Agriculture By the Numbers

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The Impact of Emergency Diesel Tax Relief for Agricultural Producers

What Does the USDA Say About the Cattle Market?

U.S. Beef Production and Use By the Numbers

Understanding the U.S.-China Trade Agreements

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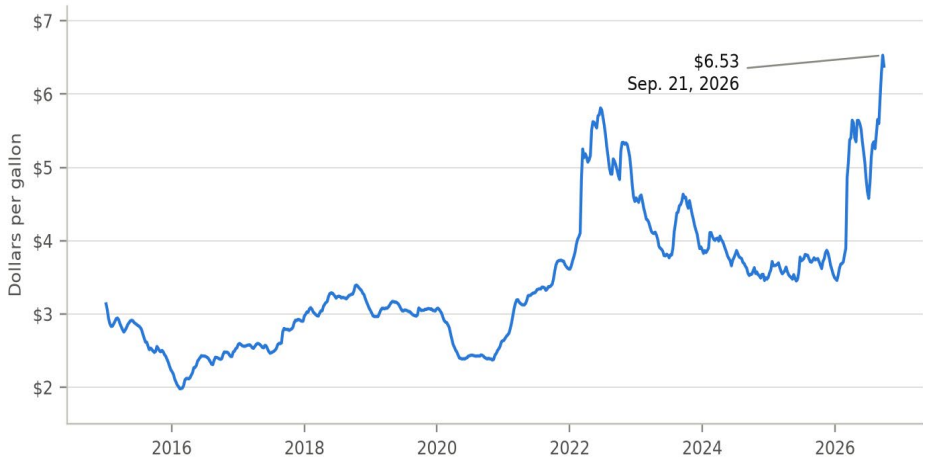
The Impact of Emergency Diesel Tax Relief for Agricultural Producers

Matthew Gammans, NDSU Department of Agribusiness and Applied Economics assistant professor

On Sept. 29, Gov. Kelly Armstrong announced a fuel emergency and an executive order letting licensed vehicles used in agricultural operations utilize red-dyed diesel on North Dakota highways through Nov. 30. Typically, red-dyed diesel can only be used for certain off-highway purposes. Red-dyed diesel includes 4 cents per gallon of North Dakota excise tax, compared to the 23 cents per gallon charged on regular diesel. The federal tax of 24.4 cents per gallon is unaffected by this policy. This policy comes in response to historically high diesel prices, which exceeded $6.50/gallon last month according to the U.S. Energy Information Administration. The historical time series of diesel prices can be seen in Figure 1.

Figure 1. U.S. average retail price of No. 2 diesel, weekly, 2015-2026. Prices peaked at $6.53 per gallon in the week of Sept. 21, 2026.



Source: U.S. Energy Information Administration, Weekly Retail Gasoline and Diesel Prices (FRED series GASDESW).

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The Impact of Emergency Diesel Tax Relief for Agricultural Producers — continued from page 1

The recently announced diesel tax relief will generate savings for farmers who utilize diesel fuel for on-highway purposes. This article estimates the impact of this executive order on North Dakota's corn and soybean farmers.

To estimate savings generated, I first estimated the total number of truckloads hauled on-highway during the harvest season. Assumptions and data sources are shown in Table 1. I use USDA NASS Crop Production forecasts for 2026 production of each crop, USDA NASS Grain Stocks reports for the share of each crop hauled off the farm between Sept. 29 and Nov. 30, and NDSU's Upper Great Plains Transportation Institute (UGPTI) farm truck survey (Northern Plains Grain Farm Truck Fleet & Marketing Patterns report) for the average truckload.

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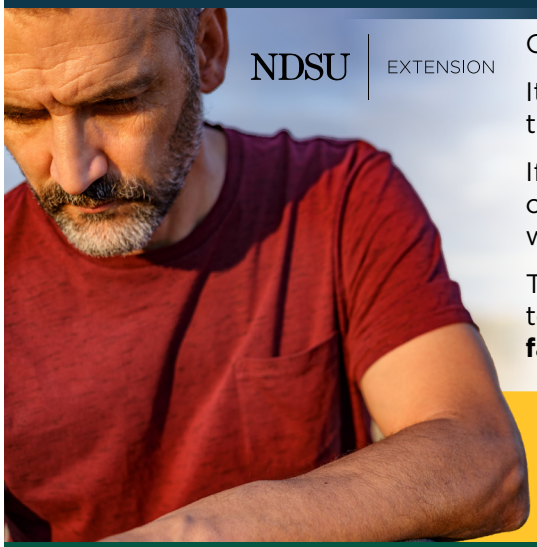
Table 1. Assumptions and data sources

