



# Livestock, Dairy, and Poultry Outlook: November 2022

## In this report:

“Comparison of HPAI Impacts on the U.S. Turkey Industry: 2015 versus 2022”

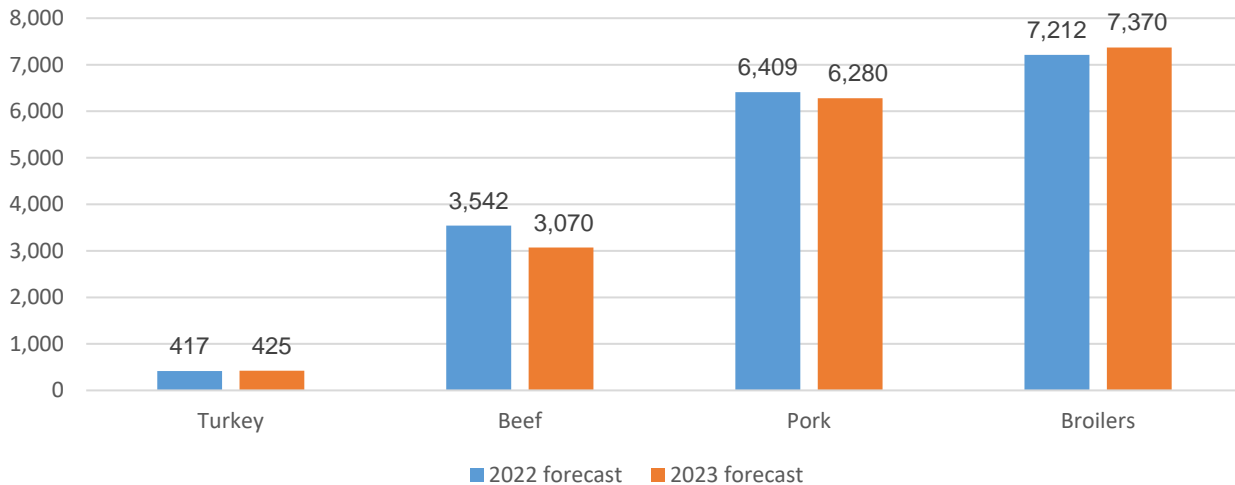
[Special Article](#)

## Outlook For 2022 and 2023 Meat Exports Mixed

The figure below compares the forecasts for the exports of turkey, beef, pork, and broilers for 2022 and 2023. Forecast turkey exports increase by 8 million pounds from 2022 to 2023, an increase of 1.8 percent; broiler exports are expected to increase by 158 million pounds, or 2.2 percent. Both beef and pork exports are expected to decline between 2022 and 2023. Beef exports decline the most on both a percentage and absolute basis. Forecast beef exports decline by 472 million pounds, or 13.3 percent. Forecast pork exports decline by 129 million pounds, 2.0 percent lower than 2022.

### Forecast annual meat exports for 2022 and 2023

Million pounds, carcass weight



Source: U.S. Department of Agriculture, Economic Research Service and World Agricultural Outlook Board.

## Summary

**Beef/Cattle:** Based on a more-rapid cow slaughter and strong expected pace of fed cattle demand, beef production for 2022 is raised 211 million pounds to 28.3 billion pounds. Fewer cows are expected to be in the slaughter mix next year, which lowers projected beef production in 2023 by 90 million pounds to 26.3 billion pounds, a decline of more 7 percent next year. Fed cattle prices in 2023 were raised on feedlots being more current than expected with their supplies early in 2023. The forecast for total 2023 U.S. beef trade is unchanged.

**Dairy:** The all-milk price forecasts for 2022 and 2023 have been lowered due to recent downward trends in dairy product prices and larger expected milk supplies in 2022. The all-milk price forecast for 2022 is \$25.50 per hundredweight (cwt), \$0.10 lower than last month's forecast. The all-milk price forecast for 2023 is \$22.60 per cwt, \$0.30 lower than the October forecast. The milk production forecast for 2022 has been raised, but the 2023 forecast is unchanged as lower expected milk cow numbers offset higher yield per cow.

**Pork/Hogs:** Processors' spreads will likely be pressured for the balance of 2022 by year-over-year higher hog prices and consumer resistance to higher pork prices. Fourth-quarter pork production is trimmed 28 million pounds to about 7.1 billion pounds, almost 2 percent below a year earlier. Hog prices are expected to average \$64 per cwt in the fourth quarter. Export forecasts for 2022 and 2023 are unchanged at 6.4 billion pounds and about 6.3 billion pounds, respectively. A gently appreciating peso—partially offsetting higher ham prices—has supported pork exports to Mexico this year.

**Poultry/Eggs:** Broiler production forecasts in 2022 and 2023 are adjusted up on strong hatchery data and recent production trends. Broiler exports for 2022 are adjusted up accordingly. The wholesale broiler price forecast is adjusted down in the fourth quarter of 2022 on strong production and recent price trends. Table-egg production forecasts for 2022 and 2023 are revised downward as the current Highly Pathogenic Avian Influenza (HPAI) outbreak continues to impact the sector. Wholesale egg price (New York, grade A, large) forecasts for the fourth quarter and next year are revised up. Egg export and import forecasts for 2022 and 2023 are revised downward on lower-than-expected trade data. Turkey production is adjusted downward in the fourth quarter and the first half of next year on additional HPAI cases. Turkey imports and exports are both adjusted upward, though the export forecast remains well below last year. Turkey price forecasts are adjusted upward on recent price data and lowered production forecasts.

**Special article:** "Comparison of HPAI impacts on the U.S. Turkey Industry: 2015 versus 2022" The 2022 HPAI outbreak is having a more-prolonged impact on the turkey industry than the outbreak in 2015, posing greater challenges to the industry as Thanksgiving nears. Both outbreaks had negative impacts on turkey production, live weights, turkeys in cold storage, and exports, though in 2022 cold storage stocks maintained stronger levels relative to the previous year than they did in 2015. Because a larger share of the turkeys impacted in 2022 were breeding stock, the recovery from the current outbreak could take longer than it did after the 2015 outbreak.

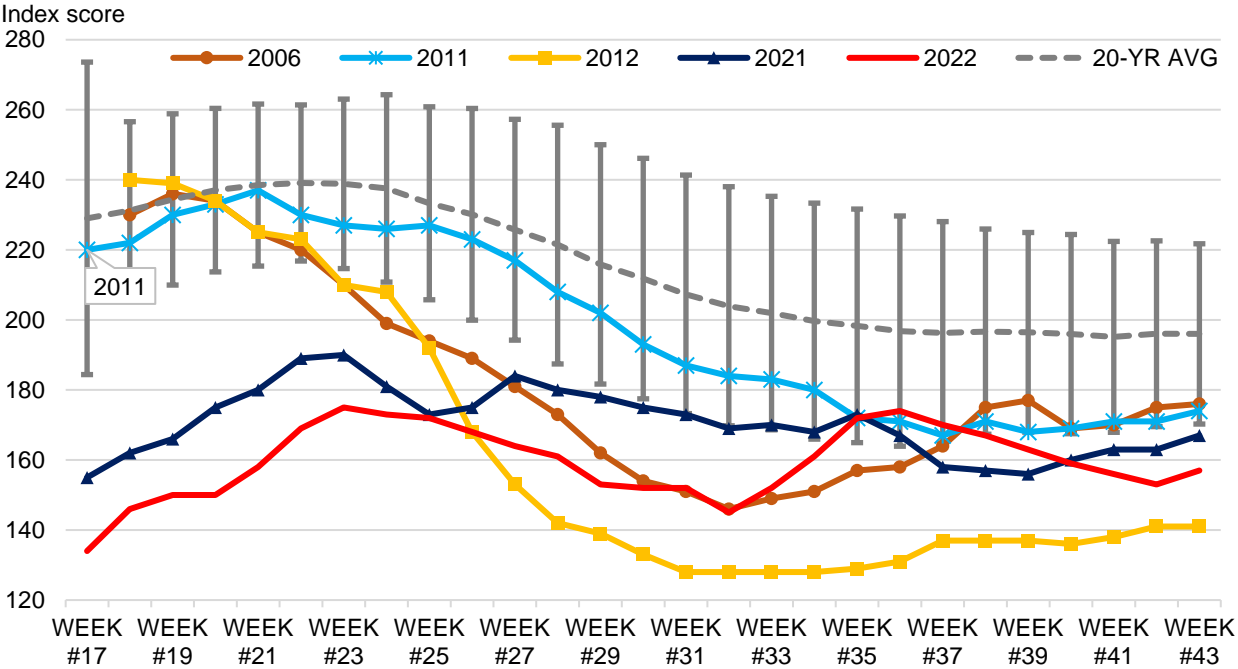
# Beef/Cattle

Russell Knight and Hannah Taylor

## Higher Expected Slaughter Raises 2022 Forecast

Beef cattle producers continue to face widespread drought and higher operating costs as the holidays approach. For the week ending November 1, the U.S. Drought Monitor reported that 85 percent of the United States is experiencing some level of drought. According to the USDA World Agricultural Outlook Board, approximately 76 percent of the U.S. cattle herd is being raised in drought-stricken areas; this is an increase of 40 percentage points from a year ago. These conditions likely point toward limited pasture and forage availability this winter. A pasture condition index score for the week ending October 30 is provided below. This index score for the end of reporting cycle in week 43 shows the fourth straight year of below average rating for pasture conditions and the lowest rating since 2012. In addition, based on the October 2022 USDA, National Agricultural Statistics Service (NASS) *Crop Production* report, other-hay production is estimated to be down 11 percent from last year, primarily on lower yield estimates. This supported higher prices for other-hay in the United States, which is up 12 percent in September from the same month last year. Further, for the week ending November 7, prices for over-the-road diesel reported in the U.S. Energy Information Administration report *Weekly Retail Gasoline and Diesel Prices* are up 43 percent across the United States on average from a year ago, which is likely reflected in increasing operation costs for cattle producers.

### Weekly pastureland condition index: 20-year average and selected years



Note: Errors bars equal one standard deviation.  
 Note: The pastureland condition index is calculated by multiplying the five categories of pasture and forage condition (excellent, good, fair, poor, and very poor) by a ranking value. For example, the index value for October 30, 2022 is 157 = (4\*4) + (3\*19) + (2\*29) + (1\*26) + (0\*22).  
 Source: USDA, Economic Research Service calculations using data from USDA, National Agricultural Statistics Service.

The latest NASS *Cattle on Feed* report showed an October 1 feedlot inventory of 11.449 million head, about 1 percent below 11.550 million head in the same month last year but still the third-largest for the month since the series began in 1996. Feedlot net placements<sup>1</sup> in September were down almost 4 percent year over year at 2.027 million head, in line with industry analysts. Marketings in September were 1.860 million head, up 4 percent year over year with the same number of weekdays in the month. On October 1, the number of cattle on feed over 150 days were above year-ago levels, led principally by larger supplies in Texas and Nebraska, while supplies in Kansas and Iowa are tighter.

Based on actual and estimated slaughter for October, the weekday pace of fed cattle and cow slaughter is up almost 1 percent and 5 percent, respectively, from last year. With the poor pasture and higher operating costs than last year, beef cow slaughter is expected to remain higher than previously assumed through the end of the year. In addition, anticipated fed cattle marketings are raised on a relatively strong pace of fed cattle slaughter through early November as well as relatively high numbers of 150-plus-day cattle in feedlots. As a result, the beef production forecast for fourth-quarter 2022 is raised by 215 million pounds on higher expected total cattle slaughter, along with slightly heavier carcass weights. Considering adjustments for official estimates for the third quarter, total 2022 beef production is raised 211 million pounds from last month to 28.3 billion pounds, an increase of more than 1 percent from 2021.

With the more rapid pace of cow slaughter expected in fourth-quarter 2022, anticipated cow slaughter in 2023 was lowered. Accordingly, the 2023 beef production forecast is lowered by 90 million pounds to 26.3 billion pounds, which is more than 7 percent below the 2022 projection.

## Cattle Prices Raised on Robust Demand

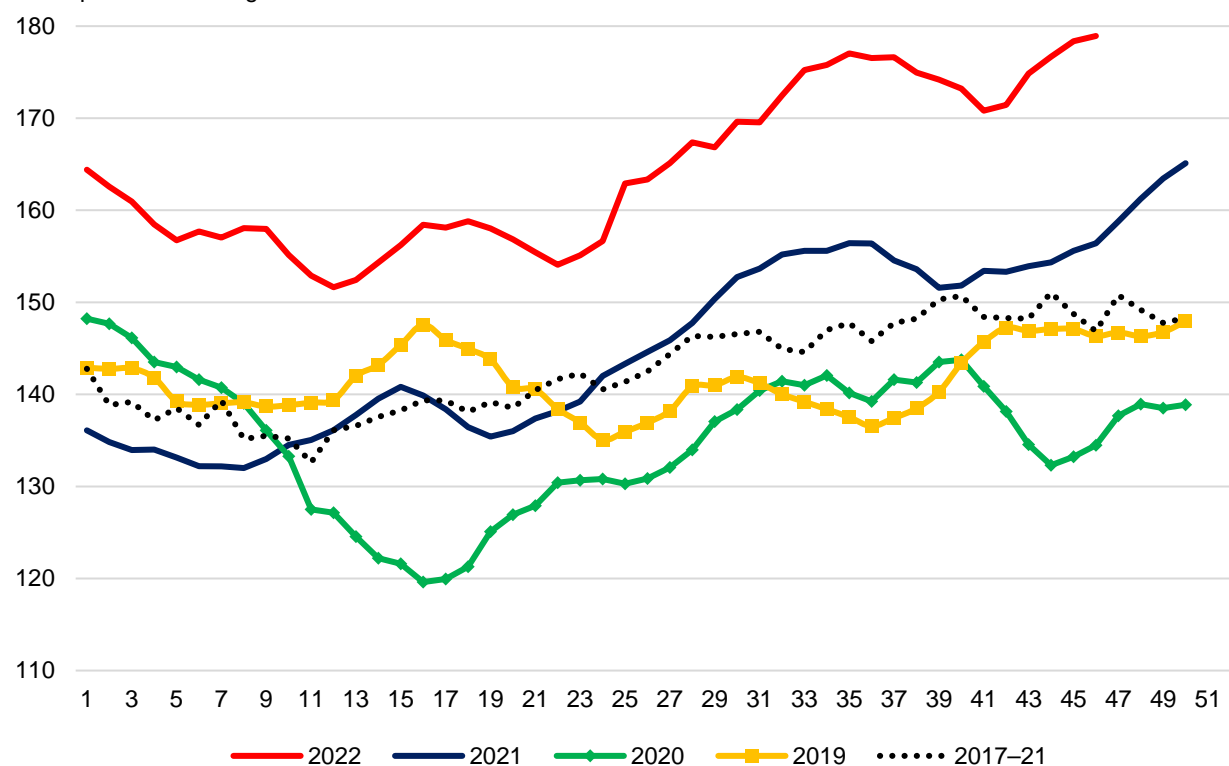
In early October, prices recorded for feeder steers 750–800 pounds at the Oklahoma City National Stockyards started lower month over month before setting a new high for the year at \$185.66 per hundredweight (cwt). The October weighted average was \$173.96 per cwt. Prices have since pulled back about \$9. The most recent available price from November 14 reports sales of feeder steers at \$175.96 per cwt, down \$2.42 from the previously reported week. Despite higher operating costs, firm feedlot demand is expected for the remainder of 2022, and with current price data the fourth-quarter 2022 price forecast for feeder steers is raised \$3 to \$176.00 per cwt.

