

Agriculture By the Numbers

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NDSU Extension Agribusiness and Applied Economics

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Negotiating Trade Agreements Takes Time

Frayne Olson, Crop Economist/Marketing Specialist

Based upon news reports, there are currently 16 countries talking to U.S. trade officials about modifying or establishing bilateral trade agreements with the U.S. Negotiating trade agreements is not easy and usually takes months and sometimes years to finalize.

Historically, it has taken the U.S. between four months and 38 months to negotiate a free trade agreement, according to a Peterson Institute for International Economics report (www.piie.com/blogs/trade-and-investment-policy-watch/how-long-does-it-take-conclude-trade-agreement-us). On average, it takes 18 months to negotiate an agreement and another 45 months to fully implement the agreement.

For example, during the first trade war with China, it took about 565 days from the time the trade war began until the Phase One Agreement was signed. That is a little over 18 months. This agreement included eight chapters covering intellectual property, technology transfer, agriculture, financial services, exchange rates and trade expansion.

There are many variables that can impact the amount of time needed to negotiate a trade agreement:

- The number of countries involved in the agreement
- Whether or not a new agreement is being discussed or an existing agreement is being modified
- The number and types of products and services being negotiated in the agreement
- The diversity or similarity of each country's social, political and economic structure
- The complexity of the existing trading relations
- The relative negotiating power of the countries involved

The specific terms and structure of a trade agreement are critical for the economic benefits and costs of any trade agreement. But the timing of a trade agreement's signing and implementation are also important.

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U.S. agricultural exports often have seasonal patterns. This is especially true for soybeans. The largest volume of soybean export sales are typically from September through February. Corn and wheat export sales also have seasonal patterns, but they are not as strong.

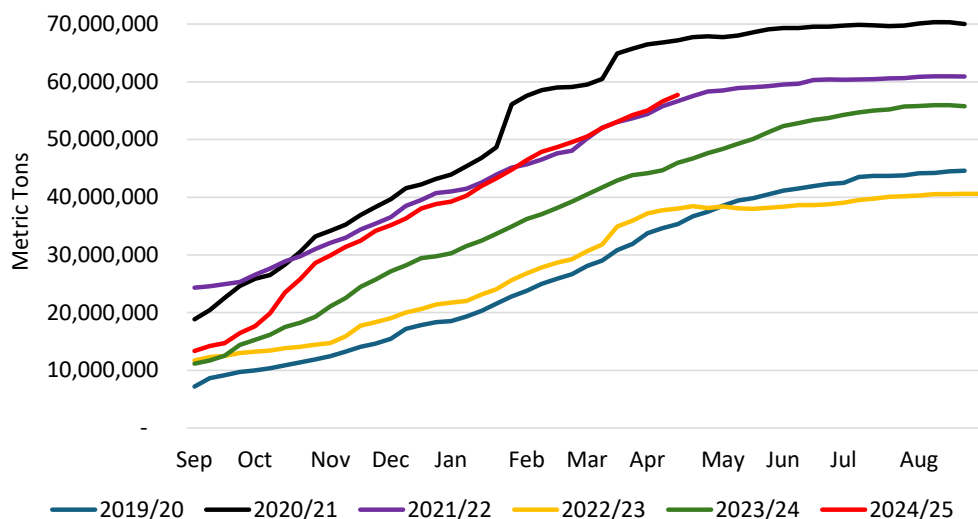
Figures 1-4 show the cumulative weekly export sales for corn, soybeans, all wheat classes and hard red spring wheat, respectively, for the past six marketing years. A cumulative figure shows the rate of growth for exports. If export sales are large, the cumulative graph increases rapidly and the line becomes more vertical. If export sales are small, the graph increases slowly and the line becomes more horizontal.

Notice how soybean export sales slow dramatically from February through August, corn export sales slow from May through August and all wheat and spring wheat sales slow from March through May. There is a clear tendency for U.S. export sales to be strong at harvest and continue for four to 10 months, depending upon the crop. Export sales usually slow during the growing season.

If trade negotiations begin in April, 2025, there may or may not be new agreements signed before the 2025 harvest begins. This does not necessarily mean that U.S. grain exports will be below normal. Some companies may follow their normal purchasing patterns based upon reports of progress in trade negotiations and expectations for an agreement in the near future.

