Agriculture By the Numbers

November 2025

NDSU Extension Agribusiness and Applied Economics

Talkin' Turkey, Givin' Thanks

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Talkin' Turkey, Givin' Thanks

Tim Petry, Extension Livestock Marketing Specialist

As the calendar turns to November, thoughts may turn to planning for the Thanksgiving family get-together. At the forefront is a bountiful holiday meal that may include turkey. Included are abundant amounts of a wide variety of side dishes, many of which originate from the highly productive and diverse U.S. agricultural industry.

Dining room tables may also have beef, veal, lamb, pork, chicken or other poultry. A novelty Thanksgiving dish made famous by legendary sports broadcaster John Madden is the turducken, which is a deboned chicken inside a deboned duck inside a deboned turkey.

The USDA Agricultural Marketing Service (AMS) has reported volatile wholesale turkey prices (national, whole hen, 8-16 pounds) over the last several years. Increasing prices during the COVID-19 pandemic resulted from turkey plant closures as well as empty retail store coolers driven by consumer demand for at-home consumption.

Prices rose to record-high levels in 2022 due to the highly pathogenic avian influenza (HPAI) virus that led to the loss of several million turkeys.

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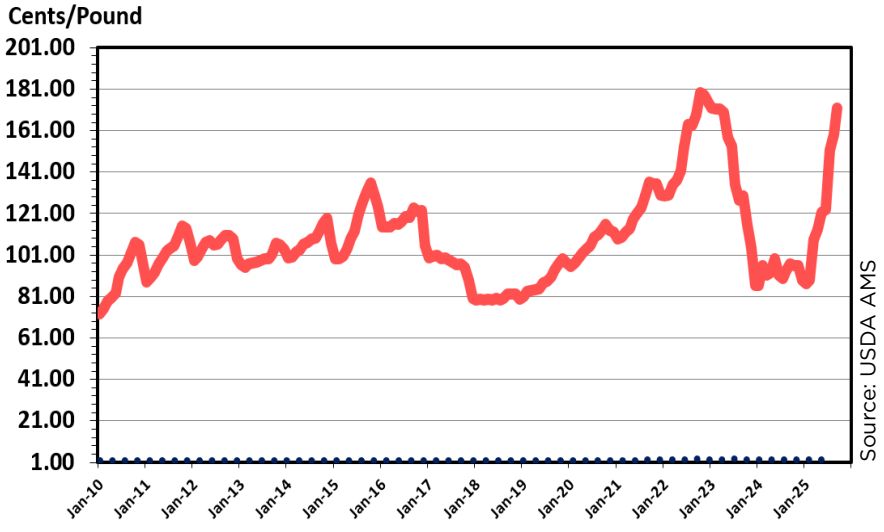
Turkey Prices — National, Whole Hen, 8-16 Pounds, Monthly



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Talkin' Turkey, Givin' Thanks — continued from page 1

A normal, seasonal pattern for turkey prices is a steady yearly increase until October, right before the peak Thanksgiving holiday demand. However, this year prices have increased at a higher rate.

Unfortunately, the higher prices are due to HPAI having again significantly affected turkey production, with new cases being reported on a weekly basis. New cases have been reported in North Dakota, Minnesota, South Dakota and other states.

Current prices are at $1.68 per pound compared to $0.96/lb. last year, but they may have started the seasonal decline.

Most turkey hens are sold as frozen whole birds, with many placed into cold storage throughout the year until just before Thanksgiving. Toms are mostly destined for further processing and made into many consumer products such as breasts, legs, bacon, deli meats and ground turkey that are consumed year-round.

The latest USDA National Agricultural Statistics Service (NASS) Cold Storage report released on Sept. 26, indicated 8% less turkey in cold storage on Aug. 31 compared to last year. Frozen hens were down 2% while frozen breasts declined 19%. The October report was not released due to the government shutdown.

Wholesale turkey breasts prices at $7.22 per pound are significantly higher than the $2.00/lb. last year.

The Norman Rockwell-esque image of large family Thanksgiving dinners of the past, with a 25-pound turkey at the center of the table, is shifting to smaller family sizes, driven by increasing demand for smaller breasts.

The U.S. is the world's leading producer of turkeys and turkey meat, and it's the world's leading exporter of turkey meat, too. Mexico is by far the leading

