

Iowa Farm Outlook

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Is this the Last Stand for Beef Cattle Herd Expansion?

The January 1, 2019 USDA Cattle report, released February 28th, for the fifth year in a row showed an increase in the all cattle and calves inventory, after seven years of decline. The cattle inventory report, which is commonly referred to as, is the one cattle report each year that includes all the states and all the cattle from all sizes of operations.

The U.S. had 94.76 million head of cattle and calves on January 1, 0.5% above 2018. This puts the number of cattle in the country at roughly 2009 levels. Following 2009 the cattle herd dropped to a 62-year low of 88.53 million head by 2014, then increased 6.23 million head in the last five years. The beef cow herd was 31.77 million head on January 1, 2019, 1.0% larger than a year ago. Milk cow numbers at 9.35 million head were down 0.8%. USDA reported the 2018 calf crop at 36.40 million head, 1.8% larger than 2017. Peak beef production of this cattle cycle is not expected until early in the next decade.

Table 1. Cattle Inventory by Class and Calf Crop

	United States			Iowa		
	2018	2019	2019 as % of 2018	2018	2019	2019 as % of 2018
January 1 inventory *						
Cattle and calves	94,298.0	94,759.7	100.5	4,000	3,950	98.8
Cows and heifers that calved	40,898.3	41,119.1	100.5	1,170	1,170	100.0
Beef cows	31,466.2	31,765.7	101.0	950	950	100.0
Milk cows	9,432.1	9,353.4	99.2	220	220	100.0
Heifers 500 pounds and over	20,217.8	20,230.0	100.1	850	845	99.4
For beef cow replacement	6,108.2	5,924.9	97.0	165	160	97.0
For milk cow replacement	4,768.3	4,701.5	98.6	135	125	92.6
Other heifers	9,341.3	9,603.6	102.8	550	560	101.8
Steers 500 pounds and over	16,528.2	16,632.7	100.6	1,390	1,360	97.8
Bulls 500 pounds and over	2,252.3	2,263.0	100.5	70	70	100.0
Calves under 500 pounds	14,401.4	14,514.9	100.8	520	505	97.1
Feeder cattle outside feedlots	26,124.9	26,380.3	101.0	1,160	1,105	95.3
Cattle on feed	14,146.0	14,370.9	101.6	1,300	1,320	101.5
Calf crop **	35,758.2	36,402.7	101.8	1,090	1,110	101.8

* 1,000 head, ** 2017 and 2018. Data Source: USDA-NASS. Full report:

<https://downloads.usda.library.cornell.edu/usda-esmis/files/h702q636h/765377121/bc386r54d/cat10219.pdf>.

Producers in some areas of the country are still expanding beef cows. Others are peaking or reducing inventories. The Southern Plains (OK, TX) expanded their cow numbers by 197,000 head in 2018, and this represents about 65% of the country's expansion. Texas cow numbers were up 135,000 head and Oklahoma cow numbers were up 62,000 head, both a 3% annual increase.

Other important beef cow regions and their magnitude of beef cow expansion over the past year includes: the Great Plains (CO, KS, MT, NE, ND, SD, WY) up 80,000 cows or 0.9% and the Cornbelt (IL, IN, IA, MI, MN, MO, OH, WI) up 19,000 cows or 0.4%. South Dakota added 67,000 cows and Nebraska added 31,000 cows. There are, however, certain states in these regions where drought impacts and thus forage supplies remain a concern and have impacted beef cow inventories. Montana saw a 49,000 decline in their beef cow inventory and Missouri lost 27,000 cows. The Iowa beef cow inventory remained unchanged at 950,000 head.

Leading the peaking or contraction was the Southeast (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV) down 4,000 beef cows and the West (AZ, CA, ID, NV, NM, OR, UT, WA) down 2,000 beef cows. Recent drought in the West and excessive moisture in the Southeast has likely been a reason for reductions or limited, if any, increases in beef cow numbers.

Beef cow replacements on January 1, 2019 were 5.92 million head, down 3.0% from last year. Does this mean the end of the beef herd expansion after 5 years? Maybe? But the combination of the beef cow herd and replacements may lead to a larger calf crop again in 2019. While the kept replacement number is down, it is still a relatively high percent of the beef herd inventory at 18.7%. This ratio is down from 19.4% one year ago as heifer retention moves closer to levels consistent with no herd growth. Large heifer retention levels occurred in 2015-2017 with beef replacement heifers at over 20% of the beef cow herd which had never occurred in the history of the data back to 1965. Over the past 20 years this ratio has averaged 18.0%. Dairy replacement heifers were down 1.4% to 4.70 million head on January 1, 2019.

