



Livestock, Dairy, and Poultry Outlook

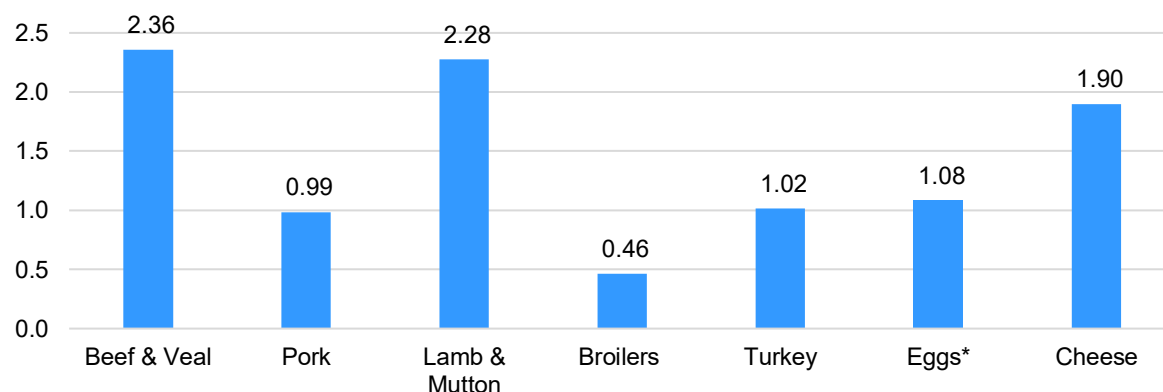
Beef, Lamb Have Highest Unit Values Among U.S. Animal Protein Exports

Kim Ha

All things equal, which animal protein commodities have the highest export unit values? Year-to-date (YTD) 2018 unit export values¹ for major livestock, dairy, and poultry commodities are depicted in the chart below. As can be seen, beef and veal exports have the highest unit value, averaging \$2.36 per pound, driven largely by high-value markets in Asia. Despite representing less than 0.1 percent of total 2018 U.S. animal protein export volumes, lamb and mutton shipments have the second highest unit value, with a YTD average of \$2.28 per pound. Cheese exports have a unit value of \$1.90 per pound. Since this is a weighted average for a wide variety of cheeses, it is usually higher than the price of basic wholesale commodity cheddar. Egg exports, which are more or less equally comprised of higher value shell eggs and lower value egg products, have a unit value of \$1.08 per pound. The unit value for turkey, \$1.02 per pound, closely approximates the unit value of turkey shipments to Mexico, which constitute more than 64 percent of the U.S. turkey export market. The unit value of pork, \$0.99 per pound, is heavily influenced by markets in Japan (which are higher value), South Korea (mid-value markets), and Mexico (lower value markets). Finally, broiler exports—which are dominated by lower value dark meats—have the lowest unit value at \$0.46 per pound.

Unit values of U.S. livestock, dairy and poultry exports (January-August 2018)

\$/lb



Note: *Includes eggs and egg products. Shell-egg equivalent converted from dozens to pounds by conversion factor of 1.5 lbs/dozen per egg-sizing guidelines from the U.S. Dept. of Agriculture, Food Safety and Inspection Service.

Source: U.S. Dept. of Agriculture, Economic Research Service calculations using data from U.S. Dept. of Commerce, Bureau of the Census.

¹ Unit value is calculated as total value/total volume. Volumes for beef, pork, lamb & mutton, and poultry are in terms of carcass-weight equivalent; eggs converted from shell-egg equivalent (dozens) to pounds by factor of 1.5 lbs/dozen.

Beef/Cattle: Fourth-quarter 2018 is likely to be characterized by feedlots feeding cattle longer than previously expected, lowering expected fourth-quarter fed cattle slaughter. This is largely responsible for reducing the 2018 commercial beef production forecast from the previous month. The beef production forecast for 2019 was raised on greater expected placements in second-half 2018 and first-half 2019. However, carcass weights were lowered for the early part of the year. The fed cattle price forecast for fourth-quarter 2018 was raised from last month, but the 2019 price forecast was left unchanged.

Dairy: Based on recent data, milk production forecasts have been raised by 0.3 billion pounds for 2018 and 0.4 billion pounds for 2019. With relatively strong domestic use in August, forecasts for domestic use have been raised for both 2018 and 2019 on a milk-fat milk-equivalent basis. On a skim-solids milk-equivalent basis, the annual domestic commercial use forecast is unchanged for 2018 but has been raised slightly for 2019. Export forecasts on both the milk-fat and skim-solids bases have been raised for 2018 but are unchanged for 2019. The all-milk price forecast for 2018 is \$16.35-\$16.45 per cwt, unchanged at the midpoint of the range from last month's forecast. The all-milk forecast for 2019 is \$16.85-\$17.75 per cwt, an increase of 5 cents from last month's forecast at the midpoint of the range.

Pork/Hogs: The September Quarterly Hogs and Pigs report indicated higher animal inventories and continued additions to the inventory of breeding animals, both of which auger significant increases in U.S pork production. Hog prices in the fourth quarter of 2018 and in 2019 will reflect larger hog numbers. Stepped-up pork production highlights the crucial nature U.S pork exports. Exports in August were almost 5 percent higher, with shipments to Mexico continuing to lead the charge.

Poultry/Eggs: Broiler production projections were revised down on hatchery data and relatively low prices, while export and price projections were not changed. Projected egg production was revised up for the remainder of 2018 on recent production indicators, including lay rates, while prices were revised upwards for the fourth quarter on recent price trends. August 2018 turkey production totaled 517 million pounds, a 5-percent decrease from August 2017. The 2018 turkey production forecast is lowered by 30 million pounds to 5.899 billion pounds, 1 percent below 2017.

Beef/Cattle

Russell Knight and Lekhnath Chalise

Greater Anticipated Placements Raise Production in 2019

The forecast for 2018 beef production was lowered by 150 million pounds to 26.9 billion pounds. The revision is based on adjustments to the third quarter and, in the fourth quarter, expectations of fewer steers and heifers to be slaughtered more than offset the anticipation of more cows added to the slaughter mix. As a result of the updated slaughter mix for fourth-quarter 2018, the anticipated average dressed weight was adjusted slightly lower for the quarter.

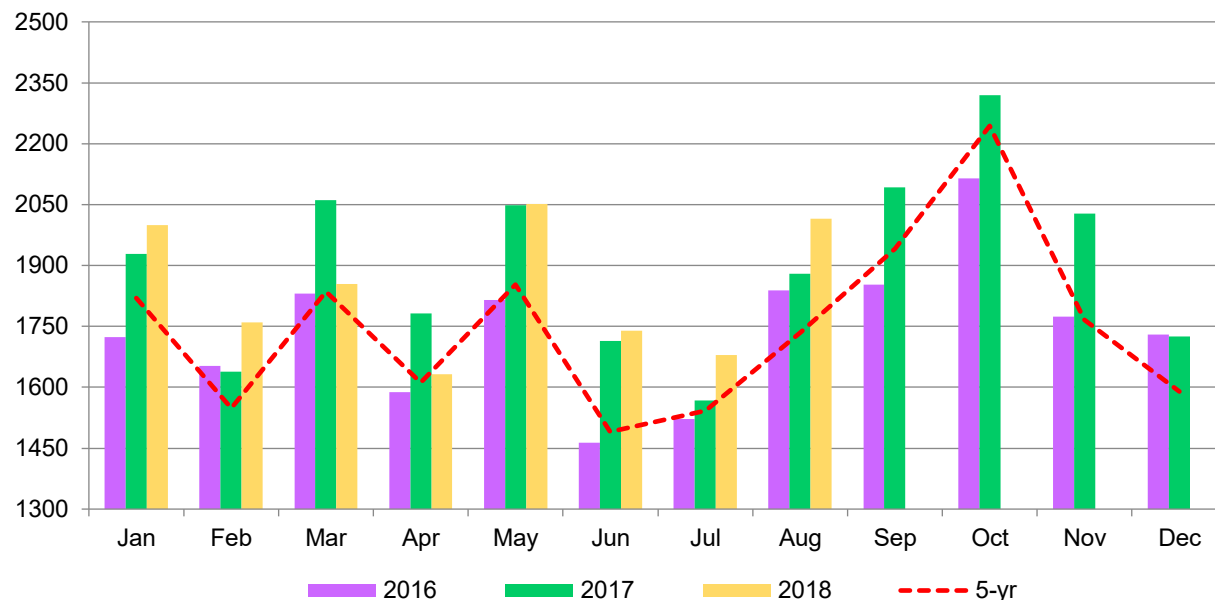
The 2019 beef production forecast was raised by 190 million pounds to 27.9 billion pounds. The adjustment reflects a greater number of cattle expected to be placed in feedlots in second-half 2018 and in first-half 2019, equating to more fed cattle marketed and slaughtered in 2019. The expected higher number of fed cattle to be slaughtered was partially offset by an expectation of lower dressed weights in early 2019.

Feeder Sales and Cattle Imports Support Higher Placements

As noted, the higher beef production forecast for 2019 is largely a function of an increase in expected placements in second-half 2018 and first-half 2019. Based on the latest USDA National Agricultural Statistics Service *Cattle on Feed* report, net placements in August in feedlots with 1,000 head or greater capacity reached 2.1 million head, 7.2 percent above year-earlier levels. For the first 2 months of second-half 2018 (July-August), net placements were 7.2 percent higher year over year. As depicted in the chart below, placements typically increase seasonally month over month from July through October.

The chart also shows that net placements in September, October, and November 2017 exhibited large year-over-year growth from the same period in 2016. Last fall, dry conditions in much of the Southern Plains affected potential winter forage availability. It is likely that much of the year-over-year increase in placements in fall 2017 was the result of calves that might have gone on winter pasture instead going directly into feedlots.

Net placements in 1,000-head-plus lots



Source: U.S. Dept. of Agriculture, National Agricultural Statistics Service; Calculations by ERS.

This year, increased availability of winter forage and a larger calf crop and higher cattle import volume than last year likely support the availability of feeder cattle to go to both pen and pasture. The number of feeder cattle marketed in July-September was up 5.6 percent, based on the USDA Agricultural Marketing Service *National Feeder & Stocker Cattle Summary* report. Feeder calf imports for July and August were 26.2 percent higher than for the same period last year. Not all imports and feeder cattle sales go directly to feedlots, but weekly feeder prices trending higher counter-seasonally in September and into October imply that more cattle are moving through the cattle production system.

As a result, placements into feedlots in second-half 2018 are expected to be higher, continuing in first-half 2019. This implies a greater number of steers and heifers to be slaughtered next year, boosting the beef production forecast for 2019. However, feedlot placements are unlikely to exhibit the same year-over-year gains for September through November reported last year.

