

Agriculture By the Numbers

April 2024

NDSU Extension Agribusiness and Applied Economics

Explaining the Emergency Relief Program (ERP 2022)

Have Net Farm Incomes and Net Cash Farm Incomes Reached a New Baseline?

Prospective Plantings Report Refines Market Expectations

Beef Replacement Heifer Dynamics

Explaining the Emergency Relief Program (ERP 2022)

Ron Haugen, Farm Management Specialist

Background

On Dec. 29, 2022, President Biden signed into law the Disaster Relief Supplemental Appropriations Act, 2023 (Pub. L. 117-328), which includes over \$3.74 billion in assistance to agricultural producers impacted by wildfires, qualifying droughts, hurricanes, winter storms and other eligible disasters experienced during calendar year 2022.

Overview

The Emergency Relief Program (ERP) 2022 covers crop production, including certain quality losses, and losses of trees due to qualifying natural disaster events that occurred in 2022. For impacted producers, the Farm Service Agency (FSA) will administer emergency relief to eligible producers through a two-track process:

Track 1

Track 1 will leverage existing **Federal Crop Insurance or Noninsured Crop Disaster Assistance Program (NAP)** data as the basis for calculating initial payments. Track 2 is intended to fill additional assistance gaps and cover eligible producers who did not participate in existing risk management programs.

Eligibility — Track 1

Eligible crops and trees in Track 1 include crops for which federal crop insurance or NAP coverage was available and a crop insurance indemnity or NAP payment was received, except for crops intended for grazing. Qualifying natural disaster events include wildfires, tornadoes, hurricanes, floods, derechos, excessive heat, winter storms, freeze, smoke exposure, excessive moisture, qualifying drought and related conditions. Hail damage is not an eligible event.

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Track 1 — Continued

How to Apply — Track 1

To simplify the delivery of ERP 2022 Track 1 benefits, FSA has sent prefilled application forms (FSA-523) to producers whose crop insurance and NAP data is already on file because they received a crop insurance indemnity or NAP payment. This form includes eligibility requirements, outlines the application process and provides ERP 2022 payment information. Receipt of a prefilled application is not confirmation that a producer is eligible to receive an ERP 2022 Track 1 payment. Producers need to return completed and signed ERP 2022 Track 1 applications to be processed in their FSA recording county office.

How Payments are Calculated

— Track 1

Risk Management Agency (RMA) and FSA will calculate ERP 2022 Track 1 payments for insured crops based on the data on file with the agencies at the time of calculation. RMA and FSA will calculate each producer's loss consistent with the loss procedures for the type and level of coverage purchased but using the ERP 2022 program factor in lieu of the coverage level obtained by the producer.

This calculated amount will then be adjusted by **progressive payment** factoring for RMA- insured payments, weighted to the crop by the estimated ERP 2022 payment (prior to adjustments) to determine if it is specialty or nonspecialty. Additionally, for underserved producers, the producer's share of premiums and administrative fees are added to the payment, which then equals the gross ERP 2022 Track 1 payment.

Crop Insurance Level	ERP 2022 Factor (percent)
Catastrophic coverage	75
More than catastrophic coverage but less than 55 percent	80
At least 55 percent but less than 60 percent	82.5
At least 60 percent but less than 65 percent	85
At least 65 percent but less than 70 percent	87.5
At least 70 percent but less than 75 percent	90
At least 75 percent but less than 80 percent	92.5
At least 80 percent	95

NAP Coverage Level	ERP Factor (percent)
Catastrophic coverage	75
50 percent	80
55 percent	82.5
60 percent	85
65 percent	87.5

Progressive Factoring Applied to RMA Insured Track 1 ERP 2022 Payments

Payment Range	Progressive Factor (percentage)
Up to \$2,000	100
\$2,001 to \$4,000	80
\$4,001 to \$6,000	60
\$6,001 to \$8,000	40
\$8,001 to \$10,000	20
Over \$10,000	10

Source: USDA

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Explaining the Emergency Relief Program (ERP 2022)

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Track 2

The revenue-based approach has been expanded, and Track 2 provides two options for determining benchmark and disaster year revenues.

