

Agriculture By the Numbers

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NDSU Extension Agribusiness and Applied Economics

Global Wheat Prices Supported by Weather Concerns in Russia

Will Cropland Cash Rental Rates Ever Close the Gap on Cropland Values?

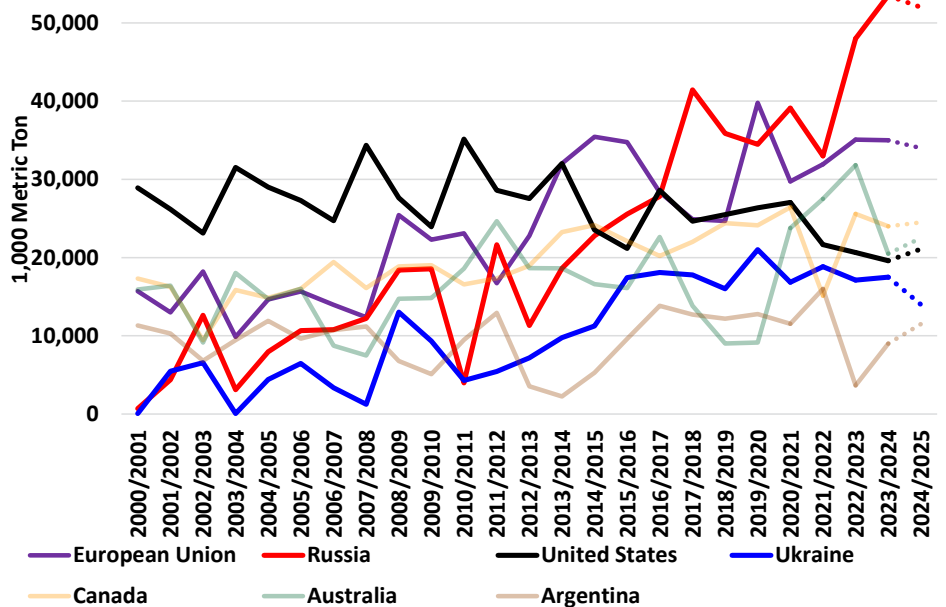
U.S. Beef Production: Past and Present

Global Wheat Prices Supported by Weather Concerns in Russia

Frayne Olson, Extension Crop Economist/Marketing Specialist

Wheat prices in the United States and globally have been supported by adverse weather conditions in Russia’s core winter wheat-producing regions. Russia became the largest global wheat exporter about five years ago and surpassed U.S. wheat export levels nearly 10 years ago. As a result, any change in expected wheat production or export levels from Russia will impact global wheat prices and ripple into U.S. wheat markets. Figure 1 shows historic wheat exports by country for the past 25 years for reference.

Figure 1 - Historic Wheat Export Levels by Country.



Editor: Bryon Parman
Assistant Professor/Agricultural Finance Specialist

701-231-8248
bryon.parman@ndsu.edu

USDA May 10, 2024, World Agricultural Supply and Demand Estimates & PSD Custom Query



EXTENSION

North Dakota State University
Fargo, North Dakota

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Global Wheat Prices Supported by Weather Concerns in Russia

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Russia produces both spring wheat and winter wheat. Figure 2 shows the core production regions for Russian spring wheat, and Figure 3 shows the major production area for winter wheat. Most Russian wheat exports are from the winter wheat regions because of logistical advantages to ocean port facilities. Spring wheat is often used for domestic consumption. About 70% to 75% of Russian total wheat production is winter wheat, with 25% to 30% being spring wheat.

The distinction between Russian winter and spring wheat classes is important because U.S. hard red winter wheat prices are more sensitive to Russian weather problems than U.S. hard red spring wheat prices.

In early May 2024, frost damaged crops, including winter wheat, in the southern growing regions. At this time, the winter wheat was already under stress due to dry and unseasonably hot weather conditions. Since then, temperatures have moderated, but drought conditions have persisted.