Demand Sustains Feeder Calf Prices

Price information from the Oklahoma National Stockyards for feeder steers weighing 750-800 pounds suggests that there is competition for ownership of these animals. Coupled with counter-seasonal gains in prices for lighter-weight feeder cattle, this may suggest that winter forage conditions have improved over last year and also that feedlots are taking advantage of possible positive returns in 2019. As a result, on continued expected strong demand, the fourth-quarter 2018 feeder steer price forecast was raised to \$150 - \$156 per hundredweight (cwt). The annual price for 2019 was also raised to \$141 - \$152/cwt.

Feedlot Operations Hold Out for Higher Prices

The reduced pace of fourth-quarter 2018 fed cattle slaughter reflects a slower expected pace of marketings in the fourth quarter. The slower pace is likely in part a reflection of lighter placement

weights during the spring months, but may also reflect a desire by feedlots to capture premiums implied by October and December futures.

Although fed steer prices in the 5-area marketing region² for September averaged above year-earlier levels, expected increased supplies of cattle available for slaughter in fourth-quarter 2018 are likely to pressure prices relative to last year. Taking into account recent price data and that feedlots may be holding cattle longer for higher prices, the fourth-quarter price forecast for fed steers was raised slightly to \$110 - \$114 cwt. The 2019 price forecast remains unchanged from last month.

U.S. Beef Import Forecast Revised Downward

U.S. beef imports declined year-over-year by 9.7 million pounds, in August 2018 (-3.4 percent), to 272 million pounds. Among the major suppliers, declines from Australia (-9.2 million pounds), Uruguay (-4.2 million pounds), and Mexico (-3.9 million pounds) more than offset the increases from Nicaragua (+4.4 million pounds) and Brazil (+3.9 million pounds). Year-over-year imports from New Zealand and Canada were also slightly lower in August. Cumulative imports for January-through-August 2018 were fractionally lower than year-earlier levels (see table below). There was a notable decline in volume from Mexico, with imports lower year-over-year in each month of 2018 through August.

January through August U.S. beef imports from major suppliers in 2017 and 2018

	YTD August 2018 Million pounds	YTD August 2017 Million pounds	Y-o-y Change Million pounds	Y-o-y Change Percentage
Australia	448.8	455.1	-6.3	-1.39
Canada	521.6	487.1	34.5	7.08
New Zealand	487.1	456.0	31.0	6.80
Mexico	339.3	394.9	-55.6	-14.07
Nicaragua	100.9	86.4	14.5	16.79
Brazil	91.7	104.0	-12.3	-11.85
Uruguay	77.4	87.6	-10.2	-11.63
Other	28.1	24.1	4.0	16.82
Total	2094.8	2095.2	-0.4	-0.02

Source: U.S. Dept. of Agriculture, Economic Research Service.

Note: YTD = Year-to-date, YOY= Year-over-year. All volumes are based on carcass weight equivalent (CWE).

Drought in Australia increased slaughter in mid-2018, increasing the exportable supply of beef. However, despite increased supplies, attractive prices in a number of other Asian countries likely supported a shift in Australia's exports from the United States to Asia. Meanwhile, higher cow slaughter in the United States has increased production of fresh lean, which is likely placing downward pressure on prices of imported frozen lean. Relatively weaker U.S. lean beef prices may provide less incentive to suppliers to increase shipments of their limited supply to the United States. Based on these grounds and a lower than expected import volume in August, the third-quarter 2018 import forecast is revised downward by 10 million pounds to 820 million pounds, setting the 2018 forecast at 3.027 billion pounds. With lower drought-diminished cattle numbers at the beginning of 2019, beef production in Australia is expected to be lower; to the extent any improvements in forage supplies support herd rebuilding, slaughter cattle numbers may be further reduced. With lower expected

² Texas/Oklahoma/New Mexico; Kansas; Nebraska; Colorado; Iowa/Minnesota

exportable supplies of beef in Australia in 2019, exports of beef to the U.S. will be affected. The 2019 beef import forecast is revised downward by 40 million pounds, to 3.1 billion pounds.

Year-over-year August 2018 U.S. beef exports were up 9 percent to 287 million pounds. Among major destinations, August exports were very strong over those from year-earlier to South Korea (+21.6 million pounds), Taiwan (+6.5 million pounds), and Japan (+5.2 million pounds) due to continued demand. Export growth was moderate to Mexico (+1.4 million pounds). August exports declined to Hong Kong (-8.0 million pounds) and Canada (-3.2 million pounds). Exports to Hong Kong began declining year-over-year in first-quarter 2018. The 2018 export forecast is unchanged from the previous month's forecast at 3.164 billion pounds. Higher year-over-year weekly export sales estimates for September continue to support the 2018 forecast. The 2019 exports are also unchanged from last month's forecast at 3.245 billion pounds.

Cattle Exports Higher

The volume of U.S. cattle exports in August was 19,095 head, up 7,507 head from year-earlier levels. Most of the cattle were shipped to Canada. Higher exports in most months in 2018 resulted in a year-to-date increase in exports of over 39,000 head, or 48 percent. Increased feedlot activities in Canada and recent widening in U.S.-Canada feeder price spreads have supported greater feeder cattle movements from the United States to Canada. However, the 2018 cattle export forecast is unchanged from the previous month's forecast at 190,000 head. Based on expectations of sustained Canadian demand, U.S. cattle exports in 2019 have been revised upward by 15,000 head to 195,000 head.

The volume of U.S. cattle imports in August 2018 was 119,865 head, about 22,000 head above year-earlier levels. Through August 2018, year-over-year imports were about 37,000 head higher (+3.1 percent), with increased imports from Mexico more than offsetting the decline from Canada. The cattle import forecasts for 2018 and 2019 were left unchanged from the previous month's forecast at 1.885 million and 1.960 million head, respectively.

Dairy

Jerry Cessna and Jonathan Law

Recent Developments in Dairy Markets

From the week ending September 1 to the week ending October 6, price directions were mixed for the wholesale dairy products reported in the USDA *National Dairy Products Sales Report* (NDPSR). The butter price fell by 2.6 cents per pound over the period. The price for 40-pound cheddar cheese blocks increased by 0.9 cents per pound, but the price for 500-pound barrels declined by 14.9 cents per pound, widening the gap between the two prices. Nonfat dry milk and dry whey prices increased by 3.1 and 6.1 cents per pound, respectively.

Dairy wholesale product prices (dollars per pound)

	For the week ending		Change
	Sept. 1	Oct. 6	
Butter	2.3020	2.2759	-0.0261
Cheddar cheese			
40-pound blocks	1.6562	1.6656	0.0094
500-pound barrels ¹	1.6098	1.4604	-0.1494
Nonfat dry milk	0.8380	0.8685	0.0305
Dry whey	0.3796	0.4410	0.0614

¹ Adjusted to 38-percent moisture.

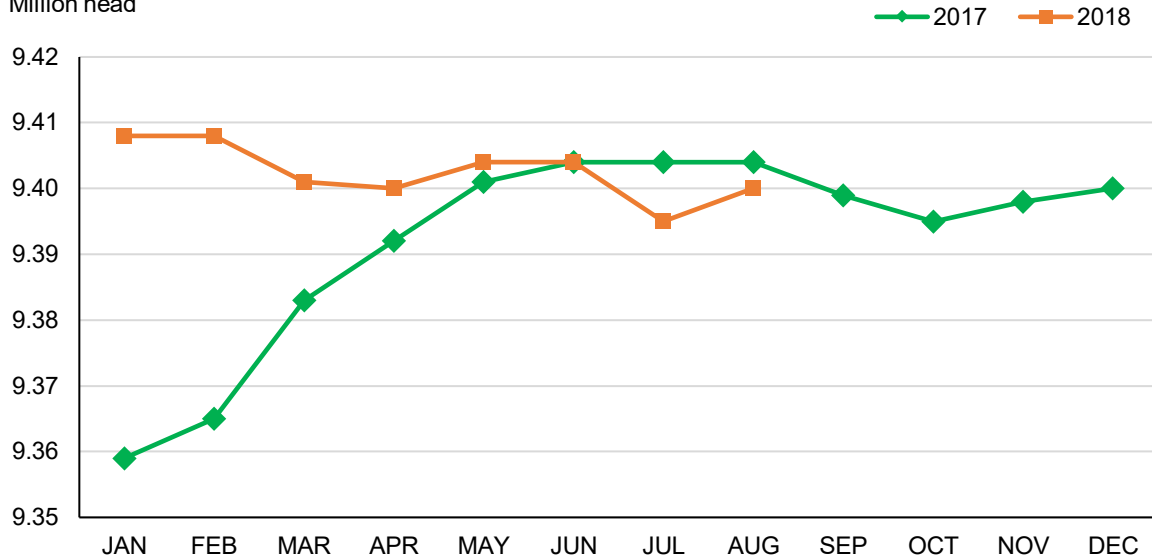
Source: USDA, Agricultural Marketing Service, *National Dairy Products Sales Report*.

For the trading week ending October 12, the Chicago Mercantile Exchange (CME) spot price for butter was \$2.2510 per pound, 2.5 cents lower than the NDPSR price for butter reported for the week ending October 6. The CME butter price usually leads the NDPSR butter price for the following week. The CME cheddar cheese block-barrel spread for the week ending October 12 was very wide, with blocks averaging \$1.6510 per pound and barrels averaging \$1.3660. CME cheese prices usually lead the NDPSR cheese prices for the following 2 weeks.

USDA National Agricultural Statistics Service (NASS) reported U.S. milk production in August to be 18.295 billion pounds, 1.4 percent above August 2017. This was considerably larger than the 0.5 percent year-over-year increase reported for July. Milk cows numbered 9.400 million head in August, an increase of 5,000 from July. It would appear that the increase came mainly from fresh milk cows entering the herd because federally inspected dairy cow slaughter was relatively high for August at 279,700 head, 5.3 percent above August 2017. In September, weekly federally inspected dairy cow slaughter was above 2017 but was only slightly above 2017 levels in the second half of the month. Milk per cow was 1,946 pounds in August (62.8 daily pounds per head), 1.4 percent above August 2017. Milk per cow typically declines seasonally from July to August, with an average decline of 1.2 percent for the 20 years from 1997 to 2017. This year, the decline from July to August was only 0.5 percent.