Assumption	Corn	Soybeans	Sources and notes
2026 production (million bushels)	578.5	203.7	USDA NASS, Crop Production (Sept. 11, 2026)
Share of crop hauled off the farm, Sept. 29-Nov. 30	43.3%	60.5%	(Production − Dec. 1 on-farm stocks) ÷ production. Source: USDA NASS, Grain Stocks, North Dakota on-farm stocks, 2024-2025 average
Average load (tons per truck)	21.5	21.7	Northern Plains Grain Farm Truck Fleet & Marketing Patterns report. Bushels per load by truck type (Table 3.65), weighted by each type's share of ND grain hauling (UGPTI 2024, Table 12)
Average one-way trip (miles)	27.8	27.8	Northern Plains Grain Farm Truck Fleet & Marketing Patterns report Table 3.56, North Dakota corn deliveries (this value is used for both corn and soy)
Truck fuel economy (miles per gallon)	6.2	6.2	Oak Ridge National Laboratory, Transportation Energy Data Book, Ed. 40, Table 5.2
State tax savings (cents per gallon)	19	19	23¢ on clear diesel minus 4¢ on dyed diesel

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.**

The Impact of Emergency Diesel Tax Relief for Agricultural Producers — continued from page 2

I combined the above estimates of truckloads with an assumed average one-way trip length of 27.8 miles, based on the UGPTI farm truck survey. Assuming each truck returns empty over the same distance, this gives the total miles driven. I then apply an assumed truck fuel economy of 6.2 miles per gallon, as reported in Oak Ridge National Laboratory's Transportation Energy Data Book, to convert miles to gallons of diesel. Each gallon that switches to dyed diesel saves 19 cents in state tax.

Total savings by crop are shown in Table 2 below. I found that the executive order saves corn farmers a total of roughly $560,000 and soybean farmers a total of roughly $290,000, for a total of about $850,000 on 4.5 million gallons of diesel. This total assumes every eligible truck switches to dyed diesel. If only trucks already fueled from on-farm tanks switched (about 53% of heavy farm trucks in the 2021 Vehicle Inventory and Use Survey), savings would be about $450,000. Federal penalties for using dyed diesel on highways also still seem likely to apply, which could potentially limit use unless the IRS grants relief.

Two other factors also push these figures down. First, some of the crop had already been harvested before the order took effect: 8% of corn and 22% of soybeans by Sept. 27 (USDA NASS Crop Progress). If that grain left the farm at the same rate, savings would be about $740,000. Second, some grain is picked up at the farm by elevators or commercial haulers; in a 2001 UGPTI elevator survey, North Dakota elevators reported buying 14% of their grain this way. Those trucks rarely carry dyed diesel, and any savings would go to the hauler rather than the farmer. So, the realized savings may be slightly lower than those reported here.

Dividing these total savings by total crop acreage implies that a 2,000-acre corn/soy operation would see total savings of about $170 this fall. Overall, the executive order should generate savings for North Dakota farms, although the magnitude of these savings will be quite small relative to the substantial increase in diesel expenditures due to high prices. The USDA's Economic Research Service forecasts U.S. farm fuel expenses to rise 29% in 2026, from $16.8 billion to $21.6 billion. Applied to the $360 million North Dakota farms spent on diesel in 2025, that implies roughly $100 million in additional diesel costs this year.