Option 1: The tax-year option (similar to the approach used in Phase 2 of the previous ERP for years 2020 and 2021)

Option 2: The expected revenue option

The tax year option uses a calculation of allowable gross revenue for the benchmark and disaster year and allows producers to use certain information in their tax records and/or supportive documentation to find the information needed to apply for Track 2. Producers who choose tax-year option for Track 2 will select **2018** or **2019** for their benchmark year revenue and **2022** or **2023** as their representative year for the disaster year revenue and will certify to their allowable gross revenue for those years.

The expected revenue option allows the producer to certify to the revenue they reasonably expected to receive absent any disaster conditions and the actual disaster year revenue. The producer's expected revenue must include the expected revenue from all eligible crops that could have been affected by a qualifying disaster event in 2022, including crops prevented from being planted, crops in storage and planted crops (including inventory and perennial crops).

Track 2 Options

Option	Benchmark Year Revenue	Disaster Year Revenue
Tax Year	A producer's allowable gross revenue for the 2018 or 2019 tax year, as elected by the producer.	A producer's allowable gross revenue for the 2022 or 2023 tax year, as elected by the producer.
Expected Revenue	A producer's expected revenue from all eligible crops that could have been affected by a qualifying disaster event in calendar year 2022.	A producer's actual revenue from all eligible crops that were included in the producer's expected revenue.

Source: USDA

Underserved Producers

Underserved producers, including beginning, limited resource, socially disadvantaged and veteran farmers and ranchers, will receive an additional 15% ERP payment factor for Track 2 payments.

Future Coverage Requirements

Producers who receive ERP 2022 payments must purchase crop insurance, or NAP coverage where crop insurance is not available, in the next two crop years.

Additional Information

Producers who apply for Track 1 may also apply for Track 2, but their Track 1 payment will be reduced from any Track 2 payment.

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Explaining the Emergency Relief Program (ERP 2022)

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Emergency Livestock Relief Program (ELRP 2022)

Overview

To help agricultural producers offset the impacts of natural disasters, ranchers who faced increased supplemental feed costs resulting from forage losses due to severe drought or wildfire in 2022 can receive emergency assistance payments through FSA's Emergency Livestock Relief Program (ELRP) 2022.

How to Apply

As part of FSA's efforts to streamline and simplify the delivery of ELRP 2022 benefits, eligible livestock producers are not required to submit an application.

ELRP 2022 Payment Calculation

To further expedite payments to eligible livestock producers, determine eligibility and calculate an ELRP 2022 payment, FSA will utilize livestock inventories and drought-affected forage acreage or restricted animal units and grazing days due to wildfire already reported by the producer when they submitted a **2022 Livestock Forage Disaster Program (LFP)** application form.

Payments will be equal to the eligible livestock producer's gross **2022 LFP** payment multiplied by the applicable ELRP 2022 payment percentage. The ELRP 2022 payment percentage is 90% for underserved producers, including beginning, limited resource, and veteran farmers and ranchers, and 75% for all other producers. The payment is then multiplied by a **25%** factor to stay within available funding. \$500 million is targeted funding for livestock producers.

Payment Limitations

If average adjusted gross farm income is less than 75% of average adjusted gross income (AGI) the three preceding taxable years:

- \$125,000 in payment for specialty and high-value crops
- \$125,000 in payment for nonspecialty and all other crops
- \$125,000 in payment for livestock
- If average adjusted gross farm income is more than 75% of average AGI the three preceding taxable years:
 - \$900,000 in payments for specialty and high-value crops
 - \$250,000 in payment for nonspecialty and all other crops
 - \$250,000 in payment for livestock

Deadline

At the time of this writing, FSA has not set a sign-up deadline for the ERP2022 and ELRP 2022 programs.

Additional USDA disaster assistance information can be found at www.farmers.gov or www.usda.gov.

Contact your local FSA office for further details.



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Have Net Farm Incomes and Net Cash Farm Incomes Reached a New Baseline?