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<sup>1</sup> Net placements are placements minus other disappearance.

## Weekly feeder steer prices on a 4-week moving average

Dollar per hundredweight



Source: USDA, Economic Research Service calculations using data from USDA, Agricultural Marketing Service.

To illustrate the rebound in feeder prices, the chart above shows 4-week moving averages for feeder steer prices. In week 35, prices declined from the current peak for the year through week 41 before rebounding to a new 4-week average high in week 45. Based on current price strength, the price projection in first-quarter 2023 is raised \$2 to \$177 per cwt. However, expected feeder calf prices were unchanged for the remainder of the year.

In recent weeks, packer margins have improved with the seasonal rally of wholesale prices and a smaller increase in fed cattle prices. Further, as packing capacity has improved over the last 2 years, weekday slaughter volumes remain high, likely reducing costs on a per animal basis and mitigating costs of operating on Saturdays. Continued levels of weekday throughput and Saturday slaughter has likely sustained sufficient demand to support higher fed cattle prices than forecast last month.

For the week ending November 6, the negotiated price for fed steers in the 5-area marketing region reached \$151.98 per cwt, the highest since 2015. Accounting for current price data and a stronger year-over-year pace of fed cattle slaughter in the fourth quarter, the fourth-quarter 2022 price is projected \$4 above last month to \$152.00 per cwt.

Higher expected fed cattle marketings in late 2022 will likely tighten fed cattle supplies in 2023. With tighter supplies of cattle, packers are likely going to have to pay higher prices for slaughter-ready cattle, even as feedlot operations are likely to limit feeding cattle for an extended period given the increase in operating costs from a year ago. Based on current price data and expected demand next year, 2023 fed steer prices are projected \$2 higher in the first half and \$4 higher in the third quarter, raising the annual forecast by \$2 to \$156.00 per cwt.

## Exports Slow Marginally in September; 2022 Forecast Lowered

September beef exports were slightly lower than expected, perhaps showing some signs of the effects of economic headwinds that have been threatening trade all year. Exports have been higher year-over-year through August, despite a strong U.S. dollar on top of already high beef prices. September exports were 276 million pounds, a year-over-year decrease of 6 percent but 7 percent above the 5-year average. Year-to-date exports are still 5 percent above last year.

September exports to nearly all major export markets decreased year over year. Shipments to Taiwan were down over 26 percent year over year, while exports to Canada were down nearly 11 percent and exports to South Korea were down 10 percent. Exports to China were down year over year for the first time since 2019; shipments to China had been higher year over year since 2020, reflecting tight supplies of domestic proteins and aided by provisions in Phase One of the Economic and Trade Agreement Between the United States and China, which have allowed for increased beef exports to China. After peaking in August, exports to China dropped nearly 27 percent month over month, falling to just below the level of exports in September of last year.

Out of the largest six export markets, only exports to Mexico increased year over year in September, up 5 percent from last year, although year-to-date exports to Mexico are still 14 percent below last year. September exports to other countries not in the top six were also higher than a year ago, but by a smaller margin than the previous months this year. Exports to these smaller markets peaked in April and have been decreasing throughout the year.

### U.S. beef exports by volume, January–September 2021 and 2022

| Country            | September 2022 exports | Year-to-date exports |        |                              |                               | Share of YTD exports, percent |      |
|--------------------|------------------------|----------------------|--------|------------------------------|-------------------------------|-------------------------------|------|
|                    |                        | 2022                 | 2021   | Year-over-year volume change | Year-over-year percent change | 2021                          | 2022 |
| <b>Japan</b>       | 64.7                   | 622.3                | 628.2  | -5.9                         | -1                            | 24                            | 23   |
| <b>South Korea</b> | 60.9                   | 608.2                | 600.9  | 7.2                          | 1                             | 23                            | 23   |
| <b>China</b>       | 51.0                   | 494.1                | 393.3  | 100.9                        | 26                            | 15                            | 18   |
| <b>Canada</b>      | 19.9                   | 204.3                | 204.8  | -0.6                         | 0                             | 8                             | 8    |
| <b>Mexico</b>      | 24.1                   | 200.9                | 233.9  | -33.1                        | -14                           | 9                             | 7    |
| <b>Taiwan</b>      | 12.0                   | 159.8                | 145.2  | 14.5                         | 10                            | 6                             | 6    |
| <b>ROW</b>         | 43.3                   | 402.6                | 368.3  | 34.3                         | 9                             | 14                            | 15   |
| <b>Total</b>       | 275.8                  | 2692.0               | 2574.6 | 117.4                        | 5                             |                               |      |

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

Third-quarter beef exports were 906 million pounds, less than 1 percent below last year's record. Of the top six markets, only exports to China were higher year-over-year (11 percent) for the quarter. Exports to Taiwan were 18 percent lower, and exports to Mexico were 9 percent below a year ago. Combined exports to smaller markets not included in the top six were just

over 5 percent higher year over year. The value of exports in the third quarter totaled 2.7 billion dollars, just over 1 percent below last year but 32 percent above the 5-year average.

The U.S. beef export forecast for fourth-quarter 2022 is lowered 10 million pounds to 850 million based on recent trade data and lower expected exports to Asia. The 2022 annual forecast is 3.542 billion pounds. The 2023 annual forecast is unchanged at 3.070 billion pounds.

## Multiple Factors Affecting Slower Pace of Imports

U.S. beef imports in September were 258 million pounds, 9 percent below 2021. Year-to-date imports were 2.6 billion pounds, 6 percent above last year and 9 percent above the 5-year average. Imports from Canada increased 7 percent year over year, but imports from the remaining major suppliers showed a decrease from last year. Monthly imports from New Zealand were down 36 percent year over year, while imports from Brazil decreased 28 percent. Year-to-date imports from Brazil remain elevated due to the spike in imports in the first quarter, but monthly imports from Brazil have remained relatively constant since June, at levels slightly below last year. After filling the tariff-rate quota (TRQ) open to countries without a specific TRQ in April, Brazil now faces a higher tariff on beef imports to the United States.

### U.S. beef imports by volume, January–September 2021 and 2022

| Country            | September 2022 imports | Year-to-date imports |        |                              |                               | Share of YTD imports, percent |      |
|--------------------|------------------------|----------------------|--------|------------------------------|-------------------------------|-------------------------------|------|
|                    |                        | 2022                 | 2021   | Year-over-year volume change | Year-over-year percent change | 2021                          | 2022 |
| <b>Canada</b>      | 87.7                   | 712.2                | 708.2  | 4.1                          | 1                             | 29                            | 27   |
| <b>Mexico</b>      | 55.8                   | 570.2                | 497.8  | 72.4                         | 15                            | 20                            | 22   |
| <b>Brazil</b>      | 24.9                   | 416.1                | 240.1  | 176.0                        | 73                            | 10                            | 16   |
| <b>New Zealand</b> | 21.2                   | 328.4                | 419.7  | -91.3                        | -22                           | 17                            | 12   |
| <b>Australia</b>   | 38.1                   | 297.8                | 300.1  | -2.3                         | -1                            | 12                            | 11   |
| <b>ROW</b>         | 30.7                   | 316.9                | 318.0  | -1.1                         | 0                             | 13                            | 12   |
| <b>Total</b>       | 258.3                  | 2641.5               | 2483.8 | 157.7                        | 6                             |                               |      |

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

Third-quarter imports were 798 million pounds, 14 percent less than last year and 8 percent below the 5-year average. Imports for the quarter from most major suppliers decreased year over year, with the largest decrease from New Zealand, down nearly 41 percent. Year-to-date imports from New Zealand are 22 percent below last year. New Zealand has been faced with labor shortages and other supply chain issues affecting beef production. According to data from the Trade Data Monitor, year-to-date global beef exports from New Zealand were down 6 percent through September. However, New Zealand's exports to China were up 9 percent. Australia has been faced with similar supply chain issues; its year-to-date global beef exports were down 3 percent through September. Similarly, exports from Australia to China were up almost 5 percent so far this year. The lower supplies caused by supply chain issues, combined with increased competition for exports from China, has likely contributed to the decline in shipments from Oceania to the United States.

Higher beef cow slaughter also typically decreases the demand for imported lean trimmings. Third-quarter U.S. cow slaughter was 13 percent above the average for the past 5 years, while third-quarter imports were 8 percent below the 5-year average. Higher cow slaughter, importers such as Brazil facing a higher tariff from the filled TRQ, and limited supplies from Oceania have likely all contributed to the slower pace of imports throughout the second half of this year. The fourth-quarter import forecast is decreased 10 million pounds to 735 million pounds. The 2022 annual forecast is 3.376 billion pounds. The annual 2023 forecast is unchanged at 3.350 billion pounds.



# Dairy

Angel Terán

## Recent Wholesale Dairy Product Prices

From the week ending October 8 to the week ending November 5, changes in directions of dairy product prices reported in the USDA *National Dairy Products Sales Report* (NDPSR) were mixed. The price of 40-pound blocks of Cheddar cheese increased +3.9 cents to \$2.0688 per pound, and the price of 500-pound barrels (adjusted to 38-percent moisture) decreased -6.9 cents to \$2.1233 per pound. The price of butter decreased -7.4 cents to \$3.1168 per pound. The price of nonfat dry milk (NDM) declined -3.3 cents to \$1.5471, while the dry whey price increased by 0.1 cent to \$0.4826.

### Dairy wholesale product prices, October 8–November 5, 2022

Dollars per pound

|                     | For the week ending |        | Change  |
|---------------------|---------------------|--------|---------|
|                     | Oct 8               | Nov 5  |         |
| Butter              | 3.1910              | 3.1168 | -0.0742 |
| Cheddar cheese      |                     |        |         |
| 40-pound blocks     | 2.0301              | 2.0688 | 0.0387  |
| 500-pound barrels * | 2.1922              | 2.1233 | -0.0689 |
| Nonfat dry milk     | 1.5801              | 1.5471 | -0.0330 |
| Dry whey            | 0.4818              | 0.4826 | 0.0008  |

\* Adjusted to 38-percent moisture.

Source: USDA, Agricultural Marketing Service, *National Dairy Products Sales Report*, November 9, 2022.

For the trading week ending November 4,<sup>2</sup> all dairy product average spot prices on the Chicago Mercantile Exchange (CME) were below NDPSR prices for the same week. The weekly average spot prices for the week ending November 5 were: \$2.7390 per pound of butter, \$1.9835 per pound of 40-pound blocks of Cheddar cheese, \$1.9645 per pound of 500-pound barrels of Cheddar cheese, \$1.3940 per pound of NDM, and \$0.4505 per pound of dry whey.

In October 2022, international dairy product prices were mainly lower from the previous month. Excluding Oceania butter, U.S. wholesale prices of major dairy products have continued to be competitive compared to international export prices.<sup>3</sup> For the month of October, Oceania and Western Europe export prices for butter were \$2.257 and \$3.136 per pound, respectively. Skim milk powder (SMP) export prices for Oceania and Western Europe were \$1.520 and \$1.599 per pound, respectively. The Oceania export price for cheese was \$2.264 per pound. The Western Europe dry whey export price averaged \$0.493 per pound in October.

<sup>2</sup> While the NDPSR reports average prices for each week ending on Saturday, the Chicago Mercantile Exchange reports prices for the week through Friday, the last day of trading each week.

<sup>3</sup> 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.

## Dairy product export prices for Oceania and Europe, September–October, 2022

Dollars per pound

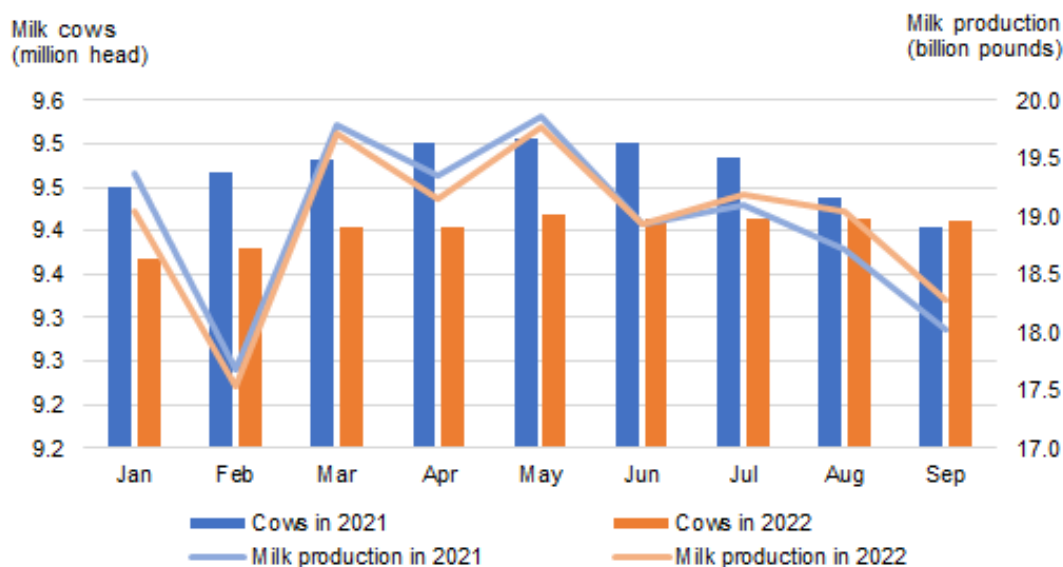
| Product          | Region         | September 2022 | October 2022 | Change |
|------------------|----------------|----------------|--------------|--------|
| Butter           | Oceania        | 2.438          | 2.257        | -0.181 |
|                  | Western Europe | 3.304          | 3.136        | -0.168 |
| Cheddar cheese   | Oceania        | 2.365          | 2.264        | -0.100 |
| Skim milk powder | Oceania        | 1.615          | 1.520        | -0.096 |
|                  | Western Europe | 1.700          | 1.599        | -0.101 |
| Dry whey         | Western Europe | 0.516          | 0.493        | -0.023 |

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

## Recent Dairy Supply and Use Data

According to USDA, National Agricultural Statistics Service (NASS), in September 2022, milk production in the United States totaled 18.282 billion pounds, up 1.5 percent from September 2021. Milk cows on farms averaged 9.411 million head in September, 2,000 head less than the previous month but 6,000 head higher than September 2021. September milk production per cow averaged 1,943 pounds, 27 pounds above the same month in 2021.

