. Given the record projected crop this year, we will likely start out with over 5 billion bushels of soybean this marketing year. On-farm stocks grew 15 percent, while off-farm stocks are 58 percent higher. As with corn, soybean disappearance over the June-August period was strong, up 18 percent versus a year ago. But given the large stocks found, USDA revised their yield and production estimates for the 2017 soybean crop. They raised the national yield estimate to 49.3 bushels per acre, adding nearly 20 million bushels to production.

Figure 2. Soybean supplies and stocks, billion bushels. Source: USDA-NASS.



Given the large stocks already in the bins and the large crops slowly emerging from the fields, the crop markets are searching for additional sources of usage going forward. An area that has received a lot of attention over the past year has been international demand. The various trade disputes the U.S. is embroiled in have cast a cloud over exports, but the data so far this marketing year (starting September 1, 2018) has been mixed. Corn export sales have gotten off to a good start, while soybean export sales have definitely stepped back. Through the first 3 weeks of the marketing year, corn sales are 61 percent higher than a year ago. Much of that expansion has come from Japan and South Korea, but the growth is fairly broad-based. Out of our major corn export markets, only Colombia is down year-over-year. One of the more encouraging signs is the growth of sales in the “Other” category as this represents sales to our smaller trading partners. The 2017/18 corn export year was the 2nd best export year ever, trailing only 2007/08 by 12 million bushels. And so far, the 2018/19 export sales are building off of that strong position.

Meanwhile, the trade war with China has definitely shaken up soybean exports. The soybean export numbers for the 2017/18 marketing year ended a string of record exports. And while the price drop in soybeans has made U.S. soybeans very attractive in the global market, the drop in exports to China is, thus far, too large to overcome. The dispute with China put soybean exports in a 300 million bushel hole. Increased purchases from the rest of the world has been able to cover over half of that loss, but soybean export sales are still down nearly 16 percent from last year. Mexico and the European Union have significantly increased their purchases. And we are seeing some unique export shipments appear. Argentina has become our 3rd largest export destination so far this year. As China has shifted to pull more beans out of South America, Argentina has had to back fill soybean supplies for their crush plants by buying from us. This time last year, Argentina had not purchased any beans from us (hence, the “#DIV/0!” for the percent change). The market is also watching to see if Brazil has to make similar moves. It’s like a game of Musical Chairs in the soybean export market and the world is waiting to see who gets left without a chair.

Figure 3. Corn export sale shifts. Source: USDA-FAS.