Number of milk cows

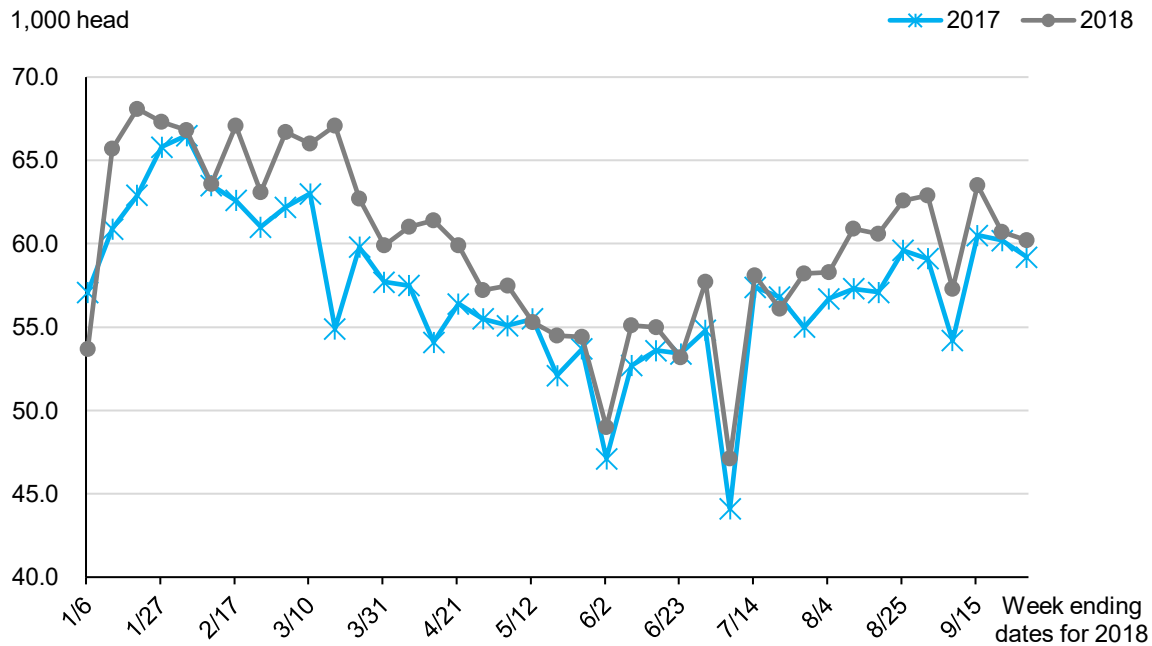
Million head



Source: USDA, National Agricultural Statistics Service.

Dairy cow slaughter under Federal inspection

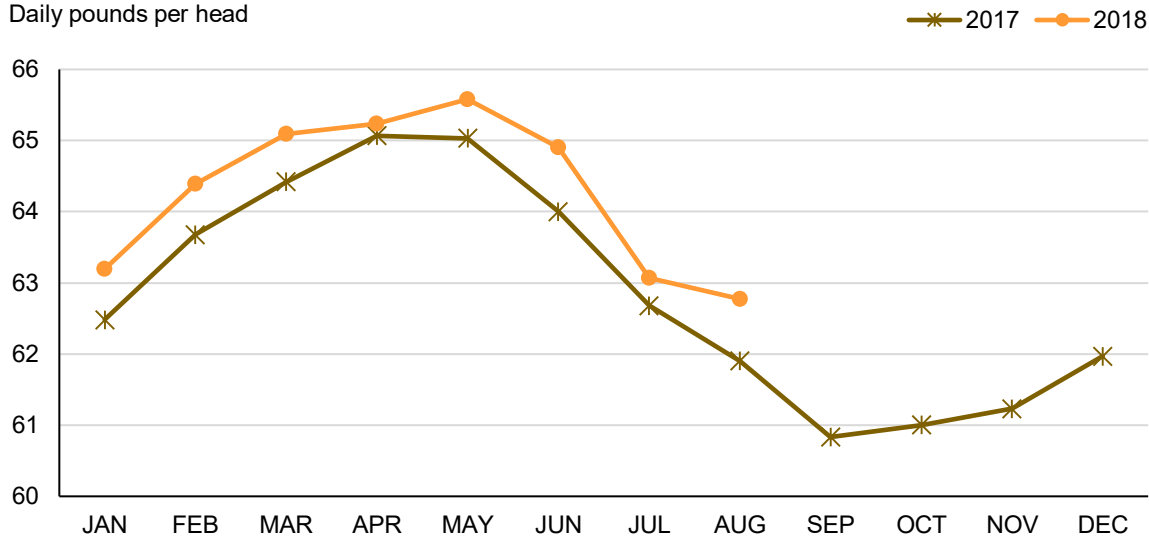
1,000 head



Source: USDA, Agricultural Marketing Service.

Milk production per cow

Daily pounds per head



Source: USDA, National Agricultural Statistics Service.

In August, dairy exports strengthened both year over year and month over month. On a milk-fat milk-equivalent basis, August dairy exports were 916 million pounds, 62 million more than August 2017 and 33 million more than July 2018. August exports on a skim-solids milk-equivalent basis were 3.941 billion pounds, 484 million more than August 2017 and 438 million more than July 2018. Notably, exports of skim milk powder/nonfat dry milk (SMP/NDM) increased 17.6 million pounds from July to August, with much of the increase going to Mexico. Exports of whey products (dry whey, whey protein concentrate (WPC), and modified whey) increased by 21.7 million pounds from July to August, with notable increases in dry whey exports to Mexico and Japan. Exports of butter and cheese increased by 0.6 million and 1.2 million pounds, respectively, from July to August.

On September 18, 2018, China announced that it would implement additional tariffs on certain U.S. exports to China in response to higher tariffs imposed by the United States. Dairy products subject to additional tariffs of 5 percentage points include lactose, infant formula, and milk albumin (whey protein isolate). These are in addition to tariffs imposed by China on U.S. dairy product imports that went into effect on July 6 and August 23 as discussed in our previous reports. Mexico's tariffs on cheese and Canada's supplemental tariffs on yogurt imports from the United States remain in effect.

In August, imports on a milk-fat basis were 587 million pounds, 82 million more than August 2017 and 13 million more than July 2018. August imports on a skim-solids basis were 402 million pounds, 64 million less than August 2017 and 102 million less than July 2018. Notably, from July to August, imports of anhydrous milk fat and butterfat oil increased by 0.5 million pounds, while imports of milk protein concentrate (MPC) fell by 4.1 million pounds.

Domestic demand appears to be strengthening. In July and August, year-over-year growth rates in domestic use on a milk-fat basis were 3.3 percent and 2.4 percent, respectively. This follows a weak second quarter when domestic use on a milk-fat basis was 1.2 percent below the second quarter of 2017. Domestic use on a skim-solids basis in July was 0.2 percent below July 2017, but in August it strengthened to 2.5 percent over August 2017. In the second quarter, domestic use on a skim-solids basis was 1.8 percent below the second quarter of 2017. In August, domestic commercial uses of

cheese, butter, and nonfat dry milk were higher than August 2017 by 5.1 percent, 3.3 percent, and 34.1 percent, respectively.

With relatively strong domestic use and exports, ending stocks fell substantially from July to August. On a milk-fat basis, ending stocks for August were 17.719 billion pounds, 1.248 billion pounds less than July but 492 million pounds more than August 2018. On a skim-solids basis, ending stocks for August were 11.162 billion pounds, 493 million less than July and 1.057 billion less than August 2018.

Dairy Provisions in the United States-Mexico-Canada Agreement

On September 30, the United States, Canada, and Mexico reached an agreement called the United States-Mexico-Canada Agreement (USMCA). It would replace the North America Free Trade Agreement, and it has several provisions relevant to the dairy industry. For more information, see the website for the Office of the United States Trade Representative. The agreement must be approved by legislative bodies in all three countries before it can be implemented. Since the agreement has not yet been approved and the potential effective date is not yet known, impacts of the agreement are not considered in USDA forecasts.

Outlook for Feed Prices

The alfalfa hay price in August was \$177 per short ton, \$2 lower than July but \$30 higher than August of last year. The 2018/19 price forecasts for corn and soybean meal are unchanged from last month's forecasts at \$3.00-\$4.00 per bushel and \$290-\$330 per short ton, respectively. For more information, see the USDA Economic Research Service publication *Feed Price Outlook*.

Dairy Forecasts for the Remainder of 2018

Due to growth in the dairy herd between July and August, the projected size of the dairy herd has been raised 5,000 head for the second half of 2018 to 9.400 million head; the rounded projection for 2018, however, remains at 9.400 million head. Similarly, recent growth in milk per cow motivated an increase of 20 pounds in the third quarter estimate and 5 pounds in the fourth quarter forecast, to 5,750 and 5,730 pounds per cow, respectively. With these changes, the milk production forecast for 2018 is now 218.1 billion pounds, 0.3 billion pounds higher than previously forecast.

On a milk-fat basis, the 2018 import forecast has been raised 0.1 billion pounds to 6.3 billion due to recent strength in imports of butterfat products and cheese. Exports are forecast 0.2 billion pounds higher for 2018 than last month's forecast at 10.5 billion pounds due to higher expected cheese exports. Based on relatively strong growth in domestic use in July and August, domestic use for 2018 is forecast at 212.9 billion pounds, an increase of 0.3 billion pounds from last month's forecast. With offsetting changes to supply and use, the ending stock forecast is unchanged at 13.5 billion pounds.

The forecast for imports on a skim-solids basis in 2018 has been lowered slightly to 5.6 billion pounds based on lower expected imports of MPC. Exports on a skim-solids basis are forecast 0.4 billion pounds higher than the last forecast, at 45.1 billion pounds for the year, due to recent strength in exports of NDM and whey products. With higher expected exports, the forecast for ending stocks on a skim-solids basis has been lowered to 10.8 billion pounds. The forecast for domestic use on a skim-solids basis is unchanged at 178.6 billion pounds.

Relatively small changes have been made to dairy product price forecasts for the fourth quarter of 2018. The cheddar cheese price forecast for the quarter has been lowered to \$1.585-\$1.625 per pound, while the dry whey price forecast for the quarter has been raised to \$0.420-\$0.440, both based on recent prices. Recent strength in the butter price is expected to carry through the end of the year, so the fourth-quarter butter price forecast has been raised to \$2.250-\$2.320 per pound. The NDM price forecast for the quarter is slightly higher than the last forecast, at \$0.865-\$0.905 per pound.

With a lower expected cheese price more than offsetting the higher expected dry whey price, the fourth-quarter Class III price forecast has been lowered 10 cents at the midpoint of the range to \$15.60-\$16.00 per cwt. With higher expected butter and NDM prices, the Class IV price projection has been raised 35 cents at the midpoint of the range to \$14.85-\$15.35 per cwt for the fourth quarter. These changes result in a fourth-quarter all-milk price forecast of \$17.60-\$18.00 per cwt, 15 cents higher at the midpoint of the range than previously forecast. However, with the third-quarter all-milk price estimated lower than before, the all-milk price forecast for the year is \$16.35-\$16.45 per cwt, unchanged from last month's forecast at the midpoint of the range.