As of January 1, 2019, the calculated available supply of feeder cattle outside feedlots was 26.38 million head, up 1.0% from January 1, 2018. This calculation is made by adding all the calves under 500 pounds together with the all the steers over 500 pounds and the heifers not kept as replacements, and then subtracting off the all cattle on feed estimate.

Cattle on feed in all feedlots on January 1 was 14.37 million head, up 1.6% from a year ago. This was made up of 11.69 million head in feedlots of 1,000 head or more capacity, up 1.7%, which make up 81% of the total. And 2.68 million head in feedlots with less than 1,000 head capacity, up only 0.9%, and make up 19% of the total. January 1 on-feed inventories of feedlots with a capacity of less than 1,000 head over the last 20 years has averaged 19% of the total cattle on feed from all feedlots in the United States. This suggests that nationally, small feedlots are, at least, maintaining their important role within the cattle feeding sector.

The monthly cattle on feed report for January for feedlots with a 1,000 head or more capacity, released February 22nd, showed cattle on feed up 1.7%. The calculations above were derived from the total U.S. cattle on feed, 14.37 million, found in the cattle inventory report, subtracting off the 11.69 million in 1,000 or more head capacity feedlots, found in the monthly cattle on feed report, with the remainder being in the less than 1,000 head capacity feedlots.

The latest USDA Cattle report showed Texas and Nebraska tied for the top spot in number of cattle on feed. This was due primarily to a 100,000 head increase in the Lone Star State while numbers for the Cornhusker State were down 50,000 head.

Higher feedlot numbers were found in the West and in the larger cattle feeding states. Colorado was up 5.0%, Iowa up 1.5%, California up 9.2%, Idaho up 11.3%, and Arizona up 9.5%. The survey does not distinguish between beef and dairy on-feed inventories. California, Idaho, and Arizona have the 1st, 4th, and 13th largest, respectively, dairy herds. Dairy cow numbers in these three states decreased 20,000 head over the last year. Further reductions could be expected as dairies continue to face financial stress. Other heifers, i.e., heifers that will not be bred or used as a replacement animal for milk herd, are increasingly entering feedlots. Other heifer

inventories in these three states were up 31,000 head on January 1. Of note, other large cattle feeding states such as Kansas, South Dakota, and Minnesota were all down in cattle on feed inventories.

One other supply side story related to beef cattle inventories is the hay market situation. December 1 hay stocks declined nationally for the second year in a row to 79 million tons, the smallest December 1 figure since the drought stricken year of 2012. Texas inventories were hit the hardest, losing over 2 million tons in inventory from the year before. Wisconsin and Missouri also had significant reductions in stocks of 900 thousand tons each. This was the smallest December figure for Missouri since 1983, and Wisconsin dipped below 2 million tons, sitting at the lowest value in the dataset back to 1973. Iowa had 220,000 fewer tons at 2.06 million tons in inventory. In Iowa, January 2019 hay prices were \$11 per ton higher than a year earlier. Given tight inventories and high prices, hay acreage is expected to be higher in 2019/20 marketing year. Poor forage conditions and delayed forage growth could prompt beef cow herd reductions. Remember, cattlemen match cattle numbers to given resources. The numbers are the foundation to expanding and/or contracting herd numbers.