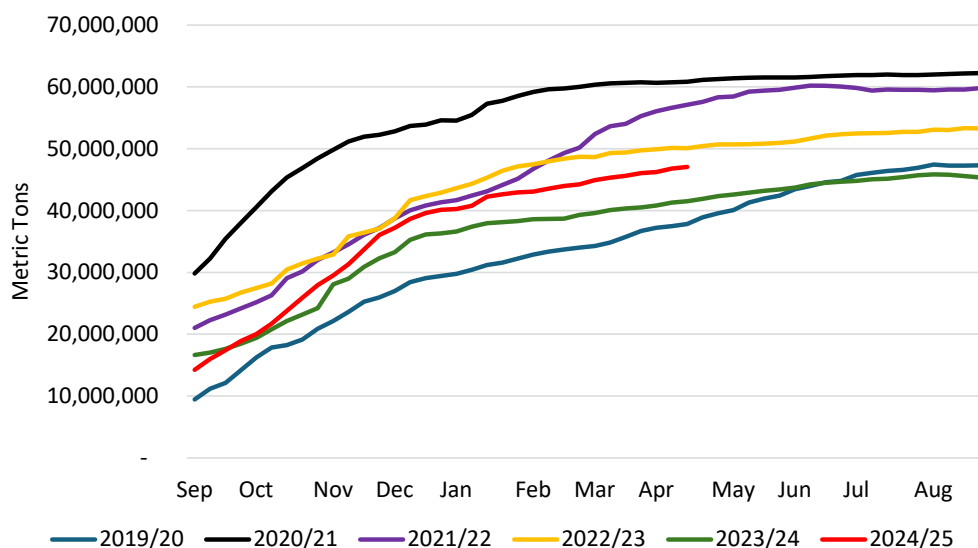
However, other companies may delay large imports of U.S. grains until a new trade agreement is completed. Uncertainty about

Figure 1 - Cumulative Weekly Corn Export Sales by Marketing Year



USDA Foreign Agricultural Service Export Query System (04/17/25).

Figure 2 - Cumulative Weekly Soybean Export Sales by Marketing Year



USDA Foreign Agricultural Service Export Query System (04/17/25).

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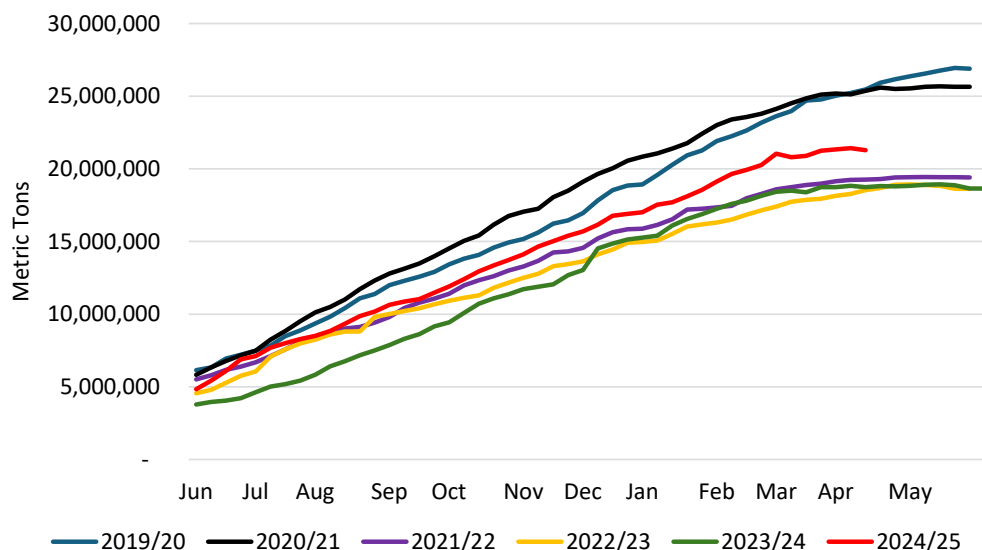
Negotiating Trade Agreements Takes Time — continued from page 2

import permits, new tariff rates, changing tariff rate quotas and sanitary or phytosanitary rules shift the risk-reward trade-off towards waiting.

Another concern about the timeline for trade negotiations is competing exporting countries are also watching the progress being made. Many of these countries are actively pursuing their own sales agreements into key U.S. export markets.

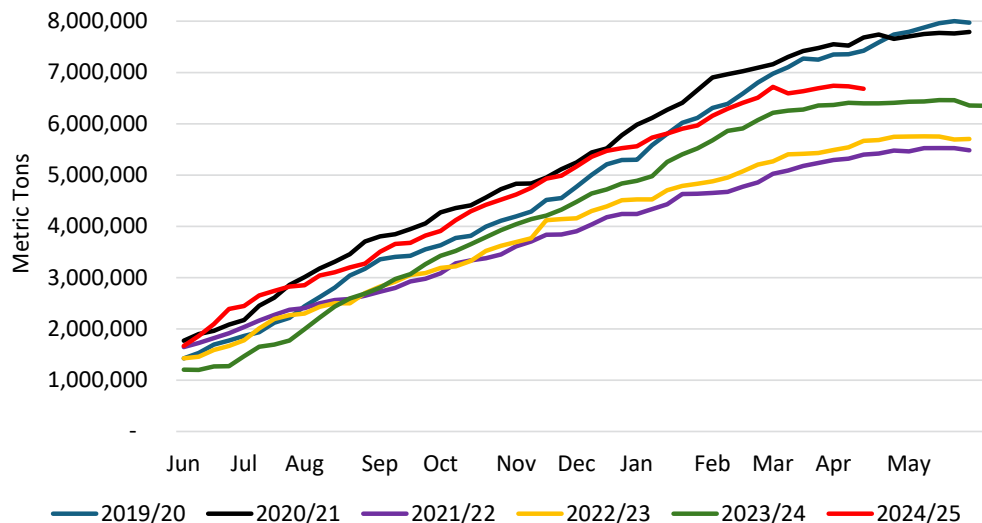
Given the current high level of uncertainty surrounding trade and tariffs it is impossible to predict the timing for trade agreements, especially with the large number of countries currently discussing arrangements. However, this does not mean that farm and ranch managers should ignore trade-related news. Understanding the timing of export sales patterns and potential new or revised trade agreements can impact marketing plans.

