



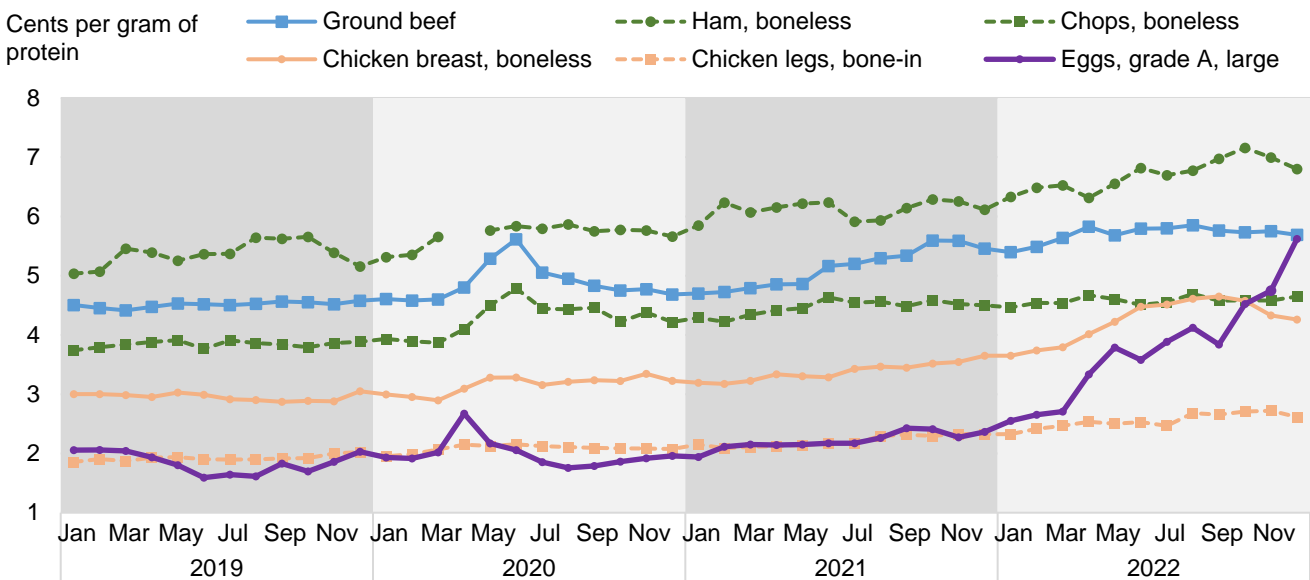
Livestock, Dairy, and Poultry Outlook: February 2023

Retail Prices per Gram of Protein Trending Higher for Selected Livestock, Poultry, and Egg Products

The chart below depicts the monthly retail prices per gram of protein content across selected livestock, poultry, and egg products from January 2019 to December 2022. While retail prices respond to various economic factors, including inflation, the protein content estimate per gram is fixed. Absent major product-specific disruptions, the relative ranking of the selected products in terms of cents per gram of protein trended higher and was mostly unchanged for the period observed, with egg prices surging in 2022.

Historically, eggs and chicken legs have been the two lowest-cost sources of protein among livestock, poultry, and egg products. Between 2019 and 2021, eggs were the cheapest source of protein in 20 out of 36 months. However, during 2022, successive High Pathogenic Avian Influenza outbreaks adversely impacted the egg supply. The associated supply shocks, combined with a strong egg demand, pushed the retail egg prices to record-high levels. As egg prices escalated through 2022, on a gram basis, eggs as a protein source were competitively priced with boneless chicken breasts and pork chops (starting in October), and ground beef (in December).

Retail prices per gram of protein for selected livestock, poultry, and egg products 2019/2022



Note: Retail price for "Ham, boneless" for April 2020 was not reported. Source: USDA, Economic Research Service using data from Bureau of Labor Statistics and USDA, Food DataCentral.

Summary

Beef/Cattle: Based on slaughter data through early February, the pace of cattle slaughter is faster than expected from last month. However, winter weather appears to have impeded performance of feedlot cattle as well as taken a toll on cow and bull weights. A temporal shift in fed cattle marketings into the first quarter and an outlook for higher cow slaughter more than offset a decline in expected dressed weights. Projected beef production in 2023 is raised 50 million pounds to 26.5 billion pounds. Fed cattle prices in 2023 are raised on firm demand and lighter carcass weights. The import forecast for 2023 is raised on early Customs and import inspection data to 3.4 billion pounds. Export projections for 2023 are unchanged at 3.1 million pounds.

Sheep/Lamb: The January 2023 sheep and lamb inventory report showed a 1-percent decline in the sheep inventory relative to 2022. Last month's forecasts for 2023 commercial lamb and mutton production implied a 2-percent decline; commercial production forecasts for 2023 were increased to imply a 1-percent decline in 2023. Lamb prices this year have been lower than expected, so lamb price forecasts have been lowered this month.

Dairy: The milk production estimate for 2023 is lowered from last month due to lower expected dairy cow inventory. Dairy export volumes are projected down after reaching some record highs in 2022. Forecasts for 2023 have been lowered for Cheddar cheese, dry whey, and NDM to \$1.860, \$0.365, and \$1.225 per pound, respectively, based on recent downward trends in dairy product prices and weaker-than-expected demand in the domestic market. The butter price forecast remained unchanged at \$2.330 per pound. With lower dairy product prices expected across the board, Class III and IV milk price forecasts for 2023 have been lowered to \$17.90 and \$18.25 per hundredweight (cwt), respectively. The 2023 all-milk price estimate is lowered to \$20.70 per cwt, down \$0.90 per pound from the previous month's forecast.

Pork/Hogs: January hog slaughter and pork production was higher than expected, although anticipated lower dressed weights are expected to mitigate the effect of the higher numbers on quarterly production. First-quarter pork production is reduced 32 million pounds to 7.010 billion pounds, 1.5 percent higher than production a year ago. First-quarter hog prices are reduced \$5 per hundredweight (cwt) to \$58 per cwt on general weak demand for pork cuts. Pork exports for 2022 wrapped up at 6.3 billion pounds, 9.8 percent lower than shipments in 2021. Exports are forecast at 6.35 billion pounds in 2023, up fractionally from last year.

Poultry/Eggs: Broiler production in 2023 is reduced on recent hatchery data. Projected 2023 broiler imports are adjusted down on recent data, while projected 2023 exports are unchanged. Broiler prices are adjusted down in 2023. The first-quarter table-egg production forecast is revised down based on softer-than-expected laying flock indicators. Consequently, the wholesale egg price first-quarter forecast is revised upward. The 2023 egg import forecast was revised up following strong December data. Turkey production totaled 5.222 billion pounds in 2022, and the projection for 2023 is unchanged at 5.56 billion pounds. Projected 2023 turkey exports are decreased on recent data and continued export challenges. Turkey prices are adjusted up on continued price strength in the start of the new year.

Beef/Cattle

Russell Knight and Hannah Taylor

Cattle Report Shows Significant Herd Reduction

The USDA National Agricultural Statistics Service (NASS) released its semiannual *Cattle* report on January 31st. The total number of all cattle and calves¹ on January 1, 2023, was estimated at 89.3 million head, about 2.8 million fewer than the previous year. This marks the 4th year of contraction for aggregate beef and dairy cattle inventories, in the 9th year in the current cattle cycle—the cyclical expansion and contraction of the national cattle herd over time. The cycle is influenced by the combined effects of cattle prices and input costs that drive cow-calf producer profitability, the gestation period for cattle, the time needed for raising calves to market weight, and climate conditions.

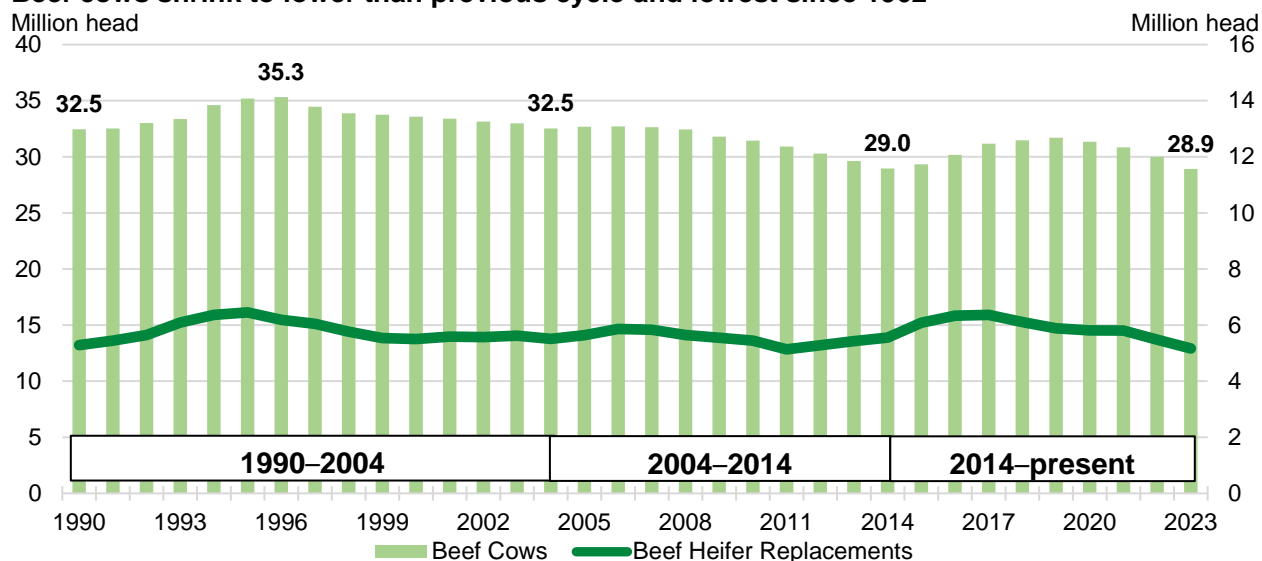
The largest category estimated in the *Cattle* report is the number of beef cows, which is particularly impacted by those factors affecting the cattle cycle. Over the past few years, cow-calf producers have been faced with drought leading to less forage and higher feed costs, as well as higher operating expenses, which limits their ability to maintain their herds and desire to retain heifers as replacements or additions to their herd. As a result, in 2022, producers culled their cows at a higher percentage of the beginning 2022 beef cow inventory than during the last drought-induced cattle cycle in 2004–2014.

The chart below shows that the January 1 estimate of beef cows at 28.9 million head was down 3 percent from a year ago. For additional context, the beef cow herd is also down -37 percent from its historic peak in 1975 of 45.7 million head and is the smallest inventory since 1962. Further, producers expressed their intentions to retain the fewest heifers since 2011, which was during the last drought-fueled contractionary period of the last cattle cycle. This suggests that producers are not optimistic about growing their herds despite a higher year-over-year outlook for cattle prices in 2023. On the dairy side, milk cow numbers were up 0.3 percent, while heifers for milk cow replacement were estimated down 2.3 percent.

The 2022 calf crop estimate was revised down from the last report to 34.5 million head reflecting a 2-percent decline year over year. The lower calf crop contributed in part to the relatively low inventory of 13.6 million calves under 500 pounds on January 1, 2023, down 365.6 thousand head from 2022. Steers 500 pounds and over were estimated at 16.1 million head, down 573.1 thousand head from 2022, and other heifers 500 pounds and over were estimated at 9.7 million head, down 322.3 thousand head from 2022. It was further noted in the *Cattle* report that the number of all cattle on feed was estimated at 14.2 million head, down 537.3 thousand head from last year. As a result, fewer feeder cattle supplies were available on January 1, 2023, 724 thousand head lower at 25.3 million head, the fewest to start the year since 2015.

¹ The inventory estimate includes beef and dairy type cattle.

Beef cows shrink to lower than previous cycle and lowest since 1962



Source: USDA, National Agricultural Statistics Service (NASS).

2023 Beef Production Raised on Higher Cow Slaughter

Beef production in 2022 is estimated at 28.3 billion pounds, up over 1 percent from 2021. Total cattle slaughter was up over 1 percent, which more than offsets a slight decline in average dressed weights. The increase in slaughter was primarily driven by a higher percentage of cows in the slaughter mix, which most likely pressured average dressed weights downward even as fed cattle experienced optimal feeding conditions last year.

Based on the most recent *U.S. Drought Monitor* data, the effects of drought on livestock and crop producers continues. However, since peaking in late October 2022 when 76 percent of the cattle inventory was experiencing drought, conditions have improved. For the week ending January 31, 2023, 55 percent of the herd was in an area of drought compared to 53 percent on February 1, 2022. Given existing low hay stocks, the current drought exposure supported continued high beef cow slaughter in early 2023.

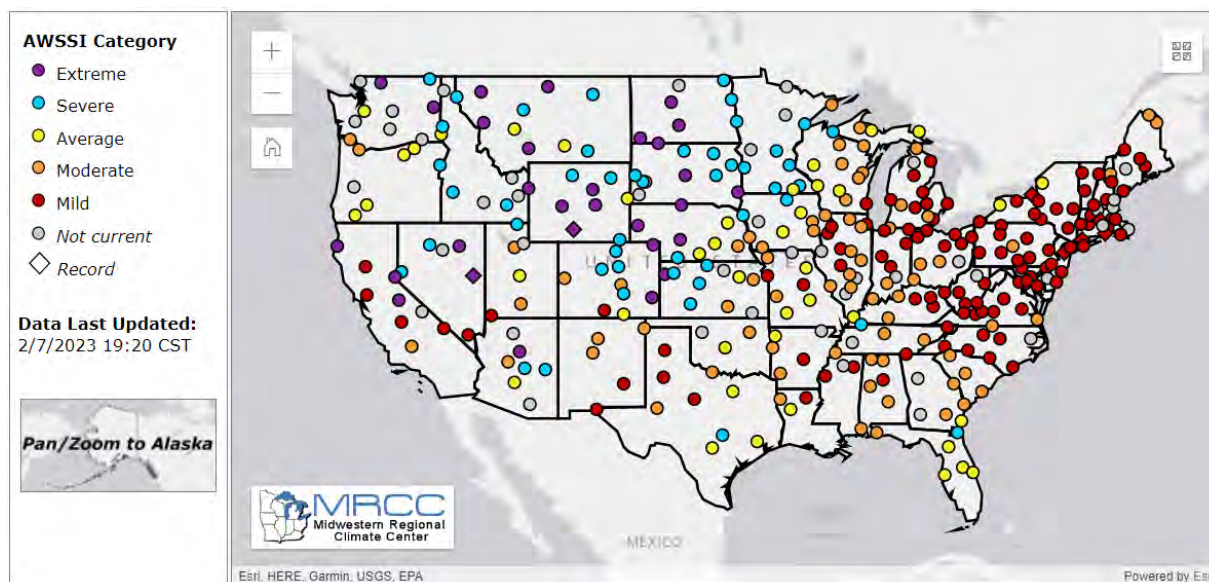
The latest NASS *Cattle on Feed* report showed a January 1 feedlot inventory of 11.682 million head, about 3 percent below 12.037 million head in the same month last year. Feedlot net placements² in December were more than 8 percent lower year over year at 1.750 million head. Marketings in December were 1.741 million head, down more than 6 percent year over year. On January 1, the number of cattle on feed over 150 days was up 2 percent above year-ago levels, likely on the slower reported pace of marketings in December.