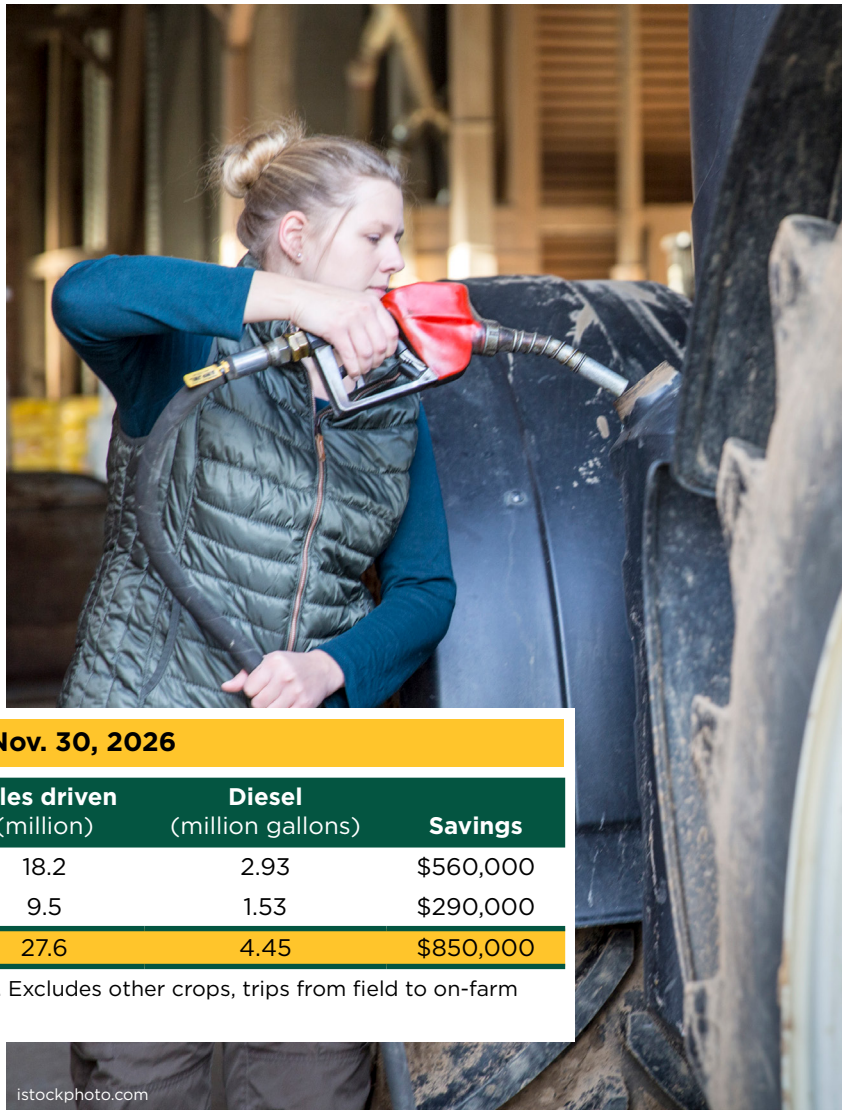

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Table 2. Estimated savings by crop, Sept. 29-Nov. 30, 2026

Crop	Bushels hauled (million)	Truckloads	Miles driven (million)	Diesel (million gallons)	Savings
Corn	250.6	326,672	18.2	2.93	$560,000
Soybeans	123.2	170,095	9.5	1.53	$290,000
Total	373.8	496,766	27.6	4.45	$850,000

Assumes every eligible truck gallon switches to dyed diesel. Excludes other crops, trips from field to on-farm bins, and livestock and fertilizer hauling.

What Does the USDA Say About the Cattle Market?

Tim Petry, NDSU Extension Livestock Marketing Specialist

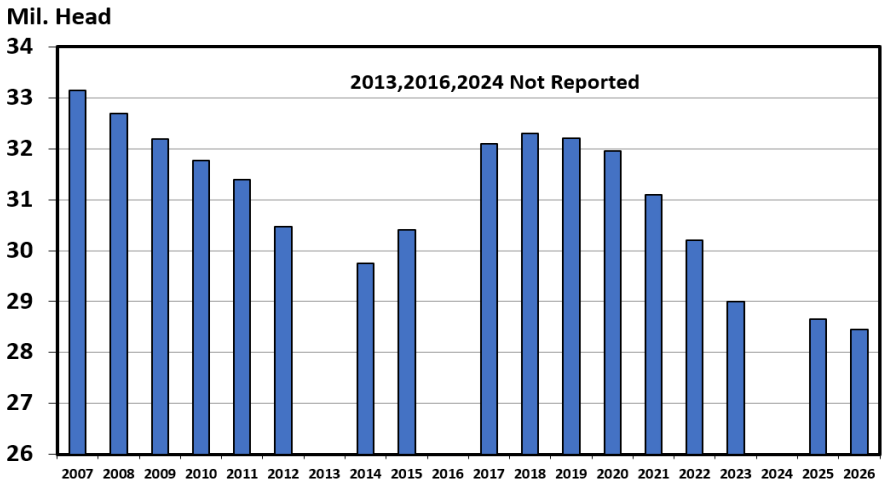
When agricultural market news services discuss cattle prices, they say, "according to USDA..." or "USDA predicts...". However, several USDA agencies publish crucial information about livestock production and marketing. Each agency has distinct responsibilities to provide different, unbiased information.

The USDA's National Agricultural Statistics Service (NASS) provides important supply-related updates. Of major importance to the cattle industry are the semiannual cattle inventory reports published in January and July. Current and past reports are available at https://usda.library.cornell.edu/concern/publications/h702q636h.

The January cattle report provides a more detailed state-by-state breakdown, which allows regional comparisons and weather-related changes to be documented. The July report only provides total U.S. cattle inventory numbers.

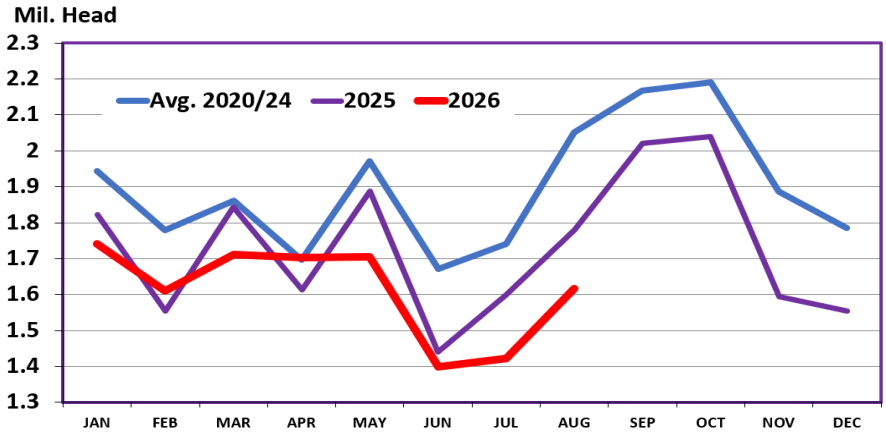
The latest cattle report released on July 24 reported the July 1 U.S. beef cow herd at 28.45 million head, down 1% from last year. That was the eighth straight year of liquidation from the 2018 cyclical peak of 32.3 million head. The 2026 U.S. calf crop at 32.5 million head, including both beef and dairy calves, is projected to decline 1.5% from just under 33 million head last year.