Figure 4 shows estimated surface soil moisture levels in Russia's crop production regions. Notice the very dry conditions that extend from the Black Sea in the southeast into eastern Russia and north of Moscow. Figure 5 shows the estimated subsurface soil moisture. This is an indicator of how long the dry weather has continued.

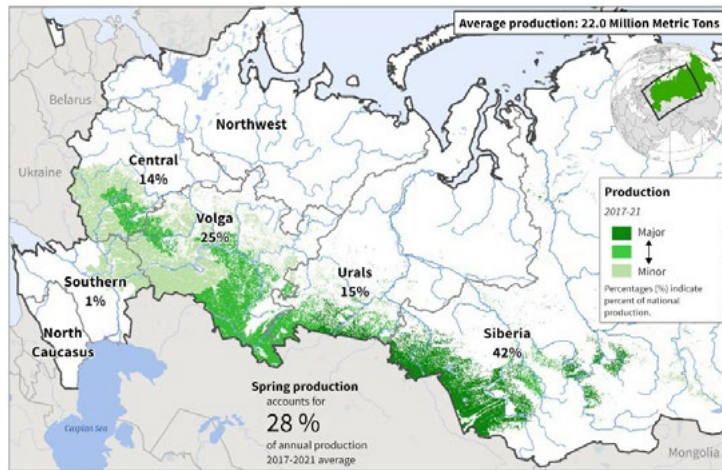


Figure 2 - Russian Spring Wheat Production Regions.

USDA Crop Explorer

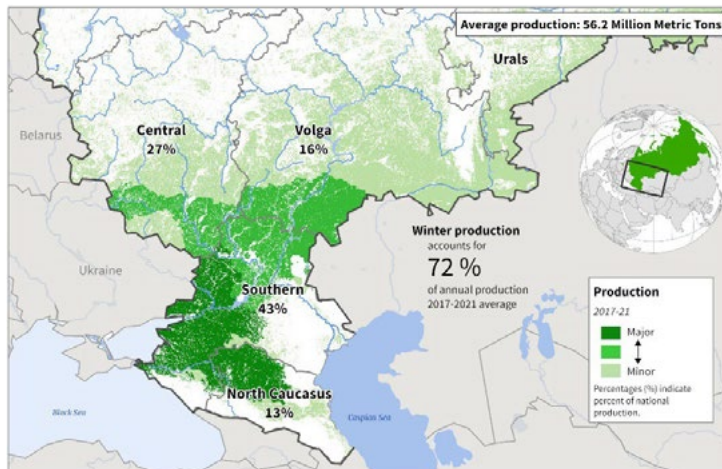


Figure 3 - Russian Winter Wheat Production Regions.

USDA Crop Explorer

USDA Foreign Agricultural Service, U.S. DEPARTMENT OF AGRICULTURE. Sources: Rosstat, Average Crop Production 2017-2021; GFSAD 30 m crop cover (2015)

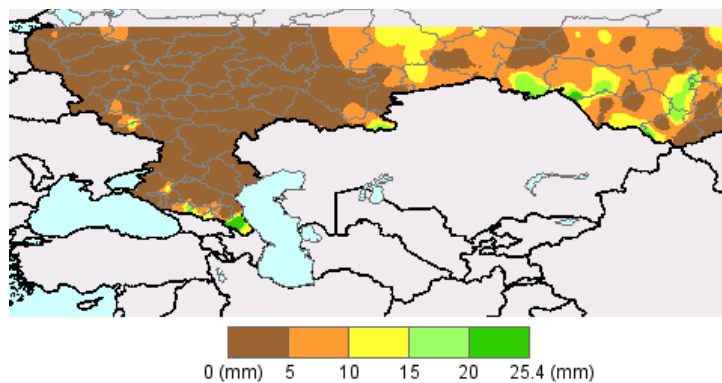


Figure 4 - Russian Surface Soil Moisture Levels.

(May 26, 2024)

USDA Crop Explorer May 19, 2024.

