

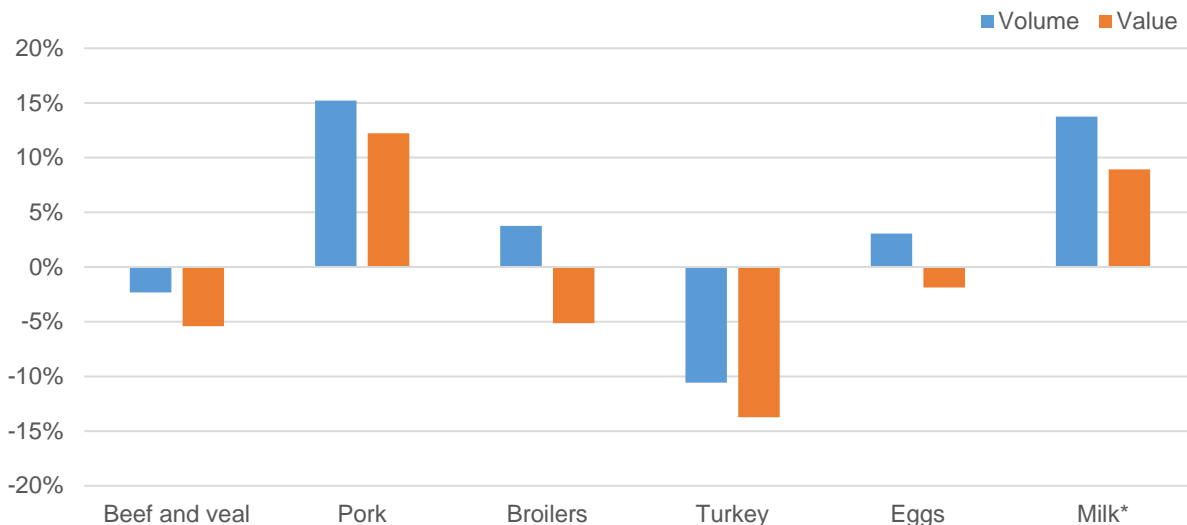


Livestock, Dairy, and Poultry Outlook

2020 U.S. Exports of Major Animal Products Impacted by Two Key Markets: Mexico and China

Performance of U.S. animal product exports varied across commodities in 2020. Nonetheless, Mexico and China were two major markets that had a significant impact on the trade of animal products last year. Total export quantities of beef and veal decreased by 2.3 percent in 2020 relative to 2019, while value decreased by 5.4 percent, driven by a sizeable decrease in shipments to Mexico. Similarly, weaker demand from Mexico and several smaller markets caused turkey export volumes and values to decrease by 10.5 percent and 13.7 percent, respectively. Conversely, strong demand from Mexico boosted export volumes of eggs and egg products, which increased by 3.0 percent year over year; however, the value of those exports decreased by 1.9 percent, reflecting weakness in the U.S. egg-processing sector due to Covid-19. Pork export volumes increased by 15.2 percent year over year and values increased by 12.2 percent, primarily due to greater demand from China. Dairy export growth was also strong in 2020, with volumes and values on a skim-solids basis increasing by 13.7 percent and 8.9 percent, respectively, driven by high demand from China and several Southeast Asian countries. Broiler meat volumes increased by 3.8 percent, supported by strong demand from China, while the value decreased by 5.1 percent as prices reflected the sector’s adjustment to COVID-19 impacts.

Year-over-year percent change in animal product export volumes and values, 2020/2019



Note: *Skim-solids milk-equivalent basis.

Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.

Beef/Cattle: The pace of cattle slaughter is up about 3.7 percent in early-2021, and average cattle carcass weights in January are up about 18 pounds above last year. These factors raised the first-half 2021 production forecast. Greater expected placements in first-half 2021 also raise fed-cattle marketings in the second half, increasing the total 2021 production forecast to a record 27.5 billion pounds. Cattle prices were lowered in second-half 2021 based on greater expected marketings. Beef imports in December dropped 8.3 percent year over year on tighter exportable supplies in major exporting countries. December beef exports rose 13.2 percent from a year ago on robust shipments to China and Mexico. The forecast for 2021 first-quarter beef imports was lowered by 80 million pounds to 700 million pounds, while the beef export forecast was raised 25 million pounds to 750 million pounds.

Dairy: The milk production forecast for 2021 has been raised to 227.4 billion pounds, 0.7 billion higher than last month's forecast. The all-milk price forecast for 2021 has been lowered to \$17.15 per hundredweight, \$0.50 lower than last month's forecast. Dairy export forecasts are raised on both the milk-fat and skim-solids milk-equivalent bases due to higher expected exports of butterfat products and whey products.

Sheep/Lamb: The National Agricultural Statistics Service released its sheep and lamb inventory report at the end January. The total number of sheep in the United States at the start of this year is 30,000 head lower than at the start of 2020. Lamb and mutton production forecasts for 2021 were reduced to reflect the lower starting inventory.

Pork/Hogs: Strong domestic demand is likely to continue to drive hog prices higher in the first quarter of 2021. Potential production constraints on the supply side, including higher feed costs and continued-strong sow and boar slaughter, point to higher hog prices in 2021. U.S. pork exports in 2021 are expected to be about 1.5 percent lower than last year on anticipated lower year-over-year shipments to China.

Poultry/Eggs: 2020 broiler production was up year over year, in part due to an extra slaughter day as well as higher bird weights. The first-quarter production forecast was increased on recent hatchery data, while the second-half production forecast was decreased on the probability that higher feed costs will dampen production expectations. 2020 broiler export volumes were up year over year, largely due to strong demand from China; the 2021 export forecast is unchanged. The 2021 broiler price forecast was increased on expectations for improving demand as well as tighter supplies. 2020 table egg production was down year over year, driven by COVID-19-related reductions to the layer flock. The 2021 table egg production forecast was decreased on higher expected feed costs. 2020 egg export volumes were higher relative to last year, thanks in large part to strong demand from Mexico. The 2021 export forecast is unchanged. The 2021 wholesale egg price forecast was increased on recent price movements as well as expectations for tighter supplies, putting upward pressure on prices in the second half. Turkey production finished 2020 with higher production than expected in December. The 2021 production forecast is unchanged at 5.725 billion pounds, only slightly below 2020 production. The turkey export forecast for 2021 was revised down by 15 million pounds to 575 million pounds, less than 1-percent growth year over year. Wholesale turkey prices for frozen whole hens averaged 108.76 cents per pound in January, starting 2021 stronger than expected. The forecast prices were adjusted up in the first three quarters of 2021 for an annual average forecast of 111 cents per pound.

Beef/Cattle

Russell Knight and Christopher Davis

Steady Heifer Retention To Slow Cattle Inventory Contraction

The USDA National Agricultural Statistics Service (NASS) released its semiannual *Cattle* report on January 29th. The total number of cattle and calves on January 1, 2021, was estimated at 93.6 million head, nearly 200,000 head lower than the previous year. This marks a second year of contraction for cattle producers. Despite the number of beef cows declining for a second year, beef cattle producers are indicating their intentions to retain slightly more heifers for beef cow replacement, and the number of those heifers expected to calve during the year is also up. This is the first year that heifers retained in the herd have increased year over year since 2017, further suggesting contraction has slowed. However, a different pattern is reflected on the dairy side, with milk cow numbers up 1.0 percent while heifers for milk cow replacement were estimated down 1.7 percent, potentially affecting the number of veal calves available in 2021.

The lower cattle inventory also reflects the revision to the 2020 calf crop that was lowered by about 664.5 thousand head from the July 2020 *Cattle* report. The number of calves under 500 pounds was reported down 120.9 thousand head from 2020 at 14.2 million head. However, steers 500 pounds and over were up 56.6 thousand head from 2020 at 16.6 million head, and other heifers 500 pounds and over were up 52.0 thousand head from 2020 at 9.6 million head. Fewer calves more than offset increases in the inventory of steers and other heifers. It was further reported that the number of all cattle on feed was up 49.7 thousand head from 2020 to 14.7 million head. As a result of slightly fewer supplies of feeder cattle available on January 1, 2020, and more cattle on feed than a year ago, available supplies outside feedlots were marginally reduced to start the year.

Fed Cattle Slaughter and Carcass Weights Raise Production

According to the USDA, National Agricultural Statistics Service (NASS) *Livestock Slaughter* report, total commercial beef production in 2020 is estimated at 27.152 billion pounds, virtually unchanged from 2019 (27.155 billion pounds). Despite cattle slaughter numbers that are down by 2.4 percent, the level of 2020 production was unchanged as a result of cattle on feed longer and good feeding conditions that helped cattle weights surpass 2019 by 2.4 percent.

Heavier anticipated carcass weights and greater fed cattle marketings are expected to lift 2021 beef production to record levels at 27.540 billion pounds, up 350 million pounds from last month. Based on USDA, Agricultural Marketing Service (AMS) report of *Actual Slaughter Under Federal Inspection* for January 2021, average carcass weights are about 844.1 pounds, or more than 18 pounds above average carcass weights slaughtered under Federal inspection in January 2020. Cattle carcass weights were increased in first-half 2021, reflecting higher-than-expected carcass weights in January, but tempered by the frigid conditions gripping the Plains and upper Midwest and by higher feed costs.

Further, based on the AMS *Actual Slaughter Under Federal Inspection* reports, January Federally inspected slaughter suggests cattle slaughter is moving at a faster pace than last year. Specifically, fed cattle slaughter is up 3.7 percent, and cow and bull slaughter are up 3.4 percent. Further, based on the USDA, NASS January *Cattle on Feed* report, almost 1 percent more cattle were placed in December 2020 than December 2019, which was more than expected. Because of higher-than-expected

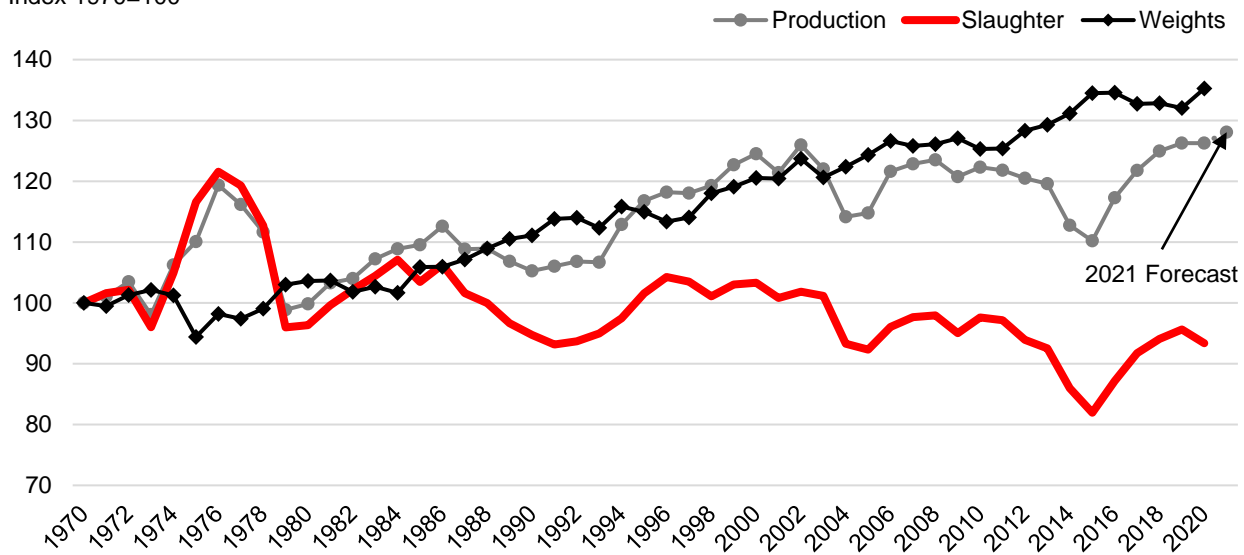
placements in late fourth-quarter 2020 and a quicker-than-expected pace of cattle slaughter in early 2021, anticipated cattle slaughter was raised in first-half 2021.