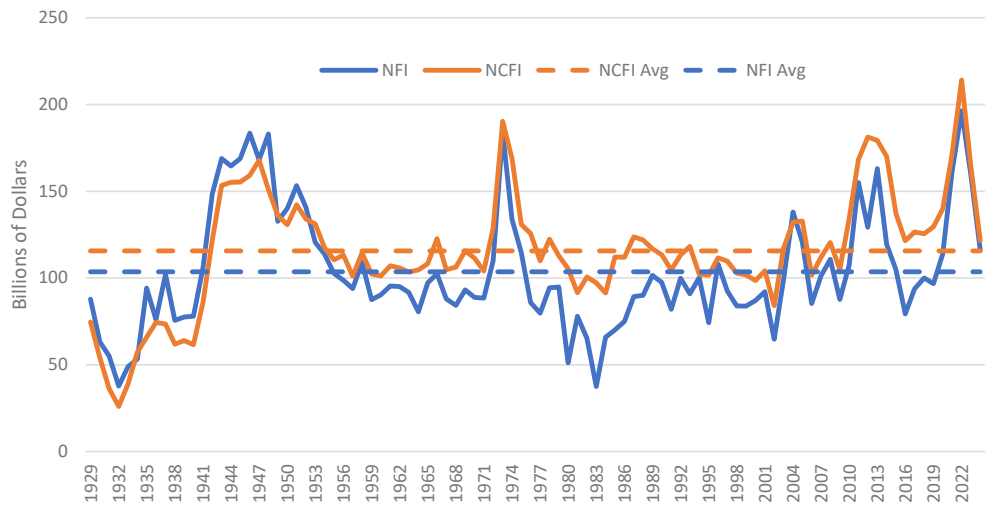
Bryon Parman, Agricultural Finance Specialist

Everyone who works in or around agriculture is aware that farm incomes can be volatile with net incomes being well above average one year and then falling below average the next. On longer timelines, agriculture has experienced multi-year periods of above-average net incomes and below-average periods. The USDA produces inflation-adjusted numbers for net farm income (NFI) and net cash farm income (NCFI), which allows for comparing net incomes from many years ago to today.

Starting in 1929 (the start of the Great Depression) to the projected incomes for 2024, there have been three distinct higher-than-average NFI and NCFI periods. The dashed lines in

Figure 1 show the long-run average for NCFI and NFI as well for comparison. The first agricultural boom period of the last 100 years was from approximately 1941 – 1952, which, of course, followed the Great Depression and was during World War II. The next-high NCFI and NFI period began in 1972 and concluded after 1976, which many attributes as the beginning of the big farm land boom and bust of the late 1970s and early 1980s.

Figure 1: Inflation Adjusted U.S. Net Farm Income and Net Cash Farm Income 1929 - 2024 (projected)



Data from USDA Economic Research Service

However, the final agricultural boom period, when compared to the near 100-year averages, began in 2003 and is projected to be still ongoing through 2024 with the exception of a few years, including 2009, 2007 and 2006 where NCFI fell below the long-run average. During that same time, NFI fell below average a couple more years than NCFI when NFI included inventory adjustments.

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Have Net Farm Incomes and Net Cash Farm Incomes Reached a New Baseline?

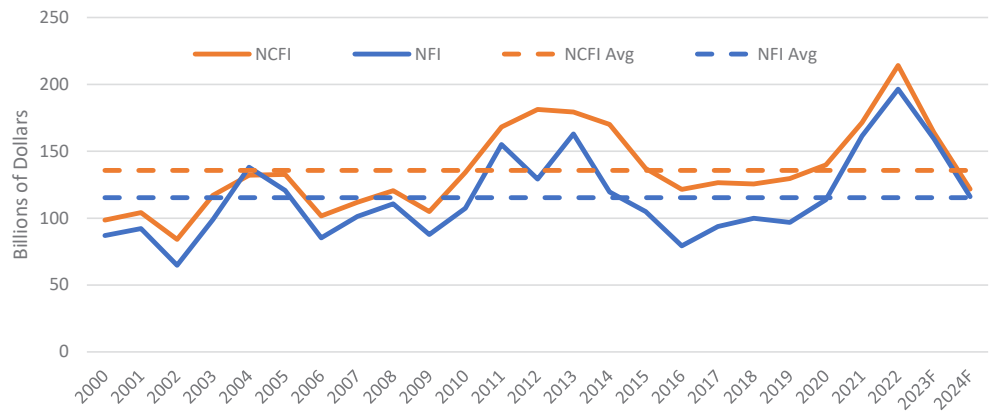
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Figure 2 uses the same formula as Figure 1, including inflation-adjusted USDA data for NCFI and NFI, but instead of the nearly 100-year average NFI being the baseline, Figure 2 uses the NFI and NCFI average from 2000 to 2024 (projected). The most obvious observation of the last 20 years is that it has the most years with above-average net cash farm income of any 20-year period in the last 100 years. Additionally, even adjusted for inflation, the 2021, 2022 and 2023 NCFI statistics are some of the highest on record with 2022 indeed setting a new all-time one-year record for NCFI and NFI.