Figure 3 - Cumulative Weekly All Wheat Export Sales by Marketing Year



USDA Foreign Agricultural Service Export Query System (04/17/25).

Figure 4 - Cumulative Weekly Hard Red Spring Wheat Export Sales by Marketing Year



USDA Foreign Agricultural Service Export Query System (04/17/25).

What is Required to Obtain Water Quality and Zoning Permits for Large Animal Feeding Operations in North Dakota?

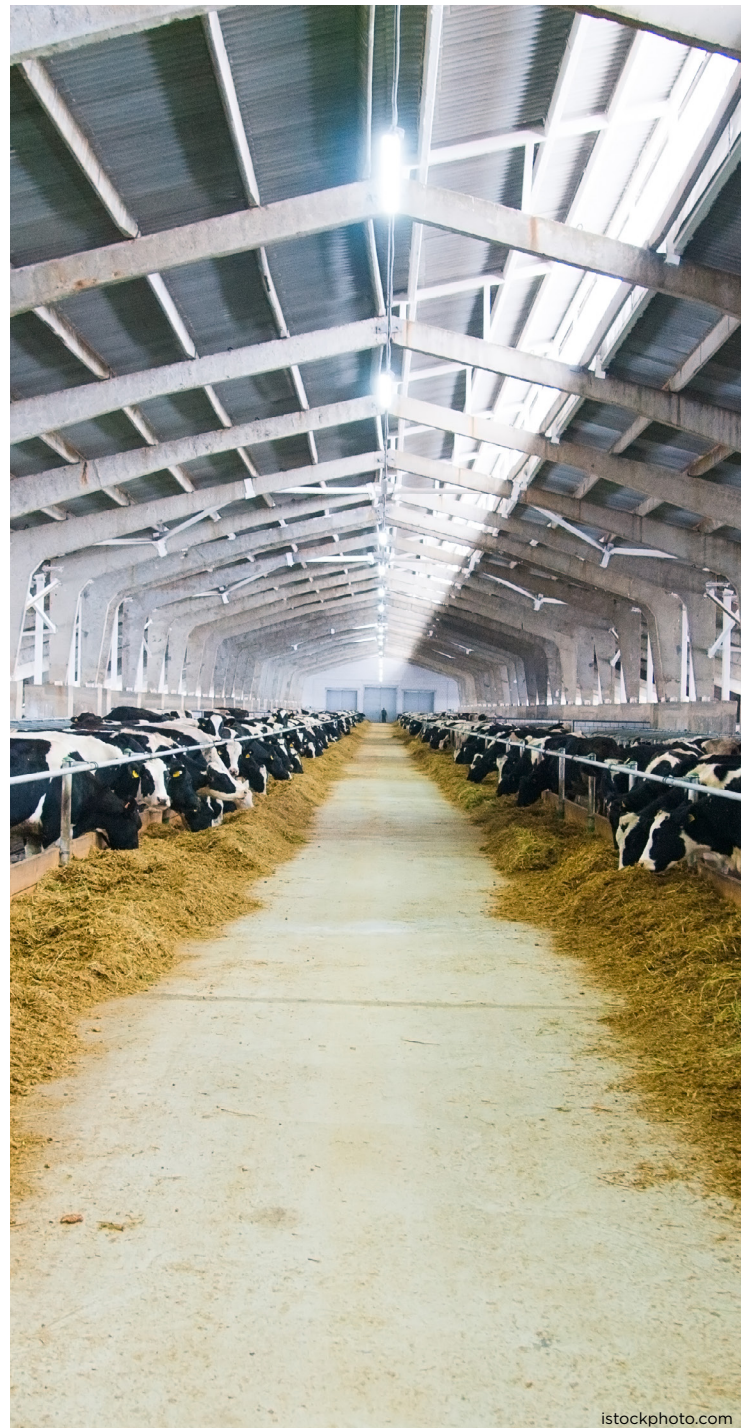
Jon T. Biermacher, Professor of Practice and Extension Livestock Development Specialist and
Md Juyel Ashraf, Graduate Research Assistant

Water quality is essential for the health of our citizens, our natural environment and our economic well-being in North Dakota. Over the past decade, North Dakota has embraced the development and expansion of large animal feeding operations (AFOs) and confined animal feeding operations (CAFOs), including beef cattle feedlots and confined beef, poultry, swine and dairy operations. These types of operations, especially large operations, require a significant source of clean, fresh water to maintain healthy, productive animals.

Large AFOs/CAFOs also produce significant quantities of manure and wastewater that require a detailed management plan for how to discard the manure and wastewater without harming the natural environment, especially our existing clean water supplies. It is important to point out that livestock manure and wastewater have been shown to serve as valuable coproducts of AFOs/CAFOs because they provide essential nutrients, organic matter and moisture to cropland when managed properly. However, in some cases, it is not possible to discard byproduct wastewater without some of it ending up back into the natural environment. As a result, AFOs/CAFOs are regulated in an effort to minimize the negative externalities from wastewater and manure management.