Although the number of cattle outside feedlots on January 1 was less than a year ago, as noted, a larger proportion of cattle on small grains pastures and dry conditions in parts of the Plains States raised prospects for higher anticipated placements in first-half 2021. As a result, marketings in second-half 2021 were increased, which also contributed to a raised production forecast.

Below is a chart depicting changes in production, slaughter, and carcass weights, indexed to 1970, that include the 2021 forecast.

Although cattle slaughter decreased in 2020, production was nearly unchanged from 2019

Index 1970=100



Source: USDA, Economic Research Service calculations using USDA, National Agricultural Statistics Service and World Agricultural Outlook Board data.

Fed Cattle Prices Forecast Lower in Second-Half 2021

Live steer prices in the 5-area marketing region for the first week of February were reported at \$113.63 per hundredweight (cwt), more than \$8 below last year for the same week. Second-half 2021 price forecasts were lowered on greater expected marketings of fed cattle for an annual price of \$115 per cwt, down \$0.50 from last month.

Feeder steer prices for January 2021 averaged \$133.94 per cwt for steers weighing 750-800 pounds sold in the Oklahoma City National Stockyards, about 7 percent below the average for January 2020. With prices for the first 2 weeks of February almost \$7 below the same month last year, the first-quarter 2021 forecast was lowered \$2 to \$132 per cwt. Revisions to the 2020 calf crop tightened anticipated feeder cattle supplies in second-half 2021. However, higher expected feed costs offset expectations for stronger prices the rest of the year; as a result, the second-half 2021 feeder steer price forecasts are unchanged from last month.

December Beef Imports Declined; Fourth Quarter Total Lower Than Expected

Beef imports in December totaled 209 million pounds, down 8.3 percent (-18.9 million pounds), from a year ago. Australia shipped about one-third less beef to the United States than a year earlier. The reduction in U.S. beef imports continued as exportable supplies from Australia and Mexico were limited. The second-largest decline in December's beef shipments came from Mexico, which supplied 13 million pounds less year over year. This decline is likely due in part to Mexico's strong economic growth in the 2020 third quarter, which may have supported a greater domestic demand for beef. Imports from Nicaragua, in conjunction with supplies from Uruguay, Canada, and Argentina were also lower relative to a year ago.

By comparison, New Zealand almost doubled beef shipments to the United States in December at 30.9 million pounds, and imports from Brazil were up about 59 percent relative to the levels recorded last December. While shipments from Uruguay also exceeded volumes a year ago, these increases from these three major suppliers were not enough to offset the substantial reduction in beef shipments from the other countries.

The fourth-quarter beef imports totaled 693 million pounds, 32 million pounds lower than last month's estimate.

U.S. year-over-year beef imports from major suppliers

	December 2019	December 2020	Difference in volume	Year-over-year change
	--- Million pounds---			--- Percent --
Canada	58.7	57.9	-0.8	-0.1
Australia	59.4	40.1	-19.3	-32.4
Mexico	47.7	34.6	-13.1	-27.6
New Zealand	15.7	30.9	15.2	97.1
Brazil	12.4	19.7	7.3	59.0
Nicaragua	21.1	12.4	-8.7	-41.1
Uruguay	8.7	9.7	1.0	11.6
Argentina	1.1	0.7	-0.4	35.6
ROW	3.5	61.3	57.8	1651.4
Total Imports	228.3	209.4	-18.9	-8.3

ROW = Rest of the World.

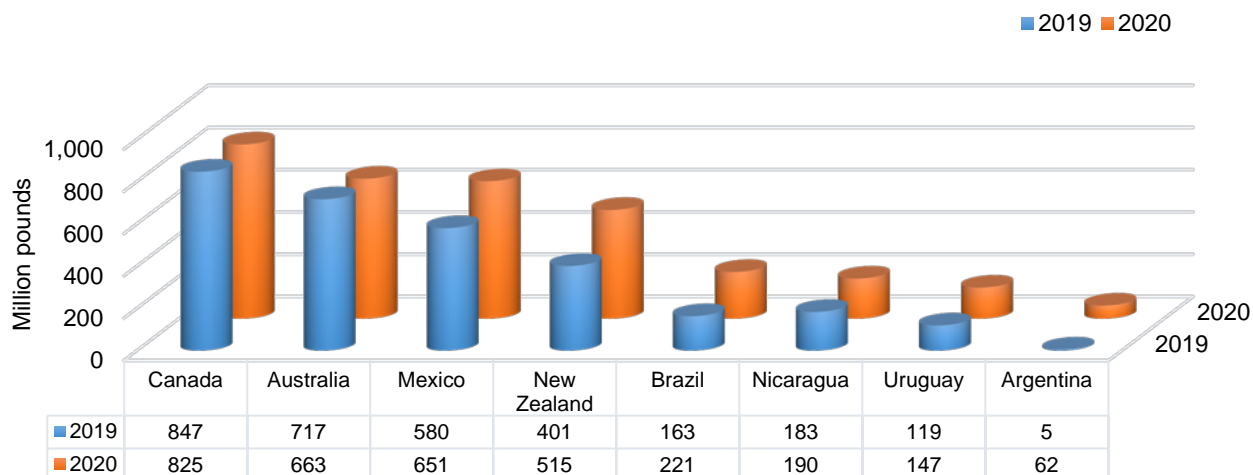
Source: USDA, Economic Research Service calculations using data from U.S. Department of Commerce, Bureau of the Census.

Beef Imports in 2020 Were Up Year Over Year

Total beef imports in 2020 were up 9.3 percent year over year at 3.34 billion pounds, the largest since 2015. Canada accounted for 24.7 percent of total beef imports in 2020, but Canada's import volume was 2.6 percent lower than 2019. Australia was the second-largest beef supplier with 19.8 percent of total imports. Beef imports from Australia were down 7.5 percent year over year in 2020. Mexico, the third-largest source, was up 12.3 percent compared to 2019 and accounted for 19.5 percent of the total U.S. beef imports in 2020. New Zealand, the number four beef supplier, increased shipments 28.5 percent from 2019 and was the source of 15.4 percent of 2020 total imports. Brazil, Nicaragua, Uruguay, and Argentina were the remaining major sources whose shipments to the United States were 35.7, 3.7, 23.9, and 1166.9 percent higher than 2019, respectively. Overall, beef imports from Brazil totaled 6.6 percent of total imports, while Nicaragua, Uruguay, and Argentina made up 5.7, 4.4, and 1.9

percent of the total. The annual forecast for 2021 beef imports is 3.005 billion pounds, down 10.2 percent from a year ago. The forecast for first-quarter 2021 was lowered by 80 million pounds to 700 million pounds on continued tightness in world beef supplies and high U.S. beginning year stocks. However, continued tightness in world supplies will likely result in smaller imports through much of the year.

Growth in U.S. beef imports, 2019-20



Note: The values on the x-axis are in million pounds.

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

Beef Exports Finished Strong in December as Sales to China Continued to Soar

December beef exports totaled 286 million pounds, up 12.1 percent (or 30.8 million pounds) year over year. The United States largest increase in beef exports –in both volume and percentage was to China, which has broken previous records of beef purchases for 6 consecutive months. The U.S. beef exports to Mexico in December had the second-largest increase in both volume and percentage. In the third quarter of 2020, Mexico’s economy grew 12 percent stimulating demand for U.S. beef. Some U.S. export destinations with smaller increases year over year included Japan and Canada.

In contrast, there were several destinations to which the U.S. exported less beef to in December. Most of the reductions were to South Korea, which is still enforcing strict social distancing rules that have reduced operating hours for restaurants and cafes and forced these businesses to rely on takeout and delivery services. The United States also exported less beef to Taiwan in December. However, these reductions were not sufficient to offset the increase in beef exported to China and Mexico in December.

U.S. year-over-year beef exports to major destinations

	December 2019	December 2020	Difference in volume	Year-over-year change
	--- Million pounds---			--- Percent --
Japan	62.4	66.7	4.3	6.9
South Korea	57.5	51.1	-6.4	-11.2
Mexico	33.3	50.8	17.5	52.4
Canada	23.9	26.3	2.4	10.3
Hong Kong	22.7	22.6	-0.1	0.0
Taiwan	17.7	13.6	-4.1	-23.4
China	5.5	26.9	21.4	387.1
ROW	32.0	27.8	-4.2	-13.2
Total Exports	255.0	285.8	30.8	12.1

ROW = Rest of the World.

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

Beef Exports, Were Down in 2020 Year Over Year, Stronger in Fourth quarter

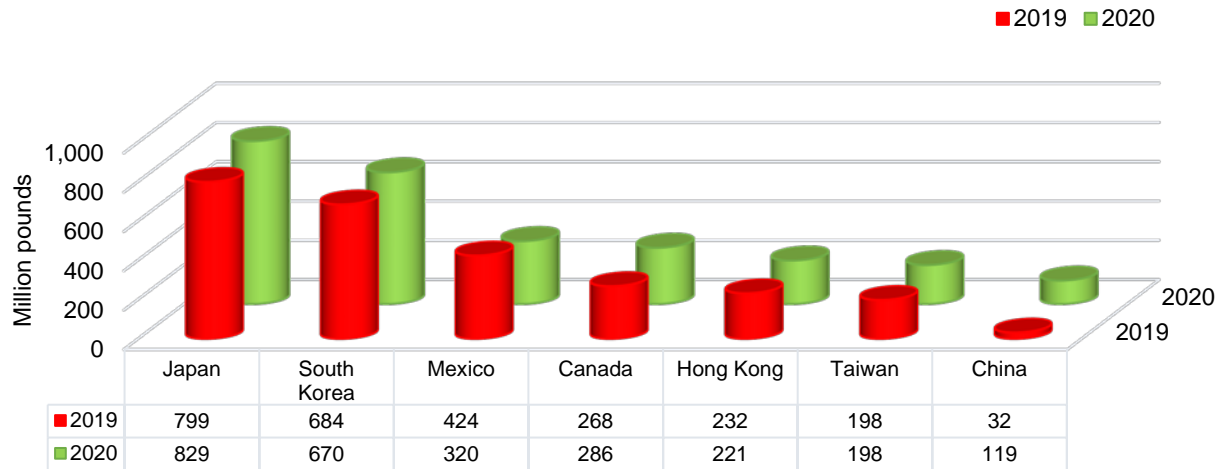
After a tremendous dropoff in the second quarter due primarily to the global pandemic, 2020 beef exports finished above 2019 levels with a strong fourth quarter totaling 821 million pounds, 9.6 percent above a year earlier.

In 2020, beef exports totaled 2.96 billion pounds, down 2.4 percent from a year ago. U.S. exports to Japan, the largest beef destination, increased 29.7 million pounds (volume-wise) year over year. Canada was up 18.0 million pounds compared to a year earlier. Of all the growth in 2020 beef exports, China became a noteworthy destination, emerging as the seventh largest U.S. market over the past few months; beef exports to China more than tripled, from 32.1 million pounds in 2019 to 119.1 million pounds in 2020. In contrast, declines in U.S. exports to major destinations were the largest to Mexico (-104.7 million pounds), followed by lower shipments to Hong Kong (-10.8 million pounds) and South Korea (-14.2 million pounds).

In 2020, the U.S. top two destinations, accounting for over half of its total exports were Japan (28.0 percent) and South Korea (22.7 percent). Mexico and Canada were the third- and fourth-largest markets, representing 10.8 and 9.7 percent, respectively, of total exports. Number five, six, and seven beef markets were Hong Kong, Taiwan, and China, accounting for 7.4, 6.7, and 4.0 percent shares of the total U.S. beef exports in 2020.

Demand strength was carried over from fourth quarter 2020 into 2021. The first-quarter forecast for 2021 beef exports was raised by 25 million pounds from last month to 750 million on strong demand for U.S. beef in major destinations. The annual forecast for 2021 beef exports is 3.145 billion pounds.