July 1 Beef Cow Inventory — U.S., Annual



Source: USDA NASS

Feedlot Placements — U.S. Total, Monthly



Source: USDA NASS

NASS also publishes a monthly Cattle on Feed report, available at https://usda.library.cornell.edu/concern/publications/m326m174z.

The Sept. 18 report showed cattle and calves on feed for the slaughter market on Sept. 1, up 1% from a year ago. August cattle placements on feed were down 9%, and cattle marketed were down 3%. Placements were the lowest for August since the series began in 1996. Despite lower cattle numbers, the increase in cattle on feed was due to slower feedlot turnover, with more days on feed, which contributed to higher carcass weights.

The USDA's Office of the Chief Economist publishes a monthly World Agricultural Supply and Demand Estimates (WASDE) report, available at www.usda.gov/oce/commodity/wasde.

The WASDE report provides annual forecasts for supply, use (including exports) and prices for major crops, oilseeds and livestock (including cattle and beef).

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What Does the USDA Say About the Cattle Market? — continued from page 4

The September WASDE released on Sept. 11 forecast 2026 beef production at 24.95 billion pounds, down from 26.07 billion pounds last year. The 2027 beef production is forecast to decrease slightly to 24.9 billion pounds due to fewer fed cattle and cows slaughtered but was somewhat offset by higher carcass weights. The 2026 beef exports are projected at 2.34 billion pounds, down from 2.58 billion pounds in 2025.

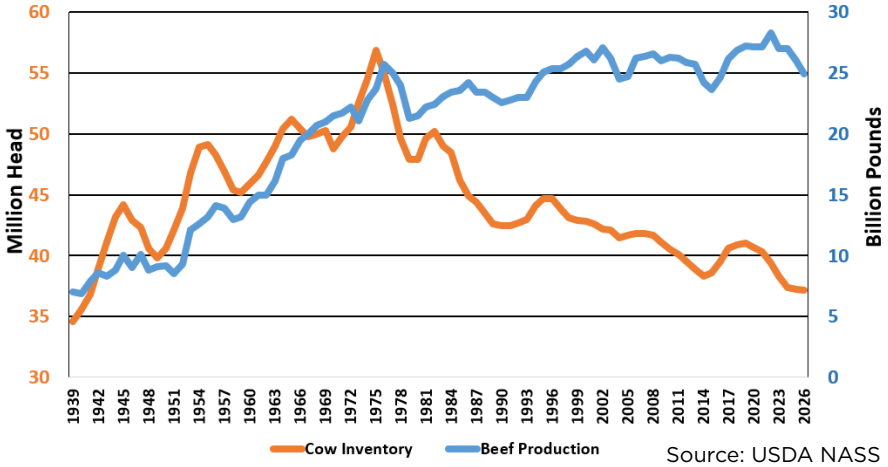
The U.S. cow herd is 37.27 million head – including both beef and dairy cows – and is below the last cyclical low of 38.3 million head in 2014. But beef production in 2026, at 24.95 billion pounds, is over a billion pounds higher than in 2015, when it was 23.76 billion pounds. That shows the resiliency of the U.S. cattle industry in producing beef.

The 2026 annual fed steer prices are projected at a record $237.35/cwt., up from last year's $224.37. The 2027 fed steer prices are forecast to increase slightly to $238/cwt.

The USDA's Economic Research Service (ERS) publishes a monthly Livestock, Dairy, and Poultry Outlook publication, available at https://www.ers.usda.gov/publications/115136.

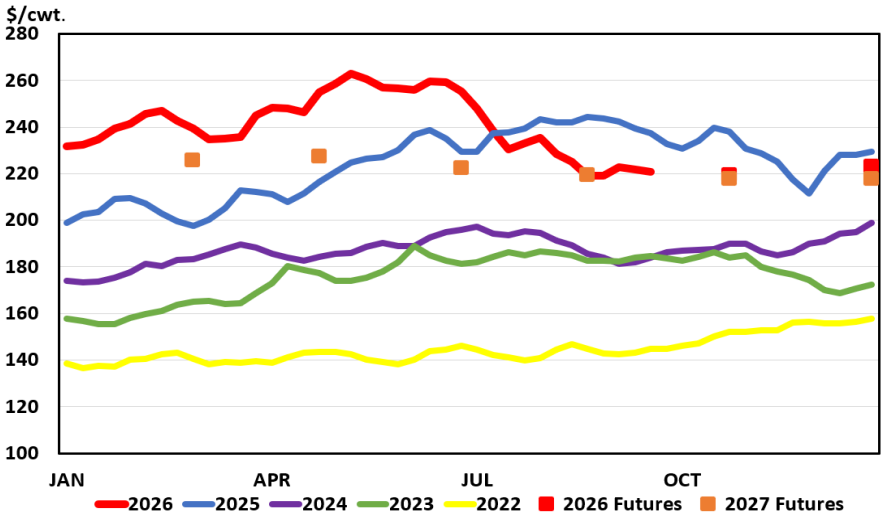
The report provides in-depth analyses of fundamental supply-and-demand factors affecting the U.S. and international markets for beef, pork, lamb, poultry and dairy products. Fed steer, feeder cattle and cow prices are analyzed in detail.