### Milk production and number of cows from January to September, 2021 and 2022



Source: USDA, National Agricultural Statistics Service.

The September all-milk price was \$24.40 per hundredweight (cwt), \$0.10 higher than August and \$6.10 higher than September 2021. The NASS milk-feed ratio was 1.74 in September 2022, 0.04 points above the previous month and 0.08 points above September 2021. The alfalfa hay price in September 2022 was \$277 per short ton, \$2 higher than August and \$63 above September 2021. The 5-State weighted-average price for premium alfalfa hay in September 2022 was \$342 per short ton, \$1 lower than August and \$92 higher than September 2021. The soybean price in September was \$14.10 per bushel, \$1.20 cents lower than August but \$1.90 higher than September 2021.

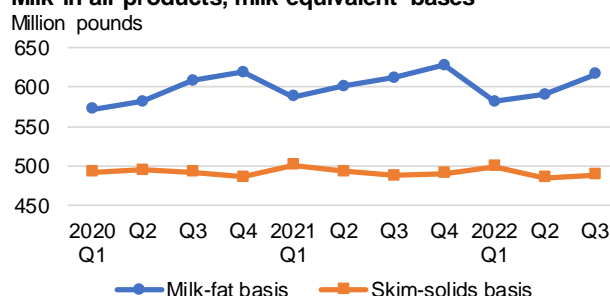
Directions of year-over-year changes in U.S. dairy exports quantities were mixed in September. On a milk-equivalent milk-fat basis, they totaled 1.001 billion pounds, 75 million pounds lower than September 2021. However, on a milk-equivalent skim-solids basis, September dairy exports totaled 4.428 billion pounds, 354 million higher than September 2021. Notably, in September, fluid milk and cream exports declined by around 9.6 million pounds from September 2021, while anhydrous milkfat/butteroil declined by 1.2 million pounds. September 2022 exports of lactose increased 22.3 million pounds from a year ago, while cheese and butter exports increased by 3.8 and 3.5 billion pounds, respectively. Meanwhile, September exports of dry skim milk products declined by 10.9 million pounds from September 2021.

U.S. dairy imports were up in September 2022. On a milk-equivalent milk-fat basis, imports in September totaled 614 million pounds, 13 million higher than September 2021. On a milk-equivalent skim-solids basis, September imports totaled 519 million pounds, 28 million higher than September 2021. Notably, imports of dairy-based infant food increased by 7.4 million pounds, while whole milk powder imports increased by 1.7 million pounds.

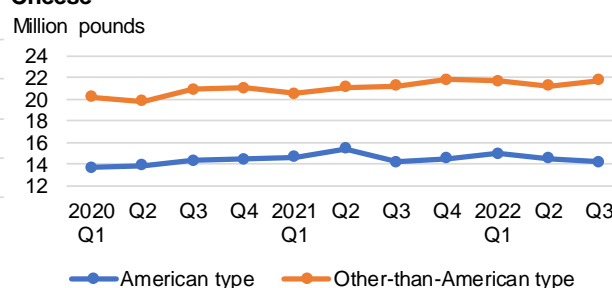
For the third quarter of 2022 (2022-Q3, July through September), year-over-year growth in domestic use increased on a milk-equivalent milk-fat basis (+0.6 percent) and on a milk-equivalent skim-solids basis (+0.1 percent). Except for an increase in domestic use of cheese, from 2021-Q3 to 2022-Q3, domestic use decreased for most dairy product categories tracked by USDA. Of these major dairy products, the largest year-over-year percentage increase in domestic use in 2022-Q3 was for other-than-American type cheese (+2.7 percent), followed by American type cheese (+0.4 percent). The largest year-over-year percentage decrease was for lactose (-57 percent), followed by whey protein concentrate (WPC) (-29 percent).

### U.S. domestic use per day

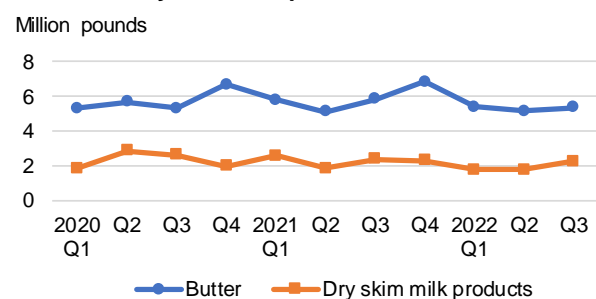
#### Milk in all products, milk-equivalent bases



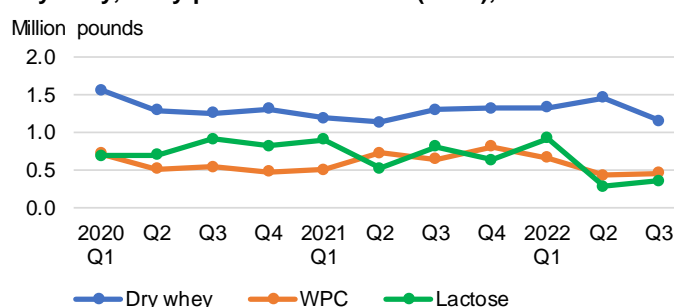
#### Cheese



#### Butter and dry skim milk products



#### Dry whey, whey protein concentrate (WPC), and lactose



Q1 = January to March. Q2 = April to June. Q3 = July to September. Q4 = October to December.

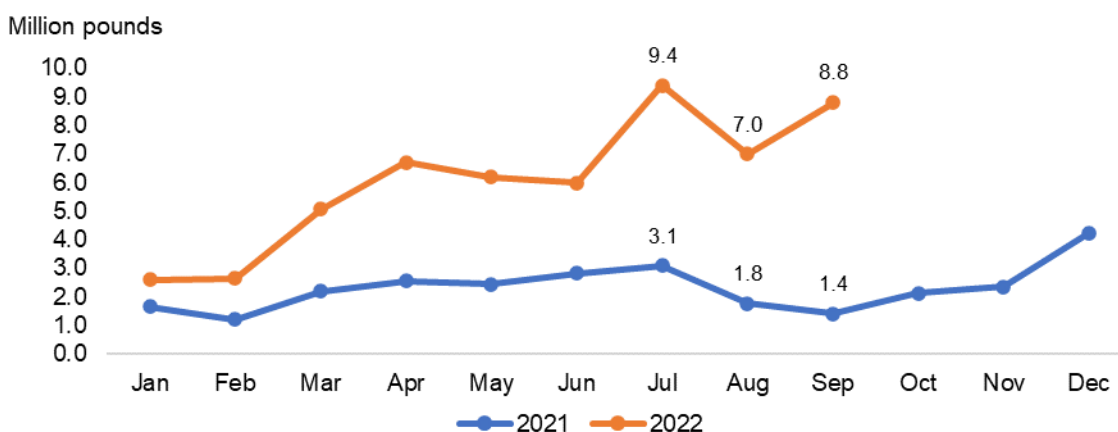
Sources: USDA, Economic Research Service calculations with information from USDA, National Agricultural Statistics Service; USDA, Foreign Agricultural Service; and U.S. Department of Commerce, Bureau of the Census.

## Infant Formula Imports Increased in September

After declining in August, imports of preparations suitable for infant and young children, put up for retail sale, which includes infant formula, increased in September 2022. Excluding certain nondairy products that are in this category, imports of these products totaled 7.0 million pounds in August 2022, as shown in the graph below. This marked a 1.8-million-pound increase from August and a 7.4-million-pound year-over-year increase from September 2021.

Some retail stores are out of stock in infant formula, while others have inventory with less variety. On October 14, 2022, a major infant formula manufacturer initiated a voluntary recall of certain lots of ready-to-feed liquid products for infants and children, but the recall is not expected to significantly impact the overall U.S. infant formula supply.

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



\*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.

## Dairy Forecasts for the Remainder of 2022

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

Based on recent milk production data for 2022-Q3, the dairy herd size forecast for 2022-Q4 is adjusted downward, but output per cow was raised. Milk cows for 2022 are projected to average 9.405 million head, 5,000 cows fewer. The average milk output per cow in 2022 is projected to be 24,130 pounds per head, 20 pounds higher. The milk production forecast for 2022 was adjusted to 227.0 billion pounds, 0.1 billion pounds higher.

Based on recent trade data for 2022-Q3, the 2022-Q4 dairy export forecast was revised downward on a milk-equivalent milk-fat basis but raised on a milk-equivalent skim-solid basis. The forecast for 2022 exports on a milk-equivalent milk-fat basis is adjusted downward to 13.1 (-0.4 billion pounds) largely on lower exports of butter and other butterfat products. On a milk-equivalent skim-solids basis, the export forecast for 2022 has been raised by 0.2 billion pounds to 52.4 billion due to higher expected exports of dry skim milk products and lactose.

The 2022 forecast for dairy products imports are adjusted lower based on recent trade data. On a milk-equivalent milk-fat basis, the 2022 projection for dairy products imports has been lowered to 7.0 billion pounds (-0.2 billion) due to lower expected imports of butterfat products projected in 2022-Q4. On a milk-equivalent skim-solids basis, the forecast for 2022 imports is adjusted to 6.4 billion pounds, down 0.1 billion pounds.

Based on 2022-Q3 quantities and 2022-Q4 higher forecasted domestic use, the 2022 forecast for dairy products domestic use is adjusted upward. On a milk-equivalent milk-fat basis, the forecast is 220.0 billion pounds, 0.5 billion higher, and on a milk-equivalent skim-solids basis the forecast is 179.8 billion pounds, 0.6 billion higher.

Based on recent declines in prices for Cheddar cheese, butter, and NDM, 2022 price forecasts for those products have been adjusted downward to \$2.100 (-0.5 cent), \$2.845 (-3.5 cents), and \$1.680 (-1.0 cent) per pound, respectively. The 2022 price forecast for dry whey remains unchanged at \$0.605.

With the lower projected wholesale price for cheese and steady dry whey price forecast, the Class III milk price forecast for 2022 is \$21.80 per cwt (-10 cents). Due to lower butter and NDM price forecasts, the Class IV milk price projection for 2022 is \$24.30 per cwt (-30 cents). The all-milk price forecast for 2022 has been decreased to \$25.50 per cwt (-10 cents).

## Dairy Forecasts for 2023

As with the forecasts for 2022, any changes discussed in this section are adjustments from the previous month's forecasts, unless otherwise specified.

The U.S. dairy herd is projected 10,000 cows fewer in 2023 at 9.415 million head. The 2023 forecast for milk per cow is 24,350 pounds, 30 pounds higher. The projection for 2023 milk production remains unchanged at 229.2 billion pounds.

Dairy exports are projected higher in 2023. On a milk-equivalent milk-fat basis, the export forecast for 2023 is 12.7 billion pounds, up 0.1 billion due to higher expected exports of cheese and butterfat products. On a milk-equivalent skim-solids basis, 2023 dairy exports are projected to total 52.5 billion pounds, 0.3 billion pounds higher, due to higher anticipated exports of dry skim milk products and dry whey products. On a milk-equivalent milk-fat basis, 2023 dairy products imports are forecast at 7.1 billion pounds, 0.1 billion lower, due to lower expected imports of butterfat products. On a milk-equivalent skim-solids basis, the forecast for 2023 imports are down 0.1 billion pounds at 6.0 billion pounds.

Following 2022-Q4, lower anticipated prices for dairy products are expected to boost domestic use in 2023. On a milk-equivalent milk-fat basis, the domestic use forecast for 2023 is 221.6 billion pounds, 0.4 billion higher. On a milk-equivalent skim-solids basis, the forecast for domestic use is 181.8 billion pounds, 0.2 billion higher.

Wholesale price forecasts for Cheddar cheese, butter, NDM, and dry whey are \$1.970 (-1.5 cents), \$2.455 (+1.5 cents), \$1.405 (-9.0 cents), and \$0.485 (no change) per pound, respectively. With lower projected wholesale prices for cheese and steady prices for dry whey, the Class III milk price forecast for 2023 is \$19.65 per cwt (-15.0 cents). Due to lower NDM price forecasts more than offsetting higher butter prices forecast, the Class IV milk price projection for

2023 is \$20.35 per cwt (-65 cents). The all-milk price forecast for 2023 is \$22.60 per cwt, a decrease of 30 cents.

# Pork/Hogs

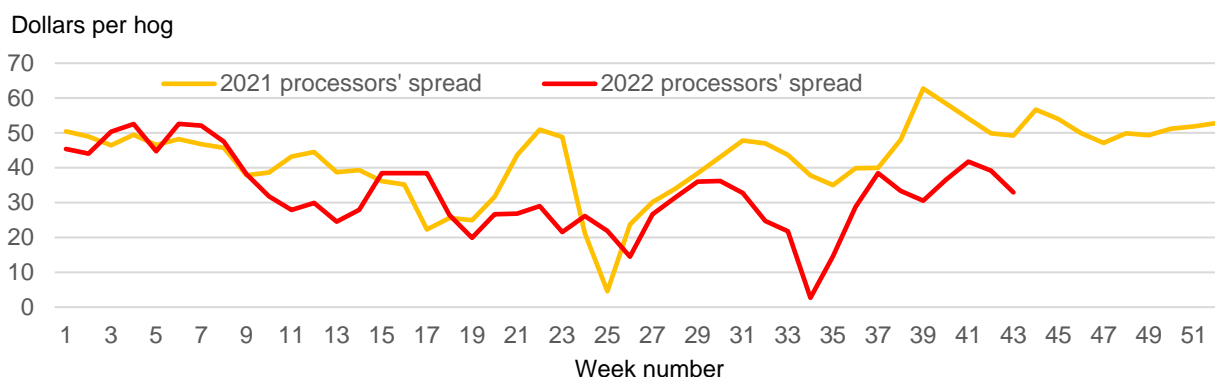
Mildred Haley

## Pork Processors Squeezed by High Hog Prices and Buyer Resistance to Increasing Pork Prices

Federally inspected (FI) hog slaughter in October, estimated at about 10.9 million head, lines up well with the heavyweight category of the September *Quarterly Hogs and Pigs* report. The estimated October FI slaughter numbers were 1.5 percent below those of a year ago, consistent with the September *Hogs and Pigs* report, which estimated a 1.5-percent year-over-year decline in the 180-pounds-and-over category. October prices of live equivalent 51-52 percent lean hogs averaged \$67.78 per cwt, 7.9 percent higher than a year earlier. Pork processors sold pork at lower year-over-year prices in October: the value of the wholesale pork carcass cutout averaged \$101.15 per cwt, about 1.4 percent below the October 2021 cutout value. Price information for 2022 processors' costs (hog prices) and revenues (wholesale pork carcass cutout and byproduct values) show lower year-over-year processing spreads beginning in March (week 9 in the figure below) and largely persisting through October. Through the balance of 2022, processors will likely pay higher hog prices due to lower supplies of slaughter-ready hogs, while confronting consumer resistance to pork price increases— factors which, when combined, will continue to pressure processors' price spreads.