U.S. beef exports down year over year



Note: The values on the x-axis are in million pounds.

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

Dairy

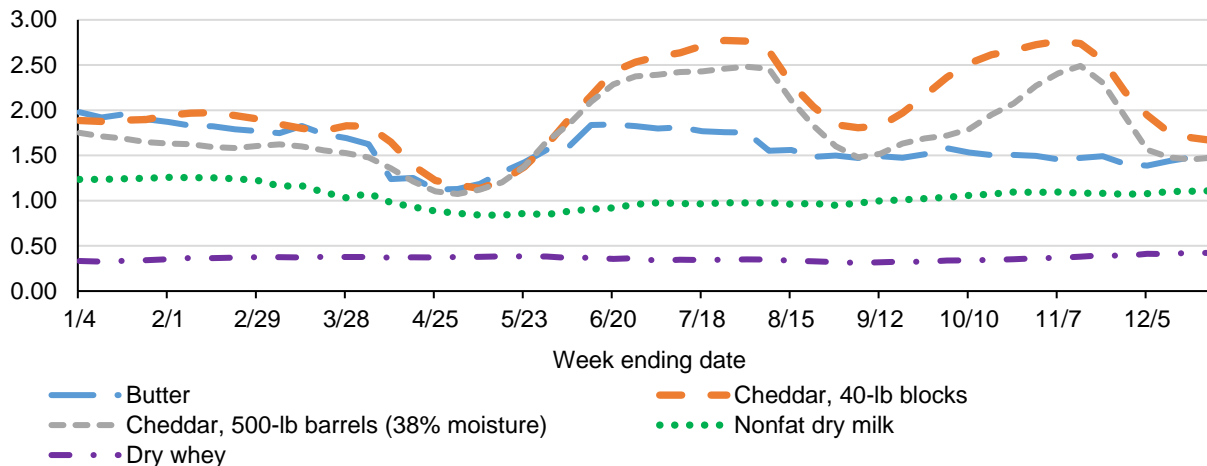
Jerry Cessna

Recap of the 2020 Dairy Situation

2020 was a year of unprecedented volatility in U.S. dairy markets. Weekly average wholesale Cheddar cheese prices (as reported in the USDA *National Dairy Products Sales Report*) followed a roller coaster pattern. Prices ranged from the lowest prices since 2009 (when the Great Recession had negative effects on global dairy product demand) to record highs. Prices for 40-pound blocks ranged from \$1.1349 to \$2.7723 per pound, and prices for 500-pound barrels (adjusted to 38-percent moisture) ranged from \$1.0736 to \$2.4908 per pound. Although not as variable as the Cheddar cheese prices, the range of wholesale butter prices was also wide, from a low of \$1.1229 to a high of \$1.9789 per pound. Wholesale prices for nonfat dry milk (NDM) and dry whey were less variable, ranging from \$0.8398 to \$1.2579 and from \$0.3114 to \$0.4267 per pound, respectively.

Wholesale dairy product prices

Dollars per pound



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

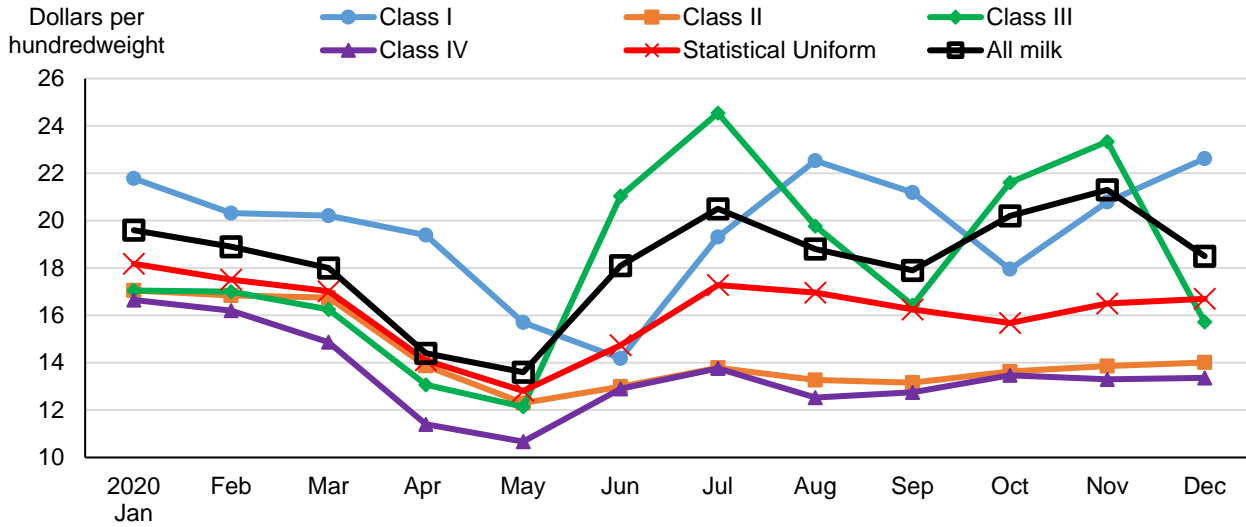
With high wholesale cheese prices for much of the year, the Class III price was considerably higher than the Class IV price for several months.¹ In July, the Class III-IV gap reached a record high of \$10.78 per hundredweight (cwt) and a near-record high of \$10.04 in November. Class I is usually the highest priced class, but in 4 months of the year, the Class III price exceeded the weighted-average Class I price for all Federal Milk Marketing Orders (FMMOs) combined. FMMO statistical uniform prices² (commonly called blend prices) are usually higher than Class III prices, but for 6 months of the year, the Class III price exceeded the weighted-average blend price for all FMMOs combined. As a result, many milk handlers chose not to pool significant volumes of Class III milk. For milk that was not pooled but would have normally been pooled as Class III milk, the high price of cheese was still likely reflected in the milk price that dairy farmers were paid in the marketplace. The 2020 all-milk price ranged from a low of \$13.60 per cwt in May to a high

¹ A basic knowledge of Federal Milk Marketing Orders helps with understanding this discussion. For more information, visit the Federal Milk Marketing Order web page on the USDA, Agricultural Marketing Service website.

² The statistical uniform price is a regulated minimum price for dairy farmers with milk pooled in FMMOs.

of \$21.30 in November.³ It averaged \$18.32 per cwt in 2020, \$0.31 lower than the average of \$18.63 in 2019.

Federal milk marketing order (FMMO) minimum milk prices and the U.S. all-milk price¹



¹ FMMO minimum prices are reported for milk with 3.5 percent butterfat. The U.S. all-milk price is reported for milk at the average U.S. milk-fat test. The Class I price and the statistical uniform price series displayed are weighted averages for all FMMOs combined. Sources: USDA, Agricultural Marketing Service; and USDA, National Agricultural Statistics Service.

The unusual price patterns of 2020 can be explained in terms of pandemic effects and responses of the industry and the Government to those effects. The pandemic resulted in relatively low domestic demand for dairy products due to financial hardships for some Americans and the shift from consumption at foodservice establishments to at-home consumption. The shift brought about logistical and packaging problems in the spring, causing supply-chain bottlenecks. At the same time, farm milk production was reaching its peak season.

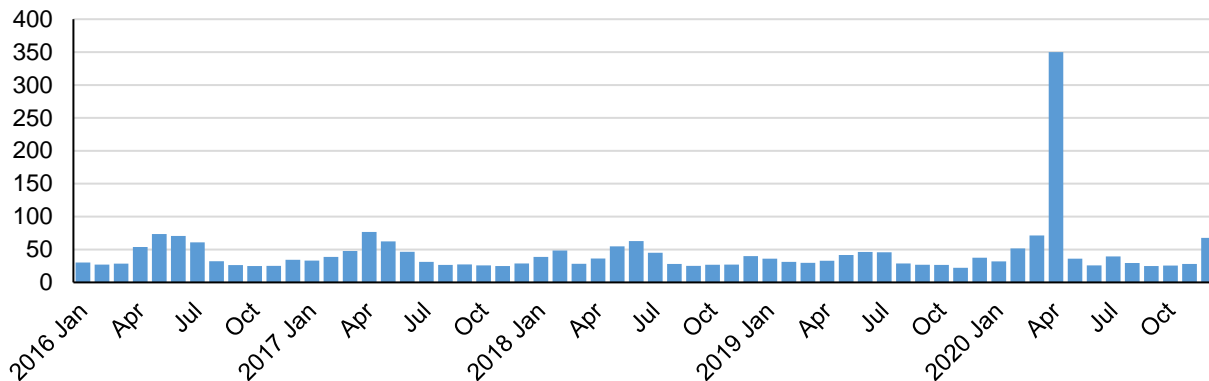
In April, substantial quantities of milk from various parts of the country were not processed. Much of this milk was spread on fields or poured into manure lagoons. USDA does not have a complete accounting of this unprocessed milk, but such milk priced and pooled on FMMOs falls within the broader regulatory category of milk in “other uses,” which includes milk “that is dumped, used for animal feed, destroyed, or lost by a handler in a vehicular accident, flood, fire, or similar occurrence beyond the handler’s control” (7 CFR §1000.40 (e)). Every month, there is at least some milk that falls in this category. However, the quantity in April was extremely large, totaling 350 million pounds.⁴

³ The all-milk price is highly correlated with the average FMMO blend price. The all-milk price may be higher or lower than the blend price for several reasons: (1) Over-order payments are often paid in addition to minimum prices. (2) FMMO prices are reported for statistical purposes at 3.5-percent milk fat, but the all-milk price is reported at the average fat test of U.S. milk. (3) The all-milk price includes milk that is not pooled in FMMOs. (4) There are some conditions under which FMMO minimum blend prices do not apply to producer payments for milk pooled on FMMOs.

⁴ At the request of milk handlers, administrators of FMMOs allowed this unprocessed milk to be pooled on a FMMO if that milk would normally have been pooled through the FMMO. This allows a handler to draw the difference between the pooled uniform price and the lowest use value of the milk; but the handler still bears the loss of that manufacturing value. If the handler is a farmer cooperative, as is most common, that loss is borne by its farmer-owners together.

Milk in "other uses" pooled on Federal Milk Marketing Orders¹

Million pounds



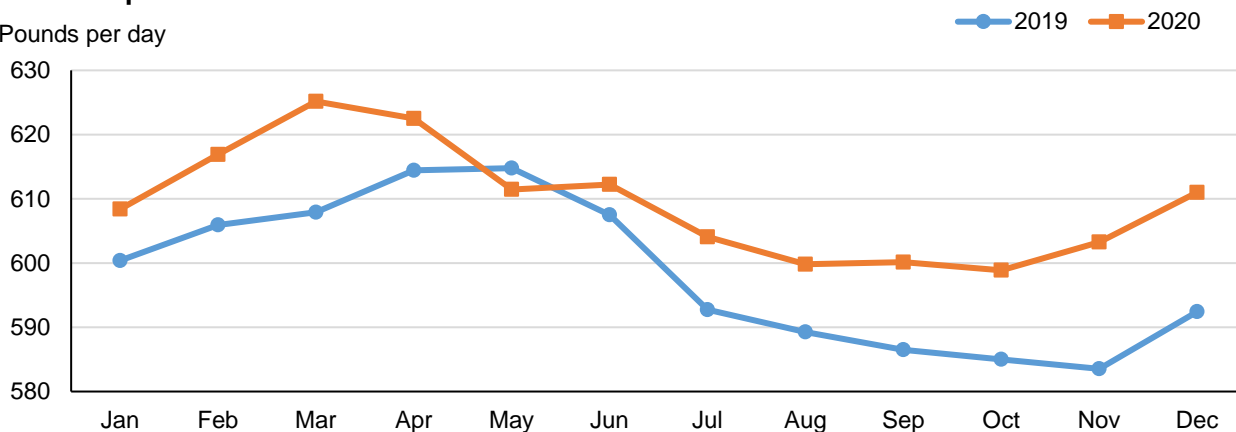
¹ Milk in "other uses" pooled on Federal Milk Marketing Orders includes milk "that is dumped, used for animal feed, destroyed, or lost by a handler in a vehicular accident, flood, fire, or similar occurrence beyond the handler's control" (7 CFR §1000.40 (e)). Source: USDA, Agricultural Marketing Service.