In North Dakota, the regulating authority that develops and administers the regulations and guidelines used to mitigate the pollution of surface waters and groundwaters associated with manure and wastewater produced by AFOs/CAFOs is the North Dakota Department of Environment Quality's Division of Water Quality. DEQ-DWQ is responsible for ensuring manure and wastewater management plans suitable for food production while preventing them from polluting surface and groundwater resources. To this end, DEQ-DWQ requires entities that want to develop and operate large AFOs/CAFOs to obtain a permit before they are legally allowed to be built and operated in North Dakota. In

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What is Required to Obtain Water Quality and Zoning Permits for Large Animal Feeding Operations in North Dakota? – continued from page 4

addition to rules and regulations set forth by DEQ-DWQ, regulations set forth by the U.S. Environmental Protection Agency supersede those implemented by the state governments. Therefore, DEQ-DWQ regulations and guidelines have been developed under the umbrella of the EPA and tailored to address the specific characteristics of North Dakota's freshwater resources.

Points to help navigate the DEQ-DWQ permitting process for AFOs/CAFOs in North Dakota are noted below:

- Specific details about AFO/CAFO permits can be found at https://deq.nd.gov/WQ/2_NDPDES_Permits/1_AFO_CAFO/AC.aspx.
- Not every livestock operation needs a permit because the need for a permit depends on size, location and type of livestock feeding operation. A fact sheet to help assess the need for a permit can be found at https://deq.nd.gov/publications/WQ/2_NDPDES/AFO_CAFO/Do%20I%20Need%20a%20Permit_V2.pdf.
- DEQ-DWQ has a Livestock Program Design Manual that documents the guidelines used to review and make decisions about the permitting process for AFOs and CAFOs. The LPDM can be found at https://deq.nd.gov/publications/WQ/2_NDPDES/AFO_CAFO/ND_Livestock_Design_Manual.pdf?v=2.
- DEQ-DWQ has a publication that provides a detailed account of all the specific rules and procedures governing the application for, and the issuance, denial, modification and revocation of permits for animal feeding operations to maintain beneficial uses of and prevent degradation of the quality of the water of the state. The publication can be found at <https://ndlegis.gov/information/acdata/pdf/33.1-16-03.1.pdf>.
- In addition, there are a number of rules and regulations for manure and wastewater management requiring compliance by AFOs/CAFOs that have been written into federal law by USEPA. Information about USEPA rules and regulations for manure and wastewater management can be found at: www.epa.gov/npdes/animal-feeding-operations-afos.
- The application form required by DEQ-DWQ for AFOs/CAFOs requesting a permit can be found at https://deq.nd.gov/Forms/WQ/2_NDPDES/SFN8296_LivestockApp_2020.pdf.

In addition to regulations and guidelines for manure and wastewater management set forth by DEQ-DWQ, zoning permits are also required before AFOs/CAFOs can build and operate in North Dakota. Zoning regulations provide oversight about if and where an AFO/CAFO can be located in a county or township.

Unlike regulations and guidelines for manure and wastewater permits, zoning regulations and permits are under the purview of local counties and townships. This is the result of the North Dakota Legislature passing two Senate Bills (SB2355 and SB2364) in 1999 that authorized the North Dakota Department of Health to establish a working group with interested political subdivisions, or their associations, to develop model zoning regulations for the subdivisions to regulate as they deemed appropriate. Details about zoning laws by individual county in North Dakota can be found at https://deq.nd.gov/WQ/2_NDPDES_Permits/1_AFO_CAFO/county zoning/default/.

Questions about the permitting process for AFOs/CAFOs in North Dakota can be obtained by Marty Haroldson, director of the Division of Water Quality. His mailing address is 4201 Normandy Street, Bismarck, ND, 58503-1324, and his phone number is 701-328-5210.

The Gap Between Cropland Cash Rents and Market Values Continues to Widen in 2025

Bryon Parman, Agricultural Finance Specialist

Despite reduced net farm incomes in 2023 and 2024 due to low commodity prices and high production costs, cropland prices in North Dakota were up over 10.5% in 2025. In fact, the weighted average cropland value increased nearly 40% from 2021 to 2025. During that same period of time, cash rents across North Dakota were up 19.7%, slightly below the Bureau of Labor Statistics' estimation of total U.S. inflation of 22.2%.

However, the disparity in growth rates of cash rents and land values across North Dakota and the U.S. is not a recent development. Indeed, cash rental rates as a percentage of the market value for cropland have been falling for decades. Figure 1 illustrates the relationship between cash rental rates for cropland in North Dakota from 1989-2025. In 1989, the cash rental rate across North Dakota was 9% of cropland market values. As of the most recent data in 2025, this ratio has fallen to approximately 2.3%.

Another important point is that the gulf between land values and cash rents isn't because of a decline in rents. Periods of growth in land values have generally been accompanied by an increase in cash rental rates. However, the growth in rental rates over the last 35 years has been much slower and, when adjusted for inflation, has not grown remarkably. Figure 2 shows the inflation-adjusted growth of cropland values and cash rental rates.