Dairy Forecasts for 2019

Based on the recent increase in milk cow numbers, the forecast for the size of the milking herd has been raised 5,000 head to 9.410 million head for the year. The 2019 forecast for yield per cow has been raised to 23,525 pounds, 30 pounds higher than last month's forecast, due to recent growth and continued expectations of relatively low feed prices. With both higher expected cow numbers and higher expected yields, the milk production forecast for 2019 is 221.4 billion pounds, 0.4 billion pounds higher than the last forecast.

Strength in imports of butterfat and cheese is expected to continue in 2019. As a result, imports on a milk-fat basis are now forecast at 6.3 billion pounds for 2019, an increase of 0.3 billion pounds from the last forecast. The export forecast remains at 9.8 billion pounds for the year. The domestic use forecast has been raised 0.6 billion pounds to 217.5 billion, as strong demand is expected to continue into next year. Strength in demand is expected to contribute to a year-over-year decrease in ending stocks, which are forecast at 12.5 billion pounds at the end of 2019.

On a skim-solids basis, the import forecast has been lowered 0.1 billion pounds to 5.5 billion pounds, based on lower expected MPC imports. Exports on a skim-solids basis are projected at 44.1 billion pounds for 2019, unchanged from last month's forecast. Ending stocks are forecast at 10.8 billion pounds, the same as previously forecast. The forecast for domestic use on a milk-fat basis has been raised 0.1 billion pounds to 181.6 billion, which would represent year-over-year growth of 1.7 percent from the 2018 forecast.

Small changes were made in the product price forecasts for 2019, with the largest being for the dry whey price forecast; the price was raised 3.5 cents at the midpoint of the range to \$0.385-\$0.415 per pound, based on recent domestic price strength. The cheddar cheese price forecast has been lowered to \$1.575-\$1.665 per pound. The butter price forecast is slightly higher for the first quarter, based on recent price strength; the annual 2019 projection is \$2.215-\$2.335 per pound. The NDM price forecast is unchanged at \$0.825-\$0.895 per pound.

With the higher dry whey price forecast more than offsetting the lower cheese price forecast, the Class III price forecast has been raised to \$15.30-\$16.20 per cwt. The Class IV price forecast is \$14.35-\$15.35 per cwt, unchanged from last month's forecast at the midpoint of the range. The all-milk price

forecast for 2019 is \$16.85-\$17.75 per cwt, 5 cents higher at the midpoint of the range than previously forecast.

Pork/Hogs

Mildred Haley

U.S Inventory of Breeding Animals Continues To Expand

On September 27, 2018, USDA released its *Quarterly Hogs and Pigs* report, detailing September 1 hog and pig inventories, June-August farrowing and pig crop information, and producer farrowing intentions for the fall 2018 and winter 2019 quarters. The report showed—similar to recent-past reports—across-the-board increases in hog and pig inventories; the inventories of all hogs and pigs and of market hogs were each 3 percent greater than a year earlier. The inventory of breeding animals, which was also 3 percent higher than a year ago, was particularly notable in light of the ongoing expansion of the U.S pork processing industry.

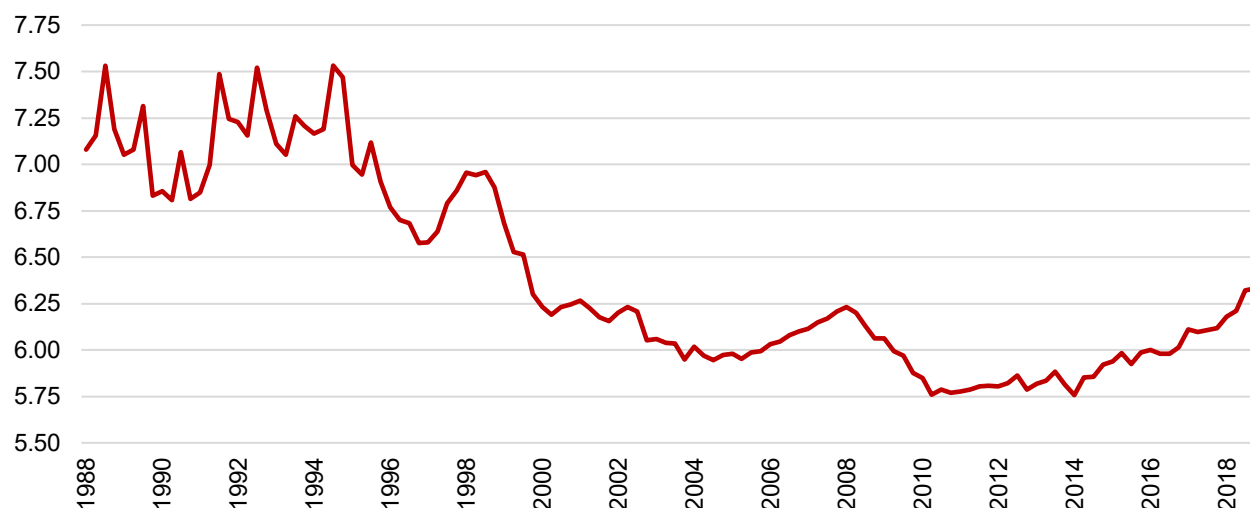
The size of the U.S breeding herd is important because it is the main source of the processing industry's primary input: market hogs. In announcing the size and capacity of new processing facilities—beginning with the Clemens Food Group's announcement in December 2014 of its intention to build a new facility with capacity to process 12,000 hogs per day in Coldwater, Michigan—the expanding processing industry has effectively announced its future animal needs. Thus, the rate of breeding herd expansion as it builds to meet processors' announced demand predicts future hog supplies, with important implications for future hog prices.

At 6.33 million head, the 3-percent year-over-year increase in the September 1 breeding inventory marked the 31st quarter since the inventory sustained more than a single quarter with a year-over-year quarterly decline. This record-long expansion accelerated in late 2014, when the first significant increase in pork processing capacity was announced. Last year, three new facilities opened: one in Michigan, a second in Minnesota, and a third plant in Iowa. These three operations together added capacity to process about 27,300 hogs per day. A fourth facility is expected to open in late 2018, which will likely add an additional daily capacity of 12,000 head in early 2019.

A measuring of the change in the breeding inventory from September 2014 through September 2018 suggests that the U.S hog industry has kept pace with the needs of the processing sector of the industry. The September 1 USDA\NASS breeding inventory indicates that the U.S hog industry has added about 410,000 breeding animals since September 2014. Assuming annual sow productivity of about 21 pigs per year, the industry currently has the sow base necessary to produce the animals needed to supply the three new facilities now operating—and is well on its way to building the base to supply additional the animals per year that the fourth new facility will demand when it ramps up production in Iowa next year. At any one of these facilities, second shifts would further increase the number of additional sows necessary to supply the demand for market hogs.

Quarterly inventory of breeding animals

Mil. head



Source: National Agricultural Statistics Service, USDA.

Production and Price Implications of the September Report

USDA adjusted quarterly pork production forecasts, beginning in the fourth quarter of 2018 and continuing through 2019, based on the September report. Total 2018 pork production was adjusted lower from last month to account for lower than expected third-quarter hog slaughter. Third-quarter pork production is estimated to be 6.3 billion pounds, 1.4 percent above a year earlier. The March-May pig crop implies fourth-quarter pork production volume at almost 7.1 billion pounds, about 5 percent above the same period last year. Carcass weights for the second half were also forecast slightly lower than last month based on recent slaughter data. These small adjustments bring forecast 2018 commercial pork production to 26.4 billion pounds, 3.3 percent above 2017's total.

For 2019, the slightly larger than expected June-August farrowings reported in the September report, along with the record-high litter rate of 10.72 pigs per litter, together imply first-quarter pork production of about 6.9 billion pounds, almost 4 percent above a year earlier. Producer farrowing intentions reported for the fall 2018 quarter imply second-quarter 2019 pork production of 6.6 billion pounds, almost 5 percent above second quarter 2018. Winter 2019 farrowing intentions suggest third-quarter pork production volume of about 6.8 billion pounds, more than 7 percent above third-quarter 2018. With expectations of continued increases in farrowings and trend growth in litter rates, supplies of hogs point to a commercial pork production next year of almost 28 billion pounds, more than 5 percent above the production total forecast for 2018.

On a quarterly basis, hog prices next year are expected to be \$38-\$40 per cwt in the first quarter (about 21 percent below the same period in 2018), \$41-\$45 per cwt in the second quarter (about 10 percent below a year earlier), and \$43-\$47 per cwt in the third quarter (almost 3 percent above a year earlier). For 2019, the annual live equivalent 51-52 percent lean hog price is expected to average \$40-\$43 per cwt.

Large continued increases in pork production, brought about by industry expansion, highlight the crucial nature of U.S. pork exports, even as domestic pork disappearance rises. This year, per capita

disappearance of pork is expected to be 50.8 pounds, almost 2 percent above year-earlier disappearance. Next year, per capita disappearance is estimated to be 53.1 pounds, 4.4 percent above estimated per capita disappearance in 2018. In the past 5 years, year-over-year percent changes in per capita disappearance have averaged about 1.8 percent.

U.S. pork exports this year are expected to be almost 6 billion pounds, or 22.7 percent of commercial pork production. Next year, with exports forecast at 6.2 billion pounds (an increase of 3.5 percent over the 2018 forecast), exports account for 22.3 percent of pork production.

August Exports Grind Higher

U.S. pork exports in August (the latest month for which trade data is available) were 438 million pounds, almost 5 percent higher compared with shipments a year earlier. The robust August totals occurred despite 5 percent lower shipments to Mexico, which remains the largest foreign buyer of U.S. pork products despite retaliatory tariffs imposed on U.S. pork in June of this year. The Mexican import tariff regime appears to have slowed Mexican import demand for certain U.S. pork products. August exports to the 10 largest foreign destinations are summarized in the table below.