U.S. Cow Herd and Beef Production



Source: USDA NASS

Fed Steer Prices — 5 Market Weighted Average, Weekly



Source: USDA AMS

The USDA's Foreign Agriculture Service (FAS) publishes a quarterly (January, April, July, October) Livestock and Poultry: World Markets and Trade circular, available at https://www.fas.usda.gov/report-release-announcement/livestock-and-poultry-world-markets-and-trade-18.

The circular analyzes the current situation among the major players in the world beef, pork and chicken trade. Top country summaries for beef production, consumption, exports and imports are shown. The U.S. is the world's leading producer and consumer of beef and the third-largest exporter, behind only Brazil and Australia.

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What Does the USDA Say About the Cattle Market? – continued from page 5

ERS and FAS jointly publish monthly U.S. livestock and meat trade data by country, available at www.ers.usda.gov/data-products/livestock-and-meat-international-trade-data.

The data confirm that 2026 beef exports are declining and imports are increasing due to shorter beef supplies and record-high prices.

The USDA's Agricultural Marketing Service publishes weekly U.S. livestock auction market reports. North Dakota market reports are available for Kist Livestock Auction in Mandan, North Dakota; Napoleon Livestock in Napoleon, North Dakota; Stockmen's Livestock Exchange in Dickinson, North Dakota; and a combined North Dakota auction summary, available at www.ams.usda.gov/market-news/feeder-and-replacement-cattle-auctions#North%20Dakota.

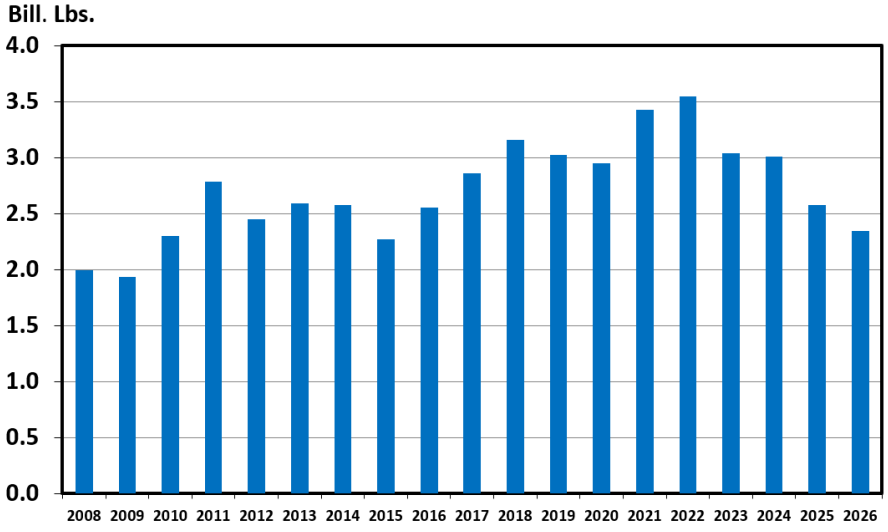
Current calf and feeder cattle prices in North Dakota are down seasonally from spring highs but near last year's record-high levels.

The USDA's Risk Management Agency publishes Livestock Risk Protection (LRP) coverage prices, rates and ending values at www.rma.usda.gov/tools-reports/livestock-reports-lrp-lgm.

LRP insurance is a valuable price risk management tool when prices are volatile and uncertainty exists due to the many supply-and-demand factors affecting the cattle market.