The figure below shows that weekly values of the 2022 processors' spread<sup>4</sup> have been below same-week values of 2021 in 28 of the first 43 weeks of 2022. This year, the average value of the spread through week 43 has been about \$33 per hog, whereas last year over the same period the average was almost 20 percent higher, at about \$41 per hog. For October 2022, the spread averaged about \$38 per hog, almost 29 percent below the same-period spread for last year.

### Weekly Processors' Spread\*: 2021–October 2022



\*Processors' spread=  $\{[(\text{wholesale pork carcass cutout} + \text{byproduct drop value}) - \text{base lean hog carcass slaughter cost}] * (\text{average weekly dressed hog weight}/100)\}$ .

Source: USDA, Economic Research Service calculations with information from USDA, Agricultural Marketing Service.

<sup>4</sup> Processors' spread= $\{[(\text{wholesale pork carcass cutout} + \text{byproduct drop value}) - \text{base lean hog carcass slaughter cost}] * (\text{average weekly dressed hog weight}/100)\}$ . The by-product drop value includes a credit for such items as offal, lard, choice white grease, ears, cheek meat, etc. In October 2022, the drop credit averaged almost \$8 per cwt, more than 12 percent higher than in October 2021.

In October 2022, processors faced a situation where hog prices increased at a year-over-year faster pace than wholesale selling prices of pork cuts. As noted, October hog prices averaged almost 8 percent higher than a year earlier, while at the same time processors sold 1.6 percent less pork—estimated FI pork production in October was 2.32 billion pounds compared with 2.36 billion pounds in October 2021—at 1.4 percent lower average wholesale values, narrowing the difference between revenues and costs and widening the year-over-year spread difference.

Wholesale pork demand derives in part from retail demand, so it is notable that wholesale pork demand declined in October—indicated by lower year-over-year estimated FI pork production sold at lower estimated wholesale carcass cutout values. Late in 2022, retail consumers are likely demanding reduced quantities of pork due to higher retail pork prices. October retail pork prices in particular averaged \$5.05 per pound, almost 5 percent higher than in October 2021. Moreover, the U.S. Bureau of Labor Statistics reported in October that the Consumer Price Index for all items increased 7.7 percent over the last 12 months before seasonal adjustment. Higher rates of consumer price inflation effectively reduce real income, which tends to lower demand for all goods.

## Fourth-Quarter Pork Production Forecast Trimmed

Fourth-quarter pork production is reduced by 30 million pounds from last month's forecast, to almost 7.1 billion pounds, about 2 percent below production a year ago. Processor efforts to strengthen processing spreads by slowing weekly slaughter numbers are likely to be mostly offset by seasonal increases to average dressed weights. Fourth-quarter prices of 51-52 percent live equivalent hogs are expected to be \$64 per cwt, almost 14 percent higher than hog prices a year ago.

## September Pork Exports Up Fractionally

September pork exports totaled 513 million pounds, a fractional increase compared with a year ago. Totals for the month were largely dominated by sales to Mexico at 185 million pounds, down 2 percent from September 2021. Also significant were exports to Japan (94 million pounds, 6 percent higher than a year ago), China\Hong Kong (56 million pounds, up 4 percent), and Canada (52 million pounds, down 9 percent from last September). These four countries together account for 75 percent of September exports. The 10 largest foreign destinations for September exported pork are summarized below.



| <b>U.S. pork exports: Volumes and export shares of the 10 largest foreign destinations in September 2021 and 2022</b> |   |   |                               |                                       |                                       |
|---|---|---|-------------------------------|---------------------------------------|---------------------------------------|
| Country   | Exports<br>Sept. 2021<br>(Million pounds) | Exports<br>Sept. 2022<br>(Million pounds) | Percent change<br>(2022/2021) | Export share<br>Sept. 2021<br>Percent | Export share<br>Sept. 2022<br>Percent |
| World   | 511                                       | 513                                       | 0.4                           |                                       |                                       |
| Mexico  | 189                                       | 185                                       | -2                            | 37                                    | 36                                    |
| Japan   | 88  | 94  | 6                             | 17                                    | 18                                    |
| China/Hong Kong   | 54  | 56  | 4                             | 11                                    | 11                                    |
| Canada  | 57  | 52  | -9                            | 11                                    | 10                                    |
| South Korea   | 27  | 38  | 38                            | 5                                     | 7                                     |
| Colombia  | 22  | 25  | 11                            | 4                                     | 5                                     |
| Dominican Republic  | 12  | 16  | 32                            | 2                                     | 3                                     |
| Philippines   | 6   | 9   | 65                            | 1                                     | 2                                     |
| Australia   | 10  | 8   | -19                           | 2                                     | 2                                     |
| Honduras  | 12  | 6   | -52                           | 2                                     | 1                                     |

Source: USDA, Economic Resource Service.

## Third-Quarter Pork Export Totals Lower Compared With a Year Earlier

For the third quarter of 2022, pork exports totaled about 1.5 billion pounds, almost 3 percent below the same period last year, with virtually the same set of countries as in September accounting for 95 percent of quarterly shipments. Third-quarter pork exports accounted for 23.1 percent of third-quarter 2022 commercial pork production.

| U.S. pork exports: Volumes and export shares of the 10 largest foreign destinations in the third quarter of 2021 and 2022 |                                     |                                     |                               |                            |                            |
|---|-------------------------------------|-------------------------------------|-------------------------------|----------------------------|----------------------------|
| Country   | Exports                             |                                     | Percent change<br>(2022/2021) | Export share               |                            |
|   | Jul.–Sept. 2021<br>(Million pounds) | Jul.–Sept. 2022<br>(Million pounds) |                               | Jul.–Sept. 2021<br>Percent | Jul.–Sept. 2022<br>Percent |
| World   | 1,550                               | 1,509                               | -2.6                          |                            |                            |
| Mexico  | 532                                 | 549                                 | 3                             | 34                         | 36                         |
| Japan   | 289                                 | 262                                 | -10                           | 19                         | 17                         |
| China/Hong Kong   | 178                                 | 170                                 | -5                            | 12                         | 11                         |
| Canada  | 148                                 | 130                                 | -12                           | 10                         | 9                          |
| South Korea   | 97                                  | 124                                 | 28                            | 6                          | 8                          |
| Colombia  | 67                                  | 73                                  | 9                             | 4                          | 5                          |
| Dominican Republic  | 39                                  | 44                                  | 13                            | 3                          | 3                          |
| Philippines   | 31                                  | 36                                  | 18                            | 2                          | 2                          |
| Australia   | 33                                  | 26                                  | -22                           | 2                          | 2                          |
| Honduras  | 34                                  | 23                                  | -30                           | 2                          | 2                          |

Source: USDA, Economic Research Service.

## The Appreciating U.S. Dollar and the Mexican Counter Example in 2022

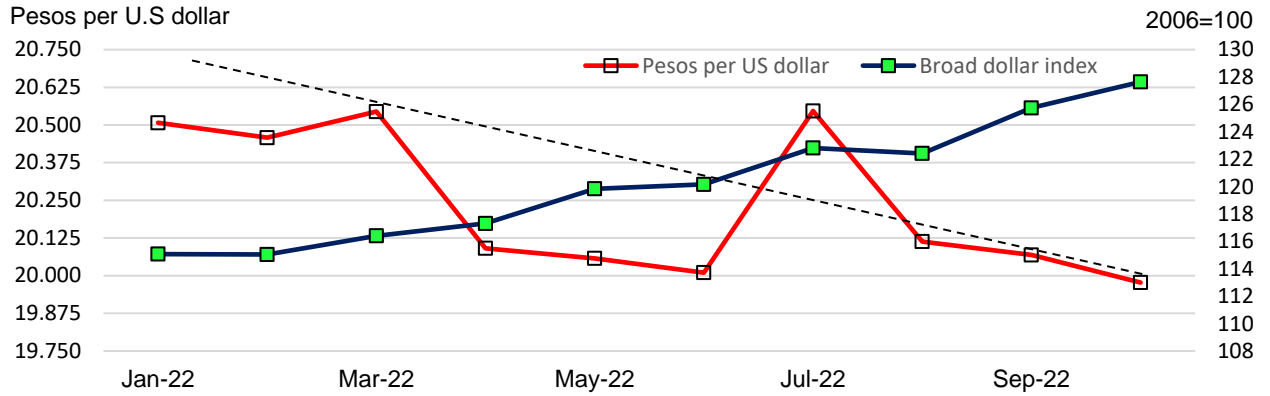
In 2022 the appreciating value of the U.S. dollar has received considerable attention for its negative effects on U.S. export flows. Reduced U.S. 2022 pork export flows are likely attributable to some degree to degraded competitiveness that the high-valued dollar confers on U.S. goods competing with like-goods in foreign markets. On the other hand, the one standout counter-example is Mexico, by far the largest foreign importer of U.S. pork in volume terms. Several factors could account for the fact that Mexico continues to import increasing volumes of U.S. pork while the U.S. dollar appreciates. The figure below shows monthly values of the Federal Reserve Bank's Broad Dollar Index and the peso value of the U.S. dollar through October of this year. It is notable that while the index has appreciated continuously through 2022, the peso, though volatile, has trended lower against the dollar, appreciating mildly through October—whereas one U.S. dollar cost 20.507 Mexican pesos in January 2022, the cost was 19.977 pesos in October. The peso appreciation mitigates the effects of higher U.S. pork prices—ham prices in particular—for Mexican pork buyers. The appreciating peso trend is shown in the figure below by a negatively-sloped, hatched trend line.

Other factors<sup>5</sup> that have facilitated close trading relationships between U.S. pork processors and Mexican meat buyers in the past continue to hold this year, the most obvious being close Mexican proximity to U.S. processors, linked by good transportation systems at relatively low transport costs (compared to other meat exporters). A more transitory factor is that the disease loss to some U.S. poultry flocks this year has likely caused a degree of substitution to U.S. pork products.

<sup>5</sup> Strong cold chain linkages between the United States and Mexico, relative ease in transactions financing, etc.

Finally, strong U.S. pork exports to Mexico are supported by USDA forecasts for robust growth in Mexican pork consumption. The USDA Foreign Agricultural Service's *Livestock and Poultry: World Markets and Trade*, published in October, forecasts that Mexican pork imports will increase more than 8 percent this year, which in combination with a 3-percent increase in pork production will support an expected increase in pork consumption of almost 7 percent.

**Monthly 2022 rates of the Broad Dollar Index and the peso-U.S. dollar exchange rate**



Source: Federal Reserve Bank of Kansas City.

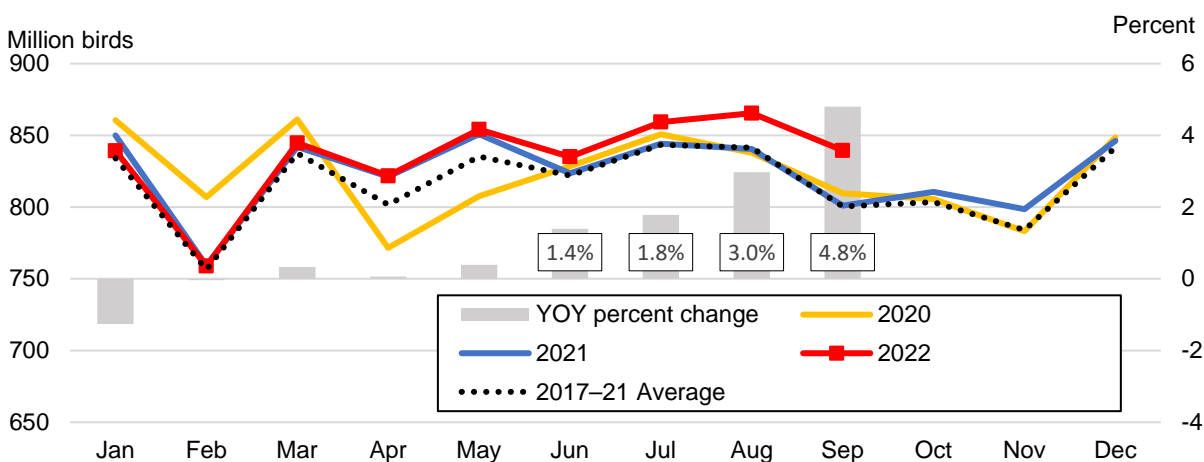
# Poultry

Grace Grossen and Adriana Valcu-Lisman

## Broiler Production Forecast Adjusted Up in 2022 and 2023

Broiler production in September totaled 4.004 billion pounds, an increase of 2 percent over last September. The increase is a result of both higher slaughter weights and more birds slaughtered. Average live weights in September were the highest this year at 6.57 pounds, and head slaughtered per day was 1.5 percent higher than last year. Third-quarter production totaled 11.9 billion pounds. Weekly placements have continued to trend above last year and were 5 percent above last year on average in October. Monthly hatchery data has also continued to improve; September broiler-type chickens hatched totaled 839 million head, an increase of 4.8 percent from last September. Based on strong hatchery data, the fourth-quarter broiler production forecast was increased to 11.625 billion pounds. The 2023 forecast was also increased, to 11.500 billion pounds in the first quarter, 11.575 in the second, and 12.050 in the third, making the total 2023 broiler production forecast 46.825 billion pounds.