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The Trade Picture Right Now

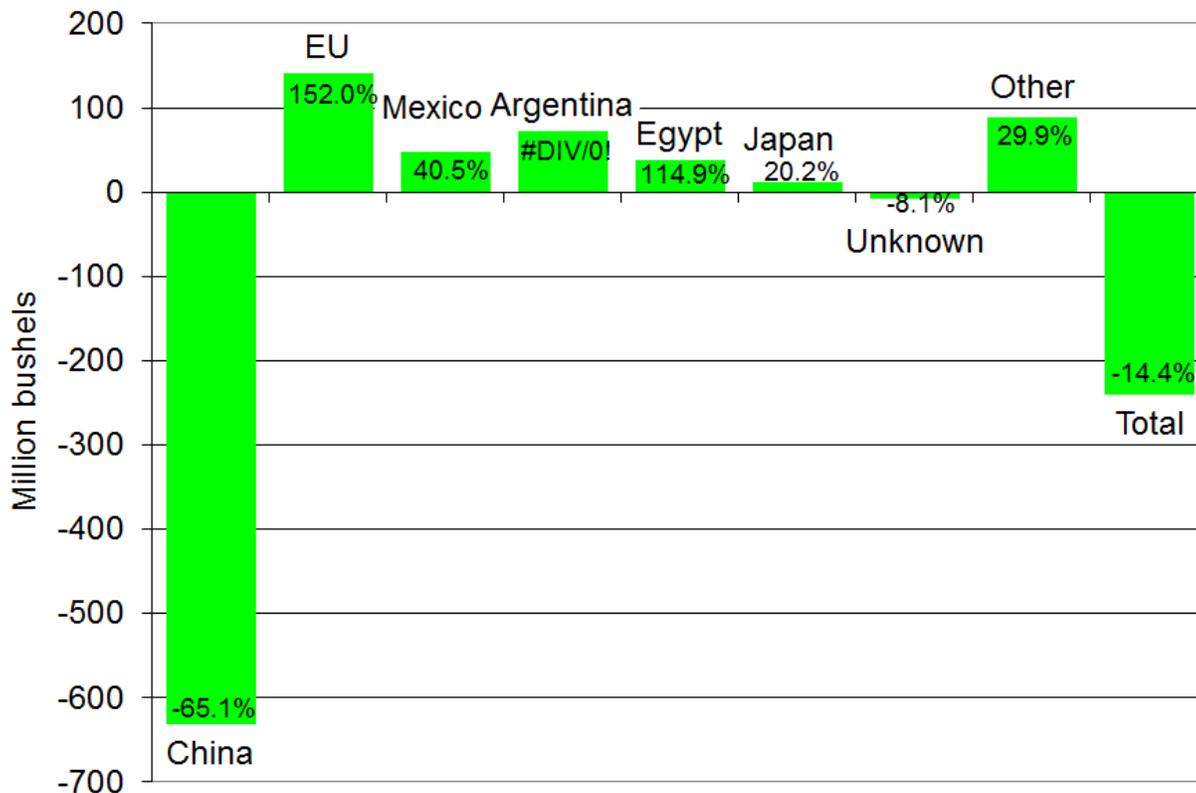
If you're involved in agriculture, then international trade has become a dominant part of your conversations over the past couple of years. Existing trade agreements have been renegotiated. KORUS, our trade agreement with South Korea, was modified. NAFTA became USMCA. Yet those trade stories have taken a back seat on the trade front, as the trade dispute with China reshapes the global ag trade landscape. When the two largest economies collide, the reverberations are felt by everyone. As the tariffs hit last spring and summer, the ag markets began the process of shifting trade flows to rebalance global supplies and demands. In commodities where the U.S. and China were major trade partners, prices sunk as there was suddenly a lot of available product to be had. Now that the tariffs have been in place for a while, we can explore how each of the crop markets have responded to the tariff disruptions.

For U.S. crops, the soybean crop was the most sensitive to the tariff outbreak. That made sense for two reasons. First, roughly half of the U.S. soybean crop has been exported over the past few years. Second, China was, by far, the largest market for those soybeans, taking roughly 60% of U.S. exports. As the soybean tariff was implemented, U.S. soybean prices fell. Within two weeks of implementation, soybean prices had lost \$2 per bushel. The soybean market needed to work through the reallocation of roughly one billion bushels of soybeans. Now, nine months later, we can see there's still some reallocation to do. It's hard to replace a market the size of China.

To examine the current trade picture, we will look at export sale shifts from the end of February 2018 to the end of February 2019. The four figures below follow the same basic pattern. The first six bars are the export shifts for the current 6 largest export markets for the commodity. The 7th bar shows the change in sales to unknown destinations. Many importing firms do not list a specific location until the shipment is to be made. The 8th bar shows the change in sales to the rest of the world (the countries not listed individually in the graph). And the 9th bar shows the total change in export sales. Within each bar is the percentage change in export sales for that country/region.

Figure 1 shows the year-over-year changes in soybean export sales. Last year at this time, China was still the dominant soybean market, having purchased over 970 million bushels of soybeans. With the soybean tariff in place throughout last fall's harvest, China dropped out of our top 10 soybean export markets for a brief period. But with the "trade truce" in place, China has gradually reentered the U.S. soybean market and returned to the top destination for U.S. soybeans. However, the volume of soybeans is still well behind usual. Right now, for this marketing year, China has purchased 339 million bushels of soybeans. That's 632 million bushels behind last year. To put that number in context, Iowa's 2018 soybean production was 565 million bushels. So the current gap in Chinese soybean purchases is larger than the entire Iowa soybean crop.