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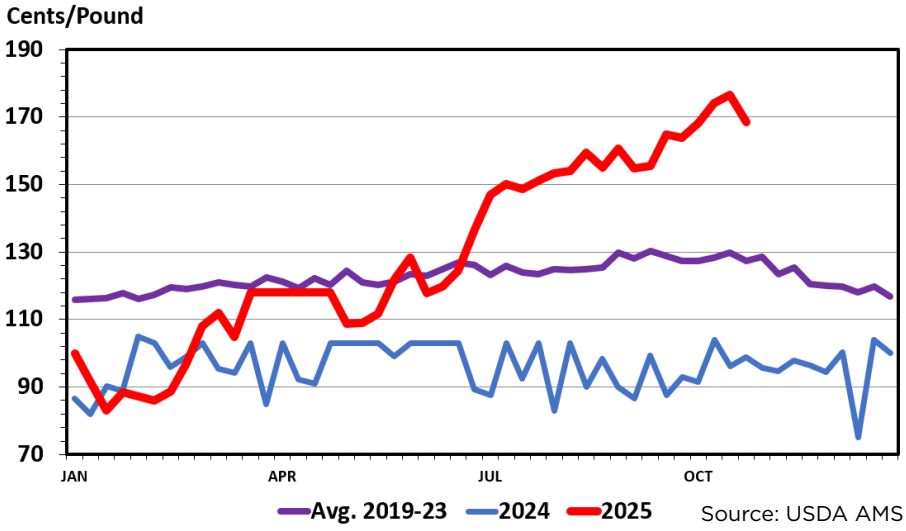
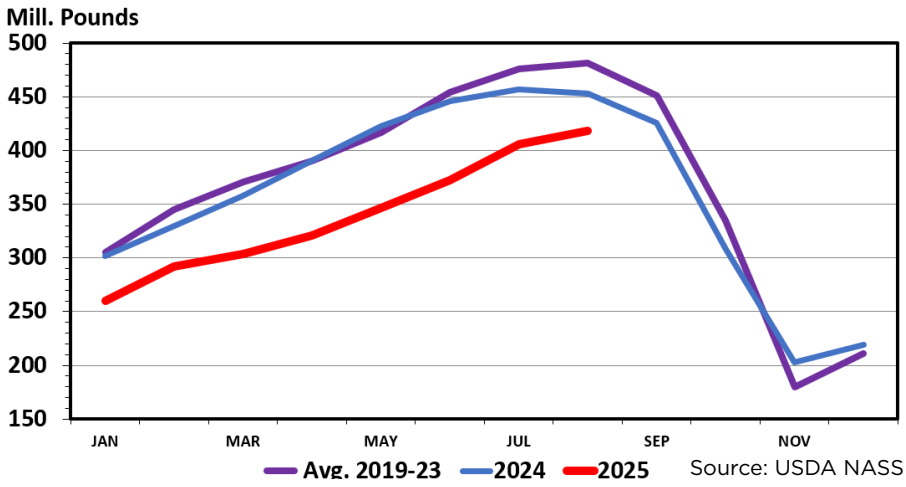
Turkey Prices — National, Whole Hen, 8-16 Pounds, Weekly



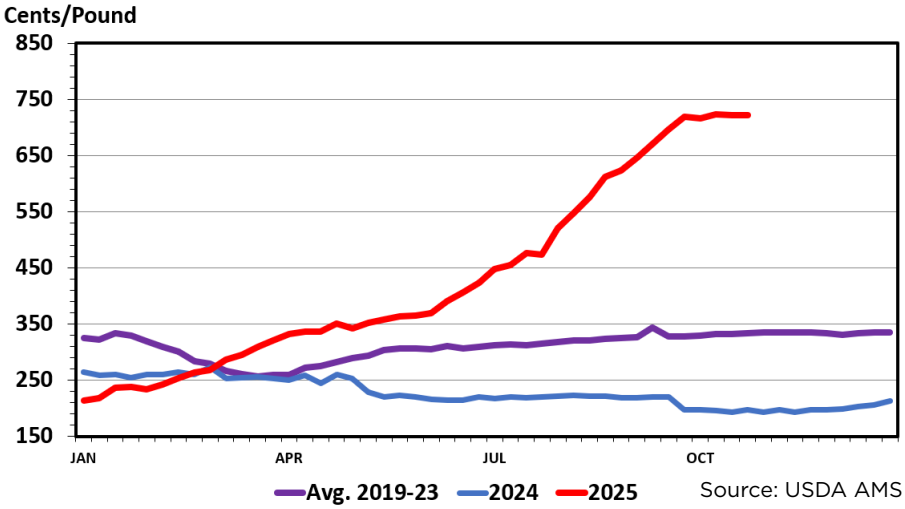
Source: USDA AMS

Turkey in Cold Storage — End of the Month



Source: USDA NASS

Wholesale Turkey Breast Prices
National, Skinless/Boneless, Tom, Weekly



Source: USDA AMS

Talkin' Turkey, Givin' Thanks — continued from page 2

importer of U.S. turkey meat, followed by Canada, Jamaica, the Dominican Republic and Guatemala.

The U.S. is also the leading producer of beef and chicken, second only to China in pork production.

Likewise, the U.S. is also the leading exporter of high-quality beef and pork, and second only to Brazil in chicken exports.

The U.S. meat industry is crucial to the U.S. economy and livestock producers. Consumers also benefit from an ample, year-round supply of a myriad of meat product choices, especially at Thanksgiving.

The USDA is forecasting 194.5 million turkeys will be raised in 2025, down from 200 million in 2024.

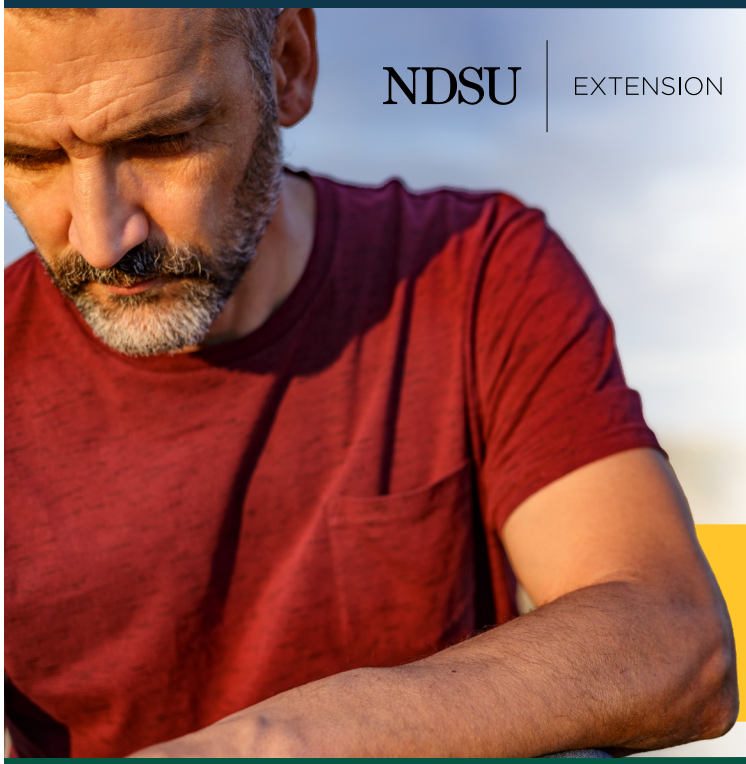
Minnesota is the leading turkey-producing state, with 32 million birds expected to be produced in 2025. North Carolina ranks second with 28 million, and Arkansas third with 22 million. South Dakota ranks 13th at 2.4 million. The USDA does not publish North Dakota turkey production data, but according to the North Dakota Turkey Federation, about 1 million birds are produced annually on nine turkey farms in the state.