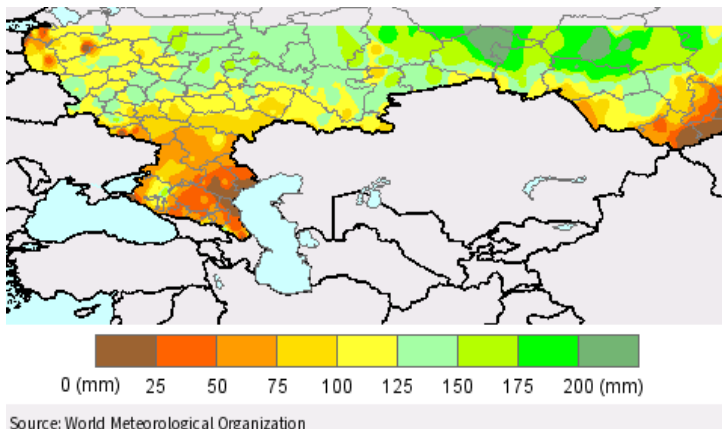


Figure 5 - Russian Subsurface Soil Moisture Levels.

(May 26, 2024)

USDA Crop Explorer May 19, 2024.

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Global Wheat Prices Supported by Weather Concerns in Russia — continued from page 2

Both private and government-based analysts have begun lowering their forecasts for total Russian wheat production. The current production estimates range from 81.5 to 82.1 million metric tons but could fall below 80 million tons if dry conditions continue. For reference, the May USDA World Agricultural Supply and Demand Estimates projected 2024 Russian wheat production at 88.0 million tons. This estimate was prepared before the frost damage was reported in early May.

In addition, the Indian government recently announced it would eliminate a 40% import tax on wheat entering the country starting in June 2024. The goal is to maintain adequate domestic supplies and keep wheat prices stable after three years of

poor wheat production. This is the first time in six years India has allowed wheat into the country without an import tax.

It is unlikely that the U.S. will export wheat directly to India or countries buying wheat from Russia. However, these two events have tightened global wheat supply and demand conditions and increased world wheat prices. There is a good chance that traditional U.S. wheat importers, like Mexico, Japan and the Philippines, will look to the U.S. for their wheat needs rather than buying from other sources. Russian and European wheat export bids have increased more rapidly than U.S. wheat export prices, making U.S. wheat more competitive.



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Will Cropland Cash Rental Rates Ever Close the Gap on Cropland Values?

Bryon J. Parman, Assistant Professor/Agricultural Finance Specialist

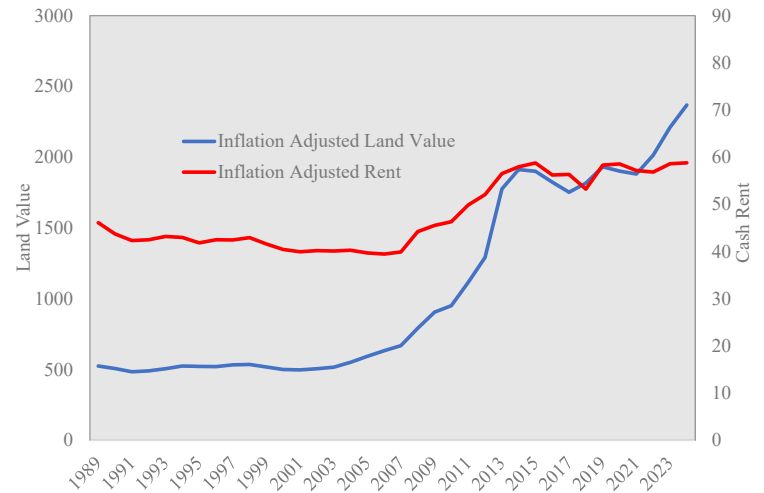
Cropland values in North Dakota as well as nationally have increased substantially over the last three years. High net farm incomes and an abundance of cash reserves have driven farmers to the land market, pushing land prices to record highs. A similar situation occurred 2007 – 2013 when land prices jumped dramatically as a result of high commodity prices and well-above-average net farm incomes.