The rapid increases in market values for farmland from 2010-2013 and the most recent increase from 2021-2025 are notable. For growth in cash rental rates, when adjusting for inflation, 2008-2013 is the only period in the last 35 years where they experienced any significant growth. Outside of that five or six-year period, cash rental rates have mostly stayed flat when adjusting for inflation.

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Figure 1: Cropland Rent to Value Ratio in North Dakota, Adjusted for Inflation in 2012 Dollars

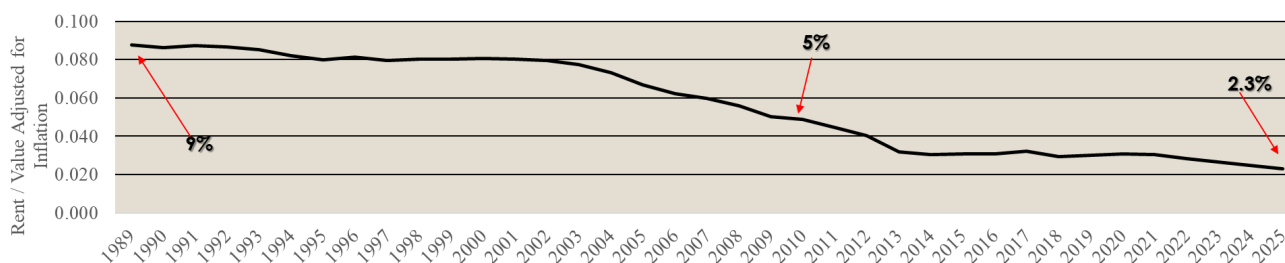
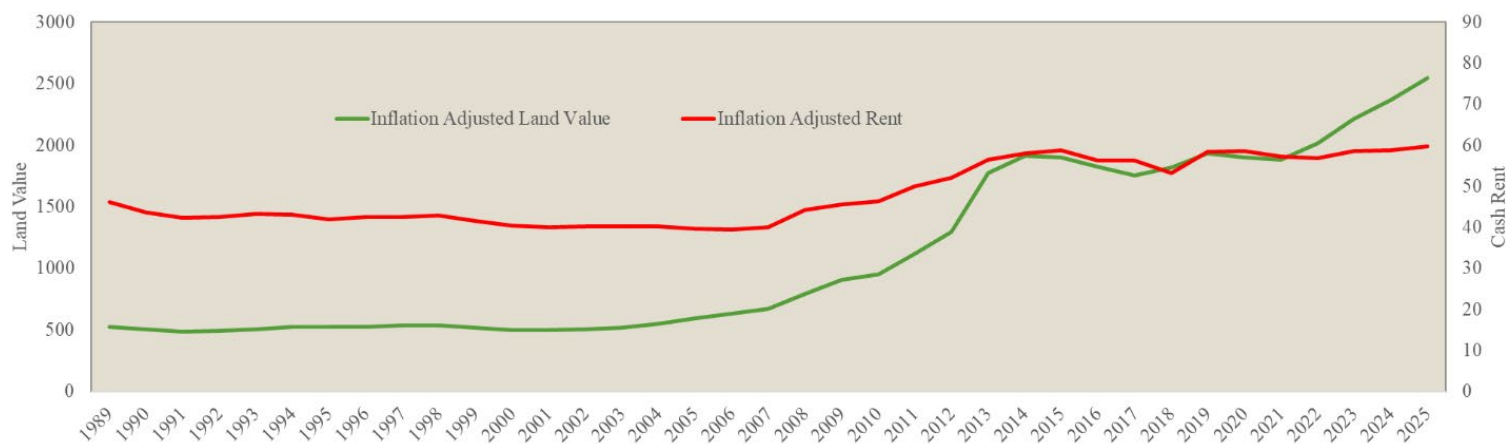


Figure 2: Inflation-Adjusted North Dakota Cropland Values and Cash Rents from 1989-2025.



The Gap Between Cropland Cash Rents and Market Values Continues to Widen in 2025 — continued from page 6

The glaring implication of the growing gap between cropland market values and rental rates is the growing speculative component to land values. In other words, net operating income has become much less of a factor in determining land values. Rather, at least from an investment perspective, expected future growth in market prices further down the line has been fueling the rise in land prices in the short and long run, almost independent of potential income generation.

There have been several explanations for the disparity between growth in rents and farmland prices. One has been the long-run decline in interest rates since the early 1990s, and indeed, interest rates during that time sustained a fairly steady decline from around 10% in the early 90s to around 3% as recently as 2021. Low interest rates not only made borrowing costs low and land payments more manageable but also made other interest-bearing investments less attractive compared to farmland. Others say that stronger safety net programs and changes to crop insurance have raised the floor of how low cropland values could fall if the general farm economy sours. More recently, some claim that ad hoc payments over the last seven years or so, plus high net incomes in 2021 and 2022, were used to fuel additional land purchases. However, as shown above, the gap in land prices compared to cash rental rates began growing long before any of the large ad hoc programs began.