As noted, the share of cows in the slaughter mix is anticipated to be greater in the first half of 2023 than anticipated last month. Although more cows in the slaughter mix will likely keep pressure on average carcass weights, severe winter weather conditions have also played a factor in lighter dressed weights early in the year. Based on data from the Midwest Regional Climate Center, the Accumulated Winter Season Severity Index³ (AWSSI) shows extreme winter at 29 locations with numerous others listed as severe in the Central and Northern Plains and the West. Each location has its own index value and the locations that are designated severe and extreme represent the 80th and 99th percentiles, respectively, of past winters. In the first 3 weeks of 2023, severe weather has lowered steer and heifer dressed weights by an

² Net placements are placements minus other disappearance.

³ The AWSSI is calculated for each season from 1950-1951 to 2012-2013.

average 9 and 18 pounds, respectively, below the same period last year. Further, cow and bull dressed weights are down 9 and 29 pounds, respectively.



Source: Midwest Regional Climate Center.

Based on the January *Cattle on Feed* data, greater-than-expected market-ready supplies of fed cattle on January 1 increased the anticipated pace of marketings in first-quarter 2023. However, smaller-than-expected placements in December lowered the outlook for marketings in the second quarter. Further, a faster pace of cow slaughter is anticipated in the first half. As a result, in first-quarter 2023, total cattle slaughter was raised but was partially offset by lower expected weights, leaving production up 140 million pounds from last month.

In the second quarter, a reduction in expected marketings is forecast to more than offset an increase in cow slaughter. In addition, the outlook for lower weights was carried over into the second quarter, further reducing production from last month by 90 million pounds. As a result, an increase cow slaughter in first-half 2023 more than offset the net decrease in expected marketings and lighter anticipated weights, which raises the outlook for 2023 beef production by 50 million pounds to 26.5 billion pounds.

Fed Cattle Prices Raised on Lighter Weights

In January, prices for feeder steers 750–800 pounds at the Oklahoma City National Stockyards recorded a weighted average of \$178.38 per hundredweight (cwt), about \$20 above January 2022. The feeder steer prices reported on February 6 jumped about \$14 week over week to \$187.31 per cwt, almost \$27 above the same week last year. As indicated by the *Cattle* report, supplies of cattle available for placement in early 2023 remain tight. These factors support leaving the forecasts for 2023 feeder steer prices unchanged at \$203.00 per cwt.

Fed steers in the 5-area marketing region⁴ averaged \$156.30 per cwt in January 2023, about \$19 above last year. Fed cattle prices have continued steady into the new year, with reported prices for the week ending February 5th at \$158.17 per cwt. Based on recent price data and the premium to cash for the February contract, as well as on lower forecast dressed weights for the

⁴ The 5-area marketing region includes Colorado, Iowa, Kansas, Nebraska, New Mexico, Oklahoma, and Texas.

first half of the year, fed steer prices are raised in the first two quarters to \$158.00 and \$159.00 per cwt for an annual projection of \$159.00 per cwt in 2023.

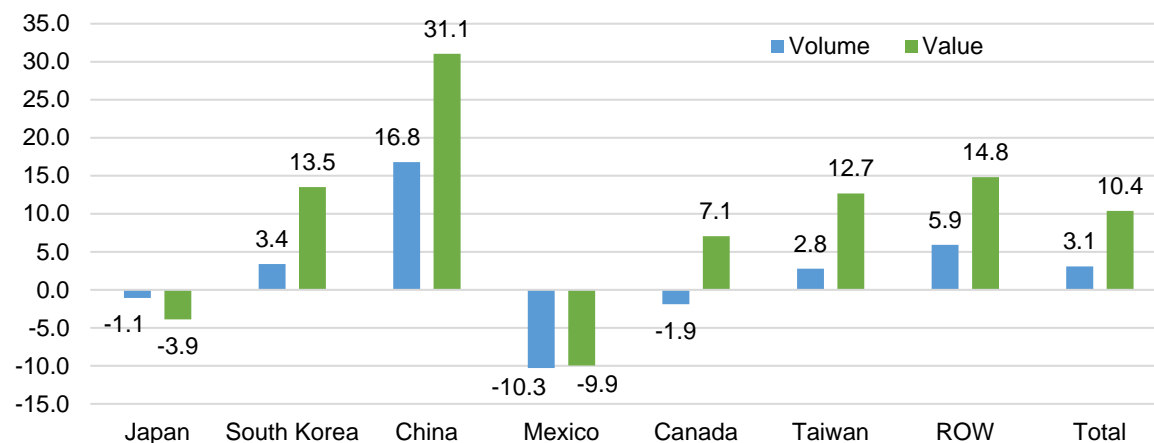
Export Volume and Value Were Record High in 2022

Monthly exports in December were 266 million pounds, a year-over-year decrease of 17 percent and falling just below the 5-year average for the first time in the year. The largest year-over-year decrease was in exports to China, down over 36 percent, followed by exports to Canada and Taiwan, down 30 and 28 percent, respectively. Monthly exports to South Korea were strong, increasing 20 percent year over year and setting a record for the month. December topped off the fourth-quarter total at 844 million pounds, the second-highest total for the fourth quarter, just over 1 percent below 2021. Quarterly exports to South Korea set a record for the quarter as well, almost 11 percent higher year over year.

Annual beef exports in 2022 reached a record at 3.536 billion pounds, a year-over-year increase of 3 percent. The annual value of exports also set a record at nearly \$11 billion dollars, an increase of more than 10 percent over the previous year. The chart below shows the year-over-year changes in export volumes and values to the top markets. Higher beef prices bolstered export values. Exports to China increased nearly 17 percent, while the value of those exports increased over 31 percent. The largest decrease was in exports to Mexico, continuing a 4-year trend. Exports to Japan were also lower year over year, but as shown in the table below, the country maintained its position as the top market for U.S. beef in 2022, followed closely by South Korea. China, the third-largest market, was the only top market with a significant increase in its share of U.S. exports over 2021.

Change in export volume and value, 2022 versus 2021

Percent



Note: ROW = rest of world.

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

The export forecast for 2023 is unchanged from last month at 3.090 billion pounds. If realized, this would represent a year-over-year decrease of about 13 percent. Production is forecast to decrease about 6 percent, reducing exportable supplies and bolstering prices; additionally, U.S. beef will face more competition from Oceania in the global market. The forecast is still relatively high, as this would be the third highest annual export volume behind 2022 and 2021, reflecting sustained strong demand for U.S. beef.

Annual U.S. beef exports by volume, 2021 and 2022

Country	December 2022 exports	Annual exports				Share of annual exports, percent	
		2021	2022	Year-over-year volume change	Year-over-year percent change	2021	2022
Japan	65.9	819.6	810.9	-8.7	-1	24	23
South Korea	66.8	778.9	805.3	26.4	3	23	23
China	31.8	540.4	631.3	90.8	17	16	18
Mexico	29.2	316.0	283.5	-32.5	-10	9	8
Canada	21.9	279.1	273.8	-5.3	-2	8	8
Taiwan	13.5	194.8	200.2	5.4	3	6	6
ROW	37.1	501.7	531.4	29.7	6	15	15
Total	266.2	3430.6	3536.3	105.8	3		

Notes: Top six countries based on 2022 year-to-date exports; ROW = rest of world.
Source: USDA, Economic Research Service calculations using data from U.S. Department of Commerce, Bureau of the Census.

Import Data Suggests Another Strong First Quarter

Imports are running 3 percent behind the record pace of first-quarter 2022, according to weekly data published by USDA, Agricultural Marketing Service in the *Weekly Imported Meat Passed for Entry* report. Year-to-date imports from Canada, Australia, and New Zealand are ahead of the same period last year, but not quite enough to offset decreases from Mexico and Brazil. Imports from Mexico account for the largest portion of the year-over-year decrease, down 25 percent compared to the same period last year. Total imports from Brazil are down 6 percent; fresh beef imports from Brazil have increased 10 percent but have been more than offset by a decline of over 50 percent in processed beef.

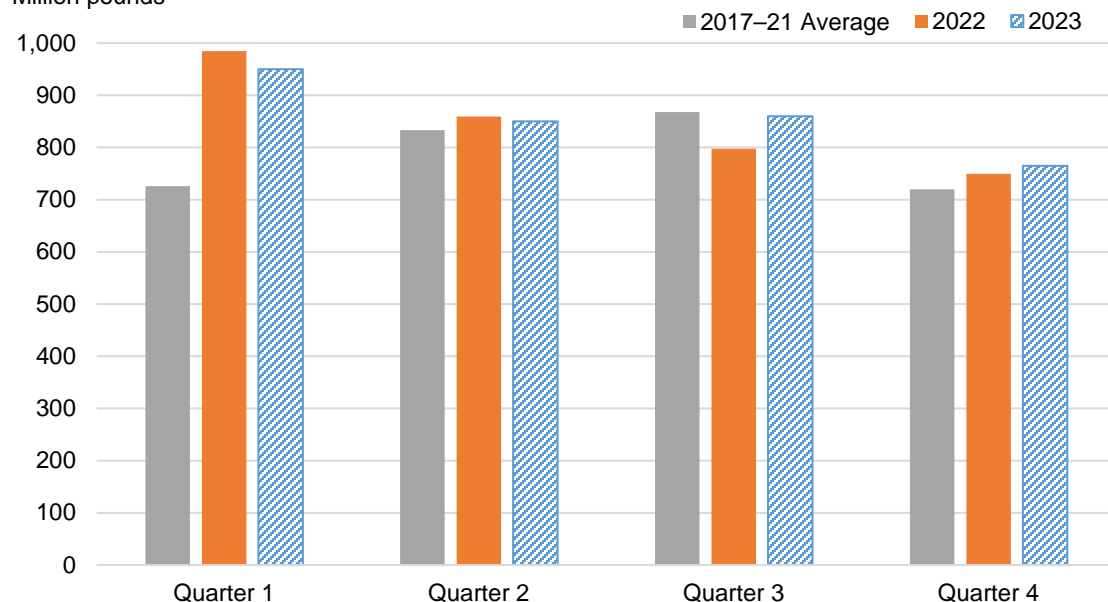
Additionally, the U.S. Customs and Border Protection *Quota Status Report* from February 6 shows the tariff-rate-quota for “Other” countries (countries without a specific quota or free trade agreement, set at just over 65 million kilograms, or 143 million pounds) is more than 50-percent filled. The quantity is 7 percent ahead of the same week last year. The quota fill rates for Australia, New Zealand, and Argentina are also ahead of the same period last year.

As implied by the relatively strong import data in early 2023, stronger imports are expected in the first quarter with a partial shift from the second half of 2022 to the first quarter and a net increase of 25 million pounds for the year. Specifically, the first-quarter forecast is raised 100 million pounds to 950 million, implying a year-over-year decrease of only about 4 percent. The second-quarter forecast is unchanged at 850 million. The third quarter is lowered 30 million pounds to 860 million, and fourth quarter is lowered 45 million pounds to 765 million. Therefore, the annual forecast is raised 25 million pounds to 3.425 billion.

The chart below shows how the quarterly import forecasts compare to 2022 and the 5-year average. First quarter is expected to again be the highest quarter. The second half of 2023 is expected to be stronger than 2022, as cow slaughter is forecast to decrease substantially in late 2023, increasing the need for imported lean trim.

Quarterly beef imports

Million pounds



Source: USDA, Economic Research Service calculations using data from U.S. Department of Commerce, Bureau of the Census and USDA, *World Agricultural Supply and Demand Estimates*.

Recap of 2022 Beef Imports

December imports came in at 248 million pounds, 9 percent lower year-over-year but 9 percent higher than the 5-year average. Imports from Brazil were significantly lower than the previous December when a temporary ban by China on Brazilian beef caused a surplus of exportable supplies and helped boost shipments to the United States. Imports of fresh beef from Brazil in late 2022 faced a higher out-of-quota tariff after the quota was filled in April. Imports from Canada in December increased 30 percent year over year, only partly offsetting the decrease from Brazil.

Fourth-quarter imports were 750 million pounds, making the annual total 3.391 billion pounds. This was a year-over-year increase of just over 1 percent. Imports from Brazil constituted the largest increase. Its share of imports increased to 14 percent, making it the third-largest supplier of imports to the United States. A majority of this increase was from fresh beef rather than processed or heat-treated beef; the USDA Food Safety and Inspection Service lifted a ban on fresh beef from Brazil in 2020 and imports have grown significantly since then. Canada and Mexico remained the top suppliers of beef to the United States in 2022, increasing year over year at 3 and 10 percent, respectively.

Imports from New Zealand showed the largest decline from the previous year, down 22 percent, while imports from Australia were down 3 percent. According to data from the Trade Data Monitor, total exports from both Australia and New Zealand were lower year over year by 4 and 5 percent, respectively. The increase in fresh beef from Brazil offset a large portion of the decline in imports from Oceania.

Annual U.S. beef imports by volume, 2021 and 2022

Country	December 2022 imports	Annual imports				Share of annual imports, percent	
		2021	2022	Year-over-year volume change	Year-over-year percent change	2021	2022
Canada	83.6	942.1	970.7	28.7	3	28	29
Mexico	54.8	674.6	739.6	65.0	10	20	22
Brazil	15.0	369.0	466.4	97.4	26	11	14
Australia	34.2	413.4	401.9	-11.5	-3	12	12
New Zealand	26.2	502.9	393.3	-109.6	-22	15	12
ROW	33.8	444.4	419.2	-25.2	-6	13	12
Total	247.6	3346.3	3391.1	44.8	1		

Notes: Top five countries based on 2022 year-to-date imports; ROW = rest of world.