How much turkey do we gobble up at Thanksgiving? According to the USDA, about 46 million turkeys are on Thanksgiving tables. U.S. per capita consumption of turkey has averaged about 15 pounds for the last 10 years, with 13.8 pounds consumed per person in 2024. The USDA estimates that per-capita consumption will decrease to 13 pounds in 2025 due to declining production.

Although turkey prices have increased, consumers may find bargains when shopping for Thanksgiving turkeys. Some retail chain stores contract turkeys at lower prices earlier in the year. Retail food stores may feature turkeys as loss leaders, selling them at a below-cost price to lure customers into the store and purchase higher-margin items that complete the Thanksgiving meal. Sometimes, even local price wars emerge.

Even though some food item prices have increased, we still have a lot to be thankful for. U.S. consumers enjoy the safest, largest-quantity, lowest-cost and most diverse food product line, including meat, in the world. Happy Thanksgiving to all of you.

Farming and Ranching are Stressful



Concerns about production, prices and policy can weigh heavily on us.

It is okay not to be okay in times of high stress, whether during harvest time or when dealing with an uncertain farm economy.

If you feel isolated or overwhelmed, talk to someone — family, friends or a professional. Reaching out for help isn't weakness; it's a sign of wisdom and strength. Recognize that you're not alone.

Take time to connect with resources that can support you and help you to be resilient in tough times. **Find stress management tools made for farmers and ranchers at** ndsu.ag/managingstress**.**

If you or someone you know is struggling or in crisis, help is available. **Call or text 988.**

Projected Production Cost Changes from 2025-2026 for Large Ticket Items in Selected Crops

Bryon J Parman, Associate Professor/Extension Agricultural Finance Specialist

Fertilizer prices — Fertilizer prices for most major products are substantially higher in fall of 2025 than they were a year ago. DAP prices have increased by nearly 25% since this time last year, to $926 per ton, while MAP prices have risen approximately 15% to $932 per ton. Urea has increased by 19.5% to nearly $600 per ton, and anhydrous ammonia has edged up to $842 per ton, which is approximately 24% higher than this time last year. Liquid nitrogen fertilizers UAN28 and UAN32 are also higher, at $413 and $466, respectively. Potash prices have not seen a fall dip in price like they did last year, coming in at $487 per ton, which is 8% higher than last year this time.

Figure 1 shows the cost of all fertilizer manufacturing, indexed and expressed in inflation-adjusted dollars from the year 2020. At present, fertilizer manufacturing is nearly 80% more costly than in 2020, but still significantly lower than the recent highs seen in 2022. This is primarily because the costs of potash and nitrogen fertilizers are not nearly as elevated as the costs of phosphorus fertilizer production were in 2022.

Seed prices — The USDA projects that seed prices for most major U.S. crops will increase. Most of the increases across crops are small, at a rate slightly