A likely explanation is that all of the above have somewhat contributed to the growing gap between cash rents and land prices. Certainly, declining and sustained low interest rates for many years have impacted market values. Also, while interest rates have increased recently, there are still many loans outstanding with low rates, which, during years of higher income, disincentivize paying off existing

loans versus buying additional land or equipment. Stronger safety net programs were specifically written and passed to limit financial losses, which would be expected to impact land prices or, at the very least, raise the floor. Finally, as with any speculative investment, the expectation that prices will continue to rise in the future becomes a self-fulfilling prophecy where that belief fuels price increases today due to expectations.

This situation, however, creates two problems — one immediate and one long-term. The immediate problem involves farmers and ranchers with limited capital, such as beginning farmers and underserved communities. To some degree, land ownership is a virtual requirement contributing to credit access and long-run growth in wealth. Extremely high land prices relative to income generation create a big barrier to entry in agriculture, especially when combined with the current high cost of farm equipment.

The big potential problem is a future land price correction. When we discuss a potential land price correction, most folks think back to the sharp and severe collapse in the 1980s. However, a correction does not need to include a rapid decline. In fact, a correction could be a decade where land prices simply stop increasing while rents continue to rise, closing the gap. While the market price would not nominally decrease, inflation-adjusted prices would fall, and, if a market price for land were paid assuming consistent growth, equity building would become much more difficult. In any case, it seems inevitable that the gap between cash rental rates and cropland market prices will close. How and when seems to be the biggest question, whether it is an adjustment to rents, values or both.



Summer Calf Grazing Outlook

Tim Petry, Extension Livestock Marketing Specialist

Feeder cattle market prices and futures market prices are near record high, but volatile. So, does summer grazing of calves have potential?

The U.S. Drought Monitor (<https://droughtmonitor.unl.edu>) indicates 70% of North Dakota has varying degrees of drought status, with 5% in D3 Extreme Drought, 26% in D2 Severe Drought, 26% in D1 Moderate Drought and 13% in D0 Abnormally Dry.

Depending on where you live, will there even be enough forage to support a summer calf grazing program?

Approximately 40% of the U.S. beef cow herd resides in regions experiencing drought, with 25% in severe or worse conditions.

U.S. beef cow numbers on Jan. 1, 2025 at 27.86 million head were down 149,500 head from 28.01 million head on Jan. 1, 2024. The 2023, 2024 and 2025 numbers were all below the 28.96 million beef cows at the last cyclical low in 2014, which saw the previous record high cattle prices.

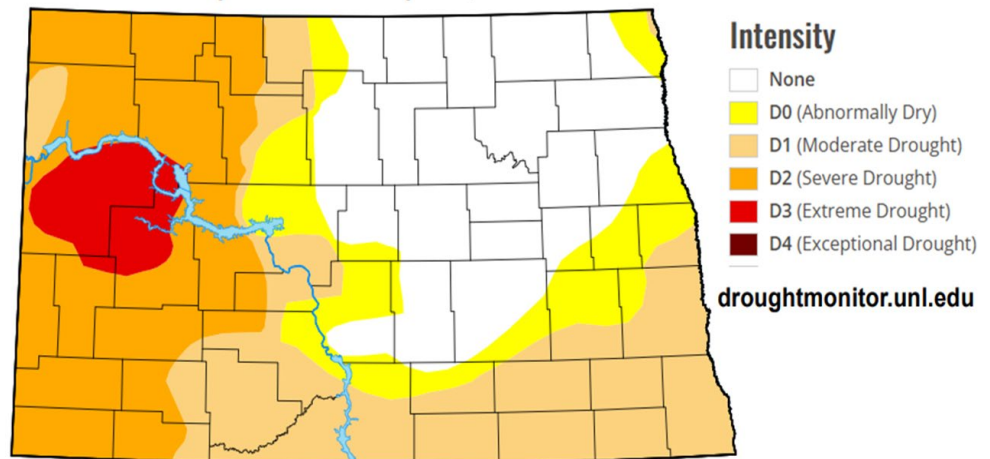
The Jan. 1, 2025 U.S. beef replacement heifer inventory, at 4.67 million head, declined 45,900 head from the 4.72 million head in 2024 and was the lowest number since 1950.

After the last cyclical low in beef cow numbers on Jan. 1, 2014, much-improved moisture conditions allowed herd rebuilding to start in earnest. However, there were more replacement heifers available then than now. Compared to the 4.67 million heifers available to begin 2025, there were 5.56 million heifers available to begin 2014 and 6.09 million available in 2015.