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

Lamb/Sheep

William F. Hahn

January 2023 Sheep and Lamb Inventory Report Released

The U.S. Department of Agriculture, National Agricultural Statistics Service (NASS), released its 2022 *Sheep and Goats* report on January 31, 2023. This report gives NASS estimates for the inventory of sheep and goats on U.S. farms on January 1. The table below shows the inventories in 2021, 2022, and 2023 for all sheep and lambs and by class.

January 1 sheep and lamb inventory, thousand head

	January 1 inventory for			Percent change 2022 to 2023
	2021	2022	2023	
All sheep and lambs	5,170	5,065	5,020	-0.9
Breeding sheep and lambs	3,780	3,710	3,665	-1.2
Replacement lambs under 1 year old	650	640	635	-0.8
Ewes - 1 year old and older	2,960	2,910	2,870	-1.4
Rams - 1 year old and older	170	160	160	0.0
Market sheep and lambs	1,390	1,355	1,355	0.0

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

All sheep and lambs declined by 0.9 percent between 2022 and 2023. Sheep and lamb inventories declined 2.0 percent between 2021 and 2022.

The 2023 report also provides an estimate of the 2022 lamb crop, which was 3,110 thousand head, 1.6 percent lower than the 2021 lamb crop of 3,160 thousand head. The decline in lambs from 2021 to 2022 is the result of fewer ewes in 2022; NASS estimates that ewes had 107 lambs per 100 ewes in both 2021 and 2022.

Changes to Sheep and Lamb Forecasts

Forecasts for lamb and mutton are included in the red meat and poultry tables toward the end of this February Outlook report. Commercial lamb and mutton production forecasts have been raised from the January 2023 report. The previous annual production forecast was 128 million tons per year, a 2-percent decline from the 2022 total. The new forecast is 2 million tons higher at 130 million tons. The new forecast implies a 1-percent decline in production between 2022 and 2023, which matches the decline in the January 1 total sheep inventory.

Lamb and mutton imports for fourth quarter of 2022 are 89.3 million pounds. Total imports for 2022 are 358.1 million pounds. Fourth-quarter 2022 exports of lamb and mutton were 1.5 million pounds. Due to the strength in lamb and mutton exports in 2022, the 2023 annual export forecast is 2 million tons higher than the January forecast, increasing from 4 to 6 million pounds. The lamb and mutton import forecast for the first quarter of 2023 has been raised 2 million pounds to 97 million pounds. Import forecasts for the rest of 2023 are the same as the January forecasts.

Lamb prices in January 2023 have averaged 132 dollars per hundredweight (cwt), higher than the December average of 129 dollars. The increase in lamb prices so far this year has been less than anticipated in January's forecast. Lamb price forecasts for the first three quarters of 2023

Dairy

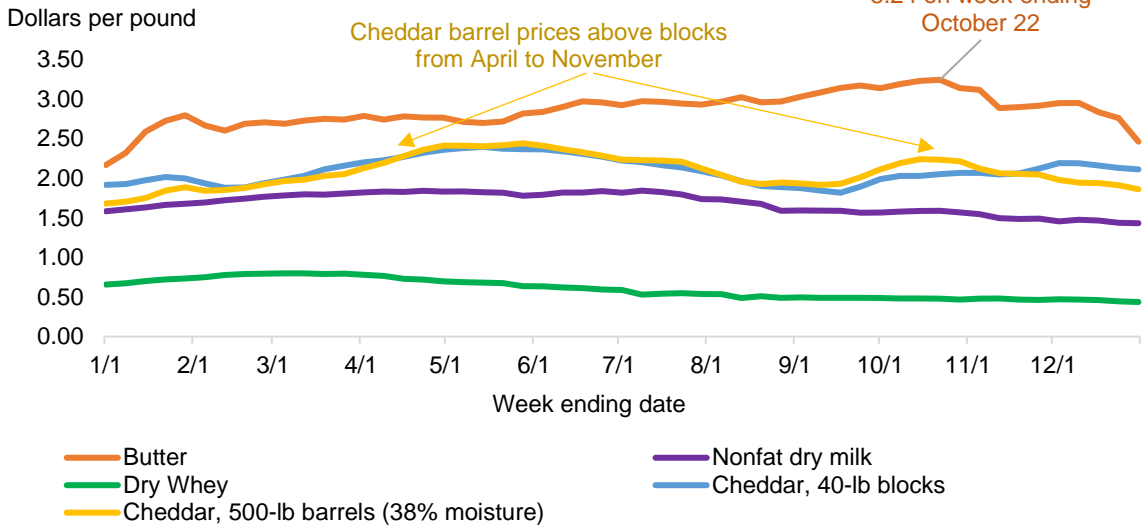
Angel Terán

Recap of the 2022 Dairy Situation

The U.S. dairy industry experienced several unusual developments in 2022. For example, the average all-milk price was highest on record, but input prices such as feeding costs were also high. Dairy export volumes reached records on both the milk-fat and skim-solids milk-equivalent bases due to strong international demand. Butter prices reached elevated levels in the second and third quarters of 2022 as some butter processing plants continued to undergo labor shortages that negatively affected production. Cheddar cheese 500-pound barrel prices averaged above 40-pound blocks for most of 2022. In addition, further domestic shortages of infant formula and U.S. Government policies fueled higher imports of infant formula.

In 2022, the weekly average wholesale prices for butter reported in the *National Dairy Product Report* (NDPSR), were above Cheddar cheese prices for the entire year. Butter prices reached a peak of \$3.2445 per pound the week ending October 22, as shown in the chart below. After that, the wholesale price for butter started to decline but remained above the cheese price. In 2022 the price spread between 40-pound blocks of Cheddar cheese and 500-pound barrels (adjusted to 38 percent moisture) was remarkably close. The Cheddar cheese 500-pound barrel price rose above 40-pound blocks for around 30 weeks, from April through November 2022. However, during December a market correction likely occurred when barrel prices adjusted below blocks, which is the typical trend in the cheese market. Prices for nonfat dry milk (NDM) and dry whey were less variable week to week than butter and cheese. In 2022, wholesale prices for NDM were strong through the first half of the year but declined in the second half.

Weekly wholesale dairy product prices in 2022

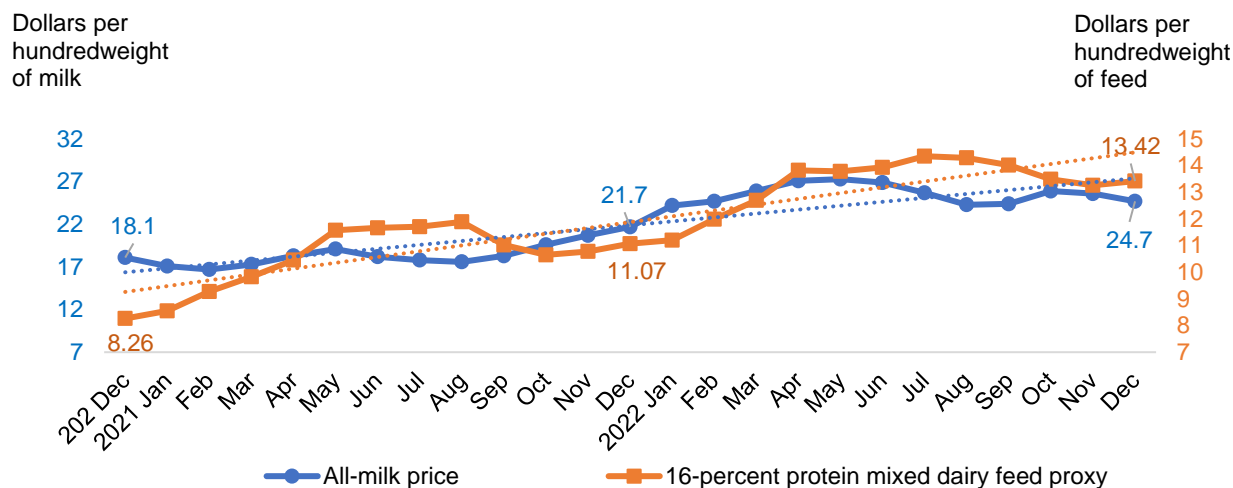


Source: USDA, Agricultural Marketing Service, *National Dairy Products Report*.

The all-milk price in 2022 averaged \$25.56 per hundredweight (cwt), \$7.03 higher than 2021, an increase of 38 percent from 2021. While the prices that dairy farmers received in 2022 were higher than in 2021, profits in 2022 were not remarkably high due to high input costs, with surging feed prices being a significant contributor. As evidence, the average annual dairy feed value used by USDA, National Agricultural Statistics Service (NASS) to calculate the milk-feed ratio increased by 25 percent from 2021 to 2022.

As reported by NASS in the *Agricultural Prices* report, the all-milk price in December 2022 was \$24.7 per cwt, up \$3.00 from December 2021. The December 2022 corn price was \$6.58 per bushel, up \$1.11 from December 2021. The price for alfalfa hay was \$269 per short ton, up \$52 from December 2021. The 5-State weighted-average price for premium alfalfa hay was \$327 per short ton, \$67 higher than December 2021. The soybean meal price (reported by USDA, Agricultural Marketing Service) was \$462.85 per short ton in December, up \$66.33 from December 2021. The milk-feed price ratio reported by NASS was 1.84 in December, down 0.12 points from December 2021.

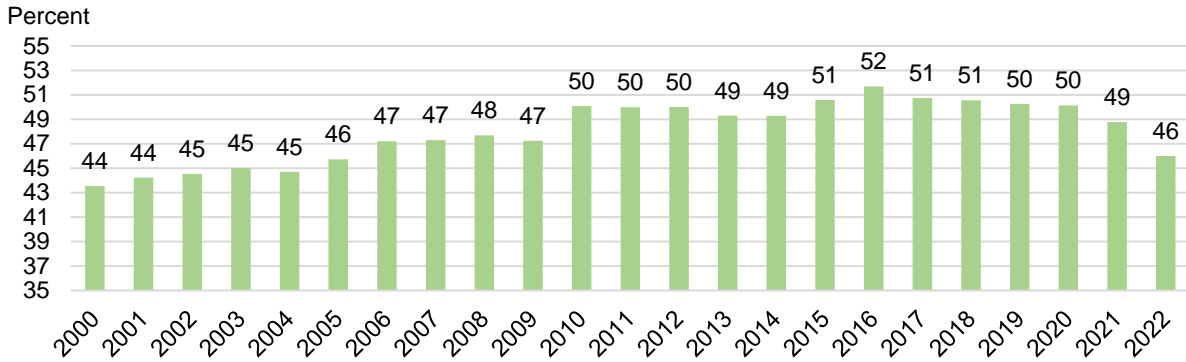
All-milk price and dairy feed value



Note: The price of commercial prepared dairy feed is based on current United States prices received for corn, soybeans, and alfalfa. The modeled feed uses 51 percent corn, 8 percent soybeans, and 41 percent alfalfa.
Source: USDA, National Agricultural Statistics Service.

According to USDA, NASS, the estimated milk production in 2022 totaled 226.6 billion pounds, a modest increase of 0.2 percent from 2021. In 2022, the estimated number of cows was 9.404 million, 44,000 head down from 2021. In 2022, milk per cow averaged 24,098 pounds, 150 pounds higher than in 2021. According to the recent NASS *Cattle* report, the January 1, 2023, milk cow inventory was 9.403 million head, about the same as the December average from the *Milk Production* report. The milk replacement heifer inventory for January 1 was 4.337 million head, 2.3 percent lower than January 1, 2022. The ratio of replacement heifers to milk cows was 46 percent and has been declining since January 1, 2016. As of January 1, 2023, milk replacement heifers expected to calve totaled 2.769 million head, 2.0 percent below January 1, 2022.

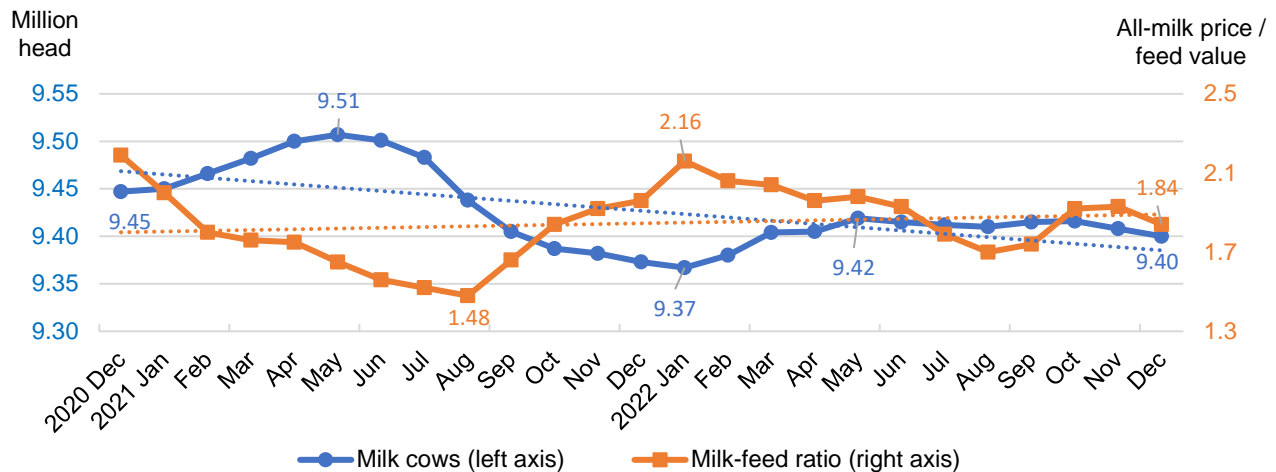
Replacement heifers as a percent of milk cows



Source: USDA, National Agricultural Statistics Service.

With milk farmgate prices and operational cost both increasing in 2022, dairy farmers likely found ways to produce more efficiently with fewer cows, in part to minimize costs. As shown in the graph below, on average, the trend for the monthly milk-to-feed ratio increased slightly from 2021 to 2022. Milk production usually responds to milk and feed prices with a lag of several months. From 2021 to 2022, it is notable that the total number of milk cows trended downward. After peaking in May 2021 at 9.51 million head, total dairy cows reached a low point of 9.37 million in January 2022. After that, the dairy herd size changed marginally throughout the year, reaching 9.40 million cows in December 2022.

U.S. milk cows and milk-feed ratio



Source: USDA, National Agricultural Statistics Service.