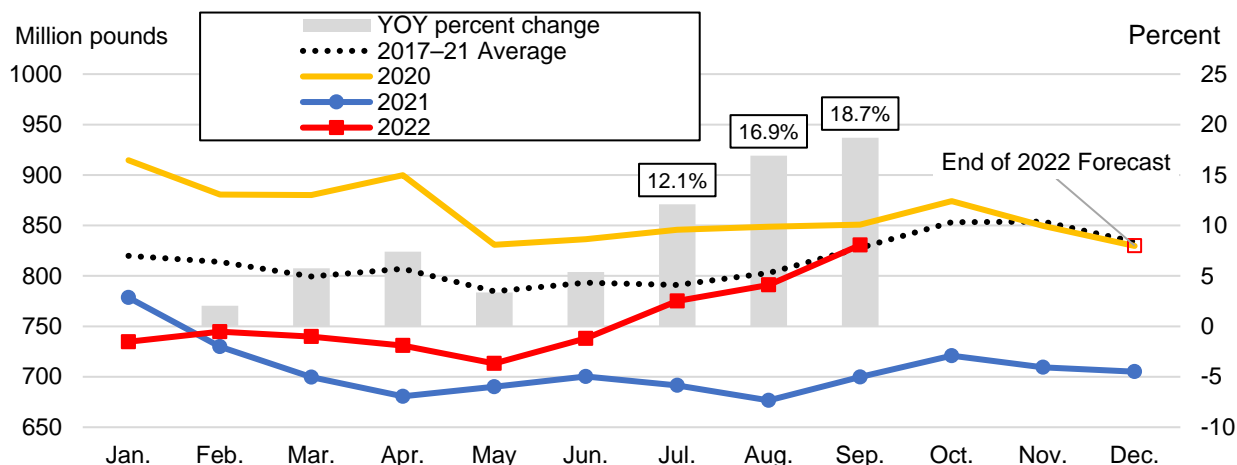
### Monthly broiler-type chickens hatched, 2017–2022



Note: YOY = 2022/21 year-over-year.  
Source: USDA, National Agricultural Statistics Service.

Broilers in cold storage also continued to build up, ending September at 831 million pounds. This is 18.7 percent above the end of September last year and was the first time stocks were above the 5-year average this year. Given the recent buildup and expectations of stronger production growth, the forecast for broiler meat in cold storage at the end of 2022 was adjusted up by 10 million pounds to 830 million pounds, which would be a year-over-year increase of 17.7 percent.

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



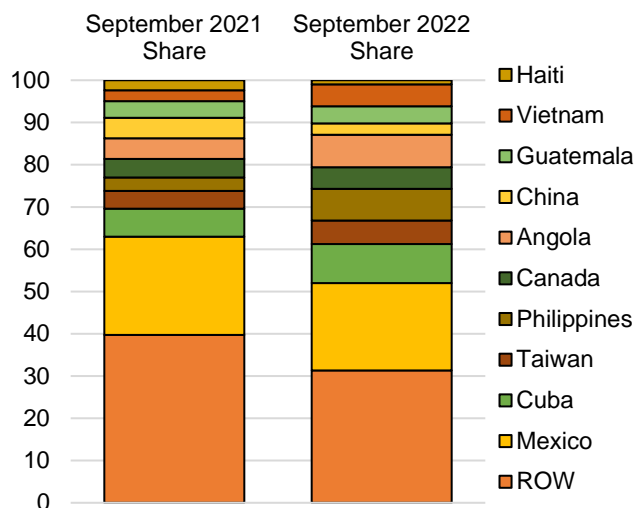
Note: YOY = 2022/21 year-over-year.  
Source: USDA, National Agricultural Statistics Service.

## Broiler Export Forecast Increased

Broiler exports in September totaled 598 million pounds, about 1 percent higher than last September. The third quarter totaled 1.724 billion pounds, representing 14.5 percent of production in the quarter. This is also 111 million pounds lower than third-quarter exports last year, due to slower shipments in July and August. September broiler exports rebounded to about 23 million pounds above the 5-year average. The 2022 broiler export forecast was adjusted up to 7.212 billion pounds on expected strong shipments to major markets, as well as on increased production expectations. This would be a 2-percent decrease from the 2021 export total and would represent 16 percent of forecast 2022 production. The 2023 export forecast is unchanged at 7.37 billion pounds.

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

| Country     | Volume (million pounds) |            |                  |
|-------------|-------------------------|------------|------------------|
|             | Sept. 2021              | Sept. 2022 | Change in volume |
| Mexico      | 138.085                 | 123.771    | -11.331          |
| Cuba        | 39.322                  | 55.181     | -12.212          |
| Taiwan      | 25.008                  | 33.260     | 8.532            |
| Philippines | 19.052                  | 44.740     | 17.892           |
| Canada      | 25.978                  | 30.637     | 5.343            |
| Angola      | 29.099                  | 46.046     | -16.707          |
| China       | 28.674                  | 16.123     | -2.974           |
| Guatemala   | 23.401                  | 24.249     | 6.430            |
| Vietnam     | 15.518                  | 30.816     | 6.543            |
| Haiti       | 14.002                  | 5.914      | -7.441           |
| ROW         | 236.175                 | 187.267    | -64.397          |
| World       | 594.315                 | 598.004    | -70.322          |

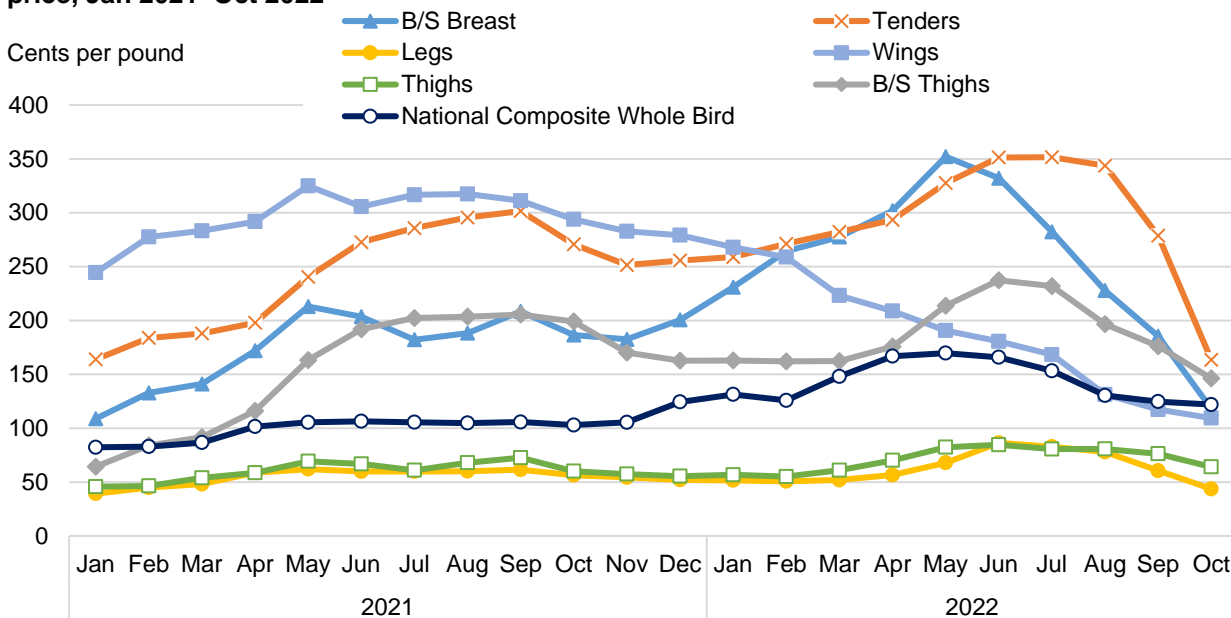


Notes: Largest markets are based on 2022 year-to-date export volumes. ROW = Rest of World.  
Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.

## Broiler Prices Adjusted Down in Final Quarter of 2022

The national composite whole bird wholesale price averaged 121.94 cents per pound in October, down by about 48 cents from the peak price in May of this year. Wholesale prices for parts have also been coming down in recent months. Wholesale prices for tenders have declined the most sharply, from a high of 351.6 cents per pound in July to 163.4 cents in October. Boneless/skinless breast prices fell from a May peak of 352.13 cents per pound to 118.1 cents in October. Wholesale prices for boneless/skinless thighs reached a high of 237.4 cents per pound in June, but have since eased, averaging 146.2 cents per pound in October. Wing prices continued the decline that began in the second half of 2021, averaging 109.4 cents per pound in October. This is about a dollar less than the 5-year-average October price for wings. Bone-in thigh and leg prices have also fallen in recent months, with leg prices falling below 50 cents for the first time since March 2021. Broiler meat supplies have been climbing in recent months, evident in increased production, imports, and cold storage levels. In light of this, the fourth-quarter whole broiler price forecast was adjusted down by 2 cents to 125 cents per pound. Price forecasts in 2023 are unchanged.

### Monthly average wholesale prices for selected broiler parts and whole-bird national composite price, Jan 2021–Oct 2022



Source: USDA, Agricultural Marketing Service.

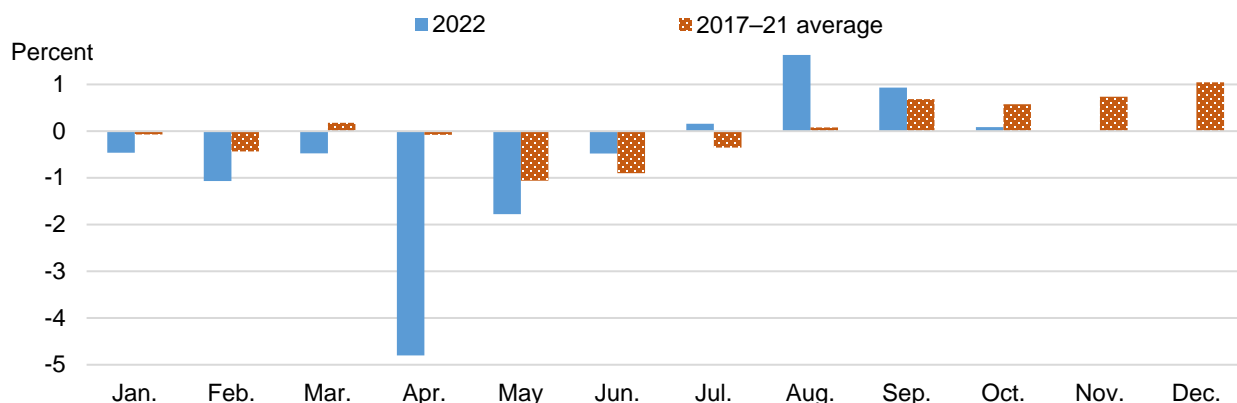
## Table-Egg Production Forecast Revised Downward

Table-egg production was estimated at 629.8 million dozen in September, a 3.3-percent decrease over the same period last year. The average size of the table-egg flock supporting this production was estimated at 307.0 million layers, 4.5 percent down from last year. The average lay rate, a measure of layers' productivity, was estimated at 82.1 eggs per 100 layers per day, 1.3-percent higher than last year.

The October 1 table-egg layer flock was estimated at almost 307.1 million layers, only marginally higher than the September 1 estimated flock. However, this estimate shows that the industry added more egg layers despite the 4.9 million layers lost to HPAI in September. However, another two HPAI discoveries affecting commercial egg-layers were reported in Iowa

at the end of October and early November. Consequently, an additional 2.12 million layers were culled. As of November 9, almost 37.8 million commercial table-egg layers have been lost to the ongoing HPAI outbreak.

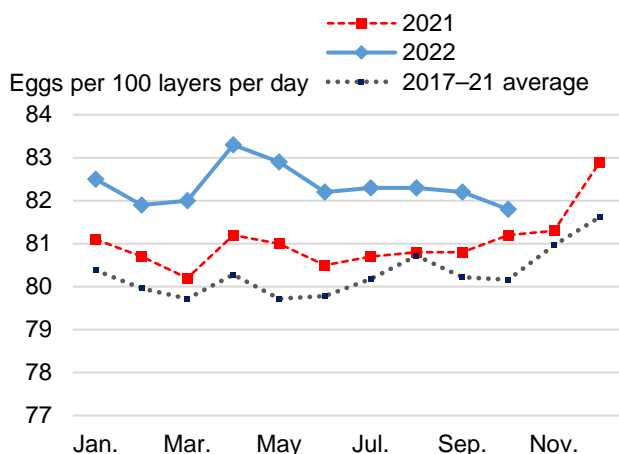
### Month-over-month changes in the table-egg layer flock size at the beginning of the month



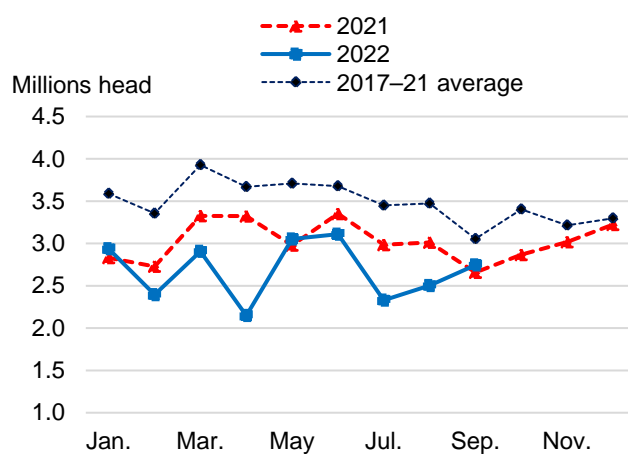
Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service.

Near-term layer-flock productivity and management indicators suggest a potential slowdown in production. Following a couple of months of minor changes, the October 1st estimated table-egg lay rate shows a small decline relative to the previous month. October slaughter of light-spent hens was counter-seasonally month-over-month higher.

### Table-egg lay rate at the beginning of the month



### Monthly slaughter of light-spent hens



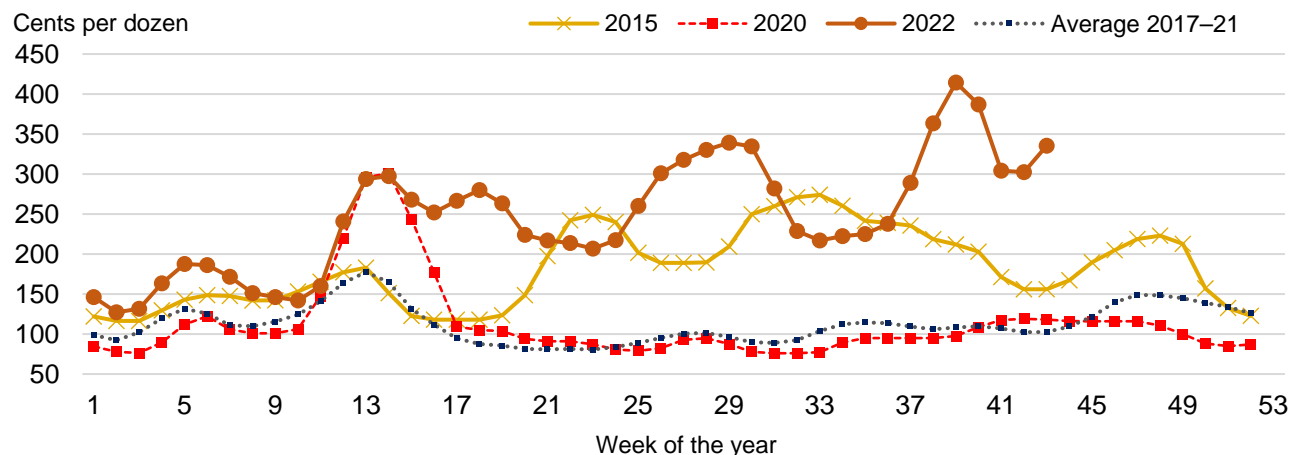
Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service.