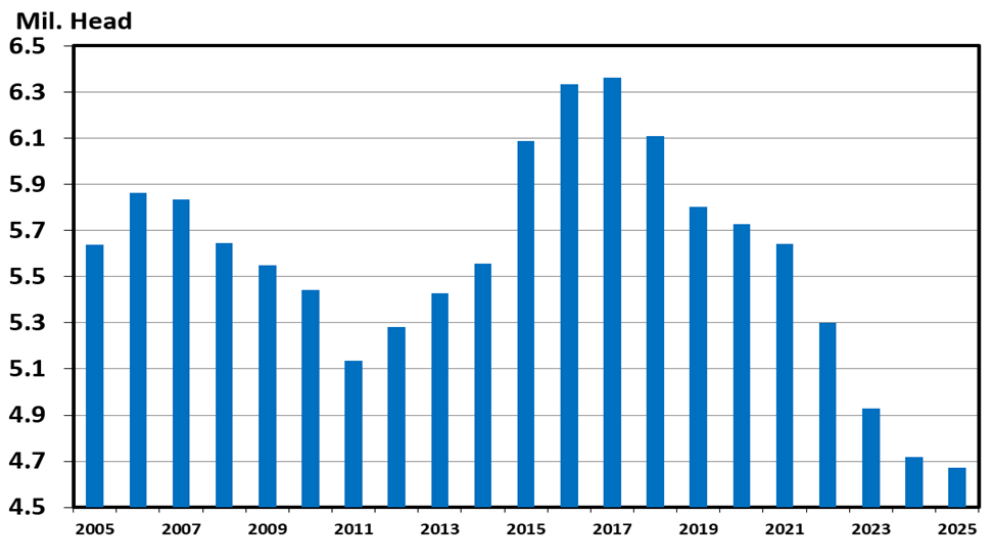
If moisture conditions improve, beef replacement heifers may be in high demand in 2025-26 for herd rebuilding, so grazing replacement heifers this summer may have potential.

U.S. Drought Monitor

Map released: Thurs. April 24, 2025



Heifers Held as Beef Cow Replacements — January 1, U.S.



Source: USDA NASS

The two most important factors that affect calf and feeder cattle prices are corn prices and fed cattle prices, especially live cattle futures in the contract months when the purchased feeder cattle will be marketed for slaughter.

Corn prices decreased in the last several years with near-record corn production in 2024. The March 31 USDA Prospective Plantings report indicated U.S. corn producers plan to plant 4.73 million more acres of corn in 2025.

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Summer Calf Grazing Outlook – continued from page 8

Fed cattle market and futures prices are near record-high levels which is supporting feeder cattle prices. Support is coming from lower supplies, with 2025 being the seventh year for declining calf crops.

Purchasing or retaining calves to summer graze is a “margin” enterprise, so it is important to compute your expected costs and returns.

On the NDSU Extension site www.ag.ndsu.edu/livestockeconomics/Budgets, there is a summer grazing budget that can be used for planning purposes. Example costs and returns are shown; since each producer’s situation is different, the spreadsheet allows users to input expected numbers.

There is a wide range in feeder cattle prices at North Dakota livestock auctions reported by the USDA Agricultural Marketing Service. Prices for 550-600-lb. steers are ranging from \$358 per hundredweight (cwt.) to \$390/cwt. with an average of \$360/cwt.

CME feeder cattle futures prices for August and September are trading from \$292/cwt. to \$294/cwt., but have been volatile.

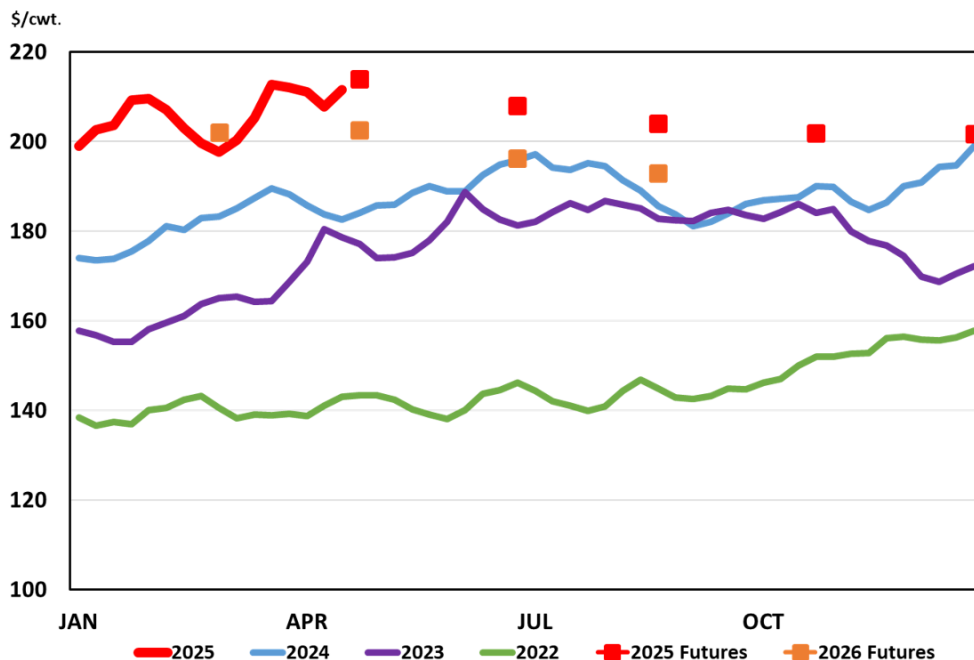
So, the budget assumed a 550-lb. steer calf purchase price or value if already owned at \$360/cwt. The expected selling price for the 850-lb. steer in the fall was \$285/cwt.

The example costs and returns in the budget projected a return to labor and management of \$132 per head. However, a 10% lower selling price of \$256/cwt. resulted in a \$110/head loss.