Cash rental rates have also increased over the last three years and experienced a large increase from 2007 to 2013. However, rental rates have not increased at nearly the rate that land prices have. As a result, the ratio of cash rents to cropland values has steadily declined. From 1989 to 2024, cropland prices in North Dakota have increased at a rate of 4.27% per year from an inflation-adjusted \$525 per acre to \$2,369 per acre. **Note that nominal average cropland values in North Dakota for 2024 are \$3,174/acre and rents \$78.70. However, adjusting for inflation allows us to evaluate the growth rates of rents and values without inflation pressures.** During that same time, state average cash rents increased from \$46 per acre to \$59 per acre adjusted for inflation. This implies that while land values have been increasing at 4.27%, cropland cash rental rates have been increasing at an inflation-adjusted 0.7%.

With cropland values and cash rental rates increasing at dramatically different rates, the ratio of cash rents to cropland values has plummeted. Figure 2 shows that in 1989, the cropland cash rental rate in North Dakota was about 9% of the value of cropland. By 2009, cash rental rates had fallen to 5% of the value of cropland, and, according to the recent 2024 data, cash rents have fallen all the way down below 2.5% of the value of cropland. As mentioned earlier, inflation-adjusted statewide average cropland values in 2024 are \$2,369 (\$3,174 nominal) and rents are \$59/acre (\$78.70 nominal). If cash rental rates were still 9% of cropland values, rents would have to go from \$59 (nominal \$78.70) to \$213 (nominal \$285) per acre. Conversely, if rents stayed where they are, for rents to be 9% of land values, average statewide cropland prices would have to fall from \$2,369 (nominal \$3,174) to \$656 (nominal \$875).

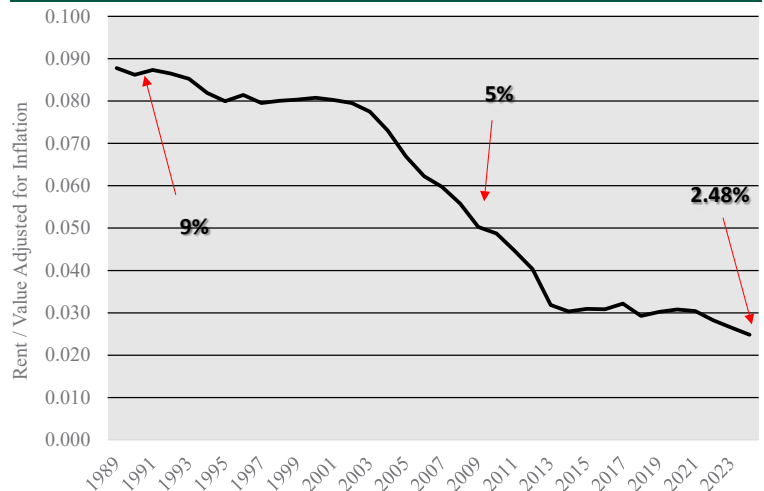
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Figure 1: ND Cropland Values and Cash Rental Rates in \$/Acre 1989-2024 in 2012 Dollars



Data for Figure 1 from North Dakota Department of Trustlands Surveys, county land values and cash rents