The table-egg production forecast for the fourth quarter is revised downward 20 million dozen to 1,960 million dozen. Thus, 2022 total table-egg production is forecast at 7,737 million dozen, a 2.9-percent year-over-year decrease. The 2023 first- and second-quarter table-egg production forecasts are revised down 15- and 10-million dozen, respectively. These changes bring the 2023 table-egg production forecast to 8,195 million dozen, representing a 5.9-percent year-over-year increase.

# October Wholesale Table-Egg Prices Continue To Be High

October New York large, grade A wholesale egg prices averaged 334.7 cents per dozen. This represents a 215.7 percent increase from last October and an almost a 4.5-percent increase from September average prices. Following seasonal expectations, during the first half of the month, daily prices declined from the record value of 419 cents per dozen at the beginning of the month but began their holiday ascent sooner than expected.

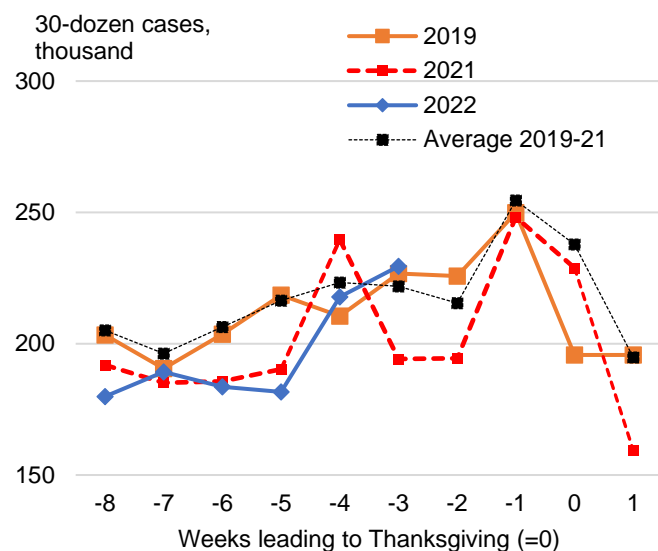
## Weekly average midpoint prices for New York eggs (wholesale, grade A, large)



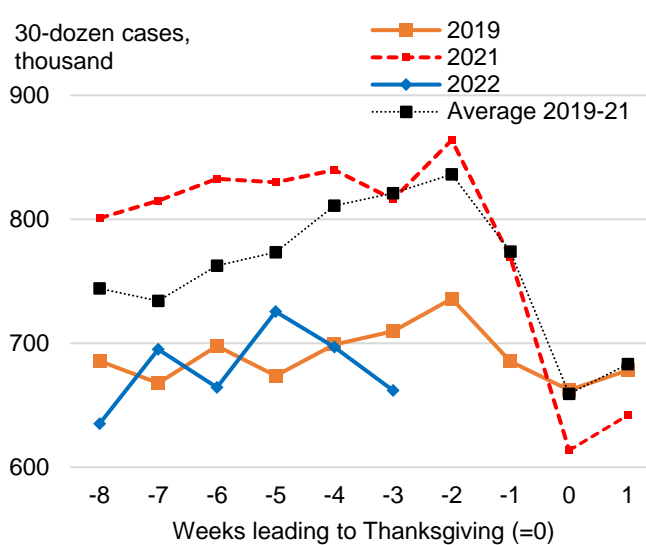
Source: USDA, Economic Research Service using data from USDA, Agricultural Marketing Service.

As Thanksgiving nears, the retail demand for eggs, as depicted by the Weekly National Retail Egg Purchases report, showed the expected seasonal patterns and reached similar pre-pandemic levels. However, counter-seasonally, the at-hand shell inventories<sup>6</sup> were at one of the lowest levels for the period of the year.

## Weekly national retail egg purchases



## Weekly shell-egg (large) inventory



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

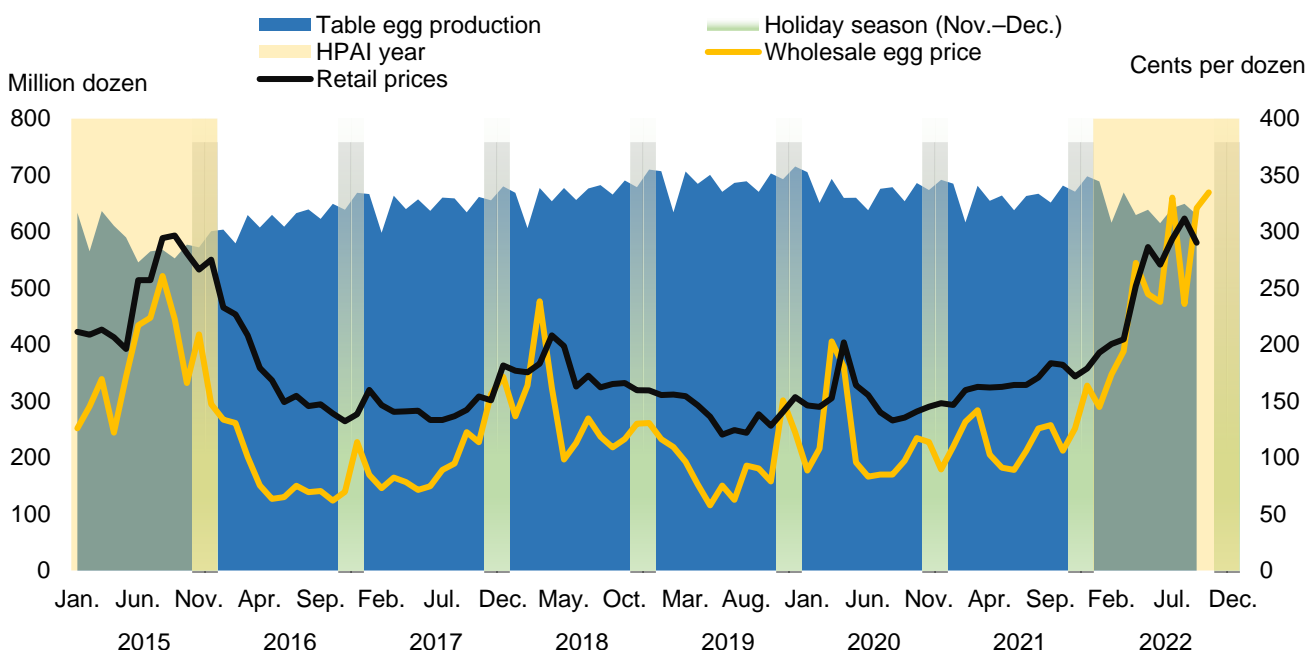
<sup>6</sup> USDA, Agricultural Marketing Services, National Weekly Shell-Egg Inventory Report.



Following the recent trends in prices and the downward revisions for table-egg production forecasts, the fourth-quarter wholesale egg price forecast is raised to 322 cents per dozen. This brings the 2022 price forecast to 260 cents per dozen, 119.4 percent higher than the 2021 average price. The average 2023 price forecast is revised up to 183.8 cents per dozen, 29.3 percent year-over-year lower.

## Retail Prices Trail Wholesale Egg Prices

**Table egg production, wholesale and retail egg prices<sup>1</sup>**



Note: <sup>1</sup> New York, Grade A Large. Monthly averages of mid-point daily values. HPAI = Highly Pathogenic Avian Influenza.  
 Source: USDA, Economic Research Service using data from USDA, Agricultural Marketing Service and National Agricultural Statistics Service and U.S. Bureau of Labor Statistics.

While wholesale and retail egg price movements are historically correlated on a yearly basis, seasonal factors—Easter and winter holiday periods or unexpected events, pandemic-related market disruptions, and HPAI outbreaks—can disrupt this correlation. Overall, retail egg prices are less volatile, as the retailers tend to smooth out some of this volatility. Moreover, retail prices are likely to lag the wholesale prices as retail prices are based on eggs contracted several weeks before their actual sale in grocery stores. Because shell-eggs have a limited shelf life, both wholesale and retail prices tend to be very responsive to changes in supply. Ahead of the baking-holiday season, during the third-quarter, wholesale egg prices (New York, grade A, large) were 146.2 percent year-over-year higher and retail prices were 72.7-percent higher as the table-egg production was 3.1-percent lower.

## Total Egg Exports Down and Imports Up

Exports of eggs and egg products totaled 18.9 million dozen (shell-egg equivalent) in September, 52.7 percent lower than a year ago. In the first three quarters of the year, total egg exports totaled 171.9 million dozen (shell-egg equivalent), a 44-percent decrease compared to 2021 and the lowest volume since 2006. This change was driven by a 50-percent decline in shipments of shell-eggs and a 23.2-percent decline in shipments of egg products. Year-over-year shipments were significantly lower to almost all major destinations (Mexico, Canada, Hong

Kong, Japan, South Korea, and United Arab Emirates). Shipments to the Caribbean (Jamaica, Bahamas, Trinidad and Tobago) were, however, modestly higher. The decrease in shipments can be partially attributed to lower domestic production due to the current HPAI outbreak and historically high wholesale egg prices, as well as a strong dollar. At 50 million dozen, the total egg and egg products export forecast for the fourth quarter is unchanged from last month, while the 2023 first-quarter forecast is decreased by 5 million dozen due to higher expected domestic prices, bringing the 2023 export forecast to 265 million dozen shell-egg equivalent, a 19.5-percent year-over-year increase.

#### U.S. Total egg exports: Volume and export share, January–September 2021/22

| Country                     | Volume         |                |                  | Export share |            |
|-----------------------------|----------------|----------------|------------------|--------------|------------|
|                             | 2021           | 2022           | Change in volume | 2021         | 2022       |
|                             | Thousand dozen |                |                  | Percent      |            |
| <b>Canada</b>               | 56,833         | 54,488         | -2,345           | 19           | 32         |
| <b>Mexico</b>               | 76,455         | 38,384         | -38,071          | 25           | 22         |
| <b>Japan</b>                | 30,659         | 21,469         | -9,190           | 10           | 12         |
| <b>Hong Kong</b>            | 40,371         | 13,845         | -26,526          | 13           | 8          |
| <b>South Korea</b>          | 59,151         | 10,231         | -48,920          | 19           | 6          |
| <b>Jamaica</b>              | 5,283          | 6,284          | 1,000            | 2            | 4          |
| <b>Bahamas</b>              | 2,700          | 5,096          | 2,395            | 1            | 3          |
| <b>Trinidad and Tobago</b>  | 4,338          | 4,531          | 193              | 1            | 3          |
| <b>United Arab Emirates</b> | 4,158          | 700            | -3,459           | 1            | 0          |
| <b>ROW</b>                  | 26,852         | 16,820         | -10,031          | 9            | 10         |
| <b>World</b>                | <b>306,800</b> | <b>171,847</b> | <b>-134,953</b>  | <b>100</b>   | <b>100</b> |

Note: Largest markets are based on 2022 year-to-date export volumes. ROW = Rest of World.

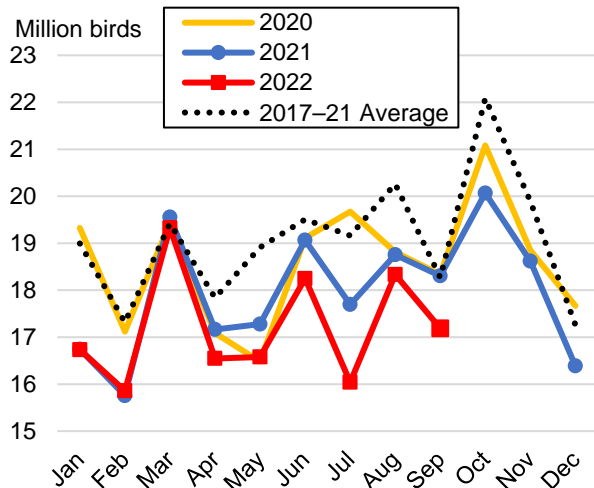
Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.

Third-quarter egg imports amounted to 5.8 million dozen, a 31.8-percent year-over-year increase. The first three major partners—supplying more than 70 percent of U.S. egg imports—were Canada, China, and Taiwan. Despite the reduced domestic production due to HPAI, egg imports have not achieved the same levels as those during the previous major HPAI outbreak in 2015 when the European Union was a major source. In the first three quarters of 2022, shipments from the European Union accounted for less than 10 percent of total U.S. imports. The total egg import forecast for the fourth quarter is decreased by 0.5 million dozen. Consequently, 2022 total egg imports are forecast at 22.7 million dozen, a 25.2 percent year-over-year increase. The total egg import forecast for 2023 is unchanged.

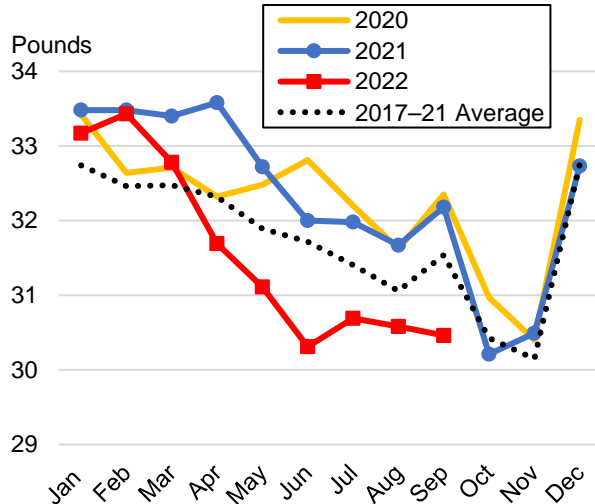
## Turkey Production Adjusted Down in 2022 and 2023

September turkey production totaled 421 million pounds, making the third-quarter total 1.264 billion pounds, a decrease of 10 percent from last year. Cumulatively, turkey production from January to September this year was just under 7 percent below the same period last year. In September, the number of birds slaughtered was 6 percent below last year, and the average weight was 5 percent lower.