When the average NFI and NCFI is adjusted, the averages for 2000-2024 are much higher than when using the same one from 1929-2024. Using the near 100-year average, 19 out of 25 years were above-average NCFI from 2000 to 2024. When using the average from 2000 to 2024 as shown in Figure 2, the number of NCFI years above average drops to nine out of 25. On the other hand, net farm income, which again includes inventory adjustments and asset appreciation, had 14 out of 25 years above average regardless of if the near 100-year baseline or the 25-year average is used.

A lot has changed in agriculture over the longer run, including trade, population growth, growth in the biofuels industry and GDP growth around the world placing additional demand on agricultural products. But, at the same time, many other countries, including Brazil, Argentina, Eastern Europe, Russia, and China, have seen massive growth in their levels of agricultural production. In the meantime, the increases in demand for U.S. products and overall productivity per acre have pushed net farm incomes and net cash farm incomes up to a new baseline over the last 25 years.

Figure 2: Inflation Adjusted U.S. Net Farm Income and Net Cash Farm Income 2000 - 2024 (projected)



Data from USDA Economic Research Service

What remains to be seen is if this growth in demand for agricultural products continues and what the U.S. role will be. Other countries continue to expand their footprint with respect to agricultural production and exports and in some cases a lot less costly than U.S. production. Additionally, there is probably a cost-effective limit at some point to trendline yield increases for major U.S. crops. This period of net income expansion likely has a limit down the road at some point and will likely be challenging to those who have come to expect perpetual industry growth at the same rate as seen recently.



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Prospective Plantings Report Refines Market Expectations

Frayne Olson, Extension Crop Economist/Marketing Specialist

On March 28, 2024, the USDA released the annual Prospective Plantings report. The information was considered price neutral for soybeans and all wheat, slightly positive for corn and slightly negative for spring wheat. Table 1 shows a summary of the pre-report industry estimates and reported values for corn, soybeans and specific wheat subclasses.

The key to understanding the market responses to major USDA reports is not to compare the reported values with previous estimates, but to compare the traders' and analysts' expectations to the reported values. For example, total U.S. planted acreage for corn was expected to be lower because of record large 2023 production and lower relative prices. This is reflected in the average trade estimate of 91.776 million acres relative to the 2023 actual corn plantings of 94.641 million acres.

The Prospective Plantings survey showed an estimate of 90.036 million acres for corn plantings, well below the average trade estimate and very near the low end of trade expectations. The reason corn futures prices increased was because the USDA estimate was smaller than what the trade expected, not because it was lower than last year's plantings.

Even though estimated U.S. corn and wheat planted acreage are expected to be lower and soybean acreage higher, these changes are well within historical norms. Figure 1 shows the historical planted acreage for the eight crops with the largest U.S. plantings. The dashed portion of each line represents the values from the 2024 USDA Prospective Plantings report.

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Table 1 – Pre-report Industry Estimates and Reported Values for the 2024 Prospective Plantings Report

	Prospective Plantings (million acres)					
	Corn	Soybean	All Wheat	Winter Wheat	Other Spring	Durum
Average Trade Estimate	91.776	86.530	47.330	34.870	10.891	1.652
Highest Trade Estimate	93.472	88.000	49.982	38.370	11.320	1.800
Lowest Trade Estimate	90.000	85.350	46.200	34.000	10.100	1.133
USDA 2023 Planted	94.641	83.600	49.575	36.699	11.200	1.676
USDA 2024 Outlook Forum	91.000	87.500	47.000	34.425*	NA	NA
USDA 2024 Prospective Plantings	90.036	86.510	47.498	34.135	11.335	2.028

* USDA Winter Wheat Seedings estimates, January 12, 2024
USDA Prospective Plantings, March 28, 2024, and Reuters News

Prospective Plantings Report Refines Market Expectations – continued from page 7

Notice the relatively minor shifts in planted acreage from 2023 to 2024. Alfalfa hay was included in the figure because these acres can be shifted into annual crop production if there are strong enough economic incentives.

Figure 2 shows the historical planted acreage by crop for the seven largest acreage crops in North Dakota. The dashed line segments represent the projected 2024 plantings. North Dakota plantings by crop tend to be more variable than the national level

primarily because of prevented planting area. For example, the large reduction in 2020 corn plantings was because of very wet soil conditions in southeastern North Dakota and a corresponding increase in prevented plantings.