Figure 1: PPI for Fertilizer Manufacturing in the U.S. Indexed in 2020 Dollars

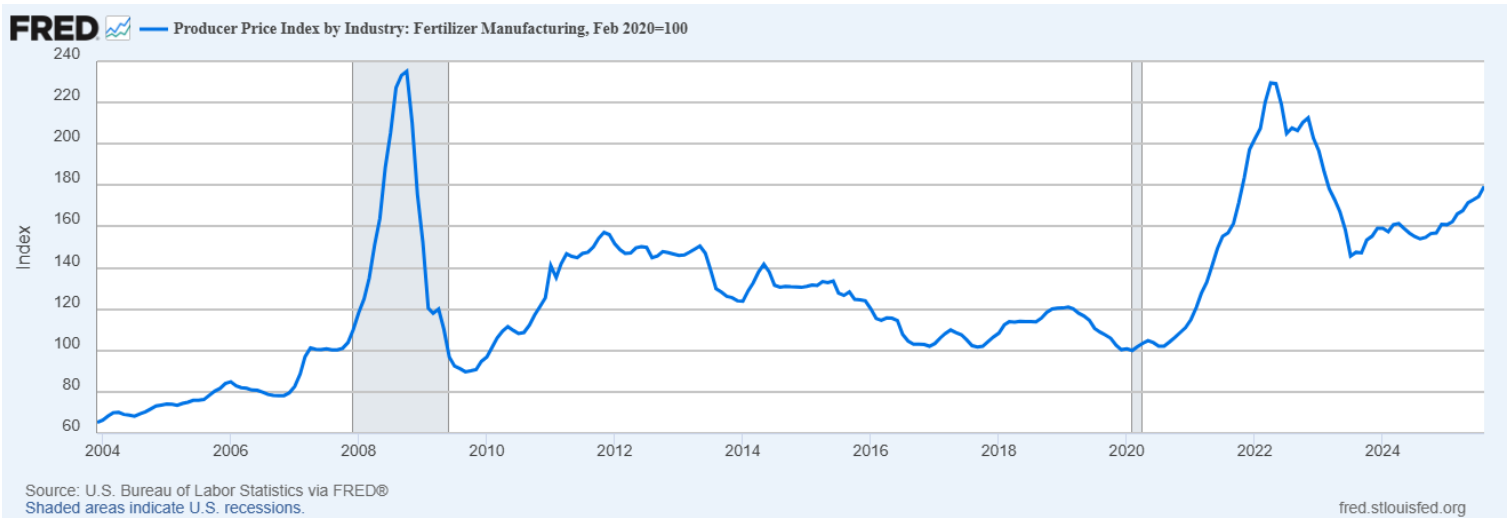
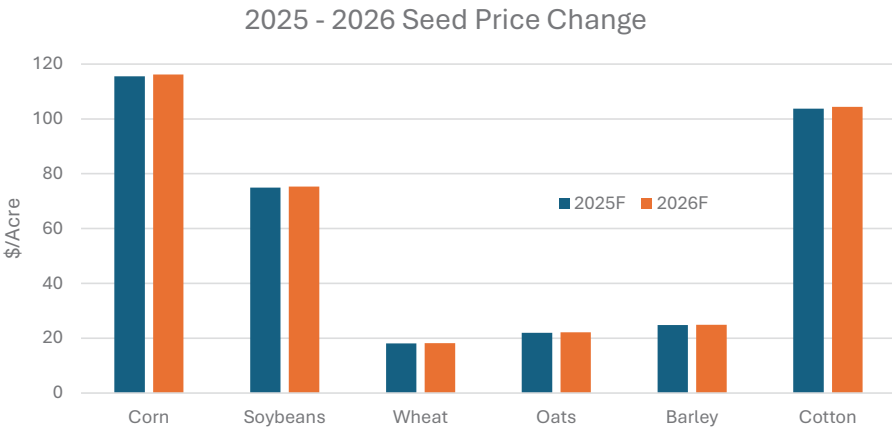


Figure 2: Projected Seed Price Changes from 2025 – 2026 for Crops Shown



below the inflation rate. However, seed corn prices are approaching an average of $120 per acre, with soybeans just over $75 per acre and wheat just below $20 per acre.

Chemical prices — Projections from the USDA for chemical prices are projecting sweeping increases in chemical prices for all major U.S. crops. For the most part, however, the average per-acre chemical price changes appear to be at or near the rate of inflation. For the major crops shown, the overall increase

Continued on page 5.

Projected Production Cost Changes from 2025-2026 for Large Ticket Items in Selected Crops — continued from page 4

in chemical costs per acre is approximately 3%. This indeed is close to the expected 2025-2026 rate of inflation during that period.

Overhead costs, including land rents — Overhead costs include hired labor, unpaid labor, machinery capital recovery, cash rents, taxes, insurance and general overhead. The increase in total overhead costs expected for 2026 compared to 2025 is between 2% and 2.1% for crops shown in Figure 3 for the U.S. In fact, there is a great deal of uniformity across the listed production expenses for how much they are increasing. While the expectation for hired labor increase is small, it is still expected to increase. The increases in cash rents are projected to be a bit above 2%; however, most of the variation is expected to be at or near the rate of inflation.

Some other large-ticket cost categories are also expected to increase from 2025-2026, such as repairs and custom operations. Their increases are very small, at approximately a 1% increase for each. However, there are a few cost items expected to decline. Interest expenses per acre are expected to decline nearly 21% on a per-acre basis, and "fuel, lube and electricity" are expected to decline by a combined 7% per acre on average from 2025-2026. Despite the decrease in fuel, lube and electricity, as well as the decline in interest expenses, they are not nominally large enough to offset the increases in other categories. In total, expectations are that most major crops will see a cost increase of between 1.5% and 2% from 2025-2026. While this would not be considered a large increase, given current crop prices, any increase at all will be difficult to absorb financially for many producers.

Figure 3: Projected Chemical Cost Changes from 2025-2026 for Crops Shown

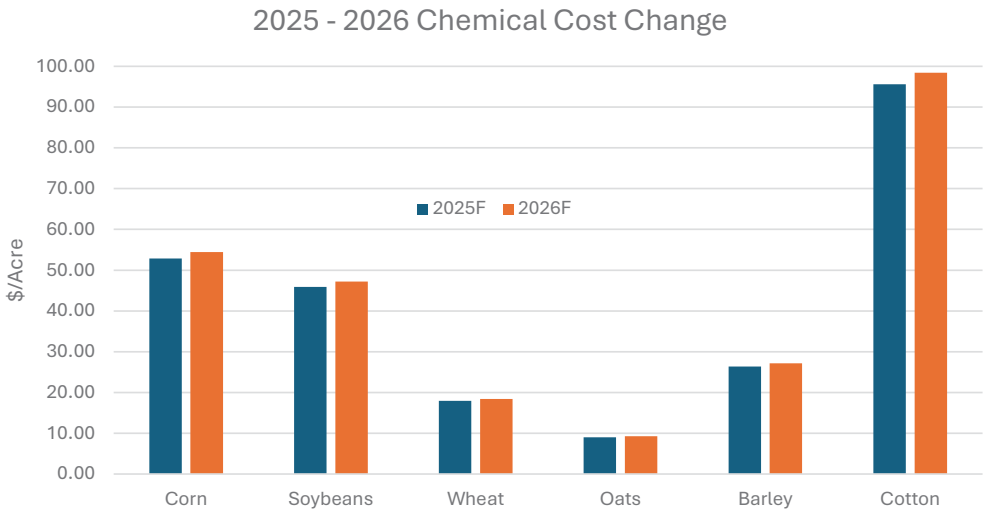
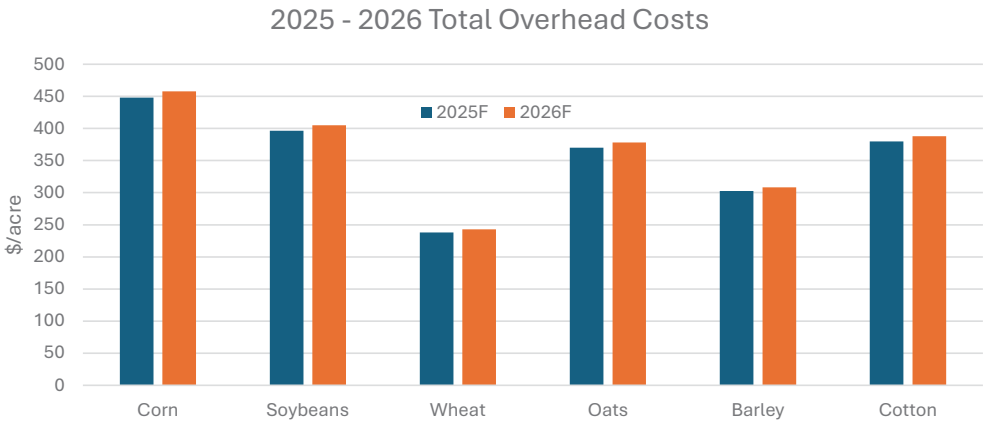