Figure 1. Soybean export sale shifts (Source: USDA-FAS).



But looking at total export sales, we are only down 240 million bushels. Other countries and regions of the world have taken advantage of lower soybean prices and expanded their uses of soybeans. Some other markets turned to the U.S. from Brazil and Argentina as China crowded them out of those markets. And in the case of Argentina, the U.S.-China trade dispute flipped them from a competitor to a customer, at least for this year. The largest positive shift has come from the European Union. And much of that shift may be the result of trade tensions. President Trump and the President of the European Commission struck a deal this summer as the U.S. was considering automobile tariffs. The U.S. agreed to hold off on tariffs on autos from the EU. In exchange, the EU agreed to purchase more agricultural products from the U.S. And that's exactly what's happened for soybeans. The EU has increased their soybean purchases by approximately 140 million bushels. Mexico has bought 40% more soybeans so far this year. So the fallout from the NAFTA-USMCA renegotiation has been positive on this front. The "Other" category summarizes the impact for the rest of the world (besides the countries/regions not listed individually in the graph). Soybean sales in those smaller markets are nearly 30% higher. So the rebalancing continues in the soybean market. A lot of progress has been made, but there's still a lot to do.

Corn has been impacted significantly less than soybeans by the U.S.-China dispute, as China has been a relatively small customer for U.S. corn. The larger trade issues for corn were the NAFTA-USMCA and KORUS renegotiations, along with the potential impact from the Trans-Pacific Partnership, the multi-country trade pact that the U.S. left. The U.S. has trade agreements with several of our top customers (Mexico, South Korea, Colombia, and Peru). Corn sales to Mexico and South Korea have increased after the successful renegotiations of those agreements. Among our major corn markets, Peru is the only country where we have seen a drop in sales. So while we have seen substantial gains in our major markets, we have also seen a large drop in corn sales to unknown destinations. For corn, many of these sales would eventually show up in these top 6 markets. Putting these pieces of information together right now, the corn export market is roughly in line for total sales with last year.

Wheat represents a case in-between corn and soybeans. China was a sizable market for U.S. wheat, but there were several larger markets for the U.S. During the trade dispute, wheat sales to China have declined significantly. Last year at this time, China had purchased nearly 33 million bushels of wheat. So far this

Figure 2. Corn export sale shifts (Source: USDA-FAS).