Figure 2: Cropland Cash Rental Rate to Land Value Ratio 1989 - 2024



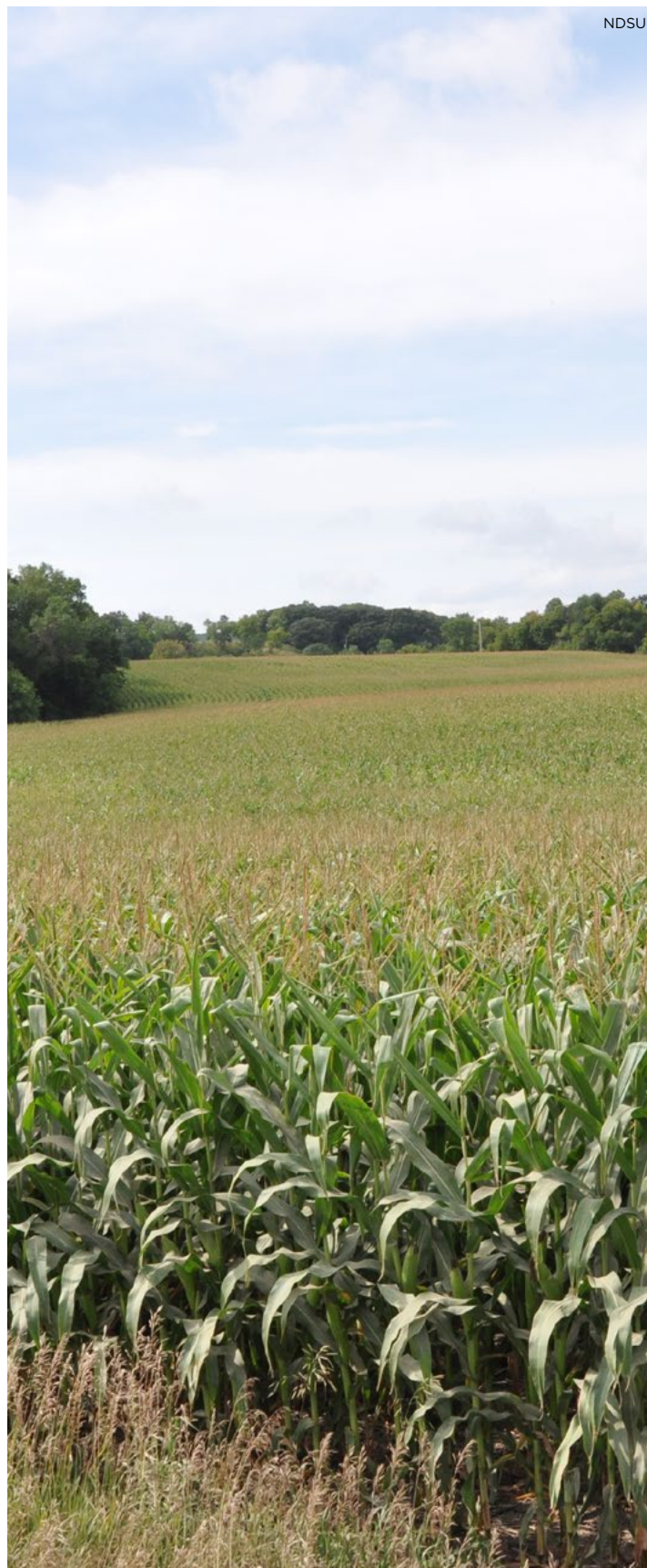
Data for Figure 2 from North Dakota Department of Trustlands Surveys, county land values and cash rents

Will Cropland Cash Rental Rates Ever Close the Gap on Cropland Values? – continued from page 4

What this clearly implies is that capital gains are the only financial incentive to land ownership. There are obviously other reasons to own farmland, including the risk of rental land availability and equity building. However, equity building can be done in other ways, such as investing available cash and/or eventually self-financing equipment and operating notes. But if returns from income or rent are around 2.48% and interest rates on safe assets such as certificates of deposits are over 5%, the only way a land purchase makes financial sense is if the market value continues to grow. Especially if any portion of the purchase is borrowed given that average current interest rates on farm real estate loans are over 7%.

Such a gap between cropland values and cash rental rates is unsustainable in the long run with other investment options being superior, especially from an annual income perspective. A large percentage of farmland in the U.S. and North Dakota is owned by aging retired individuals as well as heirs not involved in farming. For these individuals, annual income from investments may be much more important than any potential capital gain down the road. If the returns on other safe, income-generating investments, such as treasuries, bonds and CDs, remain far more attractive than rents on farmland in North Dakota, there will continue to be a strong incentive for those individuals to move assets away from farmland, especially if dramatic yearly increases in rental rates are infeasible.