U.S. pork exports: Volumes and export shares of the 10 largest foreign destinations, August 2017 and 2018

	Country	Exports Aug. 2017 (mil. lbs)	Exports Aug. 2018 (mil. lbs)	Percent change (2018/2017)	Export share Aug. 2017 %	Export share Aug. 2018 %
	World	418	438	4.7		
1	Mexico	149	141	-5.1	35.5	32.2
2	Japan	100	107	7.1	23.8	24.3
3	Canada	45	49	9.1	10.7	11.1
4	South Korea	24	31	29.9	5.7	7.1
5	China/Hong Kong	29	19	-35.1	7.0	4.3
6	Australia	14	17	18.1	3.4	3.8
7	Colombia	14	16	14.1	3.4	3.7
8	Dominican Republic	4	10	150.3	1.0	2.3
9	Philippines	7	8	9.8	1.8	1.9
10	Chile	6	8	34.7	1.4	1.9

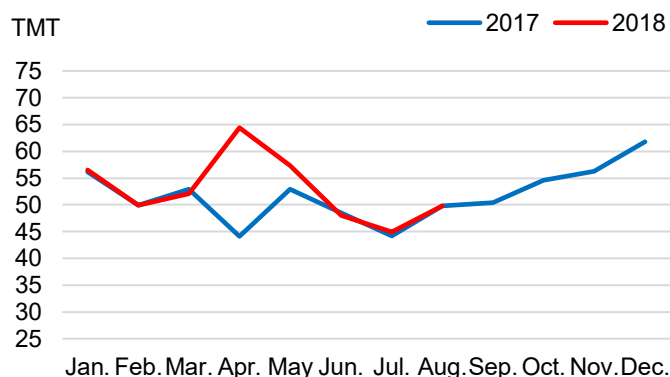
Source: Economic Research Service, USDA.

U.S Exports of Fresh and Frozen Pork Cuts to Mexico Are Equal with Year-Ago Levels Despite Tariffs

Examination of U.S export data to Mexico since the imposition of retaliatory tariffs in June, suggests that shipments of pork products classified under chapter 2 of the system of HS codes, and subject to the tariffs,³ are running about the same as last year. This chapter 2 component of pork exports to Mexico consists mainly of fresh and frozen ham and shoulder cuts, and typically accounts for upwards of 97 percent of monthly shipments. In contrast, U.S exports of chapter 16 items, subject to the tariff and exported in far smaller volumes, appear to be bearing the brunt of Mexico's import tariffs.

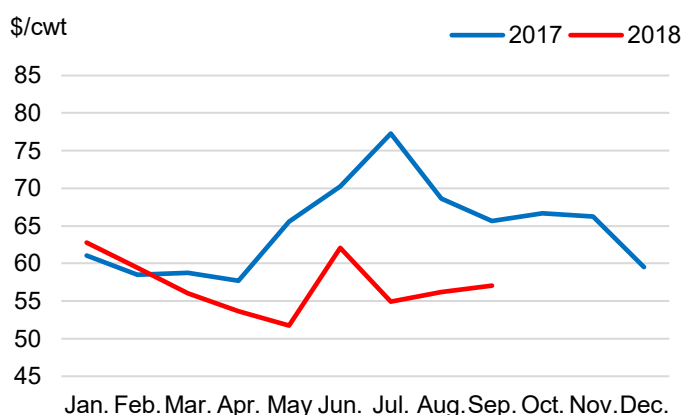
The figure below shows exports of chapter 2 products subject to the tariff. It is notable that since the Mexican tariffs were imposed in June, export volumes (June-August) have remained about equal to those of a year earlier. The lower prices of 2018 U.S. hams, shown in the figure below, are likely offsetting a significant component of the import tariff. June-August prices U.S ham primals averaged 20 percent below prices in June-August, 2017.

U.S. exports to Mexico of fresh and frozen pork cuts, subject to Mexican tariffs



Source: Economic Research Service, USDA.

Average wholesale price of U.S ham primal

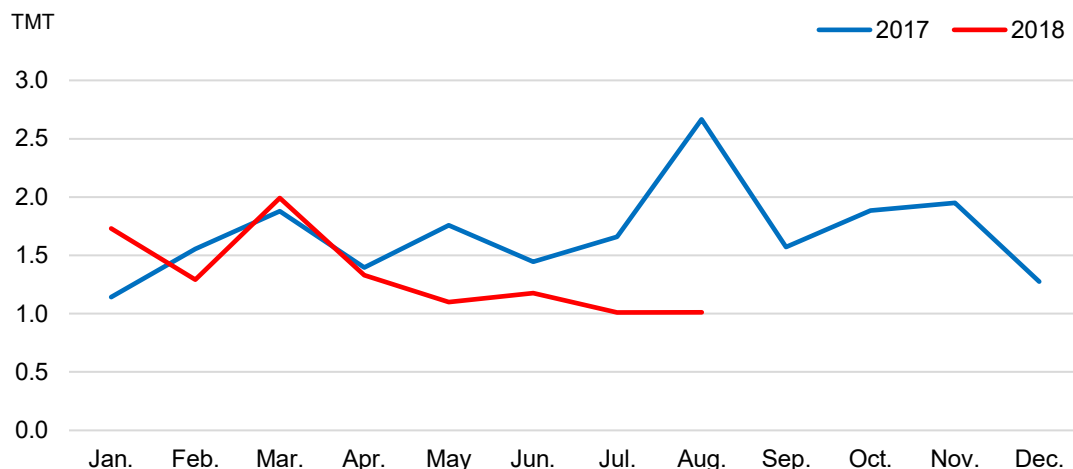


Source: Agricultural Marketing Service, USDA.

U.S exports of Chapter 16 pork products to Mexico subject to the tariff—which include some processed pork products as well as cooked hams and shoulders—are down almost 45 percent in the June-August period. Since Mexico imports comparatively small volumes of these more-processed products, they are likely “price takers” with minimal power to influence the market price of the products purchased. Even with lower pork prices, the Mexican importer is likely bearing a greater incidence of the tariffs on more-processed pork products. Higher import prices of chapter 16 products subject to the tariff lowers Mexico's quantity demanded of U.S processed pork products.

³ Tariffs on chilled and frozen pork (HS Codes 0203.12.01, 0203.19.99, 0203.22.01 and 0203.29.99, were increased from 0 to 10 percent, June 5-July 5, 2018. Tariffs increased thereafter to 20 percent. Twenty percent tariffs apply also to some cooked ham and shoulder products (HS Codes 1602.41, and 1602.42).

U.S. exports to Mexico of processed pork products, subject to Mexican tariffs



Source: Economic Research Service, USDA.

In the case of chapter 2 pork, the very large volumes of fresh and frozen pork cuts that Mexico imports every month may impart some pricing power to Mexican buyers. Timing of purchases may combine with significantly higher 2018 U.S pork production to weigh on pork prices, likely allowing Mexico to maintain import volumes at prices that offset most of the added cost of the tariffs.

Poultry

Sean Ramos, Kim Ha, and Alex Melton

Broiler Production Expectations Reduced

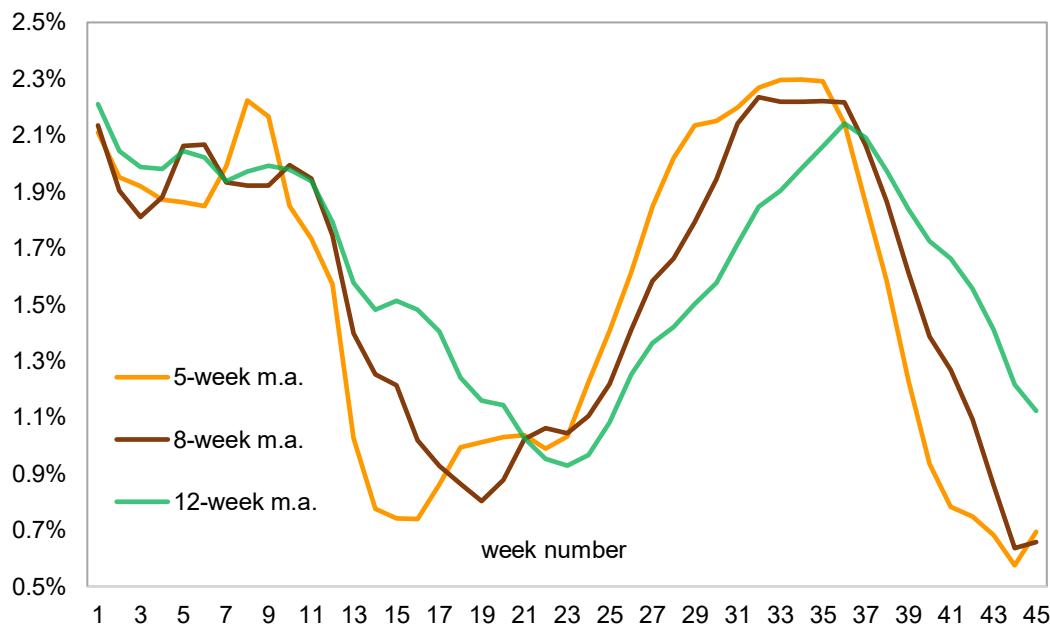
August broiler production was 3.9 billion pounds, approximately 3.3 percent higher than a year earlier. Growth was composed of average weights up nearly 1.6 percent from last year and nearly 1.6 percent more birds slaughtered.

The number of chicks placed in meat-growing operations through September pointed to a substantially negative trend and lowered expectations for the number of birds available for slaughter in the next 6-7 weeks (see chart below). The chart plots moving averages for placements moved forward 6-7 weeks (approximately the period for growing broilers to harvest weight). A seasonal decline in placements was expected but may have been exaggerated due to weaker-than-normal prices, including those for breast meat. August-September prices for boneless/skinless breasts in the Northeast, an important indicator of producer margins, have been the lowest in decades; available data shows August 2018 was the lowest August price since 1972 and September 2018 was the lowest September price since the series began in 1971.