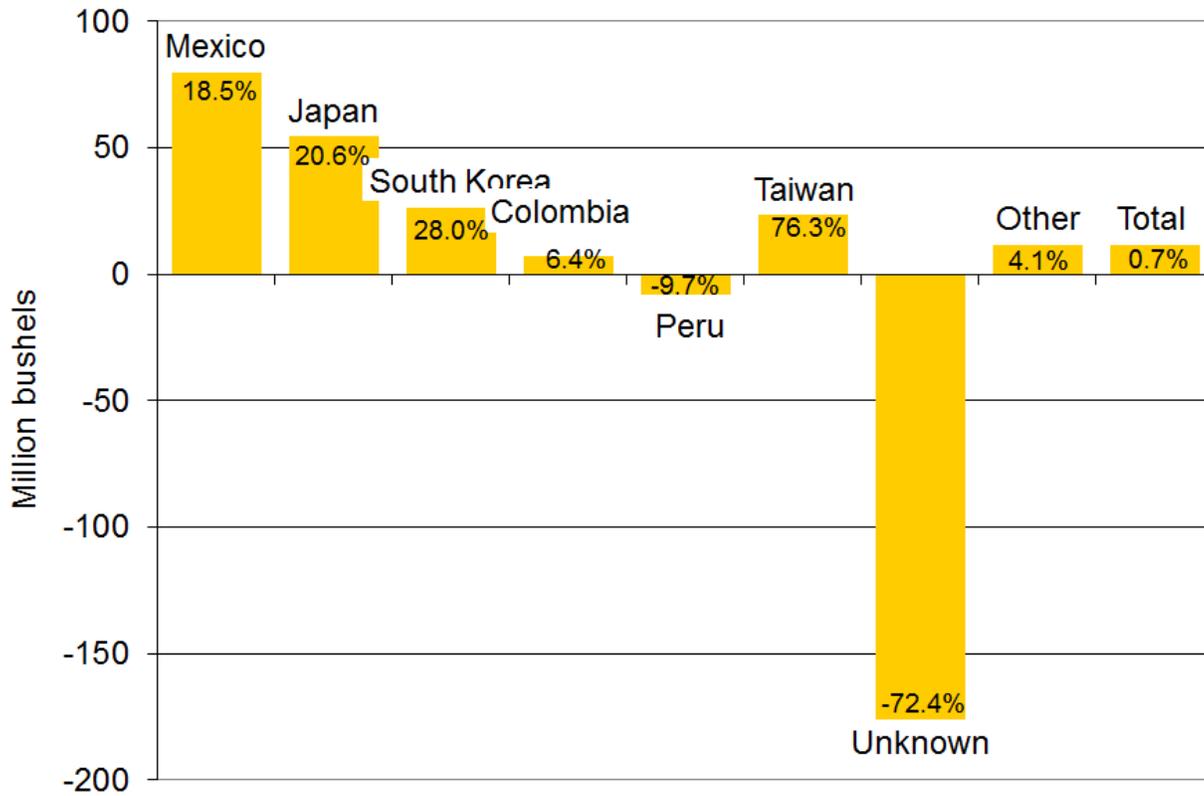
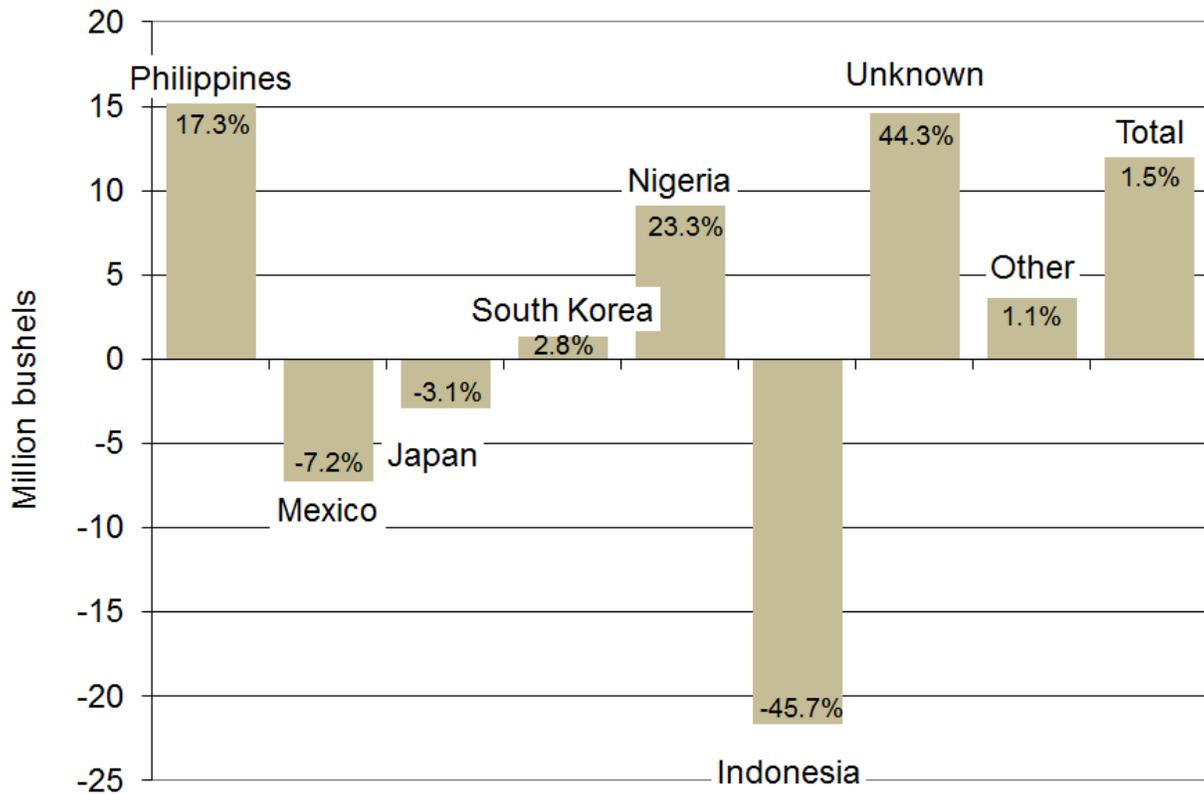