In May, FMMO milk in "other uses" fell to 36 million pounds as cooperatives and other milk handlers set pricing terms to discourage overproduction of milk. Wholesale dairy product prices rose thereafter due to the reduction in milk supply resulting from handlers' new pricing terms; increased Government purchases of dairy products to support the sector and help needy families; relaxation of stay-at-home restrictions in some areas of the country; and improving exports. Changes in prices through the rest of the year reflected successive rounds of Government purchases and market uncertainties as the pandemic continued.

As prices rose and the dairy industry adjusted to market conditions, year-over-year milk supply growth increased from -0.5 percent in May to +3.4 in November. In December, milk production was 3.1 percent above the previous year. For the year, milk production totaled 223.1 billion pounds, 1.9 percent higher than 2019 (adjusted for leap year).

U.S. milk production

Pounds per day



Source: USDA, National Agricultural Statistics Service.

The effects of the pandemic on dairy demand are reflected in the domestic use statistics for 2020. On a milk-fat milk-equivalent basis, domestic use grew by 1.0 percent over 2019. On a skim-solids milk-

equivalent basis, domestic use declined by 1.3 percent. For most products tracked by USDA, 2020 domestic use declined from 2019. In cases where there was growth, the growth was lower than the compound annual growth rate (CAGR) of the previous 5 years. While domestic demand was weak, export demand was relatively strong in 2020, with dairy exports growing by 2.0 percent on a milk-fat basis and 13.7 percent on a skim-solids basis.

Domestic use of milk and dairy products

Product	Units	2019	2020	Percent change	
				From 2019 to 2020	CAGR, ¹ previous 5 years
Milk in all products					
Milk-fat basis	Billion pounds	215.2	217.3	1.0	1.8
Skim-solids basis		181.9	179.6	-1.3	1.4
Dairy products (million pounds)					
American type cheese		5,127	5,149	0.4	3.2
Other-than-American type cheese		7,541	7,450	-1.2	2.7
Butter	Million pounds	2,026	2,070	2.2	2.9
Dry skim milk products		925	728	-21.3	-1.9
Dry whey		639	490	-23.3	12.0
Whey protein concentrate		285	205	-28.1	-4.6
Lactose		397	298	-24.9	1.5

¹ CAGR = compound annual growth rate.

Sources: USDA, National Agricultural Statistics Service; USDA, Farm Service Agency; USDA, Foreign Agricultural Service; U.S. Dept. of Commerce, Bureau of the Census; and USDA, Economic Research Service (ERS) calculations. Numerous sources were used for conversion factors. For more information, see the ERS Dairy Data Documentation webpage.

Exports of milk and dairy products

Product	Units	2019	2020	Percent change	
				From 2019 to 2020	CAGR, ¹ previous 5 years
Milk in all products					
Milk-fat basis	Billion pounds	9.1	9.3	2.0	-5.6
Skim-solids basis		41.5	47.2	13.7	1.2
Dairy products (million pounds)					
Cheese		786	785	-0.1	-0.6
Butter	Million pounds	41	47	14.7	-20.6
Dry skim milk products		1,545	1,792	15.9	5.2
Dry whey		338	472	39.5	-7.7
Whey protein concentrate		275	321	16.8	4.3
Lactose		834	831	-0.3	2.0

¹ CAGR = compound annual growth rate.

Sources: USDA, National Agricultural Statistics Service; USDA, Foreign Agricultural Service; U.S. Dept. of Commerce, Bureau of the Census; and USDA, Economic Research Service (ERS) calculations. Numerous sources were used for conversion factors. For more information, see the ERS Dairy Data Documentation webpage.

With high milk production in the latter part of the year and relatively low domestic demand, dairy stocks grew to high levels the end of 2020. On a milk-fat basis, ending stocks totaled 15.625 billion pounds, 2.002 billion higher than the end of 2019. On a skim-solids basis, 2020 ending stocks totaled 10.848 billion pounds at the end of 2019, 629 million higher than at the end of 2019. Notably, 2020 butter

ending stocks totaled 273.8 million pounds, up 84.1 million from the end of 2019. Cheese stocks totaled 1.398 billion pounds at the end of 2020, 75.9 million higher than the end of 2019.

In 2020, USDA administered numerous programs to support agriculture and to help people in need. While prominent programs with respect to the dairy industry are discussed in this article, the list is not exhaustive:

- Risk management programs established prior to the pandemic:
 - Estimated payments for 2020 to be disbursed through the Dairy Margin Coverage (DMC) program total \$217.9 million.⁵ (For more information, see the USDA, Farm Service Agency, Dairy Margin Coverage Program web page.)
 - For the Dairy Revenue Protection (Dairy-RP) program, indemnities paid for calendar year 2020 totaled \$455 million. Premiums associated with these policies totaled \$247 million, with farmers paying \$139 and Government subsidies covering \$108 million. (For more information, see the USDA, Risk Management Agency website.)
- Direct payments to dairy farmers through two rounds of the Coronavirus Food Assistance Program totaled \$2.985 billion. (For more information, see the USA Coronavirus Food Assistance Program website.)
- Through the Farmers to Families Food Box program, USDA purchased a total 132.9 million food boxes in 2020 at a cost of \$4.029 billion. The food boxes included a variety of food products, including fluid milk and manufactured dairy products. (For more information, see the USDA, Agricultural Marketing Service, Farmers to Families Food Box program web page.)
- Additional food purchases, including dairy products, have been provided through funding and authorities provided in the Coronavirus Aid, Relief, and Economic Security Act; the Families First Coronavirus Response Act; and other existing USDA sources. (For more information, see the USDA, Agricultural Marketing Service, Commodity Procurement web page.)

Recent Developments in Dairy Markets

Directions of wholesale price changes for dairy products, as reported in the USDA *National Dairy Product Sales Report* (NDPSR) from the week ending January 9 to the week ending February 6, were mixed. The price of Cheddar cheese 40-pound blocks increased by 8.4 cents to \$1.7514 per pound, but the price of 500-pound barrels decreased 4.9 cents to \$1.4774 per pound. Prices for NDM and dry whey rose to \$1.1497 (+2.6 cents) and \$0.4953 (+5.5 cents) per pound, respectively. The butter price fell by 14.2 cents to \$1.3464 per pound.

⁵ Some DMC payments applicable to 2020 have not yet been disbursed.

Dairy wholesale product prices
from USDA *National Dairy Products Sales Report* (dollars per pound)

	For the week ending		Change
	January 9	February 6	
Butter	1.4884	1.3464	-0.1420
Cheddar cheese			
40-pound blocks	1.6670	1.7514	0.0844
500-pound barrels ¹	1.5260	1.4774	-0.0486
Nonfat dry milk	1.1242	1.1497	0.0255
Dry whey	0.4404	0.4953	0.0549

¹ Adjusted to 38-percent moisture.

Source: USDA, Agricultural Marketing Service, *National Dairy Products Sales Report*, February 10, 2021.

For the trading week ending February 5, the Chicago Mercantile Exchange (CME) spot prices for most dairy products were lower than the most recent NDPSR prices. The CME prices for Cheddar cheese blocks and barrels averaged \$1.5810 and \$1.4275 per pound, respectively. Prices for butter and NDM were \$1.2680 and \$1.1220, respectively. Dry whey was the exception, with an average price of \$0.5350 per pound.

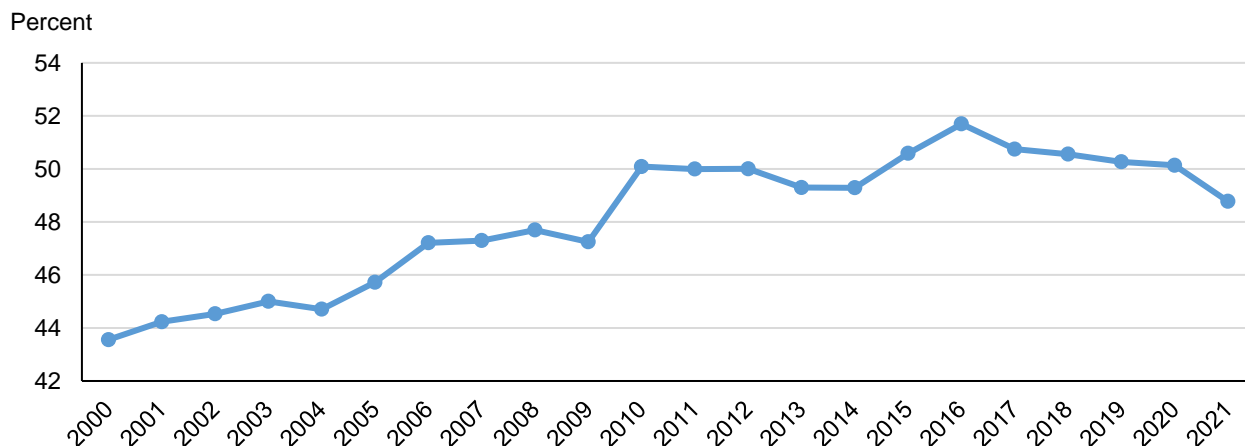
U.S. prices appear to be very competitive with international export prices.⁶ In January, Oceania and Western Europe export prices for butter were \$2.14 and \$1.87 per pound, respectively. SMP export prices for Oceania and Western Europe were \$1.46 and \$1.26 per pound, respectively. The Oceania export price for cheese was \$1.86 per pound, and the Western Europe export price for dry whey was \$0.48 per pound.

According to the most recent *Milk Production* report published by USDA National Agricultural Statistics Service (NASS), U.S. milk production during December totaled 18.941 billion pounds, 3.1 percent higher than December 2019. Milk cows numbered 9.443 million head, 100,000 head more than December 2019 and 12,000 head more than November 2020. Milk per cow averaged 2,006 pounds in December, 40 pounds above December 2019.

The recent NASS *Cattle* report shows that milk cows numbered 9.440 million head on January 1, 2021. This is about 3,000 fewer than the December average reported in the *Milk Production* report. Milk replacement heifers totaled 4.605 million head on January 1, about 48.8 percent of the size of the milking herd. This is the lowest percentage since January 1, 2009.

⁶ The source for Oceania and Western Europe prices is USDA *Dairy Market News*. Prices listed in this report are at the midpoints of the ranges.

Replacement heifers as a percent of milk cows



Source: USDA, National Agricultural Statistics Service.

Dairy exports on a milk-fat basis totaled 763 million pounds in December, 120 million higher than November and 70 million higher than December 2019. On a skim-solids basis, December exports totaled 3.612 billion pounds, 58 million lower than November and 103 million lower than December 2019. Notably, exports of butter totaled 6.4 million pounds in December, 3.5 million higher than the previous month. Exports of whey products (dry whey, whey protein concentrate, modified whey, and milk albumin) totaled 113.3 million pounds in December, 6.3 million higher than November. According to USDA *Dairy Market News*, some U.S. exporters have been experiencing logistical problems due to a shortage of shipping containers in recent weeks. Exporters from Western Europe appear to be having the same problem.

Dairy imports on a milk-fat basis totaled 576 million pounds in December, 104 million higher than November and 61 million pounds higher than December 2019. On a skim-solids basis, dairy imports totaled 503 million pounds in December, 72 million higher than November but 15 million lower than December 2019.

A fifth round of the Farmers to Families Food Box program is currently underway, and about 2.1 million boxes have been delivered through the first week of February.