The budget included a \$65/head cost for an 850-lb. steer USDA Livestock Risk Protection insurance contract maturing in September.

A marketing plan that includes a price risk management strategy should be considered, given the feeder cattle price volatility and risk that is expected. Drought conditions linger, the potential size of the 2025 corn crop is unknown, domestic and export beef demand face challenges and the impact of geopolitical and international trade issues are dynamic and uncertain.

Feed Steer Prices — 5 Market Weighted Average, Weekly



What the New USTR Port Fee Policy Means for U.S. Agriculture

Matthew Gammons, Assistant Professor of Ag Policy and Jiyeon Kim, Research Assistant Professor

The U.S. Trade Representative (USTR) has finalized a new policy imposing port fees on Chinese-built and Chinese-operated vessels calling at U.S. ports. This action concludes a year-long process initiated by a Section 301 petition filed in March 2024 by five major U.S. labor unions, led by the United Steelworkers. It also refines an initial proposal outlined in a draft executive order circulated in February 2025. A timeline of the events leading up to this decision is shown in Figure 1.

**Figure 1:
Timeline of
Section 301
Process**



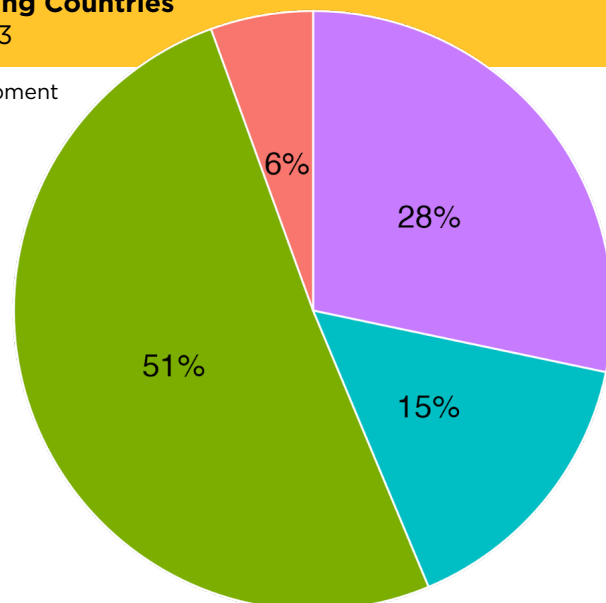
The policy imposes a fee of \$18 on Chinese-built vessels, increasing by \$5 annually for the following three years. The policy also imposes a fee of \$50 per net ton on any vessel owned or operated by a Chinese entity, increasing by \$30 annually for the following three years. For reference, \$50 per net ton translates to approximately \$0.60 to \$0.70 per bushel for wheat, soybeans or corn exports. However, after pushback from agricultural exporters and other sectors, the U.S. Trade Representative (USTR) has significantly revised the rule to include exemptions that reduce its impact on U.S. agriculture.

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Figure 2: Top Shipbuilding Countries
(by gross tonnage), 2023

Source: UN Trade and Development

■ All Other Countries
■ China
■ Japan
■ South Korea



What the New USTR Port Fee Policy Means for U.S. Agriculture — continued from page 10

Relative to the initial proposal, three important changes were made:

- **Empty arrivals on Chinese-built ships are exempted:** Under the final rule, vessels arriving empty to load bulk agricultural commodities — such as soybeans, corn and wheat — are exempt from the fees on Chinese-built ships, but they would still pay fees if the vessel is operated or owned by a Chinese entity. Since a large share of vessels are built in China (see Figure 2), this exemption was essential to avoid large increases in shipping costs for bulk agricultural products.
- **Per voyage, not per port call:** Under the initial proposal, vessels would have been charged at each port call. This would have made some voyages completely infeasible and harmed smaller ports. Under the current proposal, each vessel is charged once per voyage, with a maximum of five assessments annually.
- **Fee remissions for operators who purchase U.S.-built ships:** Under the new proposed rule, operators who take delivery of a **U.S.-built** ship can receive a fee remission for the prior three years for a non-U.S.-built ship of the same size.

Given that China owns 11% of the global shipping fleet by volume (according to United Nations Trade and Development), bulk agricultural commodities will still face some fees, but far less than what they would incur without the exemption for exports shipped on Chinese-built ships that arrived empty.

What does the new policy mean for agricultural products shipped in containers? These shipments — including meat, dairy, fruits, vegetables and specialty grains — rely heavily on vessels arriving full from Asia, particularly from China. Because these vessels do not arrive empty, they are not eligible for the exemption, and most container ships used to export agricultural goods will be subject to the new fee. However, agricultural producers may not bear the full cost. Because demand for freight space is much higher from Asia to the U.S. than from the U.S. to Asia, carriers are under pressure to keep return-trip prices low to avoid sending containers back empty. As a result, they may have limited ability to raise rates on outbound U.S. containerized exports. Instead, the cost of the fee is more likely to be absorbed on the inbound leg, meaning U.S. importers of Asian goods will bear most of the economic burden in the form of higher shipping costs.

The fees will take effect on October 14, 2025.



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