The 2024 Prospective Plantings report showed a redistribution of planted acreage in North Dakota between crops but no significant change in total plantings. The crops with reduced plantings include barley at 32%, canola at 7%, corn at 6% and spring wheat at 5%. Crops with projected increased acres include durum at 22%, dry edible beans at 17% and soybeans at 11%.

Farm managers often ask about the accuracy of the Prospective Plantings estimates. While the projections are not perfect, great care is taken to gather the most accurate information possible.

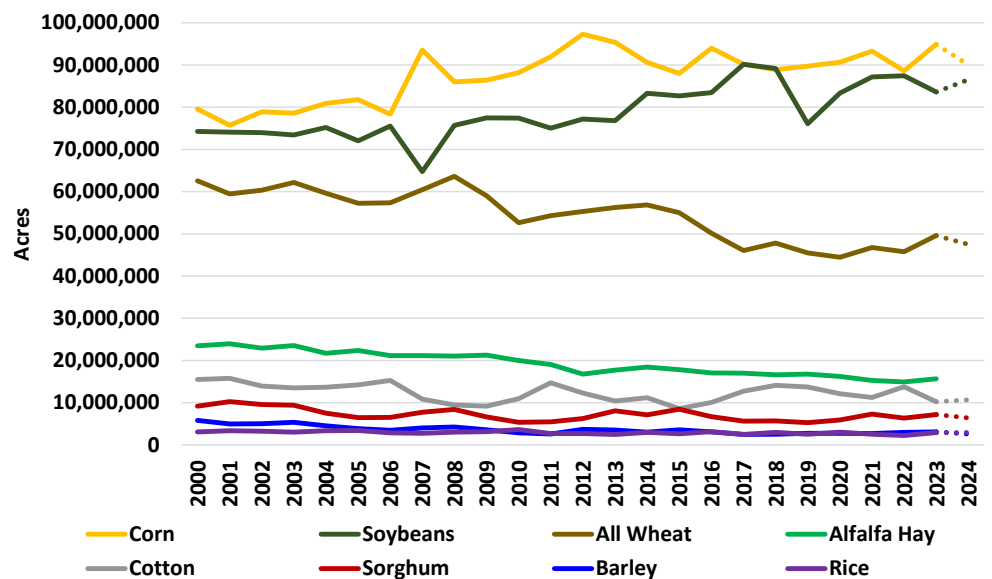
The summary data in the Prospective Plantings report comes from a survey of 71,845 farm managers across the United States. The survey was conducted between February 28 and March 16, 2024. Farmers from each state were surveyed and asked how many acres of various crops they were intending to plant in 2024.

The number of farms surveyed in each state depends on the historical cropland area and diversity of crops planted. For example, 3,209 farms were

surveyed in North Dakota, but 2,650 farms in Iowa and 856 farms in Wyoming. This stratified sampling process increases the accuracy of reporting for all crops represented.

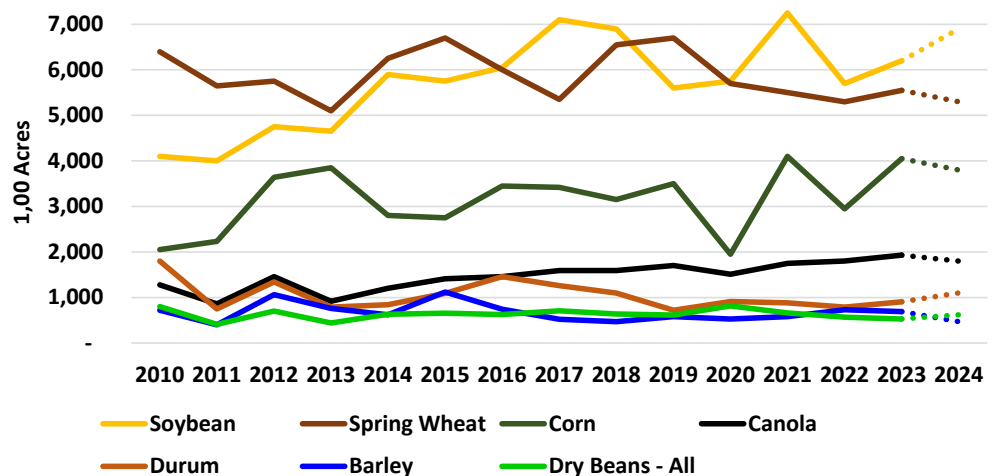
Weather and market conditions can adjust these intentions before planting is finished, so final planted acreage can shift. The Acreage report, scheduled for release on June 28, 2024, will resurvey farm managers and ask about actual planted acreage rather than planting intentions.