Moving forward, much is going to depend on interest rates, which influence bonds, CDs and other investments and borrowing costs, as well as net farm incomes. While it is unlikely that we will see a dramatic drop in cropland values or a large spike in cash rental rates, even if interest rates stay where they are for several years, we may likely see that gap close over the next six or seven years. A likely scenario would be land values staying flat for seven or eight years, which has happened many times in the past while rents creep upward at 5% or 6% per year. This scenario presents a softer landing where equity and wealth aren't diminished while slowly allowing producers and production costs time to absorb increasing rents. For this to happen, there would have to be adjustments in other costs of production to accommodate higher rents, however, at some point, the divergence of land values and rental rates will have to experience a correction.



U.S. Beef Production: Past and Present

Tim Petry, Livestock Marketing Specialist

The U.S. is the leading producer of beef in the world and has been for many years. Following the U.S. in order are Brazil, China, Argentina and Australia.

The USDA Foreign Agricultural Service (FAS) publishes a quarterly report titled “Livestock and Poultry: World Markets and Trade.” The report includes data on U.S. and global livestock and meat production, trade, consumption and stocks, with analysis of developments affecting world livestock, including cattle, beef, and poultry. It is available at <https://fas.usda.gov/data/livestock-and-poultry-world-markets-and-trade>.

The most recent report was released on April 11, and the next report will be released on July 12.

Global beef production in 2024 is forecast to be unchanged from 2023 at 60.4 million tons, as declining production in the U.S. and Argentina will be offset by increases in Australia, Brazil and China.

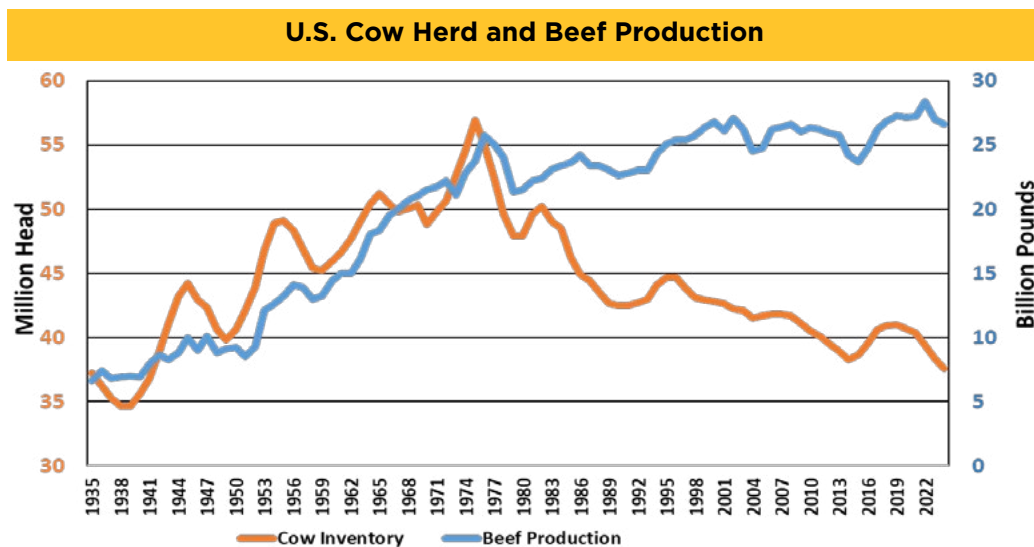
U.S. beef production has been on a long-term uptrend in spite of a decline in cow numbers since 1975. Cow numbers include both beef and dairy cows.

U.S. dairy cow numbers peaked in 1945 at 27.8 million head and have generally declined since then. Dairy and beef cow numbers were essentially equal in 1953 at 23 million head each.