In 2022, domestic demand for dairy products decreased from 2021. On a milk-fat milk-equivalent basis, 2022 domestic use fell by 1.0 percent from the previous year. Domestic use on a skim-solids milk-equivalent basis decreased by 0.6 percent in 2022 from 2021. As shown in the table below, in 2022 the only major dairy product category with an increase in domestic use was other-than-American type cheese, increasing by 178 million pounds (+2.3 percent) from 2021 to 2022. The 2022 domestic use for American-type cheese was about the same as 2021. However, from 2021 to 2022, there were considerable declines in domestic use of butter, dry skim milk products, dry whey, whey protein concentrate, and lactose.

Domestic use of milk and major dairy products

Product	Units	2020	2021		2022	
		Quantity	Quantity	Percent change from previous year	Quantity	Percent change from previous year
Milk in all products	Billion pounds					
Milk-fat basis		217.8	221.5	1.7	219.2	-1.0
Skim-solids basis		179.9	180.0	0.1	179.0	-0.6
Dairy products	Million pounds					
American type cheese		5,159	5,364	4.0	5,361	-0.1
Other-than-American type cheese		7,505	7,729	3.0	7,907	2.3
Butter		2,098	2,150	2.5	2,001	-6.9
Dry skim milk products		844	826	-2.1	684	-17.2
Dry whey		493	450	-8.7	433	-3.8
Whey protein concentrate		204	244	19.6	190	-22.1
Lactose	284	260	-8.5	172	-33.8	

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.

In 2022, the international demand for U.S. dairy products was remarkably robust, driving export volumes higher compared to 2021. In 2022, exports increased by 15.8 percent from 2021 on a milk-fat basis and by 3.5 percent on a skim-solids basis. Notably, exports were up 48.5 percent for butter (the highest annual increase since 2013), 22.0 percent for whey protein concentrate (a record high), and 16.1 percent for lactose (a record high). Export quantities of cheese and dry whey barely decreased from 2021, while for dry skim milk products export volumes declined by 6.1 percent.

Exports of milk and major dairy products

Product	Units	2020	2021		2022	
		Quantity	Quantity	Percent change from previous year	Quantity	Percent change from previous year
Milk in all products	Billion pounds					
Milk-fat basis		9.3	11.5	24.6	13.4	15.8
Skim-solids basis		47.2	50.8	7.5	52.5	3.5
Dairy products (million pounds)	Million pounds					
Cheese		784	887	13.1	885	-0.2
Butter		47	97	106.4	144	48.5
Dry skim milk products		1,786	1,943	8.8	1,824	-6.1
Dry whey		472	495	4.9	494	-0.2
Whey protein concentrate		327	304	-7.0	371	22.0
Lactose	831	859	3.4	997	16.1	

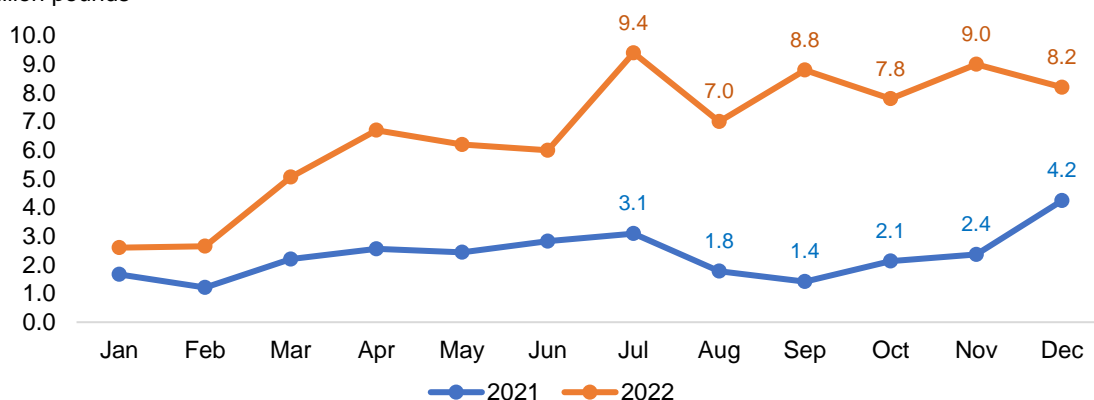
Sources: USDA, National Agricultural Statistics Service; USDA, Foreign Agricultural Service; U.S. Dept. of Commerce, Bureau of the Census; and USDA, Economic Research Service (ERS) calculations. Numerous sources were used for conversion factors. For more information, see the ERS Dairy Data Documentation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

December Infant Formula Imports Declined

In December 2022, imports of “preparations suitable for infants and young children, put up for retail sale,” which includes infant formula, decreased from the previous month. Excluding certain nondairy products that are in this category, imports of these products totaled 8.2 million pounds in December 2022, as shown in the graph below. This was a decrease of 0.8 million from November and a 4.0-million-pound year-over-year increase from December 2021. It is worth mentioning that the Formula Act (signed into law by the President on July 21, 2022) temporarily suspended import tariffs on most infant formula imports through December 31, 2022, likely contributing to elevated imports during the second half of 2022.

United States imports of preparations suitable for infants and young children, put up for retail sale*

Million pounds



*Includes most products imported under Harmonized Tariff Schedule number 1901.10. Does not include products that are specifically designated as nondairy products.

Sources: USDA, Economic Research Service calculations; USDA, Foreign Agricultural Service; and U.S. Department of Commerce, Bureau of the Census.

Recent Developments in Dairy Markets

From the week ending January 7, 2023, to the week ending February 4, 2023, all wholesale dairy product prices reported in the USDA *National Dairy Products Sales Report* (NDPSR) decreased, as shown in the table below. The price for butter declined by 9.8 cents per pound, the price for 40-pound blocks of Cheddar cheese declined 5.0 cents, the price for 500-pound barrels (adjusted to 38-percent moisture) declined 15.6 cents. Meanwhile, the price of dry whey and nonfat dry milk (NDM) declined 2.9 cents and 9.7 cents per pound, respectively.

Dairy wholesale product prices, January 7–February 4, 2023

Dollars per pound

	For the week ending		Change
	Jan 7	Feb 4	
Butter	2.4800	2.3817	-0.0983
Cheddar cheese			
40-pound blocks	2.1125	2.0623	-0.0502
500-pound barrels *	1.8623	1.7063	-0.1560
Nonfat dry milk	1.4075	1.3102	-0.0973
Dry whey	0.4430	0.4137	-0.0293

* Adjusted to 38-percent moisture.

Sources: USDA, Agricultural Marketing Service, *National Dairy Products Sales Report*, February 8, 2023.

Recent Chicago Mercantile Exchange (CME) weekly average spot prices for most reported dairy products were mixed compared to the NDPSR prices for the week ending February 4. For the trading week⁵ ending on February 10, the CME weekly spot prices averaged \$2.3980 per pound for butter and \$0.4250 for dry whey, both prices above NDPSR prices, while the price for NDM was \$1.2455, below the NDPSR price. For Cheddar cheese, the weekly average price for 40-pound blocks was \$1.8585 per pound, while the price for 500-pound barrels was \$1.5800, both prices below NDPSR prices.

Most Oceania and Europe average dairy product export prices⁶ reported by USDA *Dairy Market News* declined from December 2022 to January 2023. The exception was Oceania Cheddar cheese, with average prices remaining steady. Generally, the United States has remained price-competitive in international markets, except in comparison to the Oceania butter price.

Dairy product export prices for Oceania and Europe, November–December, 2022

Dollars per pound

Product	Region	December 2022	January 2023	Change
Butter	Oceania	2.131	2.040	-0.091
	Western Europe	2.838	2.633	-0.205
Cheddar cheese	Oceania	2.246	2.246	0.000
Skim milk powder	Oceania	1.392	1.310	-0.082
	Western Europe	1.414	1.325	-0.089
Dry whey	Western Europe	0.454	0.422	-0.032

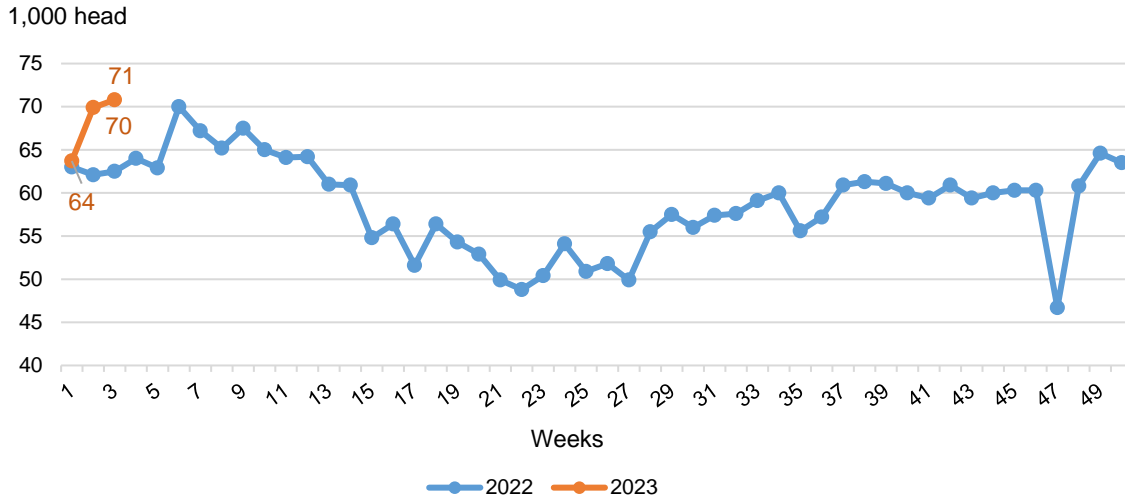
Sources: USDA, Agricultural Marketing Service, *Dairy Market News*.

Dairy cow slaughter for the first 3 weeks of 2023 was higher than the first 3 weeks of 2022. Relatively high dairy cow slaughter is likely setting the stage for a contraction in the average dairy herd size in 2023, which is discussed in the forecast section.

⁵ While the end of each week for NDPSR average prices falls on a Saturday, the trading week for CME usually ends on a Friday.

⁶ The source for Oceania and Western Europe prices is USDA, *Dairy Market News*. International prices are in U.S. dollars, free on board (F.O.B.) port. Prices listed in this report are at the midpoints of the ranges.

Weekly federally inspected milk cow slaughter



Source: USDA, National Agricultural Statistics Service, *Cow Slaughter Under Federal Inspection Report*, February 2, 2023

Additional Assistance for Dairy Farmers

On January 23, 2023, the U.S. Department of Agriculture (USDA) announced the details of added aid for dairy producers, including a second round of payments through the Pandemic Market Volatility Assistance Program (PMVAP). The USDA also announced a new Organic Dairy Marketing Assistance Program (ODMAP). For more information see the USDA press release No. 0013.23.

Dairy Forecasts for 2023

In the following forecast analysis, any changes discussed are adjustments from the previous month's forecasts unless otherwise specified.

Based on the latest information of lower inventory of heifers for replacement, active dairy cow culling, relatively high forecast for feed costs, and weaker expected milk prices, the average number of milk cows is projected lower in 2023 at 9,380 million head (-25,000 head). In 2023, projection for the average milk yield is lowered by 25 pounds to 24,345 pounds per cow. The milk production forecast for 2023 is 228.3 billion pounds, 0.9 billion lower than last month's forecast.

Based on recent data and lower expected global demand for dairy products, lower exports quantities of cheese, skim milk powder, and other products is expected in 2023. On a milk-equivalent milk-fat basis, the dairy export forecast for 2023 is 13.1 billion pounds, 0.2 billion lower. On a skim-solids basis, the 2023 dairy export forecast has been decreased by 0.5 billion pounds to 52.1 billion. Exports on both milk-equivalent bases are expected to decline from the robust levels of 2022.

Dairy import projections for 2023 have been increased. On a milk-equivalent milk-fat basis, the dairy import forecast for 2023 is 7.3 billion pounds, up 0.1 billion pounds. On a milk-equivalent skim-solids basis, the 2023 forecast for imports is 6.4 billion pounds (+0.1 billion). Based on

higher-than-expected imports in December 2022, imports of cheese and milk protein-based products are projected higher for 2023.

Based on relatively low domestic use in the fourth quarter of 2022 and expectations of lower demand for dairy products in 2023, projections for domestic use in 2023 have been lowered. The forecast for 2023 domestic use on a milk-equivalent milk-fat basis is 221.2 billion pounds (-0.1 billion). On a skim-solids basis, the forecast for domestic use is 181.1 billion pounds (-0.9 billion).

The recent decreases in dairy product prices, weaker expected demand, and strong international price competition have put downward pressure on the 2023 price forecasts for dairy products. The 2023 price forecasts have been lowered for Cheddar cheese, dry whey, and NDM to \$1.860, \$0.365, and \$1.225 per pound, respectively, while the butter price is unchanged at \$2.330 per pound. With lower dairy product prices expected across the board, Class III and IV milk price forecasts for 2023 have been lowered to \$17.90 and \$18.25 per cwt, respectively. The all-milk price 2023 forecast has been decreased by \$0.90 to \$20.70 per cwt.

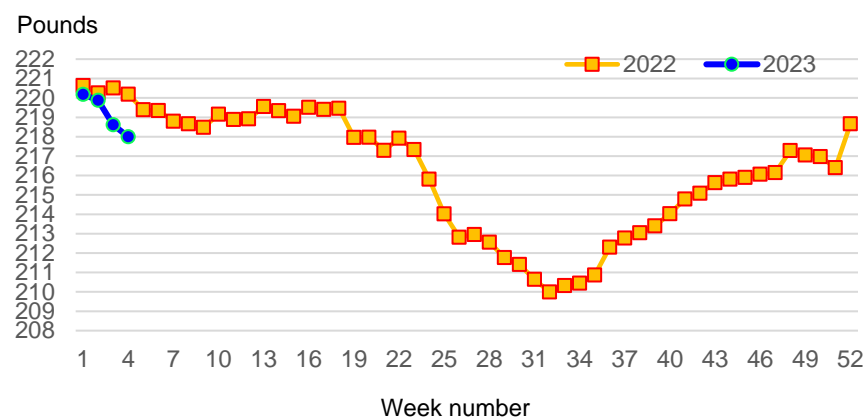
Pork/Hogs

Mildred Haley

January Production Above Expectations

When all was said and done, the estimated January federally inspected (FI) hog slaughter came in at a larger-than-anticipated 11.1 million head, a volume almost 7 percent higher than that of January 2022.⁷ Timewise, the January 2023 FI estimate largely comprised the December 1 heavyweight category of the December *Quarterly Hogs and Pigs* report. January's FI slaughter volume turned out to also be somewhat larger than what the report implied for the heavyweight hog category. Part of that divergence may have been due to the adverse weather in several pork producing regions of the country during December that affected slaughter schedules. Consequently, hog slaughter was reduced prior to Christmas, backing up hogs, but then jacked up in January to reduce the backup. Weekly January dressed weights declined, however, compared to same-period weights last year, ending the month averaging about 219 pounds, unchanged from a year ago. The January 2023 dressed-weight scenario is likely a sign that the processing industry has been working through any earlier backed-up hog situations.