Figure 4: Projected Overhead Cost Changes from 2025-2026 for Crops Shown



Meat Demand and Competing Livestock and Meat Prices

Tim Petry, Extension Livestock Marketing Specialist

"A rising tide lifts all boats" is a phrase attributed to speeches about the economy given by former U.S. President John F. Kennedy. It is a figure of speech associated with the idea that an improved economy will benefit all participants.

It has also been associated with prices of competing commodities or products. Economic theory suggests that a high price for a commodity could increase demand, and therefore prices, for competing commodities due to the substitution effect. In other words, consumers could substitute lower-priced substitutes for the higher-priced commodity.

However, there are other determinants of demand, such as tastes and preferences, as well as the incomes of consumers, that affect prices. The supply of individual competing commodities also affects prices.

That being said, let's look at how competing livestock and meat prices have been doing compared to the record-high cattle and beef prices.

Retail demand for beef, lamb, pork, chicken and turkey has been strong in 2025, positively impacted by several factors, including GLP-1, high-protein and keto diets.

Prices for cattle, hogs, lambs, turkeys and chickens (until recently) have been higher than last year.

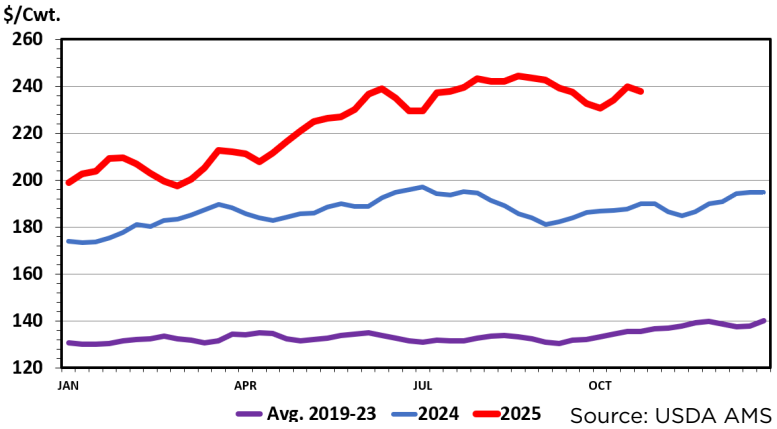
Cattle and beef prices have been increasing cyclically since 2020, driven by a decline in the beef cow herd, reduced supply and strong demand. Prices reached record-high levels in 2023 and have continued at that pace through 2025.

USDA projects fed cattle prices to average a record $228.50 per hundredweight (cwt.) in 2025, with an increase to $248.50/cwt. in 2026. Calf and feeder cattle prices are at record levels, buoyed by strong fed cattle prices, smaller supplies and moderating feed prices. Retail prices for all fresh beef have risen to a record $9 per pound (lb.).

Hog prices have been fueled by strong domestic pork demand and shorter supplies. National base hog carcass prices are currently at $90/cwt. compared to $85 at this time last year.

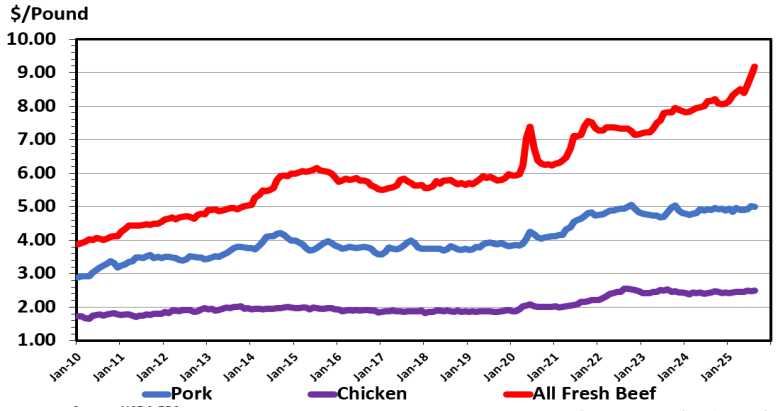
Continued on page 7.