U.S. beef cow numbers continued increasing until 1975 when they reached 45.7 million head. Since then, beef cow numbers have generally declined with cyclical declines outpacing cyclical increases.

On Jan. 1, 2024, U.S. beef cow numbers were 28.2 million head, and with 9.4 million dairy cows, total cow numbers were 36.6 million head.

Beef cow numbers declined for five years from 2019 through 2023, mainly due to drought conditions in important U.S. cattle-producing regions.



Source: USDA-NASS

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U.S. Beef Production: Past and Present

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U.S. beef production reached an all-time high of 28.29 billion pounds in 2022, buoyed by drought-forced beef cow liquidation. 2023 beef production declined to 26.97 billion pounds with fewer cattle available.

The long-term increase in beef production resulted from a long-term increase in fed cattle live and carcass weights. Carcass weights have trended higher for over 60 years, with steer weights increasing an average of 4 pounds per year. Steer carcass weights peaked in 2022 at 910 pounds but declined slightly to 908 pounds in 2023.

Each month, USDA predicts expected annual beef production for 2024 and 2025 in the “World Agricultural Supply and Demand Estimates” report. It is available at www.usda.gov/oce/commodity/wasde.

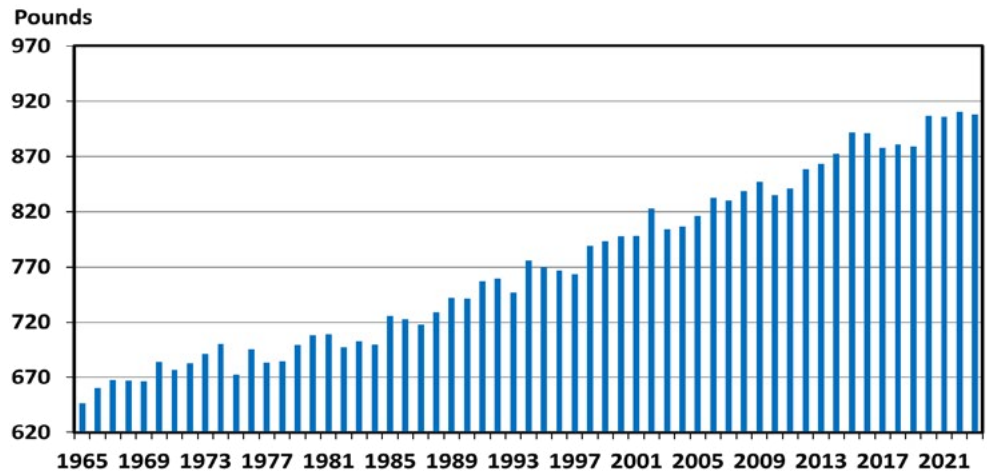
Fed steer carcass weights decreased from 937 to 909 pounds the first five weeks of 2024, the result of severe winter weather in December and January.

USDA’s April estimate for 2024 beef production was 26.46 billion pounds, down 2% from 2023. However, in May, USDA raised the 2024 projection to 26.6 billion pounds due to increasing fed cattle slaughter weights and more heifers on feed than earlier expected.

Feedlots are keeping cattle on feed longer due to the fewer feeder cattle available and at record high prices. And beef packers are encouraging higher weights to help bolster lower beef production levels.