The reduced rate of placements supported a reduction of 25 million pounds of production in each of the third and fourth quarters of 2018, resulting in expected annual growth of 2.2 percent. The first and second quarters of 2019 were also reduced by 25 million pounds each, resulting in expected annual growth of 1.9 percent

Indicators for birds available for slaughter recently trended down

Weekly year-over-year growth of moving averages (m.a.) for birds placed 6-7 weeks earlier

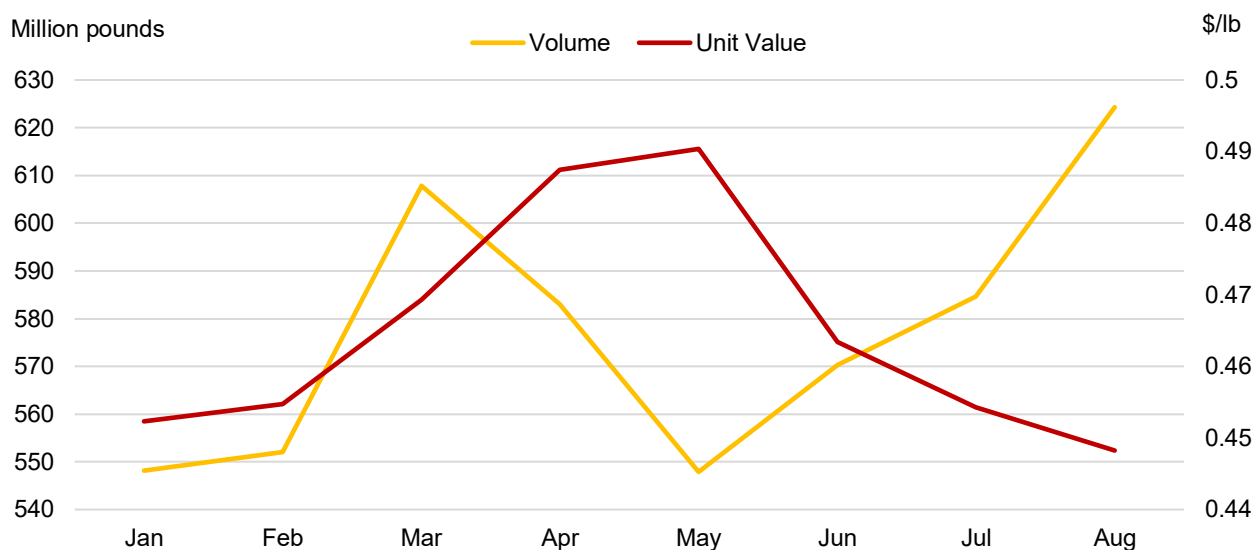


Source: Economic Research Service calculations using data from U.S. Dept. of Agriculture, National Agricultural Statistics Service.

Broiler Export Volumes Increase as Unit Values Decline

Broiler exports totaled 624 million pounds in August, up 8 percent from a year earlier. However, for the second consecutive month, broiler export values were down year over year (YOY) by 1 percent to \$278.8 million, reflecting low domestic wholesale prices. Although export values and unit values have been down YOY in recent months, the graph below indicates that between May and August, unit values and export volumes were negatively correlated, suggesting that declining unit values were associated with increasing export volumes.

Monthly broiler export volumes and unit values (2018)



Source: U.S. Dept. of Agriculture, Economic Research Service calculations using data from U.S. Dept. of Commerce, Bureau of the Census.

August's export volume growth was marked by a number of substantial YOY increases in major foreign markets. In particular, shipments to Mexico grew significantly for the second consecutive month, increasing by 28 percent YOY in August—likely at the expense of U.S. pork exports, which declined 5 percent YOY. Exports to Vietnam nearly tripled, while shipments to South Africa and Taiwan increased by 69 percent and 42 percent, respectively. Also contributing to the growth were Angola and Hong Kong, who increased U.S. broiler shipments by nearly 14 percent and 3 percent YOY, respectively. Meanwhile, a few markets did not maintain 2017 levels: Cuba, which decreased by almost 42 percent, the Philippines (down 18 percent), Canada (down 3 percent), and Guatemala (down 2 percent). Export forecasts remain unchanged.

With regard to imports, third quarter-to-date broiler imports were higher than expected, reaching nearly 12 million pounds in July and 13 million pounds in August (25 percent year-over-year increases for both months). As a result, 2018 and 2019 forecasts of broiler imports were increased by 9 million pounds to 135 million pounds and by 8 million pounds to 137 million pounds, respectively.

Broiler Prices Stable in September

Weekly whole broilers (national composite) prices averaged 83.13 cents per pound in September, almost 6 percent lower than a year earlier. From January to August 2018, monthly averages for broiler

prices consistently outperformed 2017 prices, averaging nearly 9 percent above last year. Nonetheless, weekly prices appeared stable in September, ranging from 82 to 84 cents per pound. The 2018 and 2019 price forecasts remain unchanged.

Egg Production Expectations Increased

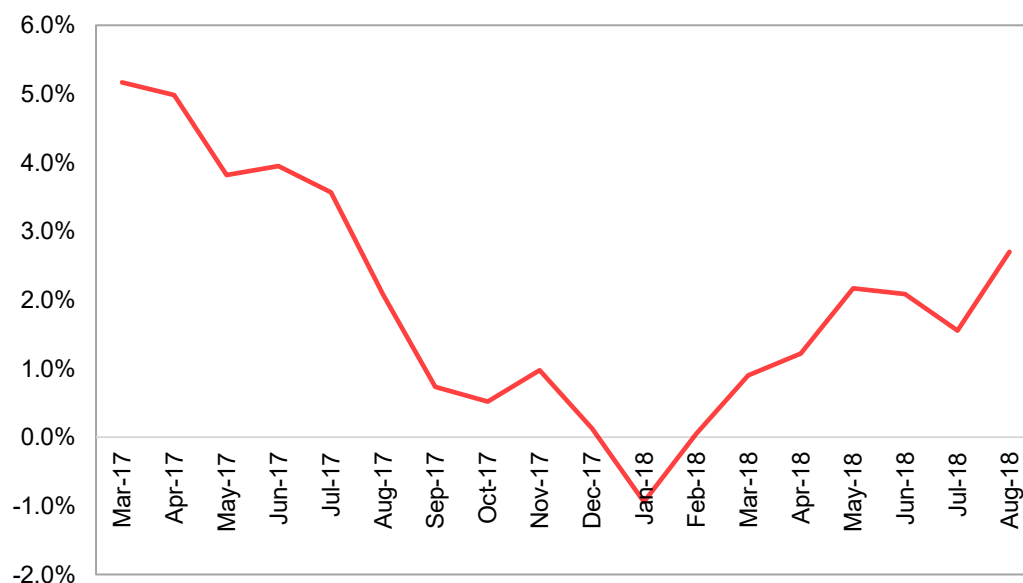
August table egg production reached 664 million dozen, an increase of 2.7 percent year over year, the highest rate of growth in over a year (as shown in the figure below). The September 1 inventory of table egg layers was 324.8 million, 0.6 percent higher than a month earlier, reflecting a normal seasonal increase that precedes higher consumption demand in the fall.

Notably, the September 1 lay rate was 79.6 eggs per 100 birds, higher than a year earlier for the first time this year. Over the past year, layer inventory has often been expanded by retaining a greater number of less productive birds, with a resulting drag on overall lay rates. The September 1 lay rate may reflect the robust level of layers hatched during the past 6 months, as producers sought faster production growth from newer birds due to strong margins on egg sales.

September 1 provided evidence that flock-refreshing will likely expand inventory and lay rates, supporting an upward revision for table egg production. The forecast for second-half table egg production was increased by 30 million dozen. Year-over-year growth in total (table plus hatching) production is now expected at 2.7 and 3.8 percent for the third and fourth quarters.

Egg production growth up substantially in August

Year-over-year growth of table egg production



Source: Economic Research Service calculations using data from U.S. Dept. of Agriculture, National Agricultural Statistics Service.

Benchmark Egg Prices Drifting Upward

September midpoint prices for eggs at wholesale (large grade A eggs, New York) started and ended the month at \$1.14 per dozen, without a great deal of variation in between. October started with midpoint prices drifting upward to \$1.18, contributing to a higher fourth-quarter price projection of \$1.37-1.43 per dozen.

Egg Exports Down, Imports Remain Low

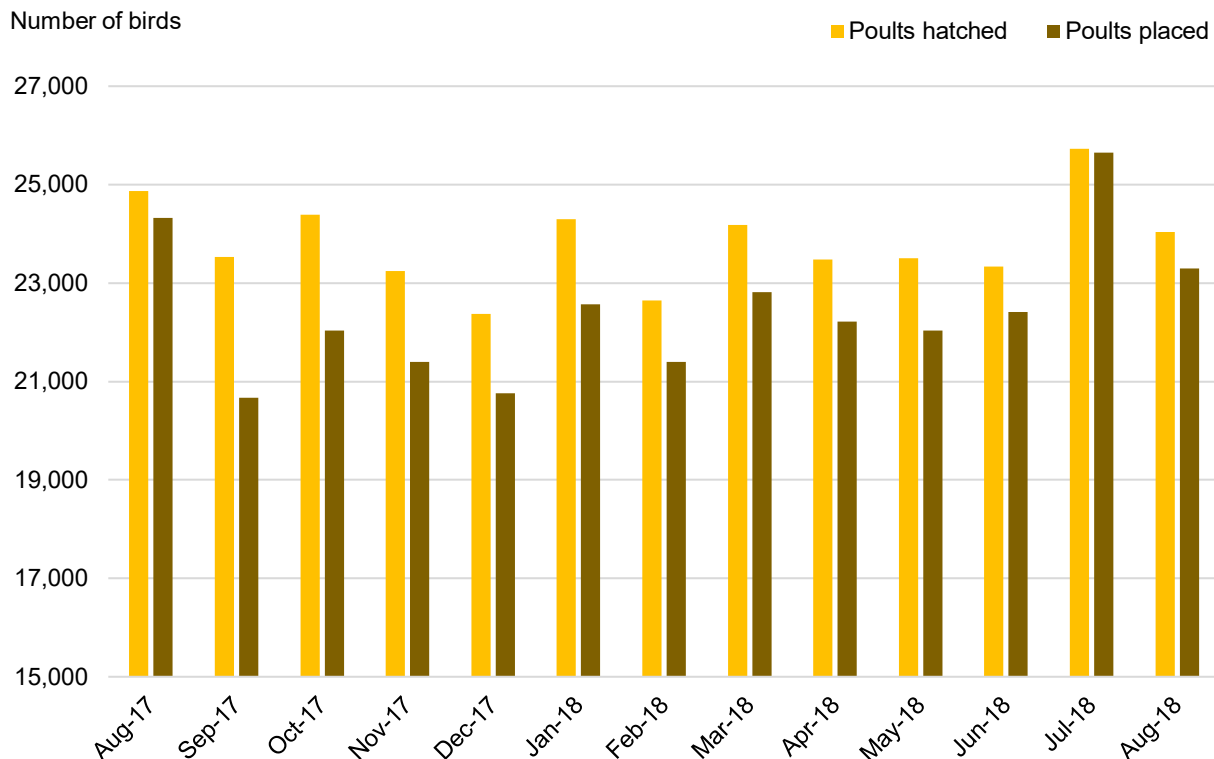
August exports of eggs and egg products were 28.2 million dozen (shell-egg equivalent), nearly 11 percent below last year, at least in part because of high 2017 exports. Fewer exports to Mexico (-4.0 million dozen), Japan (-1.2 million dozen), and South Korea (-1.3 million dozen) accounted for most of the export decline. Export strength to Canada (+3.6 million dozen) and elsewhere only partly offset the declines in total exports.