Slaughter Steer Prices
5 Market Weighted Average, Weekly



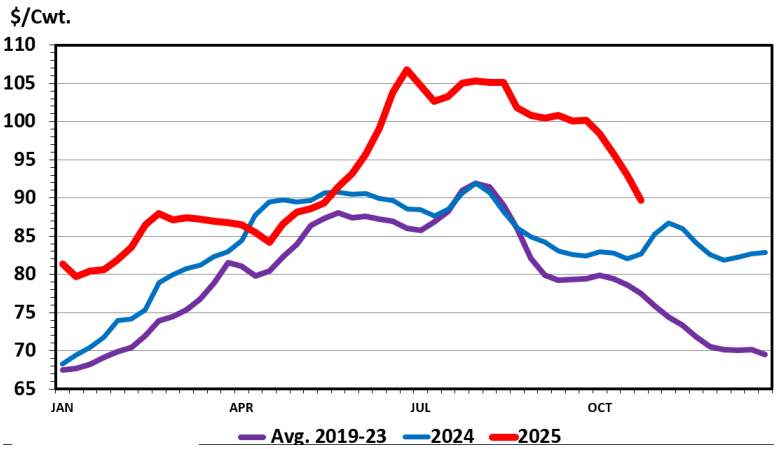
Source: USDA AMS

Retail Price Comparison — Monthly



Source: USDA ERS

Base Slaughter Hog Prices
National, Weighted Average Carcass Price, Weekly



Source: USDA AMS

Meat Demand and Competing Livestock and Meat Prices — continued from page 6

The USDA is forecasting pork production to decline 1% this year. The USDA Hogs and Pigs quarterly report issued on Sept. 25 confirmed shorter supplies. Market hogs at 68.5 million head were down 1.3%.

Seasonal hog price weakness is expected for the rest of the year, but the lower supplies will likely support prices above last year's levels.

Lamb prices are significantly above last year's depressed prices. Fed lamb prices in the Northern Plains at $229/cwt. are $70/cwt. above the $159/cwt. seasonally low prices in 2024. Domestic lamb supplies are about equal to last year, lamb imports are running below last year, cold storage stocks of lamb and mutton are down and lamb demand is strong. That is supportive to lamb prices.

Chicken prices were above last year until midsummer, but have declined from $1.37/lb. to $1.07/lb. The chicken industry has responded quickly to high prices and low feed costs with increased production. Increased chick placements, improved egg fertility rates and additional slaughter have caused a 2% increase in 2025 production. That has pressured chicken prices and is causing new product introductions in the fast-food sector to stimulate demand.

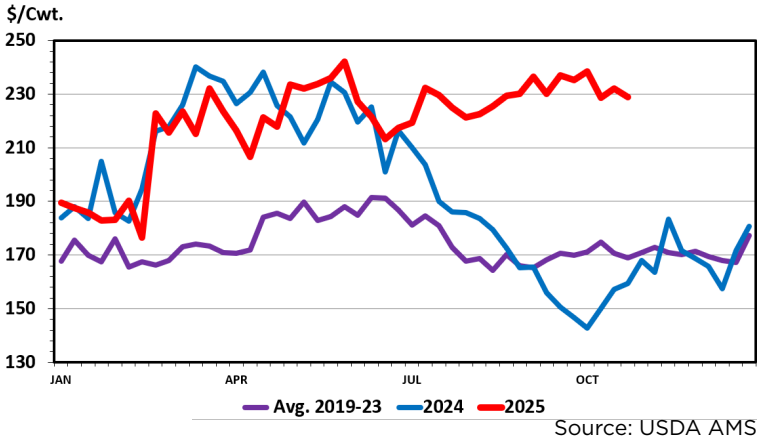
Whole hen turkey prices this year have steadily increased from about $0.90/lb.to $1.68/lb. Continuing avian influenza cases have resulted in a 6% decline in 2025 turkey production, and frozen hen turkey inventories are down approximately 2% from last year. That has supported prices, which usually peak right before Thanksgiving.

Strong domestic consumer demand has supported livestock prices this year. Economic theory suggests that higher prices stimulate more production where possible. Of course, weather, reproductive biology and other factors come into play as many supply and demand factors are dynamic.

The USDA predicts that beef production in 2026 will decline, with increased heifer retention and reduced cow slaughter. The USDA also expects lamb production to decline slightly, with increases in pork, chicken and turkey.

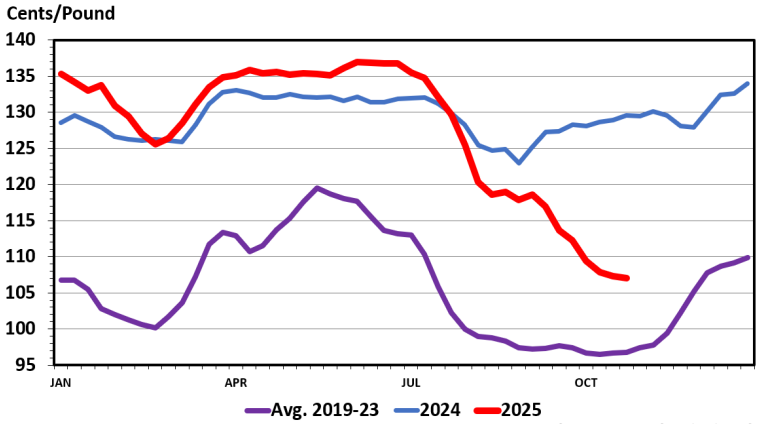
The total 2026 red meat and poultry supplies are expected to increase to a record high level, so maintaining strong meat demand will be important.