Figure 1 - Historical U.S. Planted Acreage by Crop



Data from USDA Prospective Plantings, March 28, 2024, and USDA Quick Stats

Figure 2 - Historical North Dakota Planted Acreage by Crop



Data from USDA Prospective Plantings, March 28, 2024, and USDA Quick Stats

Beef Replacement Heifer Dynamics

Tim Petry, Livestock Marketing Specialist

Probably one of the most asked questions recently in the U.S. beef cattle industry is, “When will beef cow herd rebuilding begin?” That question is a result of five straight years (2019-2023) of beef cow liquidation, current record-high cattle prices and considerable improvement in moisture conditions in many important U.S. cattle-producing regions.

Obstacles include high interest rates, remembering the rather abrupt decline in cattle prices after the last cyclical cattle price peak in 2014-15 and questioning if drought conditions are really over in major cow-calf regions.

One of the pieces to the beef cow herd restocking puzzle is the availability of beef replacement heifers to help rebuild the herd.

The USDA National Agricultural Statistics Service (NASS) released the annual cattle inventory report on Jan. 31, 2024. It is available at <https://usda.library.cornell.edu/concern/publications/h702q636h>.

NASS reported the Jan. 1 U.S. beef replacement heifer inventory at 4.86 million head, which declined 71,300 head (1.5%) from the 4.93 million head in 2023 and was the lowest number since 1950. So, the availability of heifers for rebuilding is a concern.

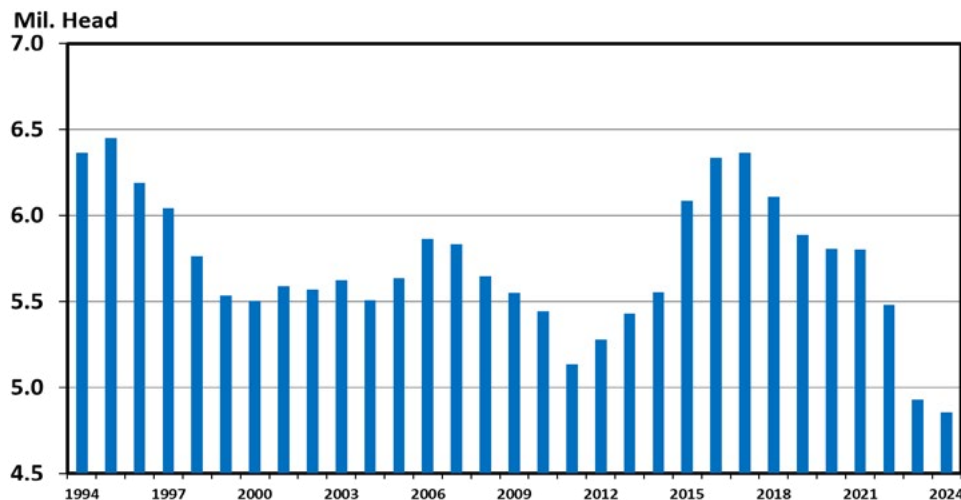
After the last cyclical low in beef cow numbers on Jan. 1, 2014, much-improved moisture conditions allowed herd rebuilding to start in earnest. But there were more replacement heifers available then than now. Compared to the 4.86 million heifers available to begin 2024, there were 5.56 million heifers available to begin 2014 and 6.09 million in 2015.

However, the number of replacement heifers can change throughout the year.

Since 2001, the NASS report has also divided beef replacement heifers into two categories. The first category is beef replacement heifers over 500 pounds expected to calve as two-year-old heifers in 2024. Those heifers were bred in 2023. The second category is heifers over 500 pounds that may be bred as yearlings in 2024 to calve in 2025.

Also reported as other heifers are beef heifers over 500 pounds not reported by producers as replacements.

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



Source: USDA NASS

The number of beef heifers expected to calve in 2024 at 3.05 million head was down 2% from 3.11 million in 2023 – the lowest number since records began in 2001.