U.S. imports of eggs and products in August remained relatively low at 1.6 million dozen. Imports from Canada accounted for the largest portion at 0.8 million dozen. Imports from Thailand were 0.4 million dozen, primarily of egg products. The remaining imports mostly came from China and Taiwan.

Turkey Production Down 5 Percent in August

August 2018 turkey production totaled 517 million pounds, a 5-percent decrease from August 2017. Hatchery report data for August showed 3- and 4-percent declines in poults hatched and placed, respectively. Aside from a modest 1-percent increase in poults hatched in April 2018, both metrics had been negative compared with a year earlier since December 2017. Eggs in incubators on the first of the month were down 6 percent in September, marking their 10th consecutive month in the negative. The data suggest that producers are working to contain growth in the face of diminishing returns due to wholesale prices that have remained far below recent historical averages. The 2018 turkey production forecast is lowered by 30 million pounds to 5.899 billion pounds, 1 percent below 2017. Turkey production for 2019 is 5.985 billion pounds, a 1-percent increase over the 2018 forecast.

Turkey poults placed and hatched

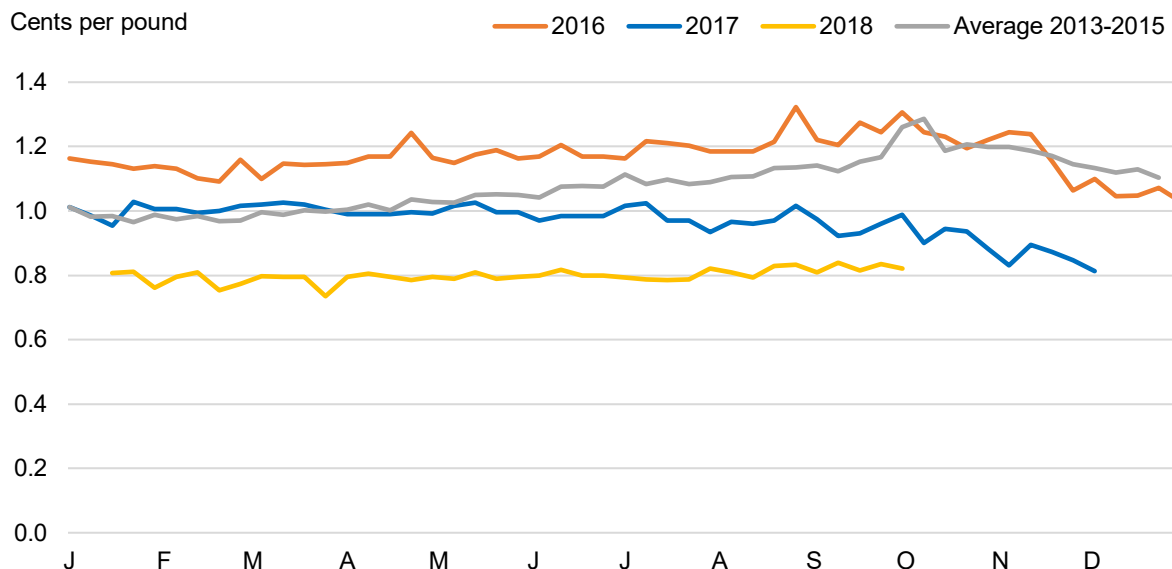


Source: USDA, Economic Research Service using USDA, National Agricultural Statistics Service Turkey Hatchery report.

Whole Turkey Prices Maintain Stability Through 2018

Wholesale whole-hen frozen turkey prices have been remarkably stable throughout 2018 after their nearly 2-year fall to prices last seen in 2010. The latest price data, covering the week ending October 6, 2018, shows frozen whole hen prices at 85 cents per pound, well below early-October prices for the past several years. For context, prices were \$1.23 per pound on October 14, 2016 and 90 cents per pound at the same time in 2017. The low wholesale prices indicate that turkey meat demand has not kept pace with production, further supported by higher than average stocks in cold storage. Turkey prices for 2018 are forecast to average \$0.81 per pound for the year, about 16 percent below prices in 2017. In 2019, turkey prices are expected to average \$0.81 to \$0.88. If realized, prices at the midpoint of the range would be 4 percent higher than expectations for 2018.

Wholesale whole-hen turkey prices

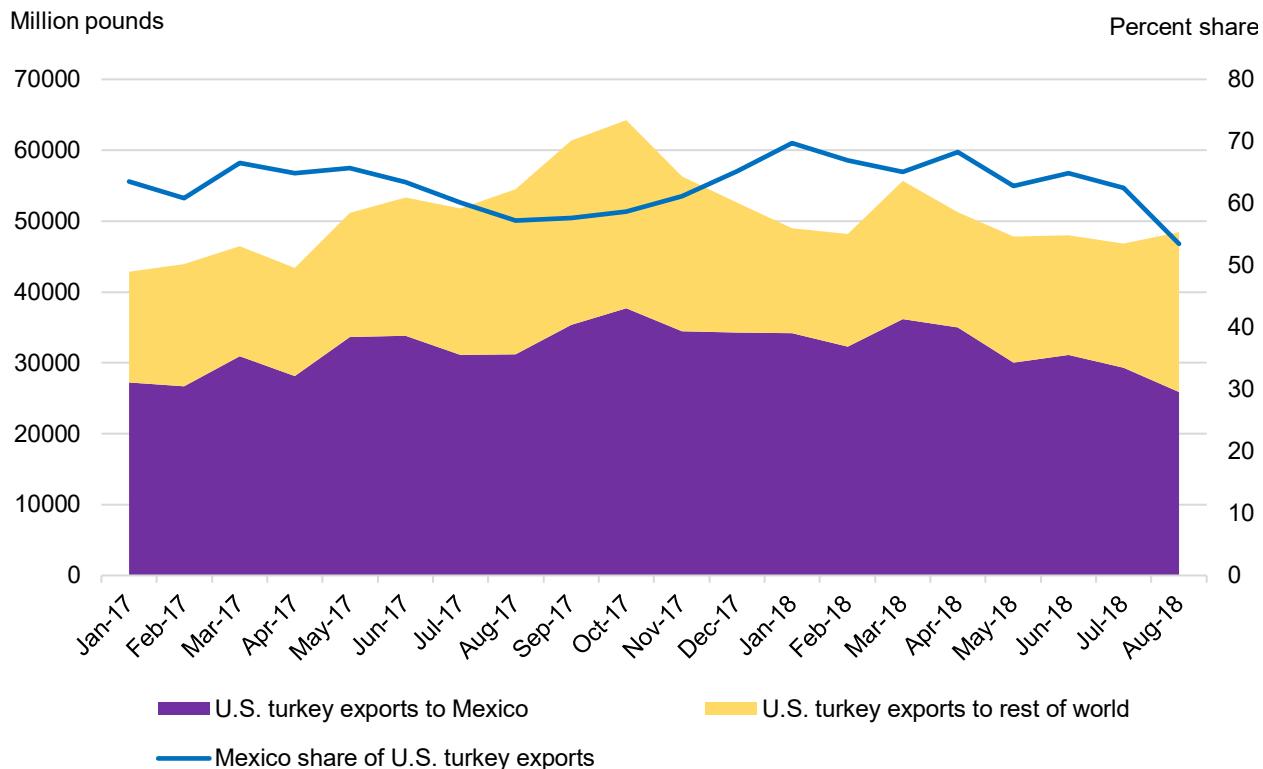


Source: USDA, Economic Research Service Livestock and Meat Domestic Data.

Turkey Exports Decrease Sharply Again in August

August 2018 turkey exports were 11 percent lower than a year earlier, totaling 48 million pounds. This marks the fourth consecutive month of year-over-year declines in turkey exports. Prior to the past 4 months, exports were seen as a lone bright spot given the sluggish domestic market. Up to April, exports had grown, often by double digits, in 20 of the previous 21 months, with 8 consecutive months of stronger exports between August 2017 and April 2018. August shipments to Mexico were down 17 percent from a year earlier. Mexico remains the largest destination for U.S. turkey shipments, with 26 million pounds shipped in August, or 53 percent of all U.S. shipments. The share of exports shipped to Mexico in August is the lowest since August 2013. Exports are expected to total 595 million pounds in 2018, a 4-percent decrease from 2017. In 2019, turkey meat exports are expected to total 585 million pounds, a 2-percent decrease from the 2018 forecast.

U.S. turkey exports to Mexico and the rest of the world



Source: USDA, Economic Research Service Livestock and Meat International Trade Data.

Suggested Citation

Livestock, Dairy, and Poultry Outlook, LDP-M-292, U.S. Department of Agriculture, Economic Research Service, October 17, 2018