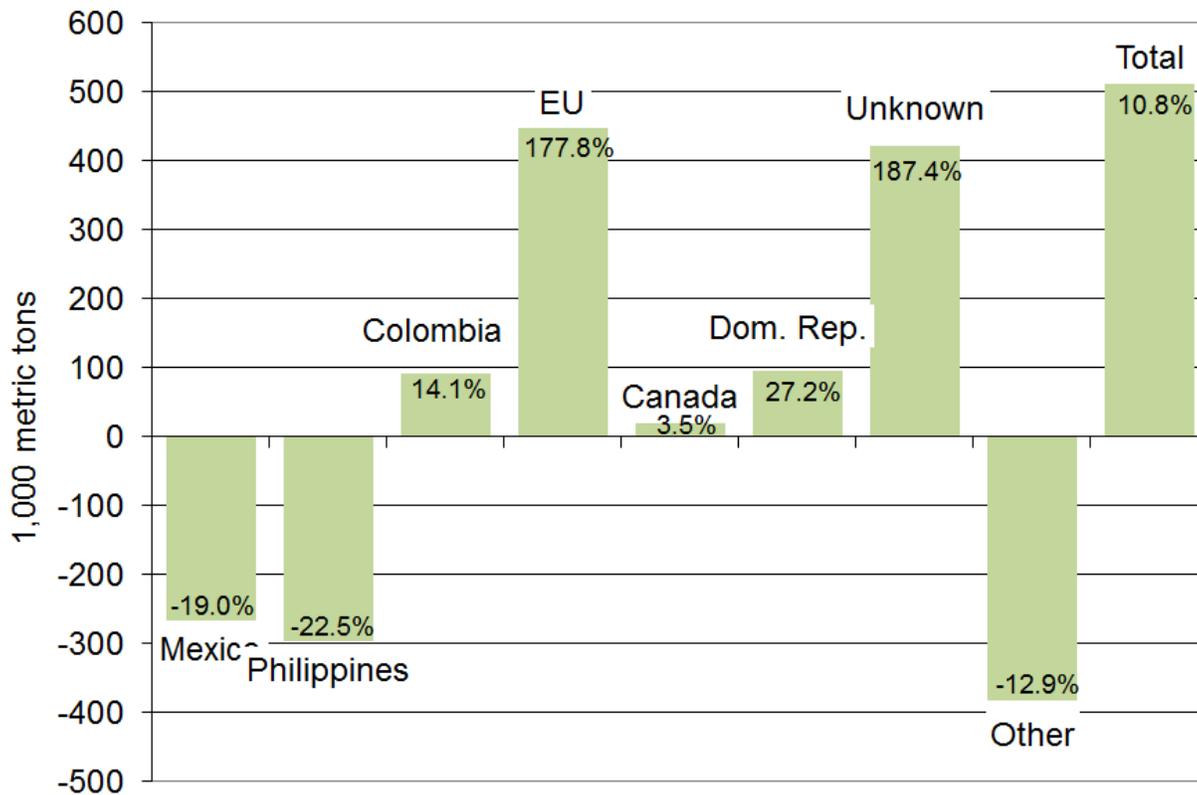
Figure 3. Wheat export sale shifts (Source: USDA-FAS).



marketing year, China has purchased 1.47 million bushels. The Chinese market has evaporated. But despite that loss, total wheat export sales are up. The Philippines, South Korea, and Nigeria are leading the charge, along with increased sales to unknown destinations. And since China would be captured by the “Other” category here, we can see that other smaller markets have made up for the drop in Chinese sales.

With the backlog of soybeans due to the trade dispute, domestic crushing increased to pick up part of the slack. Roughly 25% of the soybean meal produced in the U.S. leaves the country via exports. China has not been a major purchaser of soybean meal as they have shown a strong preference for purchasing soybeans and utilizing their own crushing facilities. As with corn, our major soybean meal customers tend to be countries that have signed trade agreements with us. The exception is the European Union. And with them, the surge in soybean meal exports can be linked with the deal on auto tariffs. Mexico and the Philippines have reduced soybean meal purchases, but those declines have been more than offset by the increases in direct soybean sales to those countries. In fact, many of the countries where we are seeing declines in soybean meal sales are the same countries where we are seeing increases in soybean sales. Overall, soybean meal export sales are nearly 11% higher.

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



Across the crops, the general trade story, outside of China, is that of increased sales, but at lower prices. Looking forward, U.S. farmers are hoping for two things on the trade front. One, many producers hope the resolution of the dispute with China will bring that massive market back into the fold. Two, at the same time, they hope to continue to build stronger relationships with the new set of trade partners we have connected with during the dispute.

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