Weekly hog carcass weights*



* Weighted average of packer-sold hogs + packer-owned hogs + producer-sold hogs

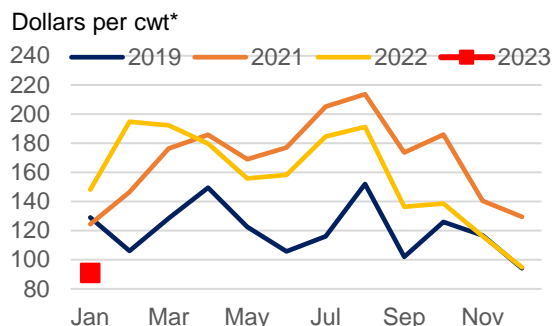
Source: USDA, Agricultural Marketing Service.

Processors paid lower prices for larger supplies of hogs in January. Prices of live equivalent 51-52 percent lean hogs averaged \$53.82 per cwt, almost 4 percent lower than prices averaged in January 2022. The larger January hog slaughter translated into larger supplies of pork—2.4 billion pounds, up more than 6 percent year over year—for which pork wholesalers paid hog processors lower prices. The January wholesale carcass cutout averaged to \$81.03, down 10.52 percent from a year earlier. Disaggregating the cutout to its primal components indicates that bellies accounted for the largest share of the year-over-year decline of the carcass value; the belly primal declined almost 39 percent from \$148.14 per cwt in January 2022 to \$90.94 per cwt last month. With the break in belly prices since the fourth quarter of 2022, it is not surprising

⁷ January 2023 and 2022 had the same number of slaughter days.

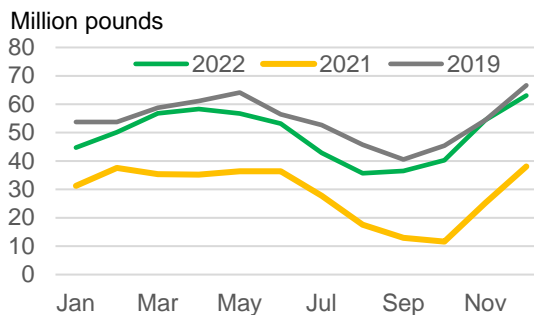
that ending stocks for December 2022 (the last datapoint for cold stocks currently available) shows belly stocks largely recovered to pre-pandemic levels. The deep discount in January 2023 belly prices compared to past years may create incentives to further increase stock volumes in early 2023.

Pork belly primal price



*cwt=hundredweight.
Source: USDA, Agricultural Marketing Service.

Pork cold stocks



Source: USDA, National Agricultural Statistics Service.

First-quarter pork production is reduced fractionally to 7.010 billion pounds on expectations of lower averaged dressed weights, a volume still about 2 percent higher than production in the same period of 2022. Succeeding quarterly production forecasts are unchanged. Quarterly production forecasts for 2023 total to about 27.4 billion pounds, 1.6 percent higher than production in 2022. Prices of first-quarter live equivalent 51-52 lean hogs are expected to average \$58 per cwt, almost 12 percent lower than a year earlier. Second-quarter prices are reduced to \$71 per cwt, about 6 percent lower than same-period prices last year. For 2023, quarterly hog price forecasts average to about \$67 per cwt, almost 7 percent below average prices last year.

Pork Exports Finish 2022 Down 10 Percent for the Year

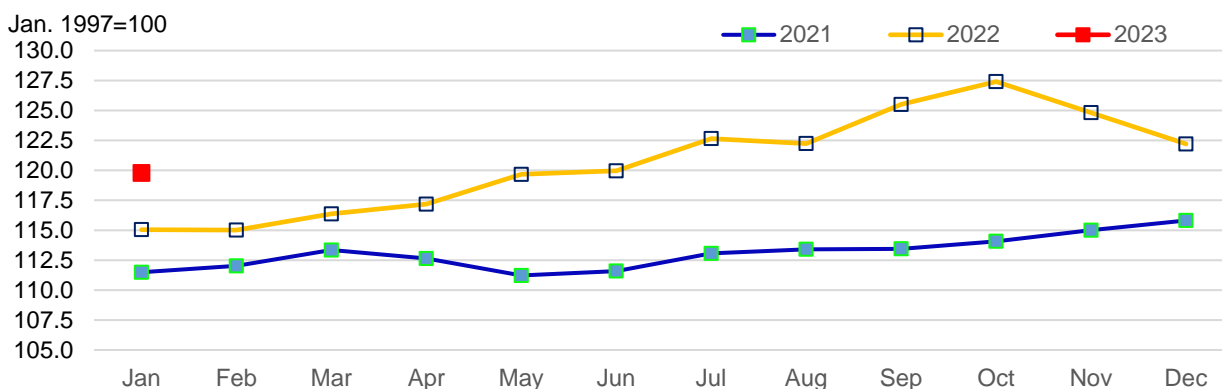
Although fourth-quarter pork exports had a solid finish—shipments of almost 1.7 billion pounds were about 1.6 percent higher than a year earlier, mostly on the strength of year-over-year larger shipments to Mexico and China—total U.S. exports ended 2022 at 6.3 billion pounds, about 10 percent below volumes in 2021. Most of the shortfall in 2022 was due to lower shipments to China/Hong Kong, for reasons attributable to recovery in the Chinese pork sector as well as to disruptions in the Chinese economy throughout the year, both of which had the effect of reducing demand for foreign pork. Chinese Government data indicate that China’s 2022 pork imports declined by more than 50 percent, with all major pork exporters absorbing part of the steep reduction.

U.S. pork exports: Volumes and export shares of the 10 largest foreign destinations in 2021 and 2022					
Country	Exports 2021 (Million pounds)	Exports 2022 (Million pounds)	Percent change (2022/2021)	Export share 2021 Percent	Export share 2022 Percent
World	7,026	6,338	-10		
Mexico	2,058	2,338	14	29.3	36.9
Japan	1,222	1,083	-11	17.4	17.1
China\Hong Kong	1,180	637	-46	16.8	10.0
South Korea	513	536	5	7.3	8.5
Canada	575	515	-10	8.2	8.1
Colombia	304	289	-5	4.3	4.6
Dominican Republic	173	249	44	2.5	3.9
Honduras	144	131	-9	2.0	2.1
Australia	175	108	-38	2.5	1.7
Philippines	203	93	-54	2.9	1.5

Source: USDA, Economic Research Service.

U.S. pork confronted major headwinds in foreign markets last year, as the U.S. dollar exchange rate appreciated in tandem with higher U.S. interest rates resulting from the U.S. Federal Reserve's tighter monetary policy aimed at slowing recent high rates of inflation. Early in 2023, the Federal Reserve's Nominal Broad Dollar Index indicates that the dollar has depreciated somewhat compared to last fall. This should enhance competitiveness of U.S. pork, especially in Asian markets where competition with European and Canadian exported pork is always fierce.

Nominal broad dollar index: monthly 2021–January 2023



Source: Board of Governors of the Federal Reserve System.

Other important determinants of U.S. pork exports in 2023 are likely to be the general condition of the U.S. macroeconomy, summarized by such variables as GDP growth, the rate of job creation, and the inflation rate. In general, holding everything else equal, as the U.S. economy improves consumers tend to increase animal protein consumption, obliging foreign consumers to pay higher prices for U.S. pork, with the possibility that reduced export volumes will result. In

pork-importing countries, a positive correspondence between macroeconomic variables and animal product consumption likely holds to some degree as well. As economic performance improves, pork import increases often follow.

In 2023, 6.4 billion pounds (23.1 percent of U.S. commercial pork production) is expected to be exported to foreign markets. Export forecasts by quarters are as follows: first quarter: 1.6 billion pounds; second quarter: 1.6 billion pounds; third quarter, 1.5 billion pounds; and for the fourth quarter, 1.7 billion pounds.

Poultry

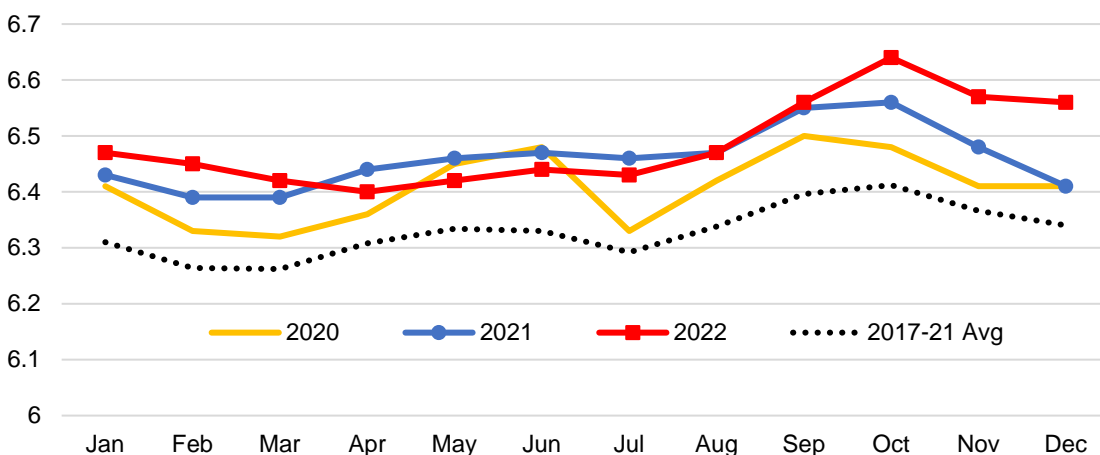
Grace Grossen and Adriana Valcu-Lisman

Broiler Production Forecast Adjusted Down in 2023

Broiler production in December totaled 3.847 billion pounds, an increase of 4 percent from last December. This makes the annual total 46.201 billion pounds, an increase of 3 percent over 2021. Record production in 2022 was supported by record average live weights toward the end of the year. Average weights in October were record high at 6.64 pounds, and November and December weights were record high for their respective months. For the fourth quarter, weights averaged 1.6 percent higher than the fourth quarter of 2021. Combined with 4-percent higher slaughter numbers compared with last year, this resulted in a total of 11.857 billion pounds of broiler meat produced in the fourth quarter, an increase of 5.9 percent from the fourth quarter of 2021.

Monthly average broiler live weight, 2017–2022

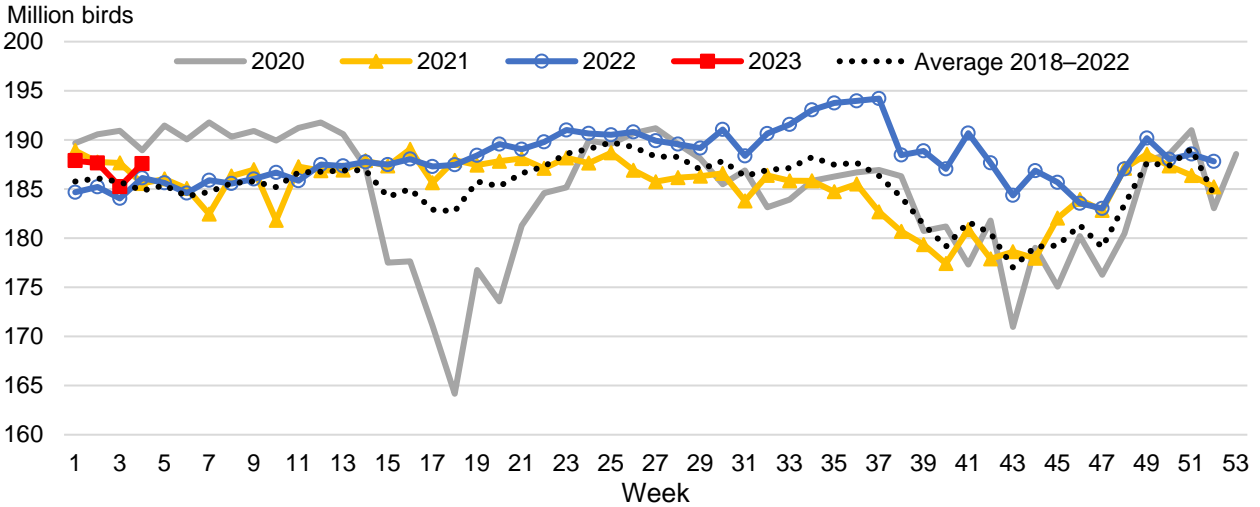
Pounds



Source: USDA, National Agricultural Statistics Service.

In the first 4 weeks of 2023, preliminary weekly broiler live weight data are not as strong, with average weights about level with the same period last year. In addition, weekly placements have come down from the highs seen in the fall of last year. Projected 2023 production was adjusted down to 11.350 billion pounds in the first quarter on recent hatchery data and preliminary slaughter data. This would still be an increase of 1.6 percent from the first quarter of 2022. Forecast production was also decreased to 11.550 billion pounds and 12.000 billion pounds in the second and third quarters, respectively, as average weights are expected to moderate. Total 2023 production is forecast at 46.700 billion pounds, an increase of 1 percent over 2022.

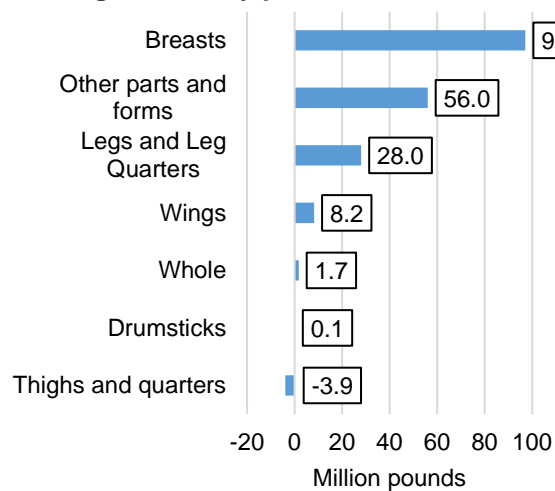
Weekly broiler-type chick placements, 2021–2023



Source: USDA, National Agricultural Statistics Service.