Outlook for Feed Prices

The 2020/21 corn price forecast is \$4.30 per bushel, 10 cents higher than last month's forecast. The 2020/21 forecast for soybean meal has been raised to \$400 per short ton, \$10 higher than the last forecast. The alfalfa hay price in December was \$169 per short ton, \$2 higher than November but \$3 lower than December 2019. The 5-State weighted-average price for premium alfalfa hay in December was \$203 per short ton, \$3 higher than November and \$3 higher than December 2019. For more information, see *Feed Outlook*, published by USDA, Economic Research Service.

Dairy Forecasts for 2021

Based on recent data, the milk production forecast for 2021 has been raised to 227.4 billion pounds, 0.7 billion higher than last month's forecast. Milk cows are projected to average 9.435 million head, 5,000 higher than last month's forecast. Milk cow numbers are expected to decline from the first quarter

to the third quarter due to relatively low milk prices, relatively high feed prices, and a relatively low number of replacement heifers. Milk per cow is projected to average 24,100 per head in 2021, 5 pounds more than the previous forecast.

The forecast for 2021 dairy exports on a milk-fat basis has been raised to 10.1 billion pounds, 0.4 billion higher than last month, due to higher expected butter exports. On a skim-solids basis, the 2021 dairy export forecast has been raised to 48.9 billion pounds, 0.2 billion higher than last month's forecast, due to higher expected exports of whey products.

The 2021 dairy import forecast on a milk-fat basis has been raised to 6.7 billion pounds, 0.1 billion pounds higher than last month's forecast, due to higher expected imports of cheese and butterfat products. On a skim-solids basis, the dairy import forecast is 5.5 billion pounds, unchanged from last month.

The forecast for 2021 domestic use on a milk-fat basis is 222.6 billion pounds, unchanged from last month's forecast. On a skim-solids basis, the forecast for domestic use is 183.2 billion pounds, 0.8 billion higher than last month's forecast. Ending stock forecasts for 2021 have been raised to 16.0 billion pounds on a milk-fat basis (+0.8 billion) and 10.6 billion pounds on a skim-solids basis (+0.3 billion).

Based on recent price changes, relatively high beginning stock levels, and higher expected milk production, 2021 price forecasts for Cheddar cheese and butter have been lowered to \$1.695 per pound (-4.5 cents) and \$1.455 per pound (-15.0 cents), respectively. Based on recent price changes, the price forecast for NDM has been raised by 2.5 cents to \$1.125 per pound. With higher expected exports of whey products and recent price increases, the dry whey price forecast has been raised by 3.0 cents to \$0.480 per pound. Since prices for NDM and dry whey are heavily dependent upon exports, price increases may be limited by high shipping costs and delays related to container shortages.

With the lower expected cheese price more than offsetting the higher expected dry whey price, the Class III price forecast for 2021 has been lowered by \$0.30 to \$16.60 per cwt. With the lower expected butter price more than offsetting the higher expected NDM price, the Class IV price has been lowered by \$0.40 to \$13.70 per cwt. The all-milk price forecast for 2021 has been lowered to \$17.15 per cwt, \$0.50 lower than last month's forecast.

Sheep/Lamb

William Hahn

2021 Sheep and Lamb Report Released

On January 29, 2021, USDA's National Agricultural Statistics Service (NASS), released its annual *Sheep and Goats* report estimating the number of sheep and lambs in the United States on January 1st. The table below summarizes some of the report's data, showing 2019, 2020, 2021 data and the change in numbers between the 2020 and 2021 reports.

January 1 Sheep and lamb inventory

	2019	2020	2021	Change 2020-2021
	Thousands of head			
All sheep and lambs	5,230	5,200	5,170	-30
Total breeding sheep	3,820	3,810	3,780	-30
Ewes over 1 year old	3,000	2,980	2,960	-20
Lambs keep for breeding	650	660	650	-10
Rams	170	170	170	0
Total market sheep and lambs	1,410	1,390	1,390	0
Under 65 pounds	358	347	338	-9
65-84 Pounds	205	190	195	5
85-105 Pounds	290	271	291	20
Over 105 Pounds	475	498	485	-13
Market sheep	82	84	81	-3

Source: U.S. Dept. of Agriculture, National Agricultural Statistics Service, Sheep and Goats.

The total number of sheep and lambs at the start of 2021 was 5,170 thousand head, 30 thousand fewer than 2020. The total number of breeding sheep in 2020 was also 30 thousand below 2019's total. That 30-thousand head decline reflects 20 thousand fewer ewes kept, and 10 thousand fewer ewe lambs kept for breeding. Producers also had sheep and lambs that they planned to market this year. The total number of these market sheep and lambs in 2021 was the same as for 2020. However, the mix of market animals changed between 2020 and 2021.

Changes in Sheep and Lamb Forecasts

The first-quarter price forecast for Prime/Choice lambs in the January 2021 LDP was \$165 per hundredweight. In the early weeks of this year, the lamb price was below this level; the forecast for quarter 1 2021 was lowered 1 dollar to \$164 per hundredweight. Price forecasts for the rest of 2021 are unchanged.

December lamb and sheep production data for fourth-quarter 2020 was released in January. Approximately 33 million pounds of lamb and mutton were produced in the fourth quarter of 2020, matching the forecast. As noted above, the total market-sheep inventory at the start of 2021 matches the total for 2020. The number of ewes at the start 2021 is slightly below the number of ewes in 2020.

Lamb and mutton production in the first two quarters of 2021 will largely come from the beginning market sheep inventory. Much of the lamb produced in the later part of this year will come from lambs born to the ewes in the flock on January 1.

2020 ewe and market sheep inventories were slightly smaller than 2019 inventories. 2019 lamb and mutton production was 149 million pounds. 2020 lamb and mutton production was 138 million pounds, more than 7 percent smaller than 2019 production. According to NASS estimates, the United States slaughtered 4.3 percent fewer sheep in 2020 than in 2019: 2.2 million head in 2020 versus 2.3 million in 2019. The average size of sheep was also smaller, resulting in 7.4 percent less lamb and mutton: 149 million pounds in 2019 versus 138 in 2020. Throughout the first weeks of this year, slaughter numbers and weights are lower than they were for the first weeks of 2020. The forecasts for mutton and lamb production were lowered for all quarters of 2021. The forecasts are 1 million pounds lower for the first three quarters of 2021 and 2 million pounds lower for the last quarter.

December trade figures for 2020 were recently released. Fourth-quarter imports of lamb and mutton were 70.1 million pounds, 1.9 million pounds lower than last month's estimate. With production forecast lower, the lamb and mutton import forecasts for all four quarters of 2021 were increased. The import forecast for the first quarter was raised from 90 to 92 million pounds; the second, third, and fourth quarter forecasts are 71, 61, and 66 million pounds; each of the three are 1 million pounds higher than the January forecasts.

Pork/Hogs

Mildred Haley

Domestic Pork Demand a Likely Driver of First-Quarter Hog Prices

The robust demand for hogs and pork chalked-up in January appears likely to persist through the first quarter of this year. Estimated federally inspected hog slaughter in January—at about 11.2 million head—was nearly 5 percent above a year ago, after adjusting for 2 extra January 2021 slaughter days. For January, estimated federally inspected pork production was about 2.5 billion pounds, almost 7 percent above production last January, with higher estimated dressed weights—more than 4 pounds above January a year ago—contributing to the year-over-year per day production increase. Processors paid higher prices for larger numbers of hogs in January, signaling a year-over-year increase in demand. Prices of live equivalent 51-52 percent lean hogs in January averaged more than 9 percent above a year earlier, at \$47.44 per hundredweight (cwt).

Since processor demand for hogs derives from demand for pork products, the higher pork prices registered in January likely drove processors to pay higher prices for hogs. The January wholesale pork carcass value—\$80.31 per cwt—was 7.5 percent higher than a year earlier. Increased demand for both pork and hogs yielded year-over-year higher estimated per hog gross packer margins in the first 4 weeks of 2021, which ran more than 2 percent above the same period last year.

Expectations of continued-strong first-quarter pork demand is based largely on estimates for robust U.S first-quarter GDP growth. Pork demand is likely to be supported by foreign demand for U.S. pork, although at lower levels than a year ago, due primarily to lower expected demand from China. USDA data for pork export sales outside of North America show a year-over-year increase of more than 14 percent in the first 4 weeks of 2021.⁷

First-quarter prices of live equivalent 51-52 percent lean hogs are forecast at \$50 per cwt, almost 18 percent higher than a year earlier. First-quarter pork production is expected to total about 7.4 billion pounds, fractionally less than a year earlier when hog slaughter totals reflected an additional slaughter day in the quarter.

Potential Production Constraints Point to Higher Hog Prices Later in 2021

Additional factors—beyond flat first-half 2021 producer farrowing intentions reported in the December *Quarterly Hogs and Pigs*—may be pointing to higher year-over-year hog prices from slowing hog and pork production. Developing risk factors include significant feed cost increases and continued-strong breeding herd slaughter rates in January. Increased feed costs are primary among risk factors for hog production and hog prices, since they typically account for more than half of production costs. USDA price data indicate that by the end of January, Iowa corn prices had increased more than 32 percent year-over-year.⁸ The late January price of high-protein soybean meal in Central Illinois increased

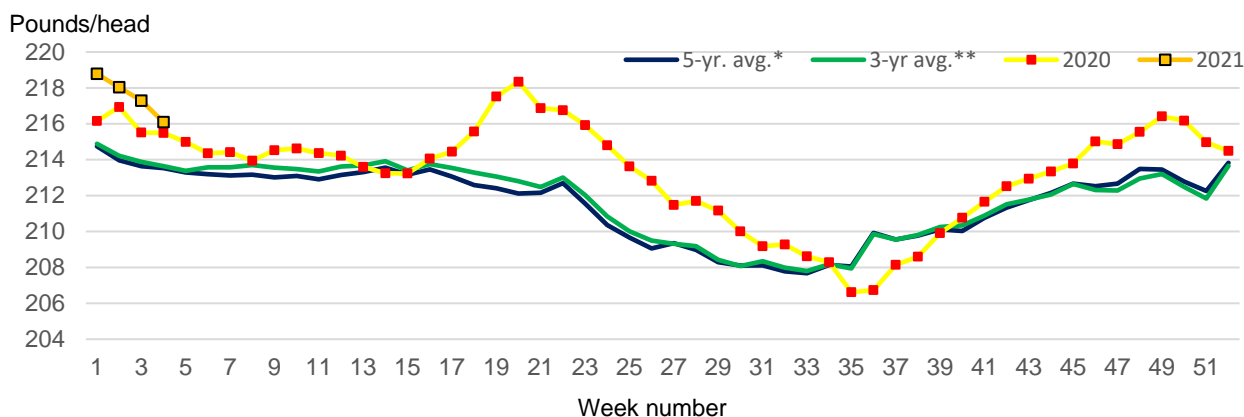
⁷ USDA, Agricultural Marketing Service. “National Weekly Pork Report FOB Plant-Export Sales”, LM_XB402.

⁸ USDA, Agricultural Marketing Service. “Iowa Ethanol Corn and Co-Products Processing Values”, NW_GR212.

almost 38 percent.⁹ The 2020/21 marketing-year corn price forecast is \$4.30 per bushel, 74 cents higher than in 2019/20, and the 2020/21 forecast for soybean meal is \$400 per short ton, just over \$100 higher than the previous year. Increases such as these in typical hog-finishing rations point to feed cost increases of almost 29 percent compared with costs of a year ago.

Declining hog weights may be a first indicator that higher feed costs are pressuring pork production lower. Average carcass weights of slaughtered swine declined 2.7 pounds between the first and fourth weeks of 2021, compared with 0.7 pounds over the same period in 2020. This decline in January could be due, in part, to dissipating regional hog back-ups, but elevated feed costs are likely also contributing to the downward trend in hog weights. Profit-maximizing hog producers stop adding more pounds to hogs when hog prices no longer offset the additional costs.