### Monthly turkey slaughter, 2017–2022



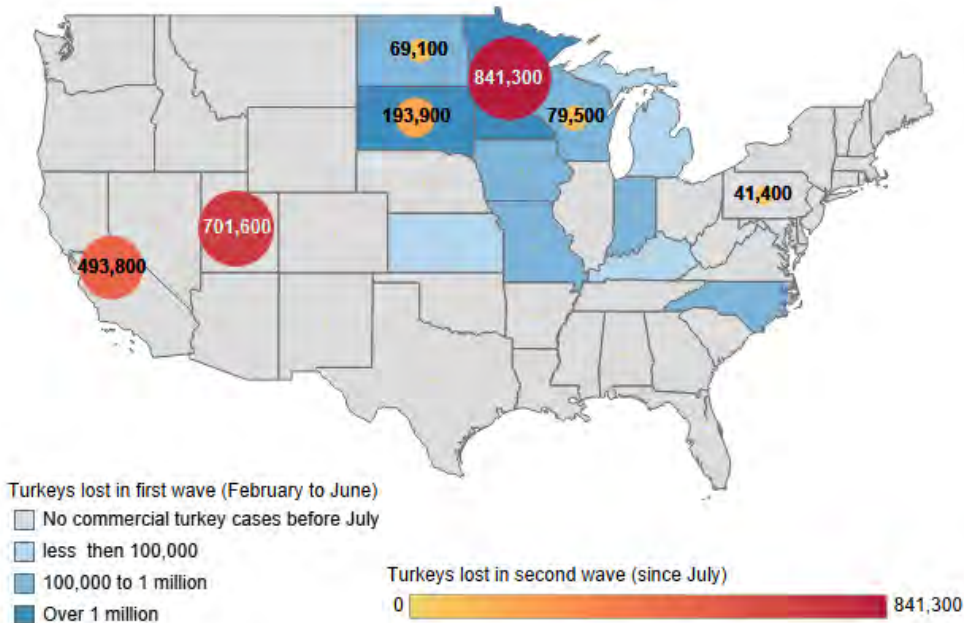
### Monthly average live weight 2017–2022



Source: USDA, National Agricultural Statistics Service.

Confirmations of Highly Pathogenic Avian Influenza (HPAI) in meat turkeys continue to be reported, with a case involving 18,500 meat turkeys as recently as November 10th. The map below shows losses in the first wave (February to May) by shaded State and losses in the second wave (since July) in circles, with the number indicating the number of birds lost in the second wave. In total, 2.5 million commercial turkeys have been depopulated in the second wave and 5.6 million were lost in the first. Based on recent HPAI losses, forecast fourth-quarter turkey production was adjusted down to 1.275 billion pounds. This would make the 2022 annual production forecast 5.188 billion pounds, a decrease of 7 percent from 2021. Forecast 2023 production was also adjusted down to 1.345 billion pounds in the first quarter and to 1.390 billion pounds in the second quarter. This would make 2023 production 5.58 billion pounds, an increase of 8 percent from 2022 but less than 1 percent above 2021 production.

### 2022 Commercial meat turkeys lost to Highly Pathogenic Avian Influenza (HPAI): First wave (February–May) versus second wave (July–November 8th)



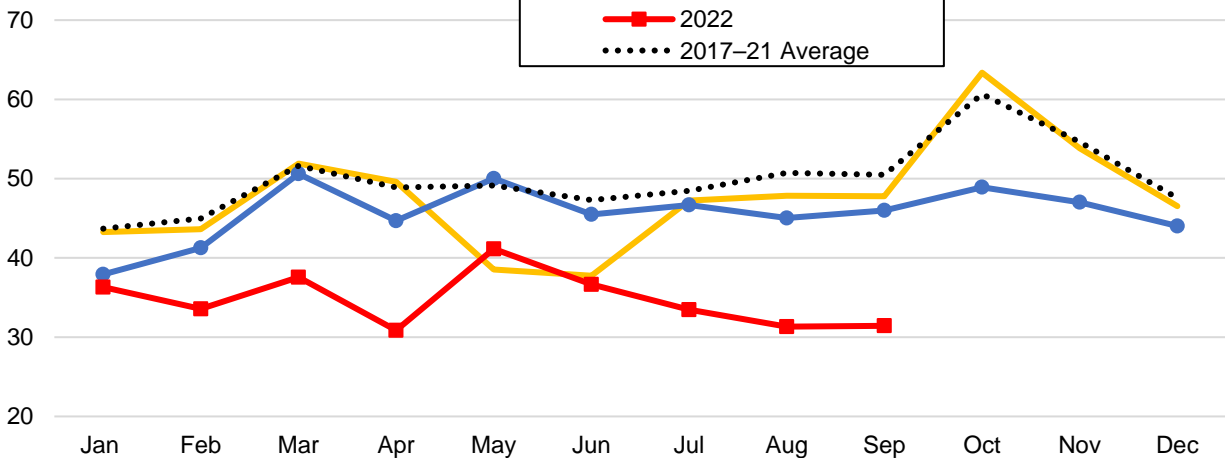
Source: USDA, Animal and Plant Health Inspection Service.

## Turkey Export and Import Forecasts Increased

September turkey exports totaled 31.4 million pounds, 14.6 million pounds less than September of last year. Mexico accounted for 71 percent of September exports, while the next-largest market, Canada, accounted for 5 percent. The 2022 export forecast is increased by 13 million pounds to 417 million pounds on market indicators of strong shipments to traditional markets such as Mexico and Canada, as well as shipments to nontraditional smaller markets of cuts not widely consumed in the United States. However, the 2022 forecast would still be a 24-percent decrease from 2021. Forecast 2023 exports were also adjusted up, to a total of 425 million pounds.

### Monthly U.S. turkey exports, 2017–21

Million pounds

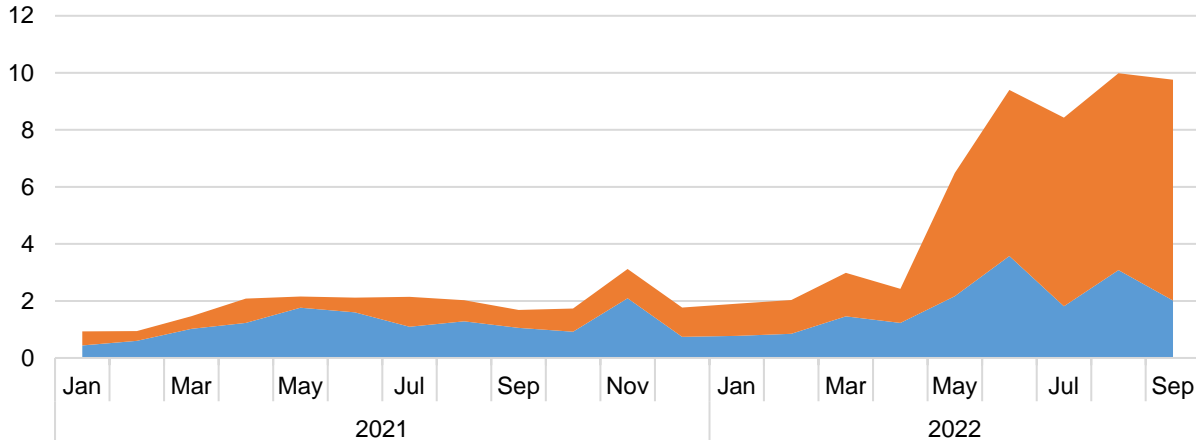


Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.

Turkey imports from Chile continue to climb, totaling 7.7 million pounds in September, 79 percent of total imports. The remainder of September imports came from Canada and were decreased by 1.1 million pounds from the previous month. Based on this trend of higher shipments from Chile, forecast 2022 total imports were adjusted up to 86 million pounds. Forecast 2023 imports were adjusted up to 100 million pounds. If realized, this would be almost double the prior record set in 2016.

### Monthly U.S. turkey imports, Jan 2021–September 2022

Million pounds



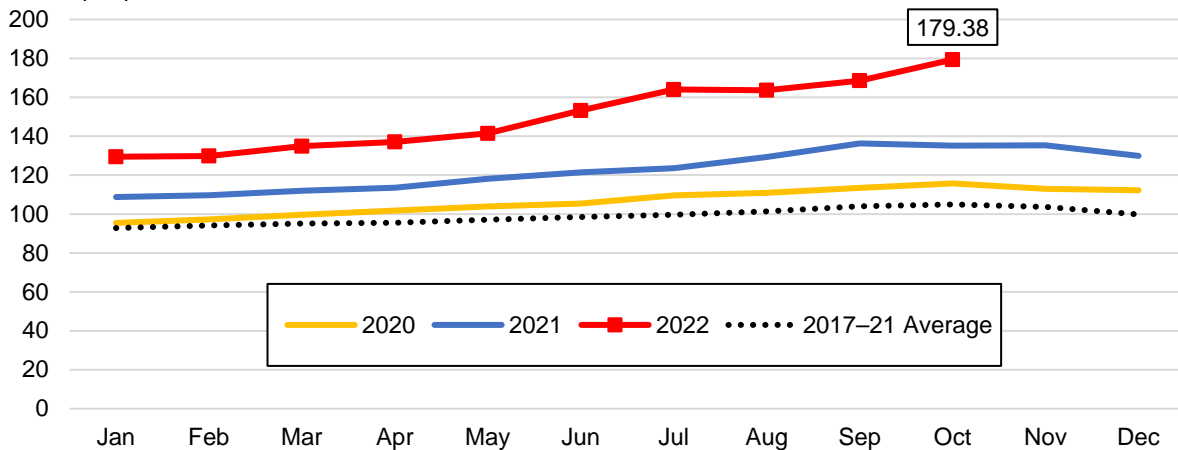
Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.

# Turkey Prices Adjusted Up

Wholesale whole frozen hen prices averaged 179.38 cents per pound in October, 44 cents higher than in October of last year. Weekly average prices in the first week of November were the highest so far this year at 180.69 cents per pound. The fourth-quarter 2022 price forecast was adjusted up by 10 cents to 181 cents per pound on recent climbing wholesale prices. This would bring the annual average price to 155 cents per pound, 33 cents higher than the 2021 average. In 2023, forecast quarterly average prices were also adjusted up, to 160 cents per pound in the first quarter and 157 cents per pound in the second. This would make the 2023 annual forecast 153 cents per pound.

## Monthly average wholesale prices for frozen whole hen turkey

Cents per pound

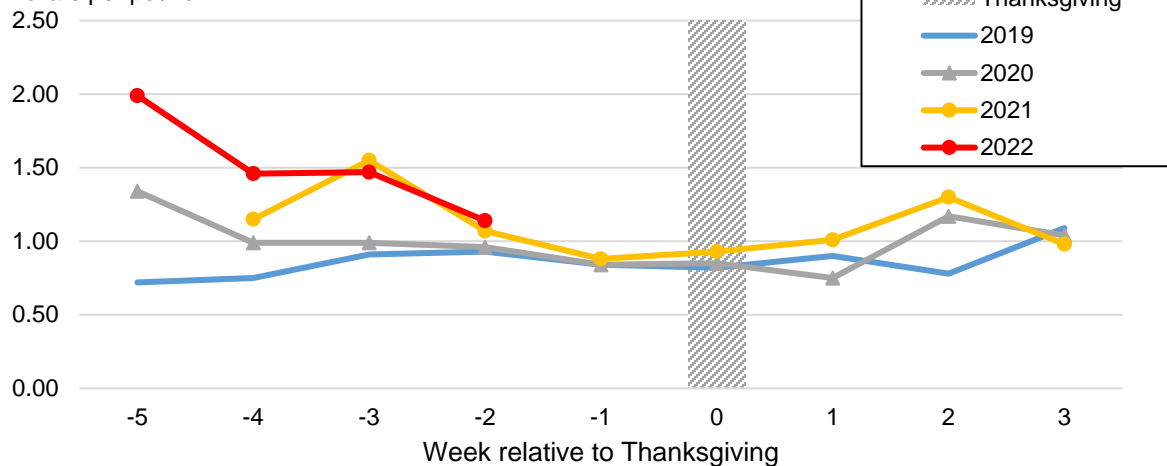


Source: USDA, Agricultural Marketing Service.

While wholesale prices climb, advertised prices, reported in the USDA National Retail Report, are trending lower with the approach of Thanksgiving. National average feature prices usually reach the lowest point in either the week of Thanksgiving or one week before. This year, the retail feature prices were at a higher point than is typical 5 weeks before Thanksgiving, but they have already started to decline in keeping with seasonal norms.

## Weekly national average retail feature prices for whole frozen hen turkeys, 2019-22

Dollars per pound



Source: USDA, Agricultural Marketing Service.

# Special Article

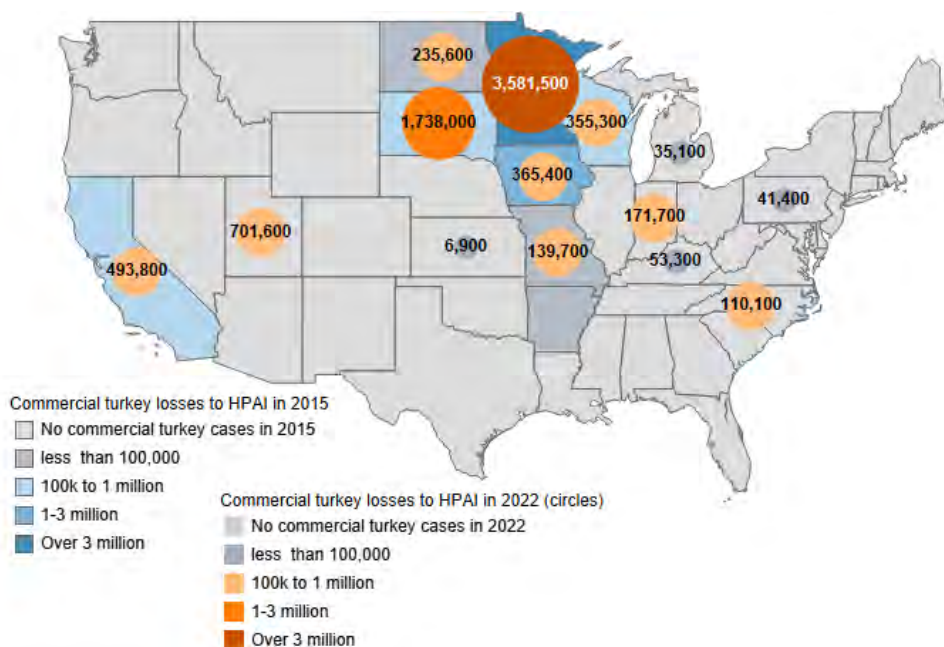
Margaret Cornelius and Grace Grossen

## Comparison of HPAI Impacts on the U.S. Turkey Industry: 2015 versus 2022

With Thanksgiving approaching, the turkey industry takes center stage this month since it works to produce turkeys for American dinner tables. This year, the turkey industry has faced a particular challenge in supplying Thanksgiving dinner due to an outbreak of Highly Pathogenic Avian Influenza (HPAI), in addition to challenges common to all food industries this year—increased costs of production, a tight labor supply, and transportation constraints. How does this year's HPAI outbreak compare with the outbreak in the turkey industry in 2015?