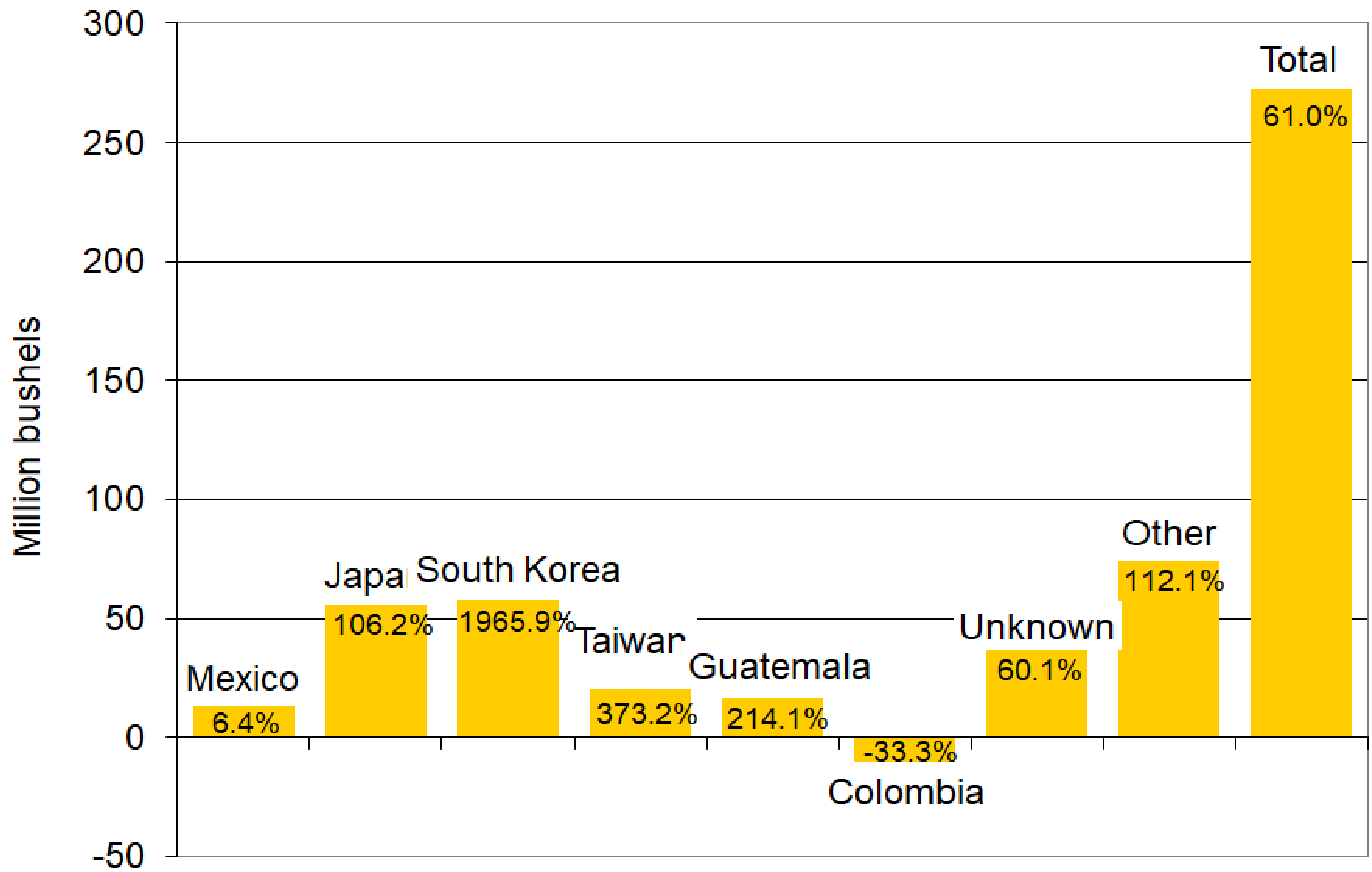
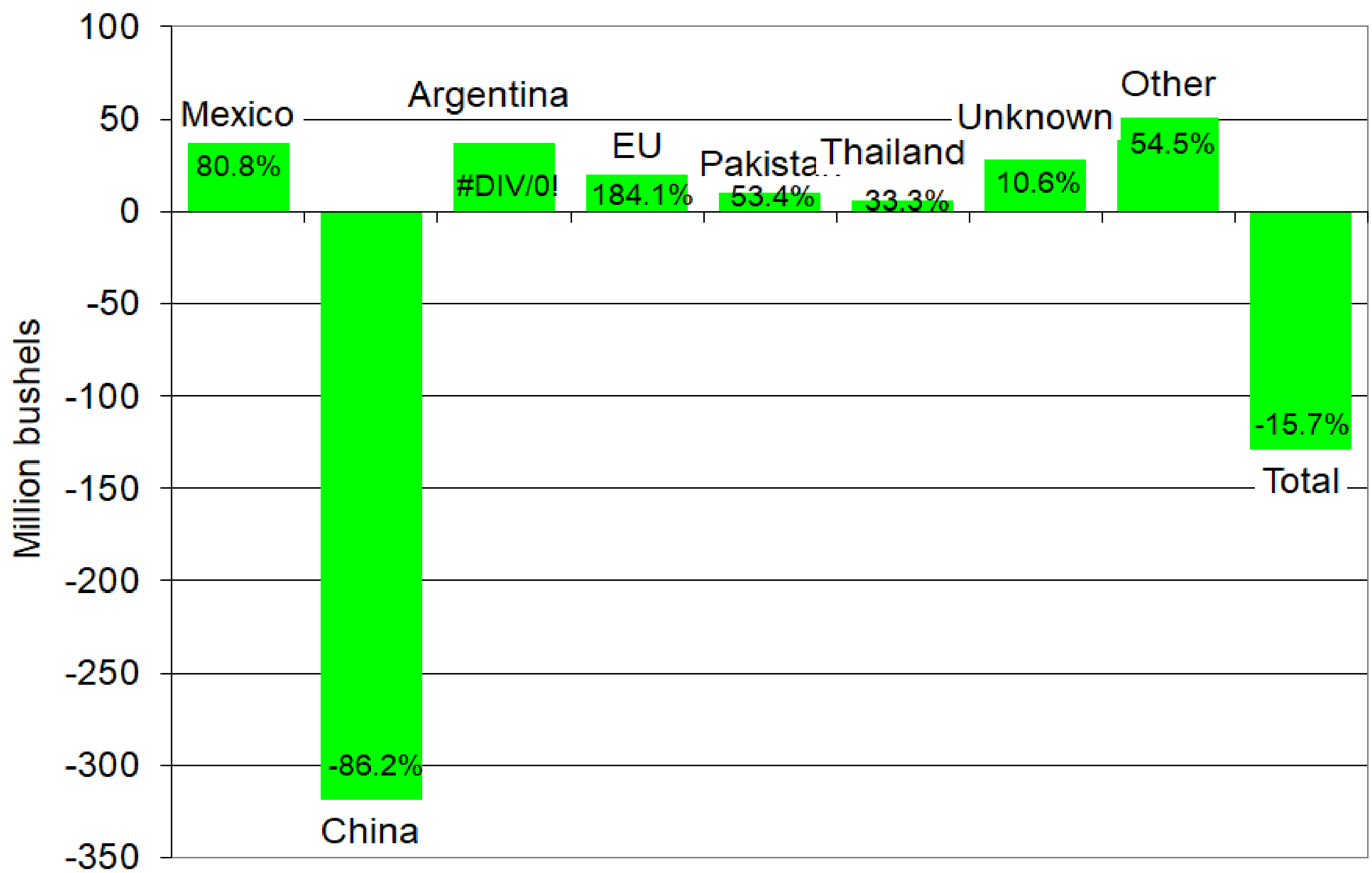
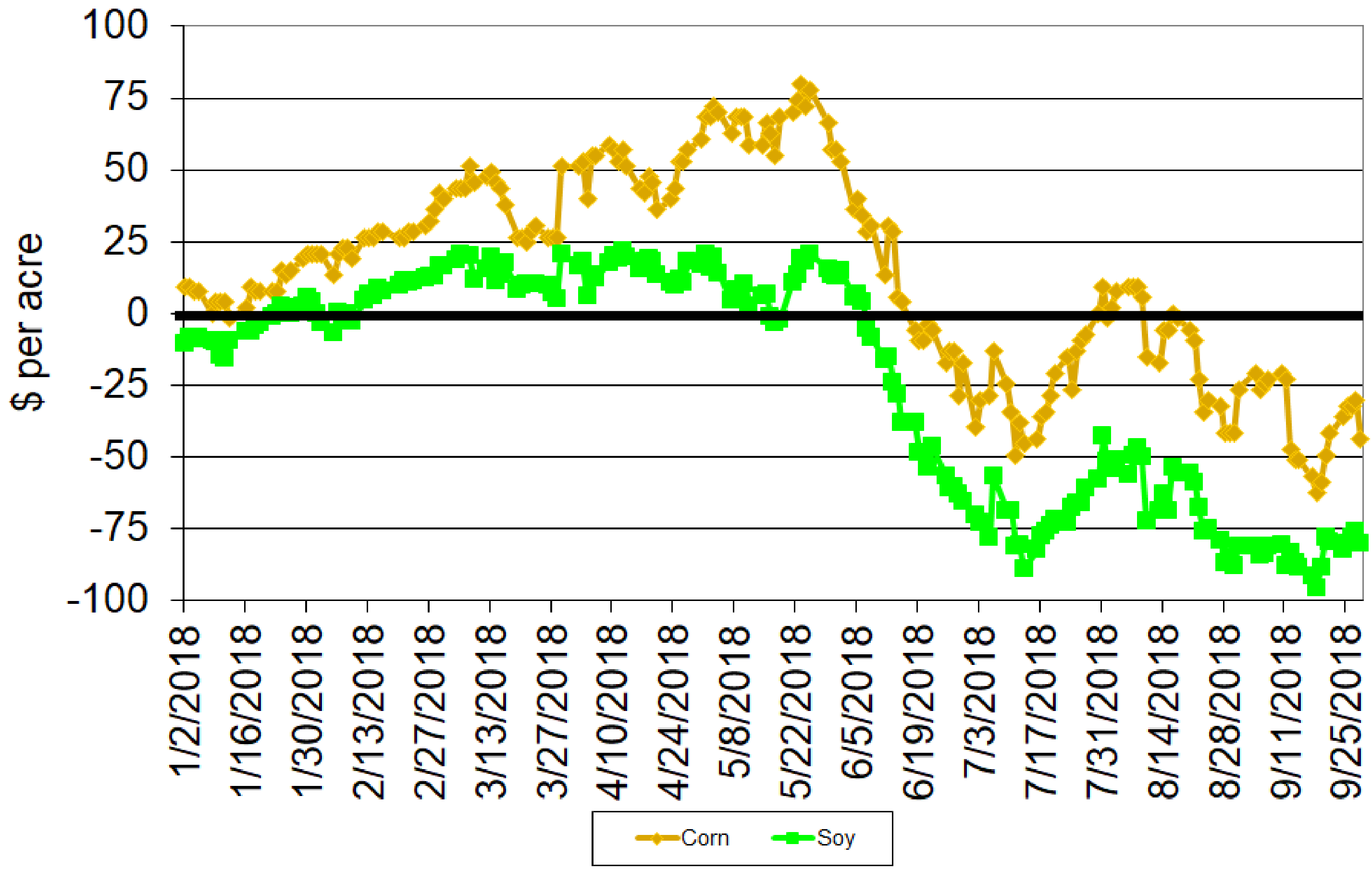


Figure 4. Soybean export sale shifts. Source: USDA-FAS.



The combination of large supplies and trade uncertainty have pummeled projected crop returns. At the end of May, both corn and soybeans projected to provide positive returns. Those positive returns disappeared by mid-June and with the brief exception for corn in early August, we've been below breakeven ever since. Given current futures prices, both crops are showing substantial losses this fall. Current cash prices are just over $3 per bushel for corn and $7.40 per bushel for soybeans. Both are well below ISU's estimated production costs. Having yields above trend will offset some of the damage, but not nearly all of it. And the areas that have suffered from either too much or too little moisture are being hit with the tragic combination of low yields and very low prices.

Figure 5. 2018/19 projected crop margins.



Farm incomes have declined precipitously over the past few years. Maintaining adequate cash flow will be challenging this fall and winter. There are several ways stretch your cash flow. [This 2015 article]() from Dr. William Edwards and Ann Johanns outlines 16 moves farmers can make to reduce cash flow issues. Given the current outlook for the crop markets, now is a good time to review those moves.

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