Weekly average carcass weights, slaughtered swine



*5-yr. avg.- 2015-2019

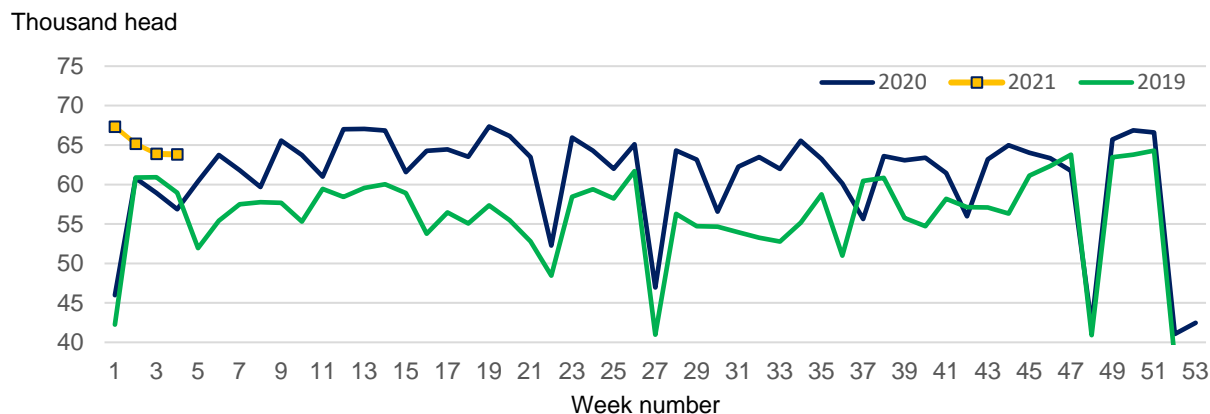
**3-yr. avg.- 2017-2019

Source: USDA, Agricultural Marketing Service.

There are also indications that the elevated rates of breeding-animal slaughter seen in 2020 are continuing into 2021. Lower breeding herd numbers could signal lower future hog supplies, putting upward pressure on hog prices. Sow slaughter in 2020 averaged almost 11 percent higher than the 2019 average. In the first 4 weeks of January 2021 (the latest date for which data is available), USDA data for sow and boar slaughter net of imports from Canada show an increase of almost 17 percent over the same period last year. Breeding inventory numbers—measured at 3 percent lower, year-over-year, in the December *Quarterly Hogs and Pigs*—will be updated in the March *Quarterly Hogs and Pigs* report.

⁹ USDA, Agricultural Marketing Service. “Soybean prices compared with value of oil and meal”, GX_GR211.

Weekly net* federally inspected sow and boar slaughter



* Net of imported sows and boars.

Source: USDA, Economic Research Service transformation of USDA, Agricultural Marketing Service data.

Tightening inventories of breeding animals and anecdotal evidence of disease problems—particularly in the Corn Belt States—may be a factor contributing to higher prices for feeder pigs early in 2021. USDA data show that prices of 40-pound feeder pigs increased almost 5 percent in January compared to the same period last year.¹⁰ It is also notable that imports of live finishing animals from Canada increased almost 12 percent in January compared with January 2020.¹¹ USDA forecasts strong year-over-year imports of live swine, the vast majority of which are of Canadian origin and comprised of animals for finishing in the United States. First-half imports of live swine are expected to be more than 14 percent higher than in the same period of 2021.¹²

The possibility of tightening supplies of hogs and pork resulting from higher feed costs and lower breeding numbers is likely to put upward pressure on hog prices in 2021. Second-quarter prices of 51-52 percent lean live equivalent hogs are expected to average \$54 per cwt, one dollar higher than last month's forecast and almost 39 percent higher than prices a year earlier, when COVID-19-related processing sector turbulence weighed on hog prices. Third-quarter prices are forecast at \$51 per cwt, one dollar higher than last month's forecast and 26 percent higher than the third-quarter of 2020. Fourth-quarter hog prices are expected to be \$47 per cwt, 2 dollars more than last month's forecast but 7 percent below prices a year earlier.

2020 U.S. Pork Exports Were Fueled by China; Perspective in 2021 Shifts to Mexican Demand for U.S. Pork

The tables below, detailing December, fourth-quarter, and annual U.S. pork exports to the 10 largest foreign buyers of U.S. pork, show strong flows to China/Hong Kong abating in December, with exports to Mexico displacing China/Hong Kong as the largest foreign buyer. This tendency will likely extend into 2021 as China continues to rebuild its pork sector in the wake of African Swine Fever-related hog losses that began in 2018.

¹⁰ USDA, Agricultural Marketing Service. "National Direct Feeder Pig Report", NW_LS255.

¹¹ USDA, Agricultural Marketing Service. "Canadian Live Animal Imports into the U.S.", WA_LS635.

¹² USDA, Economic Research Service, "U.S. red meat and poultry forecasts".

U.S. pork exports in 2021 are expected to total 7.2 billion pounds, about 2 percent lower than in 2020. First-quarter shipments are forecast at about 1.8 billion pounds, about 11 percent lower than a year earlier. Second-quarter exports are forecast at about 1.8 billion pounds, about 1.4 percent below a year earlier. Third-quarter exports are expected to be about 1.7 billion pounds, 3 percent higher than a year earlier. Exports in fourth-quarter—typically the strongest quarter of the year—are forecast at about 2 billion pounds, 5 percent higher than a year-earlier. Lower first-half exports largely reflect anticipated year-over-year reductions in shipments to China\Hong Kong, but stronger demand from Mexico.

U.S. pork exports: Volumes and export shares of the 10 largest foreign destinations, December 2019 and 2020

	Country	Exports December 2019 (Million pounds)	Exports December 2020 (Million pounds)	Percent change (2020/2019)	Export share December 2019 Percent	Export share December 2020 Percent
	World	680.8	636.1	-6.6		
1	Mexico	150	169	13.1	22.0	26.6
2	China	229	156	-31.6	33.6	24.6
3	Japan	91	103	12.8	13.4	16.1
4	South Korea	51	44	-13.5	7.5	6.9
5	Canada	44	43	-2.3	6.5	6.8
6	Colombia	23	21	-6.9	3.4	3.4
7	Australia	29	17	-40.2	4.2	2.7
8	Dominican Republic	6	12	106.0	0.9	1.9
9	Honduras	9	11	27.1	1.3	1.8
10	Panama	15	11	-27.7	2.2	1.7

Source: USDA, Economic Research Service.

U.S. pork exports: Volumes and export shares of the 10 largest foreign destinations, fourth-quarter 2019 and 2020

	Country	Exports Fourth quarter 2019 (Million pounds)	Exports Fourth quarter 2020 (Million pounds)	Percent change (2020/2019)	Export share Fourth quarter 2019 Percent	Export share Fourth quarter 2020 Percent
	World	1,825.6	1,858.0	1.8		
1	China	474	456	-3.8	25.9	24.5
2	Mexico	397	455	14.6	21.8	24.5
3	Japan	285	318	11.5	15.6	17.1
4	Canada	143	146	1.9	7.9	7.9
5	South Korea	155	111	-28.5	8.5	5.9
6	Colombia	78	59	-24.3	4.3	3.2
7	Australia	84	52	-38.6	4.6	2.8
8	Chile	20	35	76.0	1.1	1.9
9	Honduras	28	32	16.8	1.5	1.7
10	Philippines	23	32	37.2	1.3	1.7

Source: USDA, Economic Research Service.

U.S. pork exports: Volumes and export shares of the 10 largest foreign destinations, 2019 and 2020

	Country	Exports 2019 (Million pounds)	Exports 2020 (Million pounds)	Percent change (2020/2019)	Export share 2019 Percent	Export share 2020 Percent
	World	6,321	7,282	15.2		
1	China	1,067	2,134	100.0	16.9	29.3
2	Mexico	1,560	1,567	0.4	24.7	21.5
3	Japan	1,149	1,201	4.6	18.2	16.5
4	Canada	555	580	4.5	8.8	8.0
5	South Korea	625	486	-22.2	9.9	6.7
6	Australia	307	234	-23.7	4.9	3.2
7	Colombia	295	189	-35.8	4.7	2.6
8	Dominican Republic	95	120	26.2	1.5	1.7
9	Chile	106	118	11.4	1.7	1.6
10	Philippines	95	110	15.4	1.5	1.5

Source: USDA, Economic Research Service.

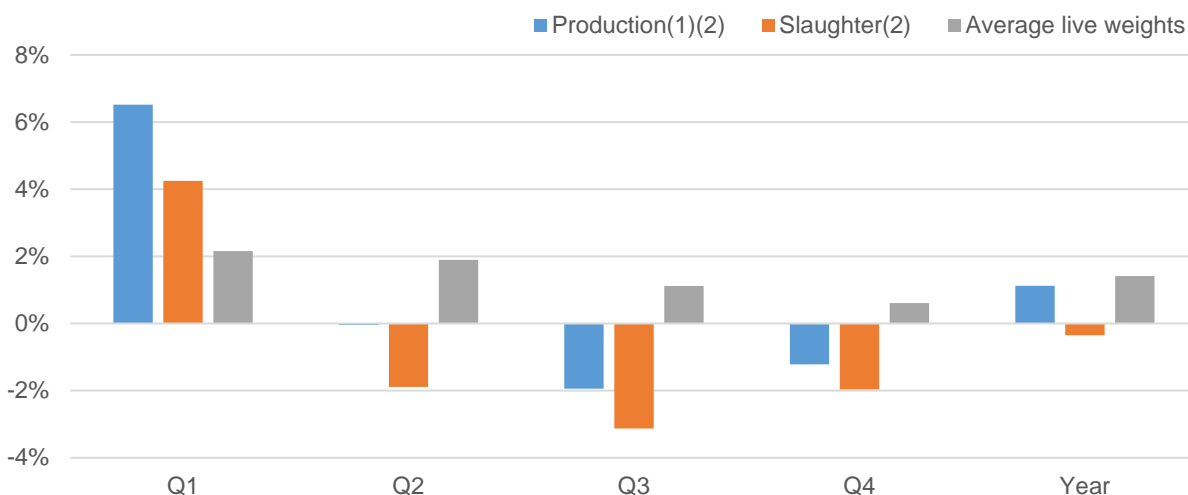
Poultry

Kim Ha and Grace Grossen

2020 Broiler Production Gains Supported by Strong First Quarter and Average Live Weights

December broiler production is estimated at 3.7 billion pounds, bringing 2020 total production to 44.6 billion pounds. Adjusted for slaughter days, December production decreased by 2.9 percent year over year, driven by a 3.4-percent decrease in slaughter (adjusted for slaughter days) and a slight increase (0.3 percent) in average bird weights. Looking at 2020 as a whole, production increased by 1.5 percent year over year, or 1.1 percent adjusted for the extra slaughter day. Per day slaughter decreased by -0.3 percent, while average live weights increased by 1.5 percent. The chart below delineates year-over-year percent changes for key production measures by quarter and for the year. As can be seen, the first quarter had strong gains across all three measures—production increased by 6.5 percent (adjusted for slaughter days), slaughter by 4.2 percent, and average weights by 2.2—which bolstered the rest of the year. Production and slaughter were down year over year for the second, third, and fourth quarters, in large part due to COVID-19-related market disruptions. Conversely, average live weights were up throughout the year. Preliminary slaughter data from the Agricultural Marketing Service indicate that the gain in average weights was driven by slightly heavier birds in the large-bird category (birds weighing more than 6.26 pounds), as well as an increase in the proportion of large-bird slaughter, the driving factor in higher bird weights in recent years.

Year-over-year percent change in broiler production measures, 2020/2019



Note: (1) Ready-to-cook production.

(2) Adjusted for slaughter days.

Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service.