Data from the USDA Animal and Plant Health Inspection Service (APHIS) indicate that the U.S. poultry industry as a whole (broiler, egg, and turkey industries) lost more birds in the 2015 HPAI outbreak, but the turkey industry has experienced more losses thus far in the 2022 outbreak than in the whole 2015 outbreak. According to data collected by APHIS, the HPAI outbreak in 2015 resulted in the loss of 7.4 million turkeys in 8 different States. This was approximately 3 percent of the total number of birds slaughtered in the previous year. As of November 7, 2022, the industry has lost 8.08 million birds in 14 different states. This is 3.8 percent of the number of birds slaughtered the previous year.

### Commercial turkey losses to HPAI by State, 2015 and 2022

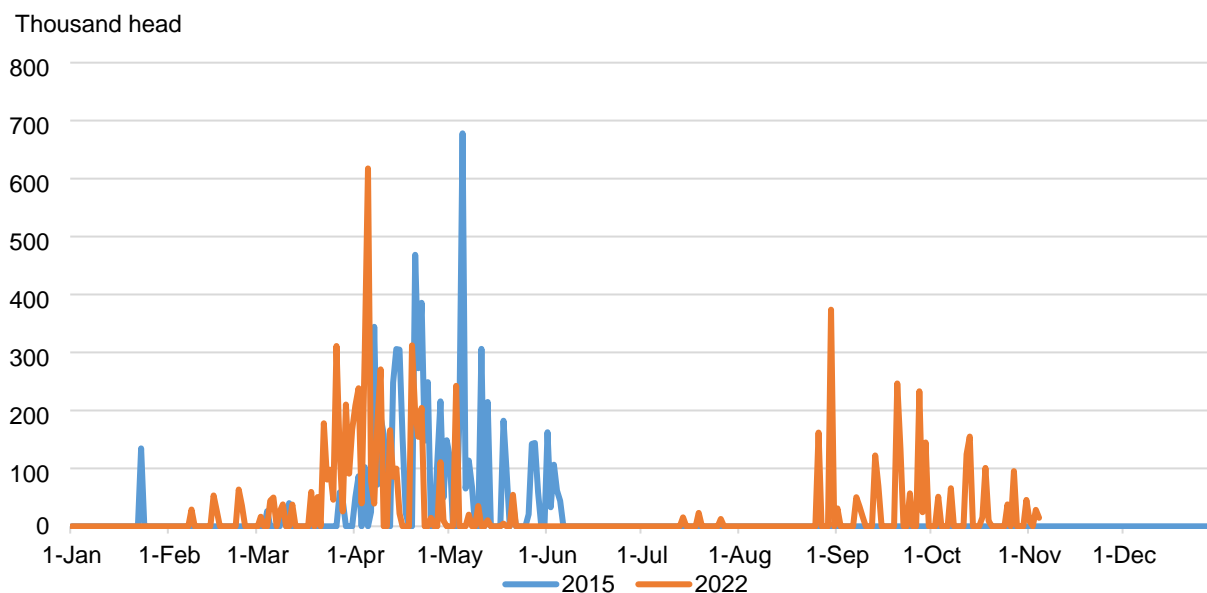


Source: USDA, Animal and Plant Health Inspection Service.



The major HPAI outbreaks in 2015 and 2022 both started at the beginning of the year, but the longer duration of the 2022 outbreak indicates that the industry faces greater challenges to increasing its supply for the 2022 holiday season. The 2015 outbreak was first confirmed in a commercial turkey flock in January, and the last detection in a turkey flock was in early June. At first, it appeared that the 2022 outbreak would follow a similar timeline. The first case of HPAI in turkeys was in February, and there were no cases in commercial turkeys for the entire month of June. But in mid-July, another case was detected in a commercial facility in Sanpete County, Utah. This case foreshadowed another wave of HPAI infections that has persisted into the fall.

### Timeline of HPAI turkey losses, 2015 versus 2022



Source: USDA, Animal and Plant Health Inspection Service.

Supplies of U.S. turkey meat were lower than the prior 5-year averages, both in 2015 and in January through September 2022. During the 2015 outbreak, turkey production dropped below the 5-year average from April to December, though it still followed the seasonal pattern of increasing production in October in preparation for the holiday season. Similarly, in 2022, turkey production fell below the previous 5-year average in April, and in July turkey production was the lowest it had been in any month in 20 years. The USDA forecasts quarterly turkey production to remain lower than average through the end of the year and into 2023.

The production effect of HPAI in 2015 and 2022 also is evident in lowered weights of turkeys at slaughter, but the 2022 outbreak appears to have affected bird weights to a greater degree. In 2015, there were year-over-year decreases to weights in the third quarter and the beginning of the fourth quarter ranging from 2 to 3.7 percent. In 2022, sharp year-over-year declines in weights began earlier in the outbreak (at the end of first quarter), and the year-over-year decline in slaughter weights ranged from 1.9 to 5.6 percent. However, the industry has increased its average bird size since 2015, and despite declines in average bird weights in 2022 relative to 2021, monthly average weights through September remained above 2015 levels.

The HPAI effect on turkey stocks, which are also a key component of turkey supply at Thanksgiving, differed between 2015 and 2022. The turkey industry starts to build its cold storage stocks at the beginning of the year, and stock levels typically peak in the late summer. Whole birds comprise approximately half of the stocks, and turkey breasts comprise approximately another quarter of the stocks. The greatest increase in stocks typically occurs

between December and January. Between October and November, stock levels fall by nearly 50 percent as demand for turkey spikes before the holiday season. In 2015, turkey stocks at the end of October were 16 percent below the prior 5-year average and 10 percent lower year over year. In 2022, stocks have been keeping pace with 2021 stock levels. This suggests that the industry has been maintaining higher stocks relative to production levels in preparation for the holiday season. Still, turkey stocks in 2022 have been trending on average 12 percent below levels in 2015.

In terms of trade, the HPAI effect on U.S. turkey exports to date has been somewhat less in 2022 compared to 2015. In 2015, exports dropped in part due to numerous national and state-level trade restrictions issued by major importing countries. The greatest loss to trade in 2015 was from Mexico, the largest U.S. destination for turkey exports. Trade to China was also affected by a national ban on imports of poultry, which was not removed until November 2019. U.S. exports were redirected to the domestic turkey market, and supplies were also supplemented by increased imports. Although there was a 66.7-percent year-over-year increase in turkey imports in 2015, imports still accounted for less than 1 percent of total supply. Comparing January–September 2022 with the same period in 2015, exports have not declined as much, albeit from a smaller base. Exports in January–September 2015 declined 159 million pounds (28.2 percent) from the prior year, while for the same period in 2022 shipments declined 95 million pounds (23.4 percent). Though the smaller decline in 2022 partly reflects the smaller levels of trade since 2015, the decline is also due in part due to USDA's APHIS negotiations of regionalized trade restrictions for key U.S. poultry markets. During the 2015 outbreak, 17 of the U.S. trading partners imposed national-level bans on U.S. poultry products, and 38 imposed State-level bans, according to the USDA, Food Safety Inspection Service Import Export Library. During the 2022 outbreak, only five countries imposed national bans, and only seven imposed State-level bans. All other trade restrictions were at the county- or intra-county level.

The effect of HPAI on wholesale prices is difficult to estimate. In part, this is because the HPAI outbreaks do not occur in isolation, and it can be difficult to differentiate the effect of various macroeconomic factors, as well as prices of competing meats. In the fourth quarter of 2015, the wholesale whole-hen turkey price averaged 130.1 cents per pound, an increase of 14.2 percent year over year. In the fourth quarter of 2022, the USDA forecasts the turkey price to be 181 cents per pound, an increase of 36 percent year over year. Turkey prices have been climbing steadily since 2019, so the price increases in 2022 cannot be attributed solely to HPAI.

Another anticipated difference between the 2015 and 2022 outbreaks is the lasting effect of the outbreaks on the turkey industry's production levels. The 2015 and 2022 outbreaks differ in the types of turkey flocks affected by the disease. In 2015, all but one of the flocks infected by HPAI were commercial turkey meat birds, that is, birds raised for meat production. In 2022, a greater variety of flocks have been infected by HPAI: 96 percent have been meat birds, but another 4 percent were turkey-breeding birds, designated to produce turkey-meat birds. In comparison with 2015, it is expected that the greater loss to turkey breeding flocks in the 2022 outbreak will lengthen the time it takes the industry to rebuild its flock after the outbreak dissipates.



## Suggested Citation

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## Dairy forecasts, 2021–23

| Years<br>Quarters                                       |        |        | 2022   |        |         |       |        | 2023  |       |       |        |
|---|--------|--------|--------|--------|---------|-------|--------|-------|-------|-------|--------|
|   | IV     | Annual | I      | II     | III     | IV    | Annual | I     | II    | III   | Annual |
| Milk cows (thousands)                                   | 9,381  | 9,448  | 9,384  | 9,413  | 9,413.0 | 9,415 | 9,405  | 9,415 | 9,415 | 9,410 | 9,415  |
| Milk per cow (pounds)                                   | 5,909  | 23,948 | 6,000  | 6,145  | 6,004.0 | 5,980 | 24,130 | 6,065 | 6,200 | 6,045 | 24,350 |
| <b>Milk production (billion pounds)</b>                 | 55.4   | 226.3  | 56.3   | 57.8   | 56.5    | 56.3  | 227.0  | 57.1  | 58.4  | 56.9  | 229.2  |
| Farm use  | 0.3    | 1.0    | 0.3    | 0.3    | 0.3     | 0.3   | 1.1    | 0.3   | 0.3   | 0.3   | 1.1    |
| Milk marketings   | 55.2   | 225.2  | 56.0   | 57.6   | 56.2    | 56.0  | 225.9  | 56.8  | 58.1  | 56.6  | 228.1  |
| <b>Milk-fat (billion pounds milk equiv.)</b>            |        |        |        |        |         |       |        |       |       |       |        |
| Milk marketings   | 55.2   | 225.2  | 56.0   | 57.6   | 56.2    | 56.0  | 225.9  | 56.8  | 58.1  | 56.6  | 228.1  |
| Beginning stocks  | 17.9   | 15.6   | 14.3   | 16.4   | 18.4    | 16.6  | 14.3   | 14.1  | 16.7  | 18.5  | 14.1   |
| Imports   | 1.7    | 6.5    | 1.3    | 1.9    | 1.9     | 1.8   | 7.0    | 1.4   | 1.9   | 1.9   | 7.1    |
| Total supply  | 74.8   | 247.4  | 71.7   | 75.9   | 76.6    | 74.4  | 247.2  | 72.4  | 76.7  | 77.0  | 249.3  |
| Exports   | 2.7    | 11.5   | 3.0    | 3.7    | 3.4     | 3.0   | 13.1   | 3.0   | 3.6   | 3.3   | 12.7   |
| Ending stocks   | 14.3   | 14.3   | 16.4   | 18.4   | 16.6    | 14.1  | 14.1   | 16.7  | 18.5  | 16.8  | 14.9   |
| Domestic use <sup>1</sup>                               | 57.7   | 221.5  | 52.3   | 53.7   | 56.6    | 57.4  | 220.0  | 52.7  | 54.6  | 56.9  | 221.6  |
| <b>Skim solids (billion pounds milk equiv.)</b>         |        |        |        |        |         |       |        |       |       |       |        |
| Milk marketings   | 55.2   | 225.2  | 56.0   | 57.6   | 56.2    | 56.0  | 225.9  | 56.8  | 58.1  | 56.6  | 228.1  |
| Beginning stocks  | 11.2   | 10.9   | 11.1   | 11.8   | 12.5    | 11.9  | 11.1   | 11.2  | 12.2  | 12.7  | 11.2   |
| Imports   | 1.5    | 5.8    | 1.5    | 1.6    | 1.6     | 1.7   | 6.4    | 1.5   | 1.5   | 1.6   | 6.0    |
| Total supply  | 67.9   | 241.9  | 68.6   | 71.0   | 70.3    | 69.6  | 243.4  | 69.5  | 71.8  | 70.9  | 245.4  |
| Exports   | 11.7   | 50.8   | 11.8   | 14.4   | 13.5    | 12.6  | 52.4   | 12.1  | 14.4  | 13.3  | 52.5   |
| Ending stocks   | 11.1   | 11.1   | 11.8   | 12.5   | 11.9    | 11.2  | 11.2   | 12.2  | 12.7  | 11.9  | 11.1   |
| Domestic use  | 45.1   | 180.0  | 44.9   | 44.1   | 44.9    | 45.8  | 179.8  | 45.3  | 44.7  | 45.7  | 181.8  |
| <b>Milk prices (dollars/hundredweight) <sup>1</sup></b> |        |        |        |        |         |       |        |       |       |       |        |
| All milk  | 20.67  | 18.53  | 24.93  | 27.10  | 24.80   | 25.20 | 25.50  | 23.25 | 22.45 | 21.75 | 22.60  |
| Class III   | 18.07  | 17.08  | 21.25  | 24.65  | 20.81   | 20.50 | 21.80  | 19.60 | 19.95 | 19.65 | 19.65  |
| Class IV  | 18.57  | 16.09  | 23.97  | 25.38  | 25.08   | 22.80 | 24.30  | 20.70 | 20.25 | 20.15 | 20.35  |
| <b>Product prices (dollars/pound) <sup>2</sup></b>      |        |        |        |        |         |       |        |       |       |       |        |
| Cheddar cheese  | 1.7609 | 1.6755 | 1.9531 | 2.3523 | 2.0428  | 2.045 | 2.100  | 1.960 | 1.990 | 1.970 | 1.970  |
| Dry whey  | 0.5888 | 0.5744 | 0.7610 | 0.6754 | 0.5143  | 0.465 | 0.605  | 0.480 | 0.490 | 0.480 | 0.485  |
| Butter  | 1.9297 | 1.7325 | 2.6686 | 2.8095 | 3.0136  | 2.880 | 2.845  | 2.560 | 2.450 | 2.400 | 2.455  |
| Nonfat dry milk   | 1.4613 | 1.2693 | 1.7242 | 1.8188 | 1.6831  | 1.485 | 1.680  | 1.400 | 1.400 | 1.410 | 1.405  |

Totals may not add due to rounding.

<sup>1</sup> Simple averages of monthly prices. May not match reported annual averages.

<sup>2</sup> 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.

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Updated 11/16/2022.