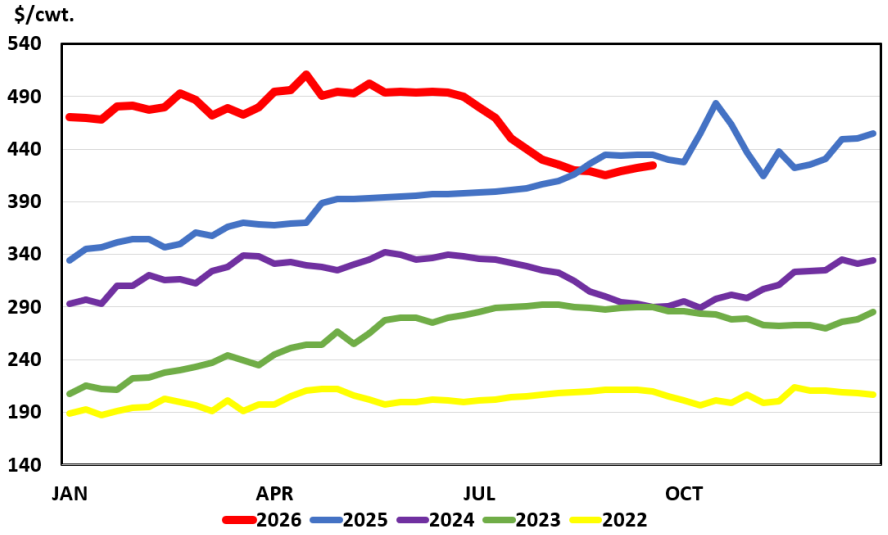
So, what does the USDA say? The cyclical decline in beef cow herd and calf crops has supported cattle prices at record-high levels. But many dynamic, fundamental supply-and-demand factors are causing enough uncertainty to make cattle futures and cash markets volatile.

U.S. Beef Exports — Carcass Weight, Annual



Source: USDA ERS and FAS

Medium and Large Frame #1 Steer Calf Prices
550-600 Pounds, N.D., Weekly



Source: USDA AMS

U.S. Beef Production and Use By the Numbers

Jon T. Biermacher, NDSU Professor of Practice and Extension Livestock Development Specialist

Over the past several months, I have been hearing via radio, television, internet and social media outlets a mixture of varying perspectives on U.S. beef production, who buys and consumes it. Sadly, many of these perspectives fall outside the boundaries of the data that we have, which we use to understand domestic beef production and how it's used. Given all the noise around these varying perspectives, I thought it would be a good idea to go through the data we have and provide some insights.

To begin, let's take a look at the September estimates for the end-of-year (Dec. 31, 2026) U.S. beef supply and use that are reported by the USDA (Table 1). The data are from the World Agriculture Supply and Demand Estimates report published on Sept. 11 by the USDA's Office of the Chief Economist, which can be found at https://www.usda.gov/oce/commodity/wasde/wasde0926.pdf.

Table 1. U.S. Beef Supply and Use Estimates: September, 2026

Supply/use category:	E.O.Y Estimates
Supply	
Beginning stocks (Million pounds)	577
Total US beef production (Million pounds)	24,945
Imports, excluding proposed Argentina policy (Million pounds)	6,262
Total supply of beef (Million pounds)	31,784
Use	
US exports of muscle plus variety meat (Million pounds)	2,343
Ending stocks (Million pounds)	565
Total use (Million pounds)	28,876

Additional information of interest:	Value
Exports as a percent of U.S. beef production (%)	9.2%
Domestic consumption as a percent of U.S. beef production (%)	91%
Offal and variety meat production (Million pounds)	1,247
Variety meats as a percent of U.S. beef production (%)	4%
Variety meat exports (Million pounds)	586
Variety meat exports as percent of U.S. beef exports (%)	25%
Exports of beef muscle cuts (Million pounds)	1,757
Muscle cut exports as a percent of U.S. beef exports (%)	75%
Imports as a percent of U.S. beef production (%)	25%
Possible imports from Argentina trade deal (Million pounds)	660
Imports as a percent of U.S. beef production, including Argentina (%)	27%

Source: https://www.usda.gov/oce/commodity/wasde/wasde0926.pdf

The supply side of the data reflects estimates for three things: one, beginning stocks of 577 million pounds of beef that were carried over from 2025; two, total U.S. beef production of 24.9 billion pounds; and three, imports of roughly 6.3 billion pounds of beef products, which are mostly comprised of lean beef cuts (to be processed into hamburger) and already processed lean trim. These three sources combined provide for a grand total estimate of 31.8 billion pounds of beef available for U.S. consumption through the end of 2026. Out of the 25.5 billion pounds of beef produced (excluding imports), the USDA estimates that 2.3 billion pounds of beef (9.2%) will be exported to our international trade partners, and 565 million pounds of the U.S. beef supply is expected to be carried over for use in 2027 (about 1.8% of the U.S. beef supply).

Using the supply and use data reported in Table 1, several key metrics were calculated to help address some of the misinformation circulating in the grapevine these days. Before I dive into those numbers, it is important to note that governments are not the agents that buy and sell beef products; it is private companies (U.S. and foreign) that buy

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U.S. Beef Production and Use By the Numbers

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and sell (trade) beef products between countries. Government policies can and do affect trade and prices, but individual private companies are the key agents trading beef products with one another.

On several occasions, I have heard or read that U.S. meat companies export the bulk of our highest-quality beef products and then import low-quality beef back into the country. In fact, though, out of the 25.5 billion pounds of beef expected to be produced in the U.S. in 2026, only 9.2% (or about 2.3 billion pounds) will be exported to our trade partners, with about 20% (469 million pounds) going to our closest trading partners, Canada and Mexico. Conversely, then, this data reveals that U.S. consumers are expected to purchase and consume almost all (91%) of the entire U.S. supply of beef in 2026 — a percentage, give or take two to three percentage points, that has remained fairly constant over the past several decades.