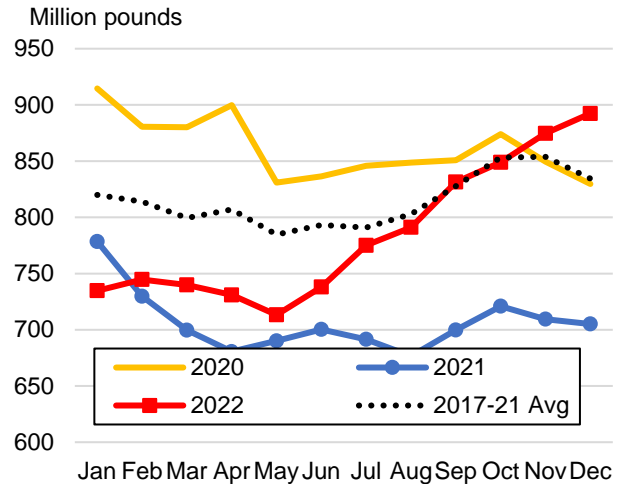
Broiler meat in cold storage climbed again in December, ending the year at 892.4 million pounds. This is an increase of 26.6 percent from the end of 2021. Of the increase, the largest component was breast meat, which climbed by 97.1 million pounds and accounted for 28 percent of all broiler meat in cold storage at the end of December. The next-largest increases were in other parts and forms, followed by legs and leg quarters. Chicken wings in cold storage increased by 8.19 million pounds from the previous year, an 11-percent increase. Only thighs and quarters decreased from last year's cold storage levels. Projected ending stocks for 2023 were adjusted up to 840 million pounds, which would be just above the 2017–2021 average.

Year-over-year change in year-end cold storage stocks by part, 2021–2022



Source: USDA, National Agricultural Statistics Service.

Broiler meat in cold storage at the end of the month, 2017–2022



Broiler Exports in 2022 Down From 2021; 2023 Imports Lowered

December broiler exports totaled 598.2 million pounds, a decrease of 5 percent from last December, bringing the annual total to 7.278 billion pounds. This is a decrease of 1 percent from 2021 and represents 15.8 percent of 2022 production. Mexico remained the largest export market in 2022, accounting for 20.1 percent of all exports, though the total exported to Mexico was 121 million pounds lower in 2022 than in 2021. Other destinations that declined in shipments from 2021 to 2022 include Cuba (-85.2 million pounds), China (-74.2 million pounds), and Guatemala (-16.1 million pounds). These declines, along with declines in shipments to the rest of the world, more than offset increases in shipments to countries including Vietnam (+46.2 million pounds), Canada(+16.1 million pounds), Angola (+81.2 million pounds), the Philippines (+78.0 million pounds), and Taiwan (+164.3 million pounds). The broiler forecast for 2023 is unchanged from last month at 7.315 billion pounds.

U.S. broiler exports: Volumes and export shares of largest markets, 2021 and 2022

Country	Volume (million pounds)			Export share, percent	
	2021	2022	Change in volume	2021	2022
Mexico	1,584	1,463	-121	21.54	20.10
Cuba	686	601	-85	9.33	8.26
Taiwan	357	522	164	4.86	7.17
Philippines	338	416	78	4.60	5.72
Angola	312	393	81	4.24	5.40
Canada	318	334	16	4.32	4.59
China	380	305	-74	5.16	4.20
Guatemala	299	283	-16	4.07	3.89
Vietnam	211	258	46	2.87	3.54
ROW	2,869	2,703	-167	39.01	37.14
Total	7,355	7,278	-77		

Notes: Largest markets are based on 2022 export volumes. ROW = Rest of World.

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

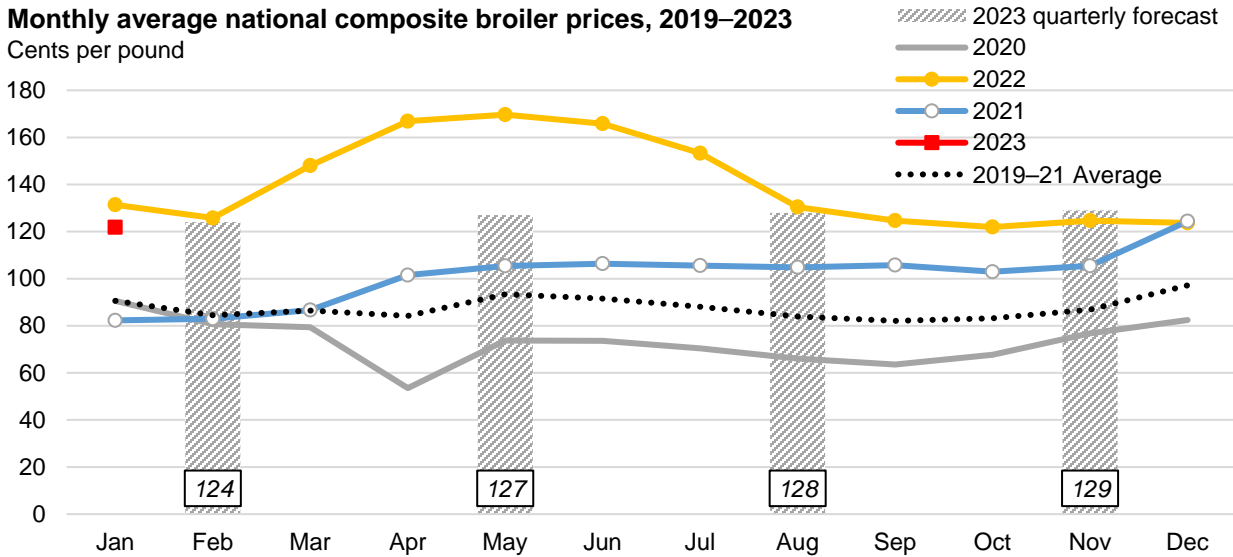
Broiler imports totaled 11.2 million pounds in December, a decrease of 1.9 million pounds from December 2021 and 0.7 million pounds below the 5-year average for December. This decrease is mostly due to a decline in shipments from Chile. This brings the annual total to 176.4 million pounds. Based on recent data, the 2023 broiler import forecast was decreased by 20 million pounds to 160 million pounds.

Broiler Prices Adjusted Down in 2023

The national composite wholesale broiler price averaged 121.84 cents per pound in January. This is 10 cents below last January and a continuation of the decline from the peak monthly average price of 169.67 cents per pound in May of 2022. Prices averaged 121.19 cents per pound in the week ending February 3rd. Based on this trend of easing prices, the first-quarter price forecast is decreased by 5 cents to 122 cents per pound and the second-quarter price is decreased by 3 cents to 127 cents per pound. The third- and fourth-quarter forecasts are unchanged at 128 and 129 cents per pound, respectively. This would make the 2023 annual average 127 cents per pound, down 13.5 cents from the 2022 average.

Monthly average national composite broiler prices, 2019–2023

Cents per pound



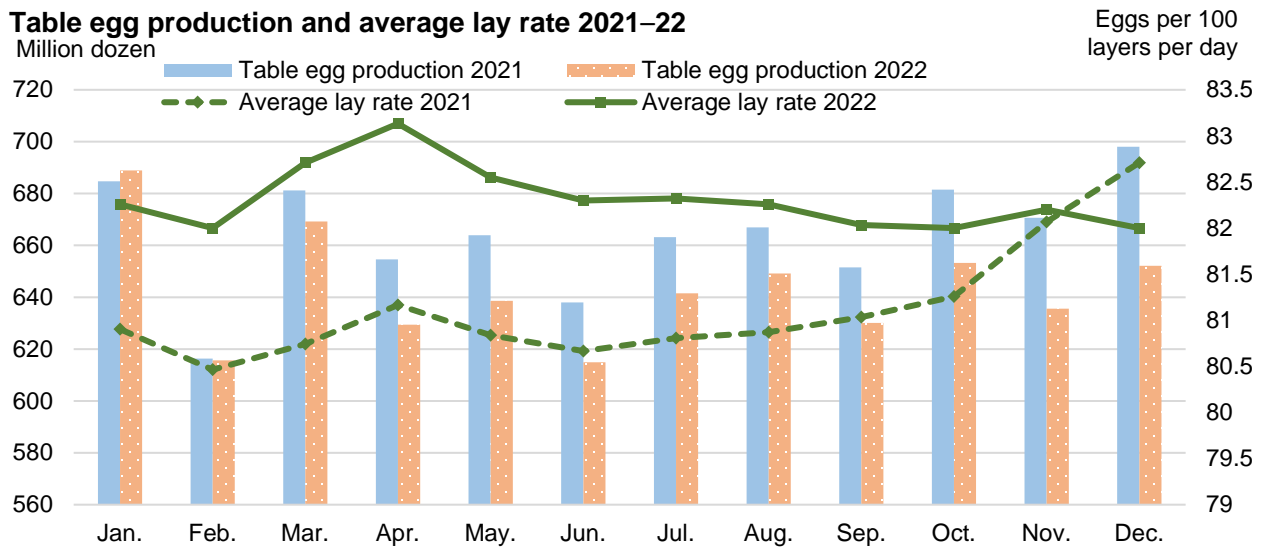
Source: USDA, Agricultural Marketing Service and USDA, *World Agricultural Supply and Demand Estimates*.

Table-Egg Production Forecast Reduced on Soft Table-egg Layer Flock Indicators

December table-egg production was estimated at 652.2 million dozen, 6.6-percent lower than December 2021. The average size of the table-egg flock for December was estimated at 307.8 million layers, down 5.8 percent from last year. At the same time, the December average lay rate was estimated at 82.0 eggs per 100 layers per day, slightly below the December 2021 rate. The decreased December lay rate ensues after a period of 12 months of consecutive year-over-year increases. Total 2022 table-egg production was estimated at almost 7,719 million dozen eggs, 3.2-percent lower than 2021 table-egg production.

Table egg production and average lay rate 2021–22

Million dozen



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

The January 1 table-egg layer flock size was estimated at 306.3 million layers, more than 3 million egg-layers lower than the December 1 estimate. This difference likely reflects the 3.9

million layers lost to Highly Pathogenic Avian Influenza (HPAI) in December, as well as a higher-than-expected slaughter of light-spent hens. The January 1 estimate of 81.70 eggs per 100 layers per day suggests a slowdown in layer productivity.

Table-egg layer flock at the beginning of the month

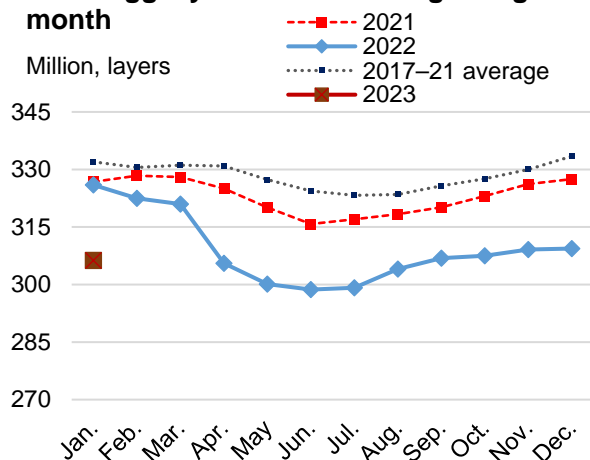
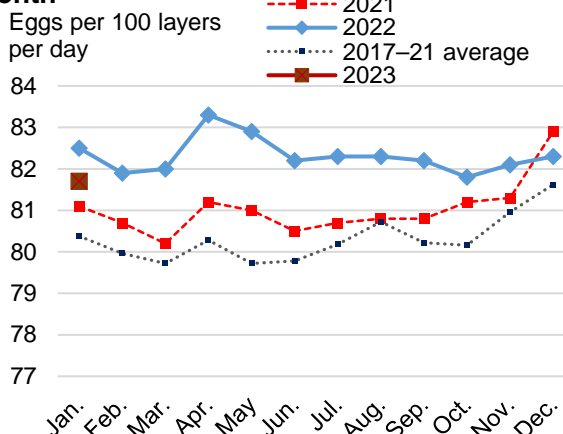


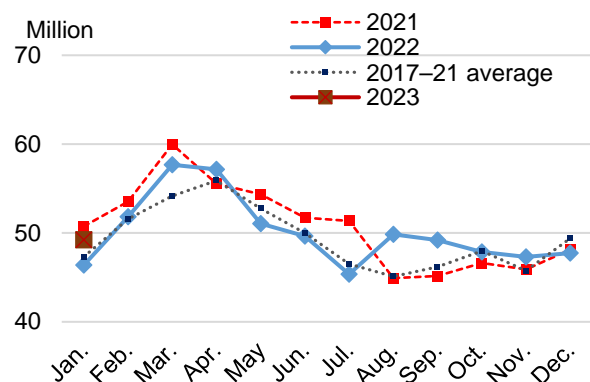
Table-egg lay rate at the beginning of the month



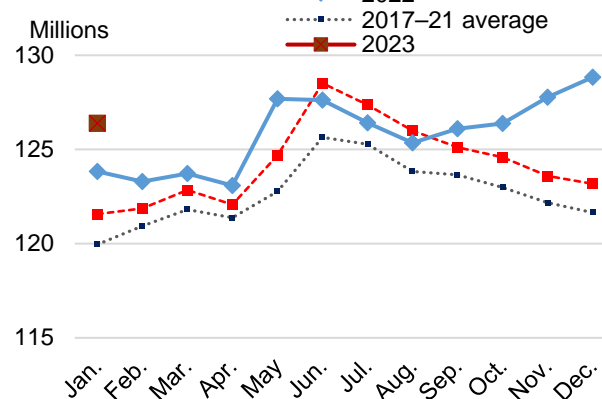
Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service.

While the estimates of the table-egg laying flock and its productivity on January 1 suggest lower production expectations in the near-term, the upstream indicators such as eggs in incubators (egg-type) and pullet replacements indicate that producers continue their efforts toward rebuilding the layer flocks affected by HPAI. These upstream flock indicators reflect the production expectations starting in late spring as it takes 3 weeks for an egg to hatch and another 18 to 20 weeks until a pullet (future layer) becomes fully productive.

Eggs-chick type in incubators at the beginning of the month



Pullets* for replacement at the beginning of the month



Note: Pullets for replacements are pullets older than 3 days added to the pullet flocks.