U.S. red meat and poultry forecasts

	2015					2016					2017					2018					2019				
	I	II	III	IV	Annual	I	II	III	IV	Annual	I	II	III	IV	Annual	I	II	III	IV	Annual	I	II	III	Annual	
Production, million lb																									
Beef	5,665	5,856	6,068	6,109	23,698	5,938	6,187	6,472	6,625	25,221	6,303	6,407	6,736	6,742	26,187	6,465	6,724	6,815	6,940	26,944	6,685	6,975	7,175	27,910	
Pork	6,162	5,925	5,958	6,457	24,501	6,230	5,963	6,100	6,648	24,941	6,410	6,137	6,240	6,796	25,584	6,645	6,325	6,325	7,130	26,425	6,895	6,620	6,780	27,810	
Lamb and mutton	38	39	37	37	150	38	39	36	37	150	37	36	35	37	145	39	38	37	38	152	37	39	36	149	
Broilers	9,718	10,021	10,372	9,937	40,048	10,039	10,253	10,338	10,065	40,696	10,233	10,407	10,551	10,472	41,662	10,385	10,685	10,825	10,675	42,570	10,575	10,845	11,050	43,370	
Turkeys	1,429	1,389	1,351	1,458	5,627	1,435	1,520	1,515	1,511	5,981	1,488	1,482	1,479	1,533	5,981	1,452	1,477	1,455	1,515	5,899	1,475	1,480	1,490	5,985	
Total red meat & poultry	23,157	23,382	23,940	24,150	94,629	23,834	24,119	24,623	25,038	97,614	24,617	24,621	25,197	25,734	100,169	25,129	25,406	25,619	26,454	102,607	25,813	26,118	26,691	105,845	
Table eggs, mil. doz.	1,820	1,726	1,664	1,728	6,938	1,793	1,827	1,876	1,940	7,436	1,906	1,904	1,916	1,950	7,677	1,906	1,939	1,970	2,030	7,845	1,955	1,975	1,995	7,980	
Per capita disappearance, retail lb 1/																									
Beef	13.1	13.6	13.9	13.3	54.0	13.6	13.9	14.0	14.0	55.5	14.0	14.2	14.4	14.3	56.9	13.9	14.4	14.3	14.5	57.2	14.3	14.9	15.0	58.8	
Pork	12.2	11.8	12.1	13.6	49.7	12.6	11.8	12.1	13.5	50.1	12.4	11.8	12.4	13.5	50.1	12.5	12.1	12.3	13.8	50.8	12.8	12.5	13.2	53.1	
Lamb and mutton	0.2	0.3	0.2	0.3	1.0	0.3	0.3	0.2	0.3	1.0	0.3	0.3	0.2	0.3	1.1	0.3	0.3	0.3	0.3	1.1	0.3	0.3	0.3	1.1	
Broilers	21.4	22.1	23.3	22.1	89.0	22.5	22.7	22.7	21.8	89.7	22.4	22.9	23.2	22.4	90.8	22.6	23.3	23.4	23.1	92.4	22.8	23.4	23.8	93.4	
Turkeys	3.5	3.6	3.9	4.9	16.0	3.6	3.9	4.2	4.9	16.6	3.7	3.7	4.0	5.0	16.4	3.5	3.8	4.0	5.0	16.3	3.6	3.7	4.1	16.4	
Total red meat & poultry	50.8	51.8	53.8	54.5	211.0	52.9	53.0	53.7	54.8	214.4	53.2	53.2	54.6	55.8	216.8	53.2	54.3	54.8	57.1	219.4	54.3	55.2	56.7	224.3	
Eggs, number	65.6	63.0	61.5	65.6	255.8	67.4	66.3	67.3	70.6	271.6	68.5	68.6	69.3	69.9	276.3	68.2	68.9	69.7	72.2	279.0	69.1	68.9	69.7	280.3	
Market prices																									
Choice steers, 5-area Direct, \$/cwt	162.43	158.11	144.22	127.71	148.12	134.81	127.68	113.26	107.69	120.86	122.96	132.76	112.46	117.88	121.52	125.60	116.72	110.83	110-114	116.29	117-125	118-128	109-119	113-122	
Feeder steers, Ok City, \$/cwt	210.31	219.65	208.11	173.59	202.92	155.83	146.49	140.66	128.30	142.82	129.56	147.75	148.12	154.88	145.08	146.29	143.05	150.46	151-155	148.20	141-149	143-153	145-155	142-151	
Cutter Cows, National L.E., \$/cwt	107.61	109.50	103.34	77.80	99.56	73.50	75.87	73.16	57.75	70.07	62.63	69.55	69.78	58.68	65.16	61.60	61.32	57.74	52-56	58.67	55-63	57-67	56-66	55-64	
Choice slaughter lambs, St Joseph, \$/cwt	149.23	146.04	156.34	150.48	150.52	136.76	139.35	162.47	142.71	145.32	142.34	167.94	172.40	136.92	154.90	136.83	154.86	147.77	133-137	143.62	144-152	150-160	155-165	149-158	
Nat'l base cost, 51-52 % lean, live equivalent, \$/cwt	48.47	53.20	54.59	44.66	50.23	44.63	53.71	49.26	37.02	46.16	49.73	51.70	55.59	44.89	50.48	49.12	47.91	43.90	39-41	45.23	38-40	41-45	43-47	40-43	
Broilers, national composite, cents/lb	97.0	104.2	83.7	77.2	90.5	84.6	93.0	81.7	78.0	84.3	88.5	104.7	94.9	86.1	93.5	95.7	115.1	93.7	82-86	97.1	91-97	100-108	91-99	92-99	
Turkeys, national, cents/lb	99.6	108.5	126.4	130.1	116.2	114.7	116.5	120.7	116.6	117.1	100.4	99.1	96.9	88.0	96.1	79.4	79.6	80.4	83-87	81.1	74-80	79-85	84-90	81-88	
Eggs, New York, cents/doz.	146.9	170.3	235.7	174.1	181.8	121.5	67.9	71.6	81.7	85.7	80.0	74.7	102.1	147.0	100.9	179.6	124.4	120.8	137-143	141.2	116-124	110-120	120-130	119-129	
U.S. trade, million lb, carcass wt. equivalent																									
Beef & veal exports	523	607	542	595	2,267	535	621	660	740	2,557	653	680	746	781	2,860	730	799	815	820	3,164	770	805	830	3,245	
Beef & veal imports	877	989	889	613	3,368	792	831	751	638	3,012	700	812	814	668	2,993	722	805	820	680	3,027	740	830	820	3,100	
Lamb and mutton imports	53	56	46	59	214	68	55	41	52	216	80	58	57	57	252	80	66	68	62	276	82	69	63	279	
Pork exports	1,224	1,339	1,173	1,274	5,010	1,229	1,317	1,235	1,457	5,239	1,432	1,425	1,230	1,544	5,632	1,516	1,518	1,300	1,655	5,989	1,560	1,555	1,350	6,200	
Pork imports	279	266	270	300	1,116	293	257	266	275	1,091	264	281	283	287	1,116	279	270	250	265	1,064	270	265	255	1,060	
Broiler exports	1,624	1,713	1,487	1,496	6,321	1,585	1,605	1,734	1,721	6,645	1,720	1,622	1,661	1,788	6,791	1,708	1,701	1,740	1,720	6,869	1,750	1,745	1,780	7,045	
Turkey exports	148	123	125	132	529	116	141	160	153	569	133	148	168	173	622	153	147	145	150	595	140	145	145	585	
Live swine imports (thousand head)	1,309	1,541	1,371	1,519	5,740	1,468	1,406	1,371	1,413	5,657	1,449	1,458	1,296	1,394	5,597	1,358	1,350	1,310	1,400	5,418	1,350	1,350	1,300	5,400	

Note: Forecasts are in bold.

1/ Per capita meat and egg disappearance data are calculated using the Resident Population Plus Armed Forces Overseas series from the Census Bureau of the Department of Commerce.

Source: World Agricultural Supply and Demand Estimates and Supporting Materials.

For further information, contact: Mildred M. Haley, mhaley@ers.usda.gov

Updated 10/15/2018

Dairy Forecasts

	2017		2018					2019			
	IV	Annual	I	II	III	IV	Annual	I	II	III	Annual
Milk cows (thousands)	9,398	9,392	9,406	9,403	9,400	9,400	9,400	9,405	9,410	9,410	9,410
Milk per cow (pounds)	5,649	22,941	5,780	5,937	5,750	5,730	23,200	5,860	6,030	5,830	23,525
Milk production (billion pounds)	53.1	215.5	54.4	55.8	54.1	53.9	218.1	55.1	56.7	54.9	221.4
Farm use	0.2	1.0	0.2	0.2	0.2	0.2	1.0	0.2	0.2	0.2	1.0
Milk marketings	52.8	214.5	54.1	55.6	53.8	53.6	217.1	54.9	56.5	54.6	220.4
Milk-fat (billion pounds milk equiv.)											
Milk marketings	52.8	214.5	54.1	55.6	53.8	53.6	217.1	54.9	56.5	54.6	220.4
Beginning commercial stocks	16.2	12.7	13.4	16.4	19.1	16.5	13.4	13.5	16.1	18.0	13.5
Imports	1.6	6.0	1.2	1.6	1.7	1.8	6.3	1.4	1.5	1.6	6.3
Total supply	70.6	233.2	68.8	73.5	74.6	71.9	236.8	69.7	74.1	74.2	240.1
Commercial exports	2.4	9.2	2.4	3.0	2.6	2.4	10.5	2.3	2.7	2.5	9.8
Ending commercial stocks	13.4	13.4	16.4	19.1	16.5	13.5	13.5	16.1	18.0	15.4	12.5
Commodity Credit Corporation donations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.3
Domestic commercial use	54.8	210.5	50.0	51.5	55.4	55.9	212.9	51.2	53.2	56.3	217.5
Skim solids (billion pounds milk equiv.)											
Milk marketings	52.8	214.5	54.1	55.6	53.8	53.6	217.1	54.9	56.5	54.6	220.4
Beginning commercial stocks	12.1	9.5	11.8	11.4	11.5	10.7	11.8	10.8	11.5	12.5	10.8
Imports	1.5	6.1	1.4	1.4	1.4	1.5	5.6	1.4	1.3	1.3	5.5
Total supply	66.5	230.1	67.3	68.4	66.7	65.8	234.5	67.1	69.3	68.4	236.7
Commercial exports	11.0	40.7	11.5	12.5	10.8	10.3	45.1	10.8	11.6	10.9	44.1
Ending commercial stocks	11.8	11.8	11.4	11.5	10.7	10.8	10.8	11.5	12.5	11.1	10.8
Commodity Credit Corporation donations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Domestic commercial use	43.7	177.6	44.4	44.4	45.2	44.6	178.6	44.7	45.1	46.4	181.6
Milk prices (dollars/cwt) ¹											
All milk	17.83	17.65	15.67	16.10	16.00 -16.10	17.60 -18.00	16.35 -16.45	17.20 -17.90	16.50 -17.50	16.65 -17.65	16.85 -17.75
Class III	16.34	16.17	13.87	14.95	15.05	15.60 -16.00	14.85 -14.95	15.30 -16.00	15.15 -16.15	15.40 -16.40	15.30 -16.20
Class IV	14.12	15.16	13.01	14.32	14.53	14.85 -15.35	14.15 -14.35	14.60 -15.40	14.40 -15.50	14.35 -15.45	14.35 -15.35
Product prices (dollars/pound) ²											
Cheddar cheese	1.712	1.634	1.515	1.608	1.565	1.585 -1.625	1.570 -1.580	1.565 -1.635	1.560 -1.660	1.590 -1.690	1.575 -1.665
Dry whey	0.347	0.444	0.260	0.280	0.369	0.420 -0.440	0.330 -0.340	0.405 -0.435	0.385 -0.415	0.375 -0.405	0.385 -0.415
Butter	2.295	2.330	2.161	2.320	2.284	2.250 -2.320	2.245 -2.275	2.200 -2.300	2.205 -2.335	2.235 -2.365	2.215 -2.335
Nonfat dry milk	0.763	0.867	0.700	0.774	0.816	0.865 -0.905	0.785 -0.805	0.860 -0.920	0.835 -0.905	0.815 -0.885	0.825 -0.895

Totals may not add due to rounding.

¹ Simple averages of monthly prices. May not match reported annual averages.

² Simple averages of monthly prices calculated by the Agricultural Marketing Service for use in class price formulas. Based on weekly U.S. Dept. of Agriculture, *National Dairy Products Sales Report*.

Sources: USDA, National Agricultural Statistics Service; USDA, Agricultural Marketing Service; USDA, Foreign Agricultural Service; and USDA, World Agricultural Outlook Board.

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