Fed Lamb Prices — Northern Plains, Weekly



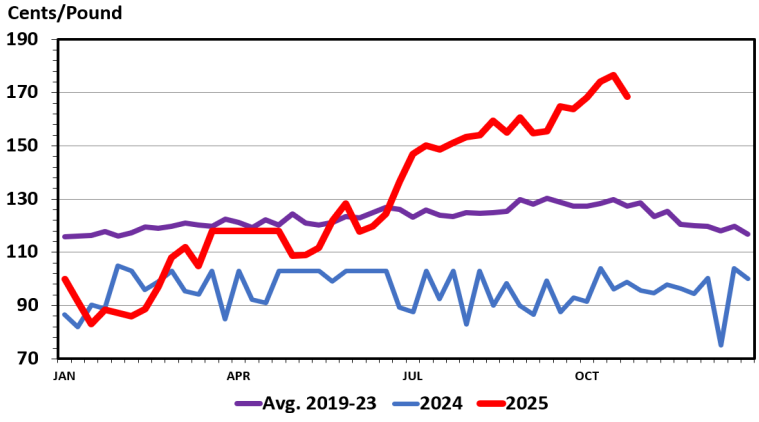
Source: USDA AMS

Chicken Prices — Whole Bird, Weekly



Source: USDA AMS

Turkey Prices
National, Whole Hen, 8-16 Pounds, Weekly



Source: USDA AMS

China Agrees to Buy U.S. Soybeans

Frayne Olson, Crop Economist/Marketing Specialist

U.S. President Donald Trump and Chinese President Xi Jinping met at the Asia-Pacific Economic Conference (APEC) in South Korea on Oct. 30, 2025, and agreed to a framework agreement to de-escalate trade tensions between the two countries. The official trade agreement is expected to be signed sometime during the week of Nov. 3, 2025.

The specific details of the framework agreement are not known, but it covered a wide range of issues. These include fentanyl trade, China's export controls on rare-earth minerals and magnets, U.S. exports of technology goods, a pause in new port usage fees and Chinese purchases of U.S. soybeans.

Under the framework agreement, China has agreed to purchase at least 12 million metric tons (mmt.) of U.S. soybeans before the end of 2025 and a minimum of 25 mmt. each year for the next three years. Note that the targeted purchase levels in the agreement are measured during the calendar year, not the marketing year. The USDA projections for production, crushing, exports and ending stocks are reported on a marketing year basis, not calendar year. The marketing year for soybeans is the 12-month period from Sept. 1 through Aug. 31. This difference in timing and reporting can be confusing.

Continued on page 9.

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U.S. Soybean Export Levels Remain Weak

— continued from page 8

For reference, last year, China purchased 18.864 mmt. of soybeans from the U.S. between Sept. 1 and Dec. 26, 2024. While the proposed Chinese purchases in 2025 are lower than last year's, they are significant.

The minimum purchases of 25 mmt. in future years are also significant. For reference, Table 1 shows the most recent data for marketing year totals and year-to-date export sales levels for U.S. soybeans by country. The four columns on the left of Table 1 are total export sales for a full marketing year by country. The two columns on the right of the table are the year-to-date export sales for the current marketing year, 2025/26, and the same time period last year. Table 1 shows the most recent USDA export sales information. Unfortunately, more current information is not available due to the federal government shutdown.

The general outline of the framework agreement gives Chinese soybean buyers the flexibility to purchase U.S. soybeans when needed. These purchases could be to meet immediate soybean crushing needs, replace previous contract purchases from other countries with U.S. soybeans or refill government or private company inventories.

In the near term, soybean futures prices have increased. Local basis levels should improve as Chinese purchases are confirmed and the timeline for delivery is known. Logistics will be important. Just because China purchases soybeans in November does not mean that they must be delivered in November. For example, delivery could be in January or February, which can impact local basis levels. In addition, soybeans will be shipped from both the Pacific Northwest and the U.S. Gulf. The exact proportion of deliveries between these two export regions will depend on soybean availability and transportation costs.

In the longer term, the promised Chinese purchases will provide some stability to U.S. export levels. It will also give the U.S. soybean industry time to expand alternative markets (see the October 2025 edition of Ag By the Numbers for a more complete discussion of potential soybean export growth). However, South American production and export levels, potential future trade disputes, renewable fuels policy, U.S. production levels and many other factors will continue to influence soybean markets and price levels.

Table 1 – U.S. Soybean Export Sales by Marketing Year and Country

	Annual Export Sales (1,000 Metric Tons)				Year-to-Date Export Commitments (1,000 Metric Tons)	
Country	2021/22	2022/23	2023/24	2024/25	2024/25 (09-19-24)	2025/26 (09-18-25)
China	30,219.0	31,380.8	24,306.7	22,546.4	6,812.3	0.0
Mexico	5,445.0	4,569.2	4,737.7	4,978.5	1,394.5	2,285.6
Egypt	4,082.4	1,149.0	1,452.3	3,692.4	439.6	671.5
Indonesia	1,808.3	1,791.0	2,131.0	2,070.1	488.1	471.2
Japan	2,412.1	2,249.9	2,031.6	2,039.3	523.4	461.8
Spain	1,385.1	1,600.1	1,904.4	1,931.4	176.1	375.4
Germany	1,411.7	2,180.6	1,687.3	1,607.4	0.0	0.0
ROW	10,425.3	7,286.9	6,259.1	11,240.4	7,596.3	6,736.2
Total	57,188.9	52,207.5	44,510.1	50,105.9	17,430.3	11,001.7

USDA Export Sales Report. ROW = Rest of World

A Decision Tool for Evaluating Alternative Open Cow Replacement Scenarios

By Jon T. Biermacher, Extension Livestock Development Specialist and
Tim Petry, Extension Livestock Marketing Specialist

We live in a world with record-high beef cattle prices, primarily due to a record-low national cattle inventory combined with strong and resilient consumer demand for beef. The price of heifers for replacements is also at an all-time high. Beef cattle operators have been asking whether it makes economic sense to keep cows identified as open via pregnancy testing and take on the uncertainty of rebreeding her, hoping that she will produce a calf.