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

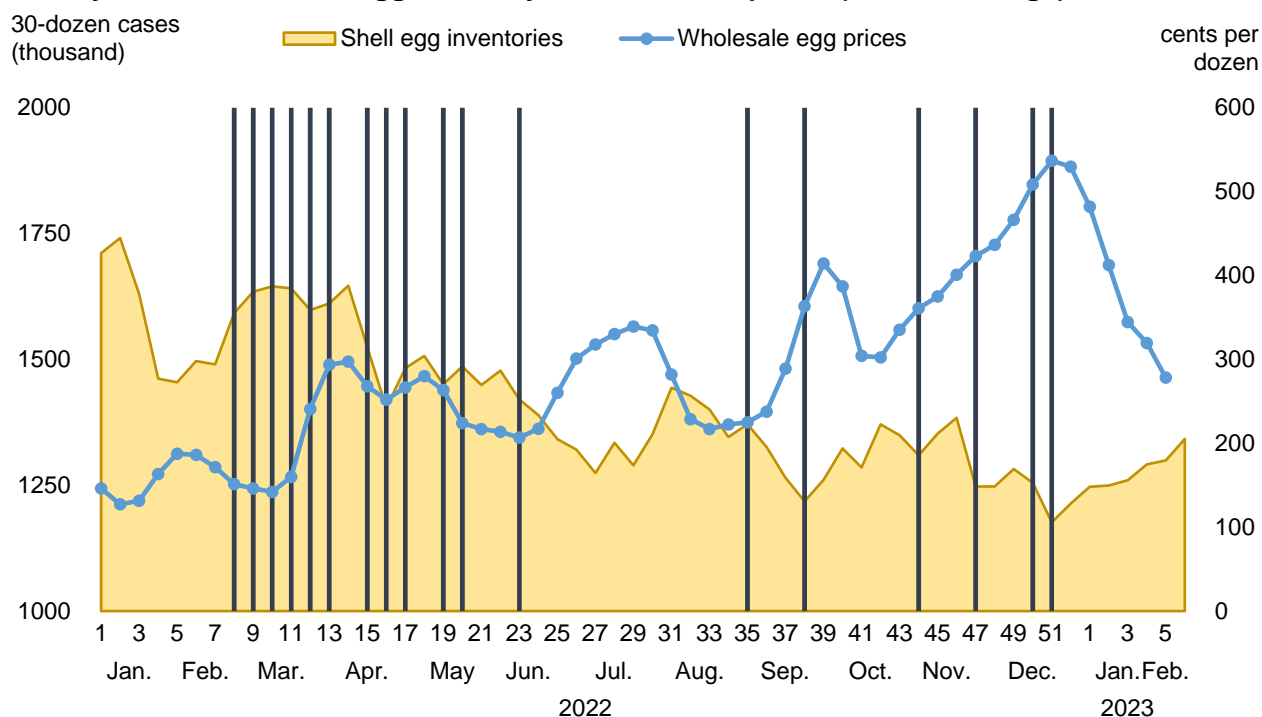
Given weaker-than-expected near-term indicators for table-egg flock production (January 1 table-egg layer-flock size and lay rate), the forecast for first-quarter table-egg production is revised downward 20 million dozen to 1,940 million dozen. No changes were made to the

subsequent quarters. The 2023 table-egg production is forecast at 8,095 million dozen, a 4.9-percent increase from the estimated 2022 table-egg production of 7,719 million dozen.

Wholesale Egg Prices Plummet from December Historical High Values

Following expectations for price movements post-holiday, daily wholesale egg prices (New York, large, grade A) declined 212 cents per dozen during January, averaging 378.3 cents per dozen, almost 25 percent lower than the prior month but still about 162 percent higher than last January. The drop in daily prices has continued in early February. This decline was also supported by consecutive weekly gains in the at-hand shell egg inventories. Going forward, following seasonal expectations, prices are expected to continue their decline in the next couple of weeks. However, prices are expected to trend upward in the weeks leading to the Easter holiday, another period of increased egg demand. Seasonal adjustments in wholesale prices associated with the Easter holiday are likely to be observed in March, as the Easter holiday falls in early April this year and grocery stores place their orders a number of weeks ahead of the event.

Weekly U.S. at-hand shell egg inventory and wholesale prices (New York, large) 2022–23



Note: HPAI, Highly Pathogenic Avian Influenza. Vertical bars represents weeks with HPAI outbreaks.
Source: USDA, Economic Research Service using data from USDA, Agricultural Marketing Service.

Adjusting for the current pace of decline in the daily wholesale egg prices, the first-quarter wholesale price forecast is revised up 7 cents to 292 cents per dozen. No changes are made to the subsequent quarters. Consequently, the 2023 average wholesale egg price forecast is 207 cents per dozen, almost 27 percent lower than 2022.

U.S. Egg Exports Dominated by Canada and Mexico

Exports of eggs and egg products in December totaled 19.0 million dozen (shell egg) equivalent, down 36.3-percent from last year. This year-over-year decrease was driven by declines in both shipments of shell eggs (-30.3 percent) and egg products (-45.8 percent).

In 2022, exports of egg and egg products totaled 226.5 million dozen shell egg equivalent, 42.2 percent below 2021 and the lowest shipments since 2006. The decrease in shipments is likely due to the HPAI-constrained domestic egg supply levels and historically high prices. The top five market destinations by volume in 2022, covering about 85 percent of the shipments, were as follows : Canada (36 percent), Mexico (22 percent), Japan (11 percent), the Caribbean countries (10 percent, including Jamaica, Bahamas, and Trinidad and Tobago), and Hong Kong (6 percent). The export forecast for egg and egg products in 2023 is unchanged at 240 million dozen shell egg equivalent, a 6.0-percent year-over-year decrease.

U.S. egg and egg product exports: Volume and export share, 2022/21

Country	Volume (thousand-dozen)			Export share (percent)	
	2021	2022	Change in volume	2021	2022
Canada	84,605	81,027	-3,578	22	36
Mexico	95,077	50,082	-44,995	24	22
Japan	37,413	25,525	-11,889	10	11
Hong Kong	54,212	14,691	-39,521	14	6
South Korea	63,530	10,689	-52,841	16	5
Jamaica	7,462	8,489	1,027	2	4
Bahamas	3,794	6,682	2,888	1	3
Trinidad and Tobago	5,752	6,173	421	1	3
United Arab Emirates	5,930	776	-5,155	2	0
ROW	34,375	22,363	-12,013	9	10
World	392,152	226,495	-165,657	100	100

Note: Largest markets are based on 2022 export volumes. ROW: Rest of the world.

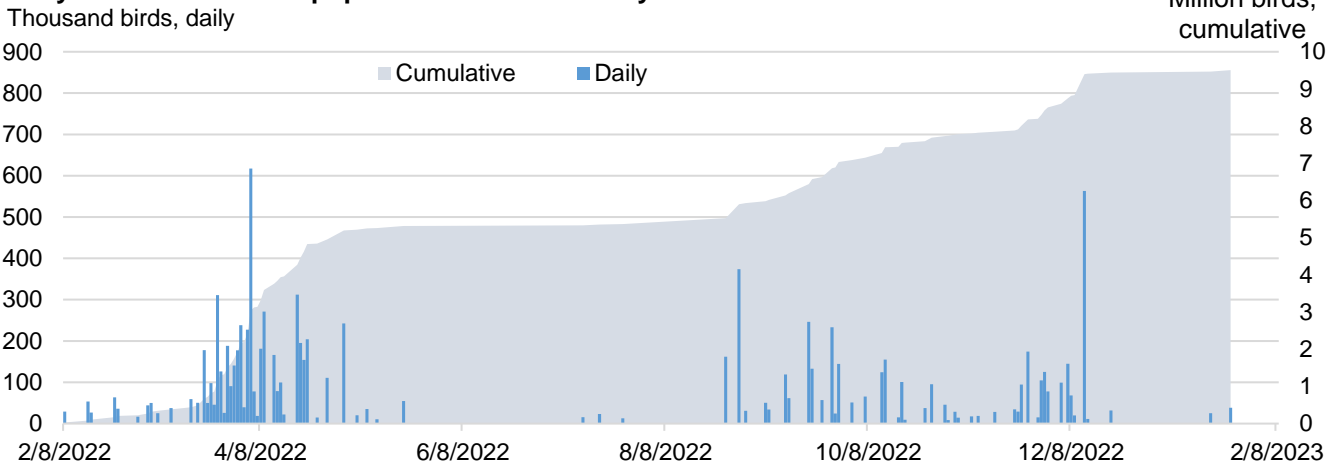
Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.

December egg imports were estimated at 4.5 million dozen, 178 percent higher than last year. Egg imports in 2022 totaled 25.9 million dozen, 42.8 percent up from last year. The first seven major partners—supplying more than 90 percent of U.S. egg imports—were Canada (40.15 percent), Turkey (13.9 percent), China (12.6 percent), Taiwan (9.5 percent), Thailand (6.0 percent), Germany (5.9 percent), and Vietnam (3.8 percent). Given higher-than-expected December imports, the total egg import forecast for 2023 is increased by 5.5 million dozen to 26 million dozen shell-egg equivalent, almost unchanged from the 2022 estimate.

Turkey Production Projection Unchanged for 2023

HPAI continued to impact the turkey industry in January, resulting in the culling of 27,700 meat turkeys in Iowa and 36,000 meat turkeys in two flocks in Virginia. These were the first two commercial detections in Virginia since the HPAI outbreak started in 2022. Since the outbreak began a year ago, total losses of turkey meat birds now exceed 9.5 million.

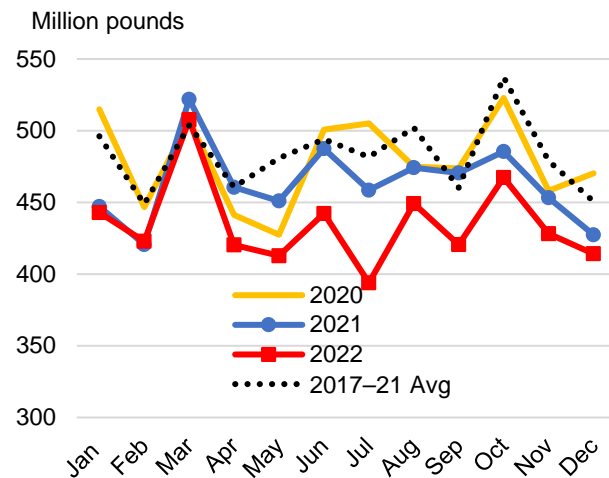
Daily and cumulative depopulations of meat turkeys due to HPAI



Source: USDA, Economic Research Service using data from USDA, Animal and Plant Health Inspection Service.

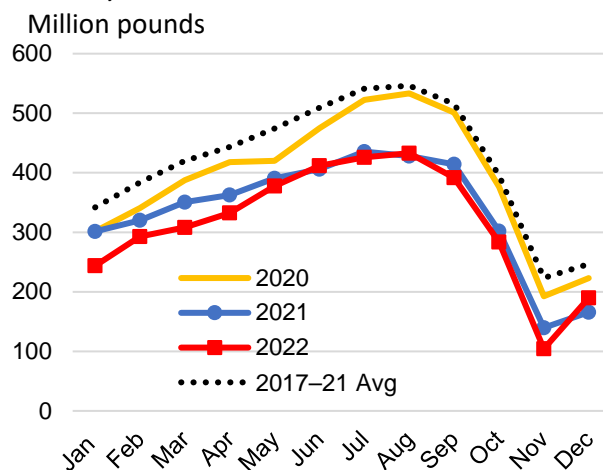
Turkey production in December 2022 totaled 414.2 million pounds, 3 percent lower than December of 2021. This brings the 2022 annual total to 5.222 billion pounds, a decrease of 6 percent compared to the 2021 total and the smallest annual production since 1995. Forecast 2023 production is unchanged at 5.560 billion pounds. If realized, this would be a 6.5-percent increase from 2022 but about even with 2021 production. Turkey meat in cold storage increased in December to 189.7 million pounds. This is 24 million pounds above cold storage levels at the end of 2021 but still 57 million pounds lower than the 5-year average. Reflecting this increase, the ending stocks forecast for 2023 was adjusted up to 185 million pounds.

Monthly turkey production, 2017–2022



Source: USDA, National Agricultural Statistics Service.

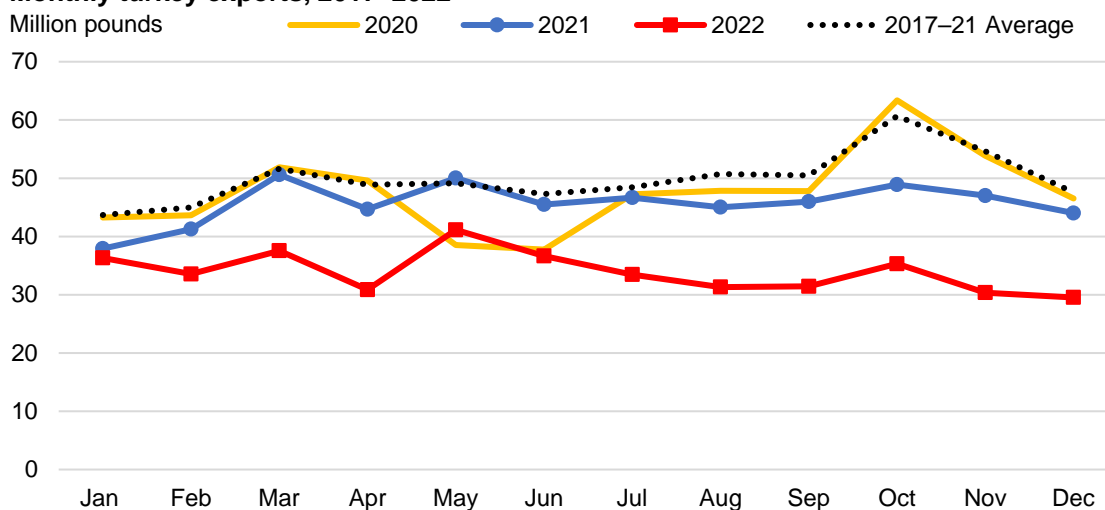
Turkey meat in cold storage at the end of the month, 2017–2022



Turkey Export Projection Adjusted Down in 2023

December 2022 turkey exports totaled 29.5 million pounds, 14.5 million pounds lower compared to December 2021. This brings the 2022 annual total to 408.4 million pounds, a decrease of 139 million pounds from the 2021 export total. Turkey exports in 2022 represent about 7.8 percent of 2022 production. Based on recent data and expectations for continued weakness in shipments, the 2023 annual turkey export forecast was adjusted down 30 million pounds this month to 370 million pounds. This would represent 6.7 percent of projected 2023 production.