First-Quarter Production Forecast Increased on Hatchery Data; Second-Half Forecast Decreased on Feed Costs

Recent broiler hatchery data suggest that there will be a smaller-than-expected year-over-year decrease in birds available for marketing in the coming months. Further, recent preliminary slaughter

data point to slightly heavier average live weights compared to last year, which is expected to partly offset the lower slaughter volumes. As a result, the first-quarter production forecast was increased to 11.050 billion pounds. Conversely, the marketing-year corn and soybean meal price forecasts were increased further this month and are forecast 21 percent and 34 percent higher than 2019/20, respectively. Higher feed costs are expected to dampen producer margins and thus production growth in the second half, which was the basis for lowering the second-half production forecast to 22.700 billion pounds. Production in 2021 is forecast to total 44.880 billion, less than a 1-percent increase over 2020 production.

2020 Broiler Export Volume Gains Bolstered by Chinese Demand

Broiler export volumes totaled 611.6 million pounds in December, an increase of 4.1 percent relative to 2019. For the year, 2020 broiler exports totaled 7.371 billion pounds, an increase of 3.8 percent year over year. Shipments to China increased by 682 million pounds relative to 2019, which significantly offset lower shipments to several key markets that were impacted by the global economic slowdown. The increase in Chinese demand is due to the opening of the Chinese market to U.S. poultry products in November 2019, as well as the protein deficit in China caused by African Swine fever. This surge in exports pushed China to become the second-largest foreign market for U.S. broilers after Mexico, which has long been the largest. In 2021, it is expected that China will continue to import broiler products from the United States; however, the extent will largely depend on the rate at which China's swine industry recovers. Larger volumes to China, Taiwan (+76 million pounds), and Mexico (+37 million pounds) were offset by lower shipments to Hong Kong (-131 million pounds), Angola (-111 million pounds) and Cuba (-109 million pounds). Demand from Angola was impacted by economic challenges, including reduced access to foreign exchange and diminished purchasing power. Lower shipments to Cuba were likely a result of ongoing difficult economic conditions that were further exacerbated by the pandemic. The 2021 broiler export forecast is unchanged.

In terms of value, U.S. broiler exports totaled 3,062 million dollars, a decrease of 5.1 percent year over year. The decrease can be largely attributed to lower valued broiler products, as indicated in the 8.6-percent decrease in average dollar value per pound of product. This decrease in value per unit is likely a reflection of depressed domestic prices caused by Covid-19-related market disruptions both domestically and globally.

U.S. broiler exports: Volume, value, and value per pound, 2019 and 2020

Country	Exports			Export share		Rank
	2019	2020	Change	2019	2020	
Volume						
	<i>Million pounds</i>	<i>Million pounds</i>	<i>Million pounds</i>	<i>Percent</i>	<i>Percent</i>	
Top 10 largest foreign markets (per year-to-date 2020 export volumes)						
Mexico	1,506	1,543	37	21.2	20.9	
China	3	685	682	0.0	9.3	↑
Taiwan	454	530	76	6.4	7.2	
Cuba	484	375	-109	6.8	5.1	↓
Canada	287	330	43	4.0	4.5	↑
Vietnam	332	326	-6	4.7	4.4	↓
Guatemala	284	259	-25	4.0	3.5	
Angola	366	255	-111	5.2	3.5	↓
Georgia	256	208	-48	3.6	2.8	↓
Colombia	211	181	-30	3.0	2.5	↑
World	7,103	7,371	267	100	100	
Additional foreign markets of note						
South Africa	195	175	-21	2.8	2.4	↑
Philippines	216	171	-45	3.0	2.3	↓
Haiti	116	140	25	1.6	1.9	↑
Hong Kong	233	102	-131	3.3	1.4	↓
Value						
	<i>Million dollars</i>	<i>Million dollars</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	
World	3,228	3,062	-5.1	100	100	
Value per unit						
	<i>Cents per pound</i>	<i>Cents per pound</i>	<i>Percent</i>			
World	0.45	0.42	-8.6			

Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.

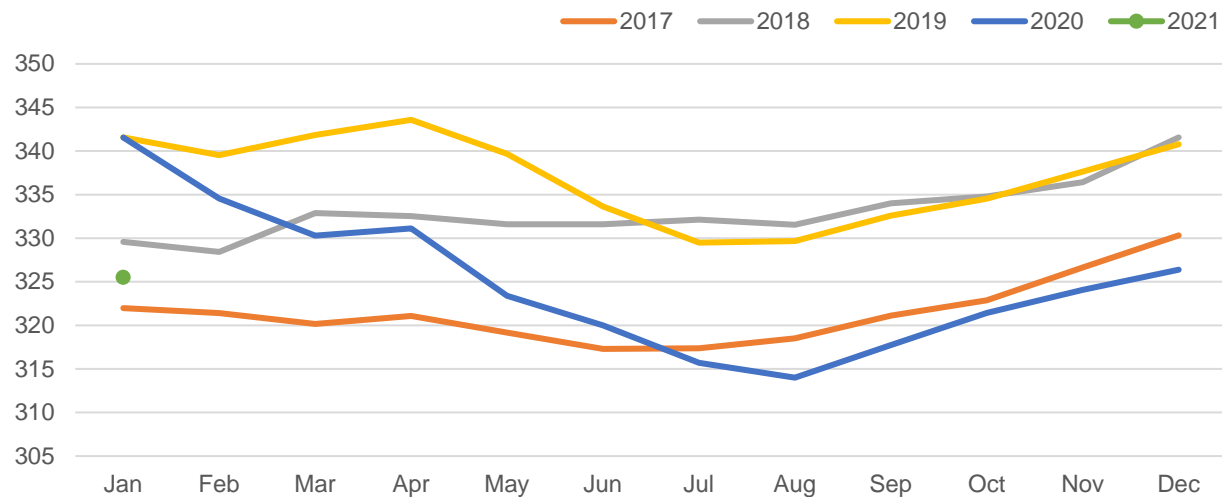
Broiler Price Forecast Increased on Expectations for Improving Demand and Tighter Supplies

Wholesale broiler prices (National Composite Weighted Average) averaged 82.3 cents per pound in January, down 9.1 percent year over year. Despite the year-over-year decrease, the benchmark broiler price in late-January and early February was higher than expected, which was the basis for increasing the first-quarter price forecast to 85 cents per pound. For the outlying quarters, demand is expected to improve but will largely be tied to the recovery of the foodservice industry; however, broiler meat demand is expected to benefit from the quick service restaurant (QSR) sector and the ongoing chicken sandwich wars. Further, tighter supplies in the second half are expected to put upward pressure on prices. The second-, third-, and fourth-quarter price forecasts were increased to 90 cents, 82 cents, and 81 cents per pound, respectively. The 2021 broiler price is forecast to average 84.5 cents per pound, an increase of 15.4 percent relative to 2020.

2020 Table Egg Production Down on Smaller Layer Flock; 2021 Production Forecast Decreased on Higher Feed Costs

December table egg production is estimated at 695 million dozen, down 3.1 percent from last year. The average table egg layer flock was down 4.7 percent year over year, while the average table egg lay rate was up 1.4 percent. Closing out 2020, table egg production totaled almost 8,040 million dozen, a decrease of 2.7 percent relative to 2019 and a return to 2018 production volumes. The layer flock averaged 324 million layers in 2020, about 3.9 percent smaller than the average layer flock in 2019. The smaller layer flock was offset by a slightly higher table egg lay rate, which averaged 81.3 eggs per 100 layers per day in 2020, or 0.8 percent higher than 2019. As of January 1, the table egg layer inventory is at 325 million layers, a decrease of 4.7 percent compared to a year earlier and 1.2-percent smaller than the 2018 inventory for the same period. For much if not all of 2021, it is expected that the layer flock will remain below pre-Covid-19 levels as the industry, particularly the egg-breaking sector, continues to recover. In addition, higher expected feed costs are likely to dampen production expectations further, which was the basis for lowering the 2021 table egg production forecast to 8,120 million dozen, about 1 percent higher year over year, but still about 1.7 percent below 2019 production.

Table egg layer flock (first of month)



Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service.

Hatching egg production for 2020 is estimated at 1,227 million dozen, an increase of 3.7 percent relative to 2019. Hatching egg production for 2021 is forecast to be 1,220 million dozen, less than a 1-percent decrease year over year.

2020 Egg Export Gains Supported by Higher Shipments to Mexico

December exports of eggs and egg products reached 32.7 million dozen, an increase of 10.6 percent year over year. For 2020 as a whole, export volumes totaled 344.0 million dozen, up 3.1 percent relative to 2019. This increase is in large part due to increased demand from Mexico, to which shipments increased by more than 21 million dozen year over year, leading Mexico to surpass Canada as the top export destination for U.S. eggs and egg products. The increase in shipments to Mexico can

be attributed to an increase in demand for table eggs¹³ as well as whole egg products.¹⁴ Meanwhile, shipments to Canada decreased by more than 18 million dozen relative to 2019, driven by lower demand for table eggs. The egg export forecast is unchanged.

Despite increasing volumes, the value of total egg and egg product exports decreased by 1.9 percent year over year. This decline can be attributed to a 4.8-percent decrease in the average value per unit, which was weighed down by egg product values—likely a function of weak domestic demand for egg products due to a decrease in demand from the hospitality, institutional, and restaurant (HRI) sector.

U.S. egg and egg product exports: Volume, value, and value per dozen, 2019 and 2020

Country	Exports			Export share		Rank
	2019	2020	Change	2019	2020	
Volume						
	<i>Thousand dozen</i>	<i>Thousand dozen</i>	<i>Thousand dozen</i>	<i>Percent</i>	<i>Percent</i>	
Mexico	87,334	108,360	21,026	26	31	↑
Canada	93,226	74,827	-18,398	28	22	↓
Hong Kong	53,090	47,144	-5,946	16	14	
Japan	26,002	29,651	3,649	8	9	
South Korea	5,877	8,785	2,907	2	3	↑
United Arab Emirates	3,973	7,692	3,719	1	2	↑
Jamaica	7,866	6,711	-1,155	2	2	↓
Trinidad and Tobago	6,550	6,308	-243	2	2	↓
Denmark	3,820	5,420	1,601	1	2	↑
Bahamas	2,958	4,148	1,190	1	1	↑
World	333,851	344,041	10,191	100	100	
Value						
	<i>Million dollars</i>	<i>Million dollars</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	
World	540	530	-1.9	100	100	
Value per unit						
	<i>Dollars per dozen</i>	<i>Dollars per dozen</i>	<i>Percent</i>			
World	1.62	1.54	-4.8			

Note: Largest markets are based on 2020 export volumes.

Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.

Wholesale Egg Price Forecast Increased

Wholesale egg prices (New York, Grade A Large) averaged 109.7 cents per dozen in January, an increase of 24.0 percent compared to last year. In January, prices climbed from 93 cents per dozen to 140 cents at the end of the month, where they remained for the first week of February. Prices have since began gradually declining, consistent with seasonal patterns. Based on higher-than-expected January prices, the first-quarter price forecast was increased to 117 cents per dozen. Based on expectations that higher feed costs may dampen production expectations, thus tightening supplies, the

¹³ HSCODE = 407000040, 407900000, 407210000

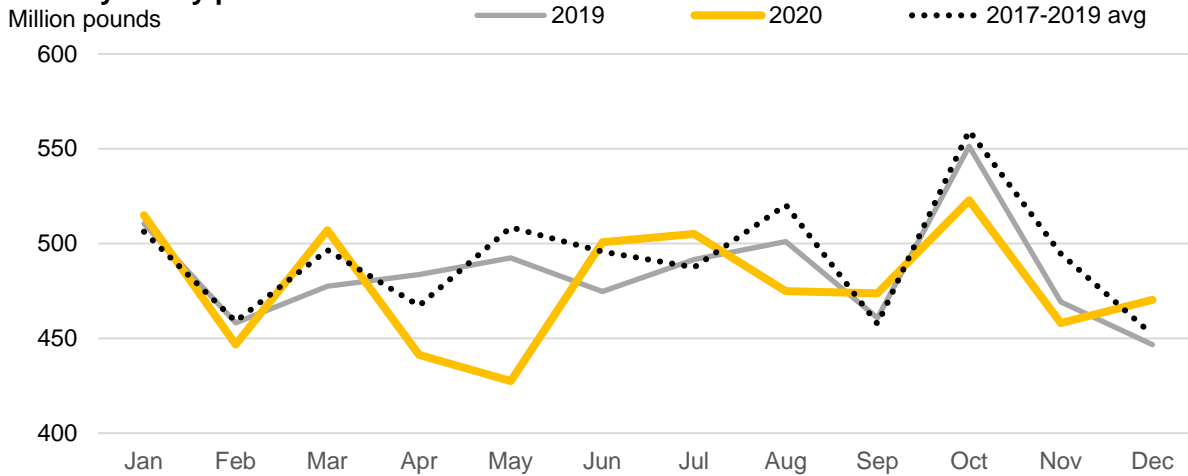
¹⁴ HSCODE = 408910000, 408990000

second-half price forecast was increased to 116 cents per dozen. The 2021 egg price forecast was increased to 111.8 cents per dozen, a decrease of -0.4 percent from 2020.