As mentioned above, the U.S. meat industry is expected to export 2.3 billion pounds of muscle meat and edible offal and variety meats in 2026. Tracked separately by the USDA, the U.S. beef industry is expected produce about 1 billion pounds of edible offal and variety meats (hearts, livers, tongues, tails, kidneys, etc.) in 2026, which is about 4% of total beef production, and it will export roughly 25% (586 million pounds) of total variety meat production to countries that have a preference for variety meats and countries that continue to add protein to their diets as their incomes rise. The remaining 1.3 billion pounds of offal and variety meat not exported are mostly used in the production of animal feed (pet food, food for fish farms, etc.), with lesser amounts sold to consumers as processed meats (bologna, hot dogs, etc.). The sale (credit) of variety meats and other products from harvested byproducts (the "drop," such as hides, bones, etc.) helps provide income streams back to the U.S. beef industry.

The other 75% of the estimated 2026 U.S. beef exports (1.9 billion pounds) are mostly comprised of muscle cuts that international buyers pay very high premiums for each year, especially for prime cuts that are of very high quality. In addition to finding their way to wealthier households, a good deal of these high-quality beef products end up in high-end restaurants, foreign-owned cruise ships and vacation resorts located across the globe. Note that companies that can market high-quality beef products to international consumers help support and create new demand for high-quality beef genetics and the finished calves produced from those genetics on our nation's beef cattle farms and ranches.

Lastly, expected 2026 imports, as a percent of beginning stocks and total production, equals 25% (i.e., 6.26 billion pounds out of 25.5 billion pounds). This figure excludes imports that would be affected by the potential trade deal announced by the White House on Aug. 29, 2026, which would allow an additional 660 million pounds of Argentine beef to enter the U.S. Based on recent reports, it appears this deal will not happen in 2026. However, the possibility of importing an additional 660 million pounds of lean trim was considered in this publication's calculations, and the results suggest that it would only increase imports as a percent of total U.S. production by about 2%, moving it from 25% to 27%. The impact of this relatively small change in beef imports on the price of weaned calves at the sale barn is expected to be negligible.

I, like many, agree that announcements of sporadic beef trade policies (and others like it) coming out of Washington have an off-putting, erratic effect on the cattle futures markets; however, they do not impact the fundamental principles of economics that impact the market price of calves and yearlings out in the country. Continue to focus on the fundamentals and try to avoid all the noise.

Contact me with any questions at jon.biermacher@ndsu.edu.

Understanding the U.S.-China Trade Agreements

Frayne Olson, NDSU Extension Crop Economist/Marketing Specialist

U.S. President Donald Trump and President Xi Jinping of China met in Washington on Sept. 23-25, 2026. There were rumors that U.S. and Chinese negotiators would announce additional agricultural trade commitments as a result of the meeting. While progress was made in U.S.-China trade relations, no new agreements on agricultural trade were announced.

The most significant trade-related announcement operationalized the U.S.-China Board of Trade, which was initially established during President Trump's visit to Beijing in May 2026. The overall mission of the Board of Trade is to "optimize bilateral trade" between the two countries. The Board's first major task is to reach agreement on import tariff reductions for $60 billion of nonsensitive goods traded between the two countries.

The $60 billion in goods is divided equally between the U.S. and China, with $30 billion in goods imported by each country. The U.S. tariff reductions target small appliances, toys, holiday decorations and children's car seats. The Chinese tariff reductions focus on agricultural goods such as fish, seafood, logs and wood products, cosmetics and medical devices. However, the additional 10% Chinese import tariff on U.S. soybeans was not reduced and remains in place.

Each country provided an initial list of products targeted for tariff reductions. A summary of the Chinese list of U.S. agricultural products is provided in Table 1.

Even though the most recent U.S.-China trade negotiations did not result in additional Chinese commitments, previous agreements targeting agricultural products are supporting crop markets. The October 2025 summit in Busan, South Korea, resulted in a commitment from China to purchase at least 25 million metric tons of U.S. soybeans during the 2026-2028 calendar years.