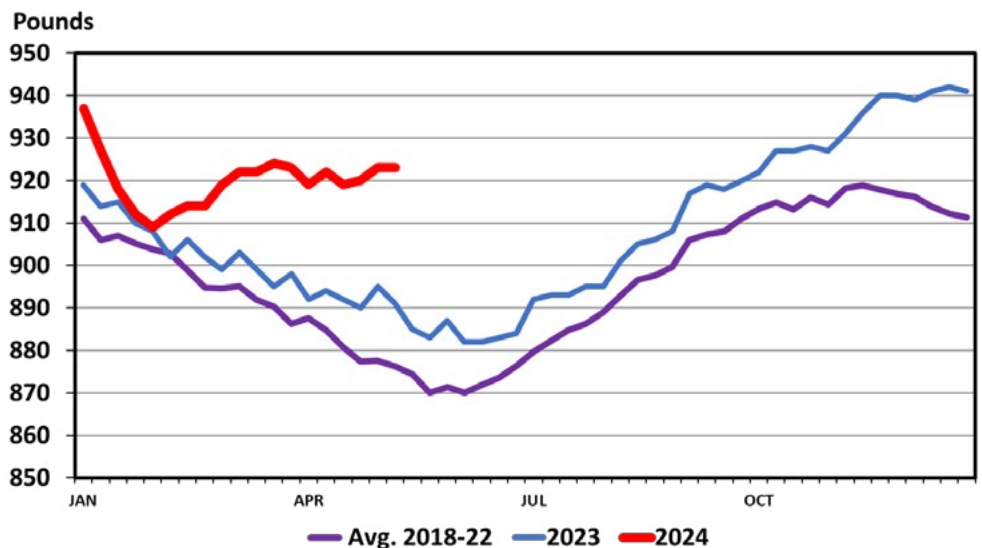
Interestingly, fed cattle carcass weights have been moving counter-seasonally higher since February. Since the start of the year, steer carcass weights have averaged 920 pounds, above the 902 pounds in 2023.

U.S. Steer Carcass Weights — Annual



Source: USDA-NASS

Steer Carcass Weight — Federally Inspected, Weekly



Source: USDA-NASS and AMS

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U.S. Beef Production: Past and Present

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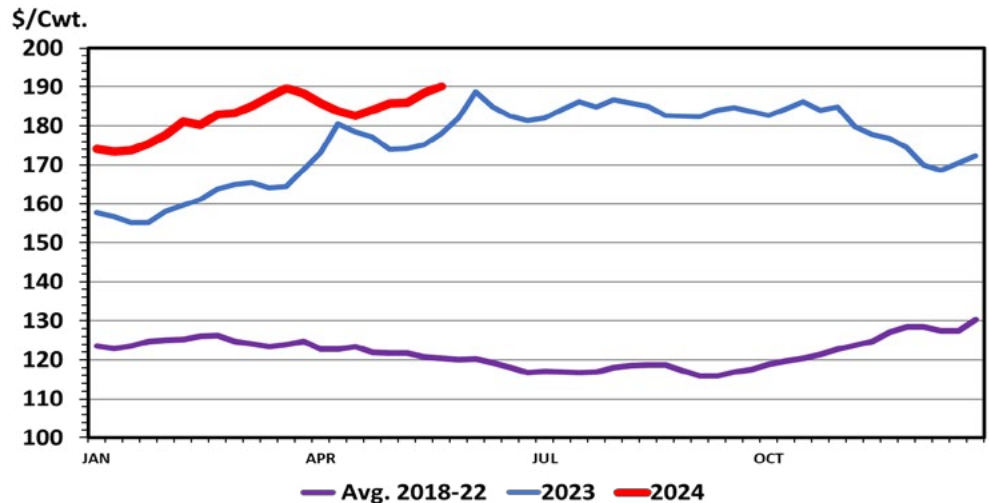
Although carcass weights are tracking higher, it has not been enough to offset the lower cattle slaughter numbers, which has led to a 2% decline in year-to-date beef production through May.

Lower beef production and seasonal early summer beef demand have pushed fed cattle prices up to record-high levels at \$190/hundredweight (cwt.) in late May. With costs of gain averaging \$120/cwt. or less and fewer feeder cattle available, the incentive to add weight to fed cattle will likely continue.

Looking ahead to 2025, USDA is projecting beef production to decline 5.5% to 25.12 billion pounds, which will be supportive to fed cattle prices.

USDA projects fed steers to average \$183.50/cwt. in 2024 and \$188/cwt. in 2025.

Fed Steer Prices — 5 Market Weighted Average, Weekly



Source: USDA-AMS