To help producers determine whether or not they should keep their open cows, we developed a spreadsheet decision tool that allows producers to easily compare three different alternative open cow replacement scenarios: (1) selling an open cow and replace her with a purchased bred heifer, (2) selling an open cow and purchasing a younger (3-to-6-year-old) bred replacement cow and (3) retain, rebreed and keep the open cow in the herd.

A snapshot of the decision tool populated with cattle price and weight projections beginning at weaning in the fall of 2025 is reported in Table 1 (see page 11). The decision tool was developed assuming that producers utilize pregnancy testing to discover open cows at weaning in the fall, giving them ample time to decide which replacement scenario is most economical. The North Dakota State University projections for cattle prices and weights (based on North Dakota livestock auctions) are entered in cells highlighted in blue. On the right-hand side of the spreadsheet tool, producers can enter their own region-based projections into the cells highlighted in gold, allowing them to compare their expected economic values for the three alternative replacement scenarios with those from NDSU.

The decision tool has been developed to automatically adjust the net economic value for each price projection when a price or a set of prices is entered. To maintain the flexibility for users to compare their individual projections with NDSU projections, users of the decision tool will not be allowed to change the NDSU projections for prices and cattle weights. The formulas used in the calculations for the NDSU and producer projections will be visible to those interested.

We did not include transaction costs such as commission fees, veterinary expenses, brand inspection, beef check-off fees or transportation costs, but they are important variables that need to be considered when making decisions. It is also worth mentioning that producers should consider some of the possibilities for why the replacement cows they are considering buying are being sold in the first place. They could be marketed due to undesirable factors such as poor temperament, udder quality, mothering ability or other reasons. Because of these reasons, we encourage producers to develop relationships with reliable, trustworthy ranchers and/or order buyers to obtain their replacement bred heifers or cows.

Each fall, prior to weaning, we will endeavor to update the decision tool with a new set of cattle price projections so the calculator has our best NDSU estimates for each of the three open cow replacement scenarios. This will allow producers to compare their best estimates from their respective regions and consider the replacement options that will work best for their operations.

The open cow replacement decision tool can be found on the NDSU Extension Livestock Decision Tool website at https://www.ndsu.edu/agriculture/ag-hub/ag-topics/livestock/tools.

Feel free to contact me with questions at jon.biermacher@ndsu.edu.

A Decision Tool for Evaluating Alternative Open Cow Replacement Scenarios — continued from page 10

Table 1. Economic Value for Alternative Scenarios for Replacing Open Cows

Source of revenue/cost:	Year	NDSU weight (lbs/hd)	NDSU price ($/lb)	NDSU value ($/hd)	Producer weight (lbs/hd)	Producer price ($/lb)	Producer value ($/hd)
Scenario 1: Sell an open cow and purchase a bred heifer							
Sell open cow at weaning in November	2025	1,400	1.50	2,100	1,400	1.30	1,820
Purchase bred heifer in January in year 1	2026		3,700	-3,700		3,019	-3,019
Sell steer calf at weaning in November in year 1	2026	600	3.90	2,340	600	3.10	1,860
Sell heifer calf at weaning in November in year 1	2026	575	3.60	2,070	575	2.80	1,610
Sell average calf at weaning in November, year 1	2026	588	3.75	2,203	588	2.95	1,733
Sell steer calf at weaning in November in year 2	2027	600	3.75	2,250	600	3.15	1,890
Sell heifer calf at weaning in November in year 2	2027	575	3.45	1,984	575	2.85	1,639
Sell average calf at weaning in November in year 2	2027	588	3.60	2,115	588	3.00	1,763
Value of scenario 1				**2,718**			**2,297**
Scenario 2: Sell an open cow and purchase a 3-6-year-old bred cow							
Sell open cow at weaning in November	2025	1,400	1.50	2,100	1,400	1.30	1,820
Purchase a 3-6 year bred cow in January in year 1	2026		3,850	-3,850		2,899	-2,899
Sell steer calf at weaning in November in year 1	2026	600	3.90	2,340	600	3.10	1,860
Sell heifer calf at weaning in November in year 1	2026	575	3.60	2,070	575	2.80	1,610
Sell average calf at weaning in November, year 1	2026	588	3.75	2,203	588	2.95	1,733
Sell steer calf at weaning in November in year 2	2027	600	3.75	2,250	600	3.15	1,890
Sell heifer calf at weaning in November in year 2	2027	575	3.45	1,984	575	2.85	1,639
Sell average calf at weaning in November in year 2	2027	588	3.60	2,115	588	3.00	1,763
Value of scenario 2				**2,568**			**2,417**
Scenario 3: Keep and rebreed and open cow							
Keep open cow at weaning in November	2025						
Rebreed in spring of year 1 (no calf to sell in year 1)	2026						
Value of steer calf at weaning in year 2	2027	600	3.75	2,250	600	3.15	1,890
Value of heifer calf at weaning in year 2	2027	575	3.45	1,984	575	2.85	1,639
Average value of calf at weaning in year 2	2027	588	3.60	2,115	588	3.00	1,763
Value of scenario 3				**2,115**			**1,763**
Summary of value between scenarios							
Difference in value between SC1 and SC3				**603**			**534**
Difference in value between SC2 and SC3				**453**			**654**
Difference in value between SC1 and SC2				**150**			**120**