Monthly turkey exports, 2017–2022



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

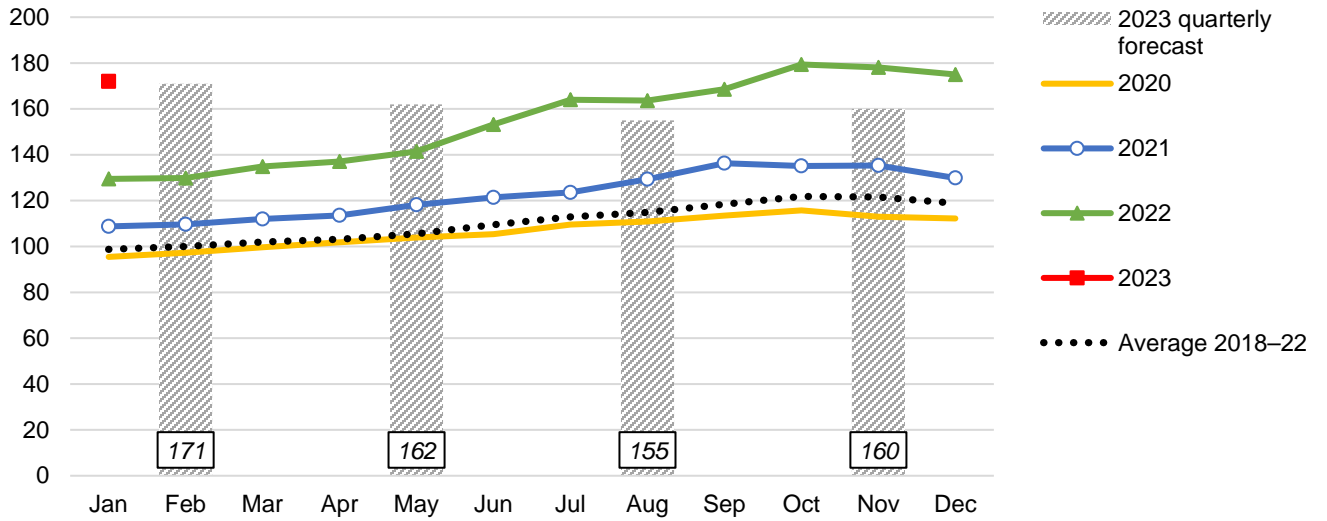
Turkey imports in December 2022 totaled 8.9 million pounds. Although this is a decline from November and the second month of declines, it is an increase of 7.2 million pounds from December 2021. This brings the 2022 annual total to 85.2 million pounds. The 2023 turkey import forecast is unchanged this month and remains at 120 million pounds.

Turkey Prices Adjusted Up in 2023

Wholesale prices for frozen whole hens averaged 172 cents per pound in January. This is 42.5 cents higher than January 2022, but down from the October average price of 179.38 cents per pound. Weekly prices were steady in the first 4 weeks of the year, but they dropped to an average of 167 cents per pound in the week ending February 3rd. Based on the strength of prices at the start of the year, quarterly forecast prices were adjusted up to 171 cents per pound in the first quarter of 2023 and 162 cents per pound in the second quarter. Third- and fourth-quarter forecast prices are unchanged at 155 and 160 cents per pound, respectively. This makes the 2023 annual average forecast 162 cents per pound, about 7 cents above the 2022 average.

Monthly average wholesale prices for frozen whole hens, 2017–2023

Cents per pound



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

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U.S. red meat and poultry forecasts

	2020					2021					2022					2023					
	I	II	III	IV	Annual	I	II	III	IV	Annual	I	II	III	IV	Annual	I	II	III	IV	Annual	
Production, million pounds																					
Beef	6,931	6,059	7,115	7,069	27,174	6,900	6,963	6,979	7,106	27,948	7,022	7,069	7,147	7,053	28,290	6,830	6,595	6,530	6,540	26,495	
Pork	7,426	6,313	7,048	7,515	28,303	7,292	6,668	6,530	7,185	27,675	6,904	6,639	6,533	6,919	26,995	7,010	6,560	6,650	7,215	27,435	
Lamb and mutton	35	36	34	33	138	35	36	32	35	138	31	35	33	32	131	31	33	33	33	130	
Broilers	11,238	10,940	11,358	11,047	44,583	10,893	11,232	11,581	11,193	44,899	11,170	11,279	11,896	11,857	46,201	11,350	11,550	12,000	11,800	46,700	
Turkeys	1,469	1,369	1,454	1,451	5,743	1,390	1,399	1,403	1,366	5,558	1,374	1,275	1,264	1,310	5,222	1,335	1,380	1,420	1,425	5,560	
Total red meat and poultry	27,251	24,870	27,172	27,263	106,556	26,651	26,450	26,679	27,030	106,810	26,650	26,453	27,037	27,031	107,462	26,700	26,267	26,786	27,152	106,904	
Table eggs, million dozen	2,050	1,957	2,008	2,051	8,066	1,982	1,957	1,982	2,050	7,971	1,974	1,883	1,921	1,941	7,719	1,940	2,000	2,050	2,105	8,095	
Per capita disappearance, retail pounds 1/																					
Beef	14.6	13.5	15.5	14.5	58.1	14.5	14.9	14.6	14.8	58.9	15.0	14.7	14.8	14.6	59.1	14.8	14.2	13.7	13.6	56.3	
Pork	13.1	11.5	13.2	13.9	51.7	13.1	11.8	12.3	14.0	51.1	13.1	12.4	12.4	13.1	51.1	13.0	12.0	12.5	13.7	51.1	
Lamb and mutton	0.4	0.3	0.3	0.3	1.2	0.3	0.4	0.3	0.4	1.4	0.3	0.3	0.3	0.3	1.3	0.3	0.3	0.3	0.3	1.3	
Broilers	24.2	23.7	24.4	23.3	95.8	23.5	24.3	25.0	23.8	96.5	23.8	24.2	25.7	25.2	98.9	24.4	24.9	25.9	25.0	100.2	
Turkeys	3.6	3.5	3.9	4.7	15.7	3.4	3.6	3.8	4.5	15.3	3.4	3.2	3.6	4.3	14.6	3.5	3.7	4.0	4.6	15.9	
Total red meat and poultry	56.3	52.9	57.7	57.2	224.1	55.2	55.4	56.4	57.8	224.8	56.1	55.4	57.3	57.9	226.8	56.4	55.5	56.9	57.6	226.5	
Eggs, number	72.1	69.3	71.1	72.8	285.4	69.8	68.7	69.3	72.6	280.4	70.4	67.8	68.9	69.6	276.6	69.1	71.3	72.5	74.5	287.4	
Market prices																					
Steers 5-area Direct, Total all grades, dollars/cwt	118.32	105.79	101.74	108.18	108.51	112.98	120.75	123.51	132.36	122.40	139.25	141.93	143.42	152.99	144.40	158.00	159.00	157.00	162.00	159.00	
Feeder steers, Medium Frame No. 1, OK City, dollars/cwt	136.42	126.37	141.42	137.57	135.45	134.30	140.22	153.69	159.59	146.95	156.04	158.35	172.31	177.06	165.94	182.00	192.00	214.00	224.00	203.00	
Cows, Live equivalent, Cutter 90% lean, 500 lbs and up, National, dollars/cwt	59.38	63.14	64.97	54.93	60.61	59.63	67.54	69.21	63.24	64.91	72.65	83.41	84.01	73.69	78.44	80.00	90.00	105.00	105.00	95.00	
Choice/Prime slaughter lambs, National, dollars/cwt	159.12	N/A	N/A	164.31	161.72	165.42	211.79	256.86	233.61	216.92	225.00	210.33	138.69	124.26	174.57	135.00	140.00	140.00	140.00	138.75	
Barrows and gilts, National base cost, 51-52% lean, live equivalent, dollars/cwt	42.52	38.96	40.50	50.75	43.18	55.71	80.92	76.15	56.36	67.29	65.55	75.58	80.20	63.49	71.21	58.00	71.00	73.00	64.00	66.50	
Broilers, Wholesale, National composite, weighted average, cents/lb	83.5	67.0	66.7	75.7	73.2	84.0	104.4	105.4	110.9	101.2	135.1	167.5	136.1	123.5	140.5	122.0	127.0	128.0	129.0	126.5	
Turkeys, National 8-16 lb hens, National, cents/lb	97.4	103.7	111.3	113.6	106.5	110.1	117.7	129.7	133.4	122.8	131.4	143.9	165.4	177.5	154.5	171.0	162.0	155.0	160.0	162.0	
Eggs, Grade A large, New York, volume buyers, cents/dozen	133.1	119.6	89.0	107.2	112.2	127.8	94.2	120.1	131.8	118.5	170.8	251.6	295.6	411.7	282.4	292.0	195.0	165.0	175.0	206.8	
U.S. trade, million pounds, carcass-weight equivalent																					
Beef and veal exports	769	605	759	819	2,951	798	875	912	856	3,441	846	940	906	844	3,536	760	775	785	770	3,090	
Beef and veal imports	774	848	1,025	693	3,339	696	865	923	863	3,346	985	859	798	750	3,391	950	850	860	765	3,425	
Lamb and mutton imports	102	67	62	70	302	69	93	100	103	364	88	88	93	89	358	97	85	90	95	367	
Pork exports	2,021	1,773	1,627	1,858	7,279	1,922	1,903	1,550	1,652	7,026	1,541	1,609	1,509	1,679	6,338	1,605	1,600	1,480	1,665	6,350	
Pork imports	206	220	226	252	904	247	260	308	364	1,180	358	369	317	300	1,344	240	245	250	270	1,005	
Broiler exports	1,860	1,729	1,821	1,959	7,368	1,851	1,772	1,835	1,898	7,355	1,826	1,812	1,724	1,916	7,278	1,830	1,810	1,765	1,910	7,315	
Turkey exports	139	126	143	164	571	130	140	138	140	548	107	109	96	95	408	85	90	95	100	370	
Live swine imports (thousand head)	1,332	1,202	1,272	1,488	5,293	1,607	1,649	1,772	1,635	6,663	1,654	1,665	1,602	1,565	6,486	1,650	1,665	1,590	1,575	6,480	

Note: Forecasts are in bold. cwt=hundredweight.
 1/ Per capita meat and egg disappearance data are calculated using the Resident Population plus Armed Forces Overseas series from U.S. Department of Commerce, Bureau of the Census.
 Source: World Agricultural Supply and Demand Estimates and Supporting Materials.
 For further information, contact: Mildred Haley, Economic Research Service, USDA.
 Updated 2/8/2023

Dairy forecasts

Years Quarters	2021	2022					2023				
	Annual	I	II	III	IV	Annual	I	II	III	IV	Annual
Milk cows (thousands)	9,448	9,384	9,413	9,412	9,408	9,404	9,390	9,380	9,375	9,370	9,380
Milk per cow (pounds)	23,948	6,000	6,145	6,002	5,950	24,098	6,060	6,210	6,055	6,020	24,345
Milk production (billion pounds)	226.3	56.3	57.8	56.5	56.0	226.6	56.9	58.2	56.8	56.4	228.3
Farm use	1.0	0.3	0.3	0.3	0.3	1.1	0.3	0.3	0.3	0.3	1.1
Milk marketings	225.2	56.0	57.6	56.2	55.7	225.6	56.6	58.0	56.5	56.1	227.3
Milk-fat (billion pounds milk equiv.)											
Milk marketings	225.2	56.0	57.6	56.2	55.7	225.6	56.6	58.0	56.5	56.1	227.3
Beginning stocks	15.6	14.3	16.4	18.4	16.6	14.3	14.4	16.5	18.5	16.6	14.4
Imports	6.5	1.3	1.9	1.9	1.9	7.1	1.5	1.9	1.9	1.9	7.3
Total supply	247.4	71.7	75.9	76.6	74.2	247.0	72.5	76.3	76.9	74.7	248.9
Exports	11.5	3.0	3.7	3.4	3.2	13.4	3.0	3.6	3.3	3.3	13.1
Ending stocks	14.3	16.4	18.4	16.6	14.4	14.4	16.5	18.5	16.6	14.6	14.6
Domestic use ¹	221.5	52.3	53.7	56.6	56.6	219.2	53.1	54.3	57.0	56.8	221.2
Skim solids (billion pounds milk equiv.)											
Milk marketings	225.2	56.0	57.6	56.2	55.7	225.6	56.6	58.0	56.5	56.1	227.3
Beginning stocks	10.9	11.1	11.8	12.5	11.9	11.1	11.8	12.5	13.2	12.3	11.8
Imports	5.8	1.5	1.6	1.6	2.0	6.7	1.5	1.6	1.6	1.7	6.4
Total supply	241.9	68.6	71.0	70.3	69.6	243.3	70.0	72.1	71.3	70.1	245.4
Exports	50.8	11.8	14.4	13.5	12.8	52.5	11.8	14.3	13.4	12.7	52.1
Ending stocks	11.1	11.8	12.5	11.9	11.8	11.8	12.5	13.2	12.3	12.3	12.3
Domestic use	180.0	44.9	44.1	44.9	45.0	179.0	45.7	44.6	45.6	45.2	181.1
Milk prices (dollars/hundredweight) ¹											
All milk	18.53	24.93	27.10	24.80	25.40	25.56	22.10	20.15	19.65	20.85	20.70
Class III	17.08	21.25	24.65	20.81	21.06	21.94	18.45	17.55	17.70	17.90	17.90
Class IV	16.09	23.97	25.38	25.08	23.46	24.47	19.10	18.30	17.75	17.85	18.25
Product prices (dollars/pound) ²											
Cheddar cheese	1.6755	1.9531	2.3523	2.0428	2.1004	2.1122	1.890	1.830	1.850	1.870	1.860
Dry whey	0.5744	0.7610	0.6754	0.5143	0.4633	0.6035	0.400	0.360	0.350	0.350	0.365
Butter	1.7325	2.6686	2.8095	3.0136	2.9743	2.8665	2.405	2.330	2.290	2.290	2.330
Nonfat dry milk	1.2693	1.7242	1.8188	1.6831	1.5141	1.6851	1.290	1.230	1.190	1.200	1.225

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 USDA, Agricultural Marketing Service, for use in class price formulas. Products prices are based on weekly USDA *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.

Published by USDA, Economic Research Service, in *Livestock, Dairy, and Poultry Outlook*.

Updated 2/14/2023.