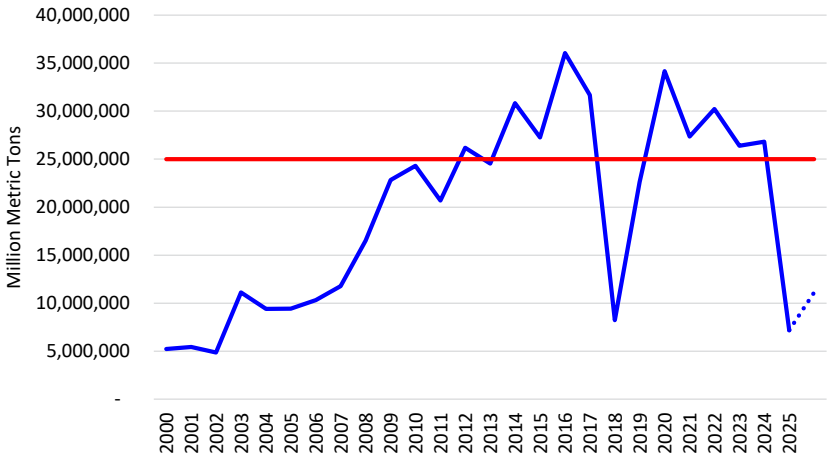
The U.S.-China summit in Beijing, China, in late May 2026 included an additional commitment for China to purchase at least $17 billion of U.S. agricultural products in calendar years 2026-2028. This additional purchase commitment excludes soybeans and is prorated for calendar year 2026.

Table 1 – Summary of U.S. Agricultural Products Targeted for Chinese Tariff Reductions

Barley	Potatoes
Corn	Pulses
Cotton	Rapeseed (Canola)
Dairy products	Rice
Distilled Spirits	Sorghum
Eggs	Spices
Fish	Sugar
Fruits	Sunflower
Meats (beef, pork, poultry)	Tobacco
Nuts	Vegetable Oils and Meals
Oats	Wheat
Pasta	Other Products

Sept. 27, 2026 U.S.-China Board of Trade White House Fact Sheet

Figure 1 – Historical Chinese Soybean Purchases from the United States



U.S. Department of Agriculture Foreign Agriculture Services Global Agricultural Trade System

Understanding the significance of these agreements can be difficult without some historical context. Figure 1 shows the historical Chinese soybean purchases per calendar year in million metric tons from the U.S.

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Understanding the U.S.-China Trade Agreements

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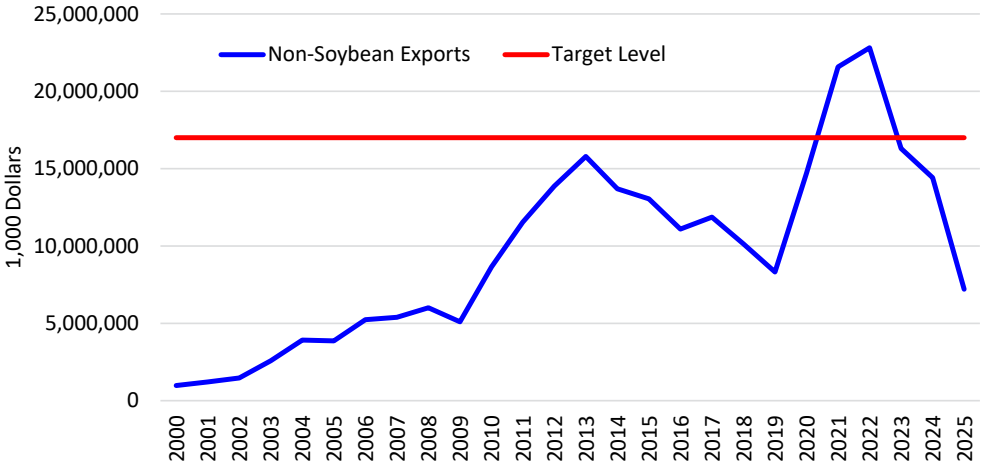
The blue line in Figure 1 shows U.S. soybean export sales to China by calendar year. The dashed line on the right-hand side is soybean export sales from January through July 2026. The red line represents the 25 million metric ton export target outlined in the agreement. The low export sales volumes in 2018 and 2025 represent the impact of previous U.S.-China trade disputes.

Figure 2 – Historical Chinese Imports of U.S. Agricultural Products, Excluding Soybeans



U.S. Department of Agriculture Foreign Agricultural Services
Global Agricultural Trade System

Figure 2 shows the historical value of Chinese agricultural product purchases from the U.S., excluding soybeans. The blue line shows the historical value of U.S. agricultural exports to China, and the red line is the $17 billion target. It is still unclear which specific agricultural products are included in the $17 billion target. The blue line includes the value of bulk grains, fruits, nuts, vegetables, meat products and hides, dairy products and seafoods. It does not include soybeans (which were specifically excluded in the agreement), wood products and biofuels, such as ethanol and biobased diesel.

The only previous time period when the value of Chinese imports exceeded the $17 billion target was during 2021 and 2022. This was due to the terms of the Phase One agreement negotiated at the end of the first trade dispute with China.

The combined impact of the two trade agreements has the potential to notably impact U.S. crop prices. However, the impacts on specific crops will heavily depend on the timing and amount of Chinese purchases.

The goal of an international buyer is typically to purchase U.S. ag products at the lowest price possible and within a specific time window. This means that Chinese buyers will likely buy specific U.S. ag products that provide them the most value. The most likely time period of purchases would be during harvest, when prices are typically lower. The products most likely chosen would be those with the largest available supplies. This buying strategy may not result in the price rallies that many farm managers are looking for, but it should provide price support through the winter marketing season.

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