2021 Turkey production forecast nearly even with 2020 production

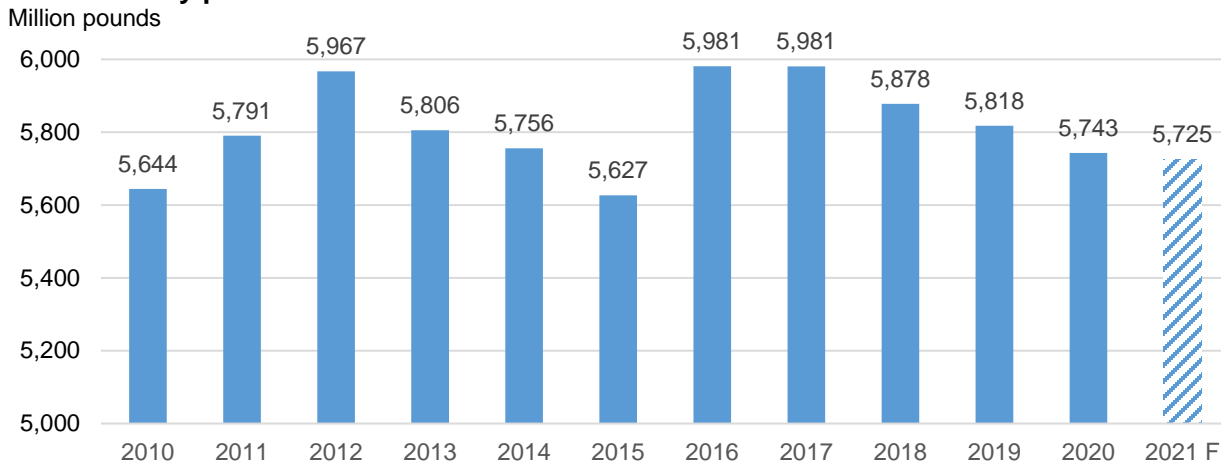
Turkey production for December 2020 totaled 470 million pounds, bringing the fourth-quarter total to 1.451 billion pounds. As shown in the graph below, December's production was an increase of 24 million pounds, or 5.3 percent over last December. However, December 2020 had one more slaughter day than December 2019. In total, 2020 turkey production was 5.743 billion pounds, 1.3 percent below that of 2019. The 2021 production forecast is unchanged at 5.725 billion pounds. This is nearly a zero-percent change from 2020 and 93 million pounds below 2019 production. Annual production, shown in the bar graph below, has been declining since 2017, which was also the last time production stayed level year over year.

Monthly turkey production



Source: USDA, National Agricultural Statistics Service.

Annual turkey production



Sources: USDA, National Agricultural Statistics Service and USDA, *World Agricultural Supply and Demand Estimates*.

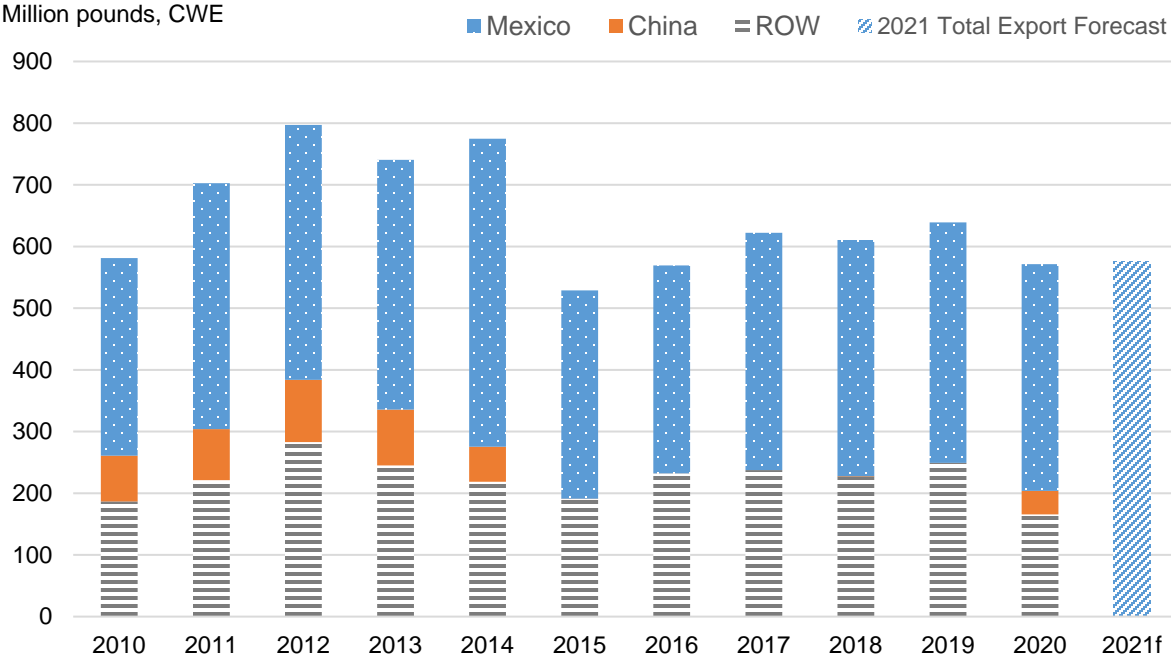
Turkey Export Forecast Revised Down in 2021

December turkey exports totaled 46.4 million pounds, 1.2 percent below December 2019. Exports in 2020 totaled 571.4 million pounds, a 10.6-percent year-over-year decrease from 2019. Annually, exports represented 10 percent of domestic production. China's share of U.S. turkey exports was 4.4 percent in December and 6.7 percent on an annual basis. In November 2019, China lifted a ban on imports of U.S. poultry that had been in place since an avian flu outbreak in late 2014. Between 2010 and 2014, China's share of U.S. turkey exports averaged 11.4 percent. China's share of U.S. turkey exports in 2020 was still below the 7.3-percent share it had in 2014. Mexico, the largest export market for U.S. turkey, had an average of 59 percent of U.S. turkey exports annually between 2010 and 2019. In 2020, both total exports and exports to Mexico declined from 2019, and Mexico accounted for 64 percent of total exports. Exports to all other countries declined by 83 million pounds from 2019 to 2020. This is represented by the striped regions of the bars in the graph below. Some of the largest annual decreases were in exports to Benin (-15.6 million pounds), Hong Kong (-13.4 million pounds), South Africa (-12.1 million pounds), Peru (-10.9 million pounds), and Japan (-9.0 million pounds).

The 2021 turkey export forecast was adjusted down by 10 million pounds in the first quarter and 5 million pounds in the second quarter on expectations of decreasing international demand. This brings the annual forecast to 575 million pounds. If realized, this would represent less than 1 percent year-over-year growth and 10 percent of forecast 2021 domestic production. Turkey imports for 2021 were adjusted up to 5 million pounds in the first quarter of 2021. Import forecasts for the outlying quarters remain unchanged.

Annual U.S. turkey exports, 2010-2021

Million pounds, CWE



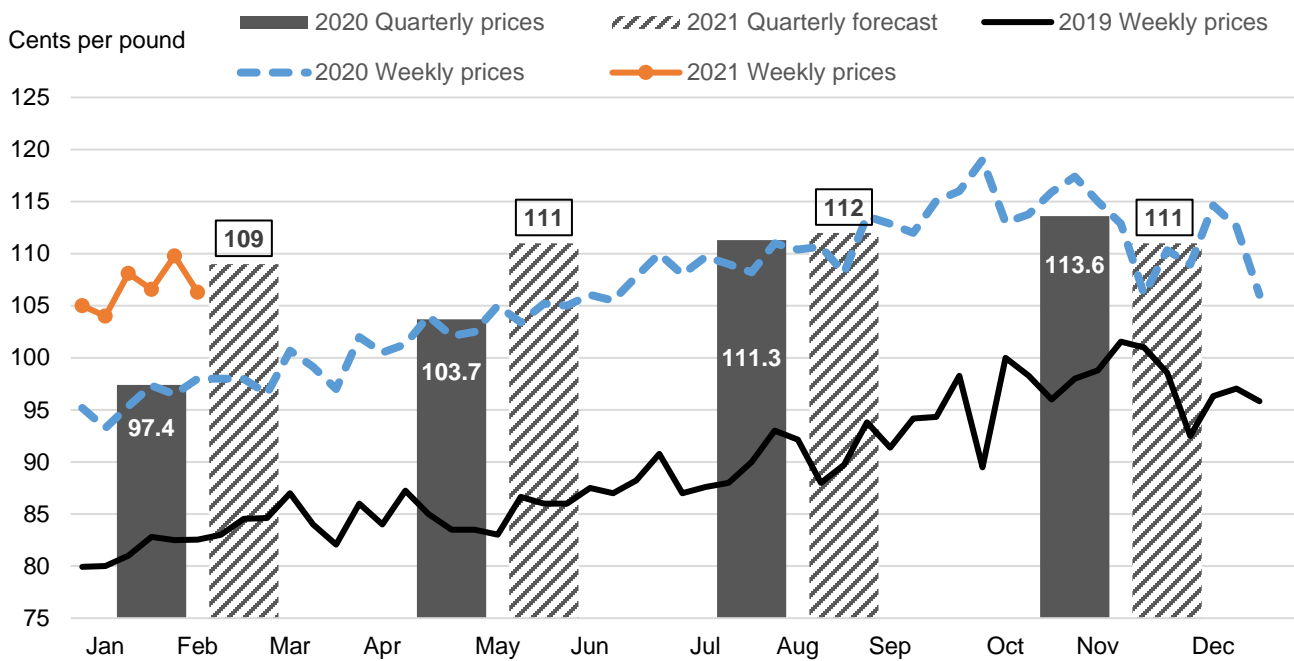
Notes: CWE = Carcass Weight Equivalent; ROW = Rest of world.

Sources: USDA, Economic Research Service, Livestock and Meat International Trade Data and USDA, *World Agricultural Supply and Demand Estimates*.

2021 Turkey Prices Revised Up

The January average wholesale price for whole frozen turkey hens was 108.76 cents per pound, 13.3 cents above January of 2019. The weekly price for the week ending February 5th was 106.29 cents per pound. Prices are beginning the year strong and are expected to remain so for most of the year. Forecast prices for 2021 were adjusted up by 5 cents in each of the first two quarters to 109 and 111 cents per pound, respectively. In the third quarter, the price forecast was adjusted up by 4 cents to 112 cents per pound, and the fourth quarter was left unchanged at 111 cents per pound.

Wholesale whole-hen frozen turkey prices



Sources: USDA, Agricultural Marketing Service and USDA, *World Agricultural Supply and Demand Estimates*.

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