All the heifers expected to calve do not enter the cow herd and get reported as cows the next Jan. 1. Some heifers may not be pregnant, others may lose a calf and be sold, and some may raise a calf but not rebreed or have other issues and be marketed.

The number of beef heifers planned for breeding in 2024 was 1.81 million head compared to 1.82 million in 2023, also historically low.

The number of heifers reported for breeding is usually only 60% to 65% of the next year's heifers expected to calve. For example, on Jan. 1, 2023, 1.82 million heifers were kept for breeding. But on Jan. 1, 2024, there were 3.05 million bred heifers.

The difference comes from the other heifer category. Some cattle producers purchase replacement heifers to breed instead of keeping their own. Others purchase heifers to develop, breed and market as a value-added enterprise.

The number of other heifers in 2024 was 9.57 million head compared 9.76 million in 2023.

Due to the dynamics of the other heifer category, sometimes NASS revises the previous year's replacement heifer category. For example, on Jan. 1, 2024, NASS revised 2023 beef replacement heifer

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Beef Replacement Heifer Dynamics

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numbers downward from the original 5.16 million head to 4.93 million. That was due to the drought causing fewer heifers to be bred than originally planned.

NASS revised 2023 North Dakota replacement heifer numbers down from 162,000 to 157,000.

In years when adequate moisture conditions allow restocking plans to begin, the replacement heifer category may need to be adjusted upward if more heifers are bred than earlier planned.

Keep in mind that NASS numbers are not wrong when they are issued, but they may be revised due to producers changing plans throughout the year.

Although the number of bred heifers expected to calve in 2024 is limited, there is potential for more heifers to be bred than originally planned if moisture conditions continue to improve.

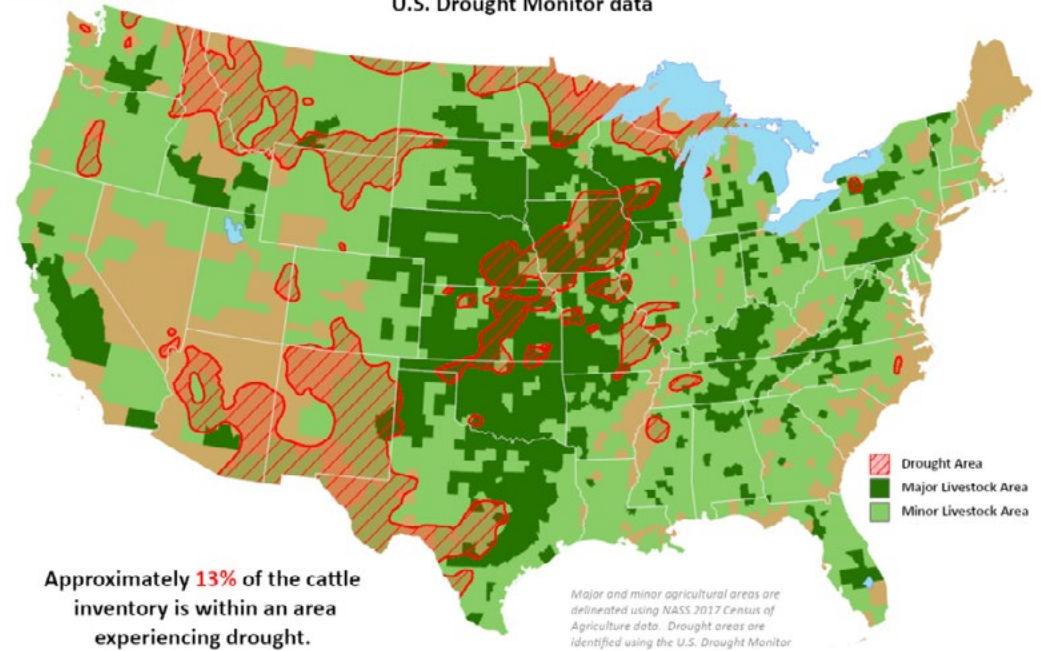
USDA reported that 76% of the beef cow herd was impacted by drought at the end of 2022. Drought conditions improved in 2023 with 35% of cows in drought areas by year's end. Drought conditions have continued to improve with only 13% of beef cows currently in drought.

On Jan. 1, 2024, the Northern Plains states of North Dakota, South Dakota, Montana, Minnesota and Nebraska all showed increases in beef replacement heifers from last year.

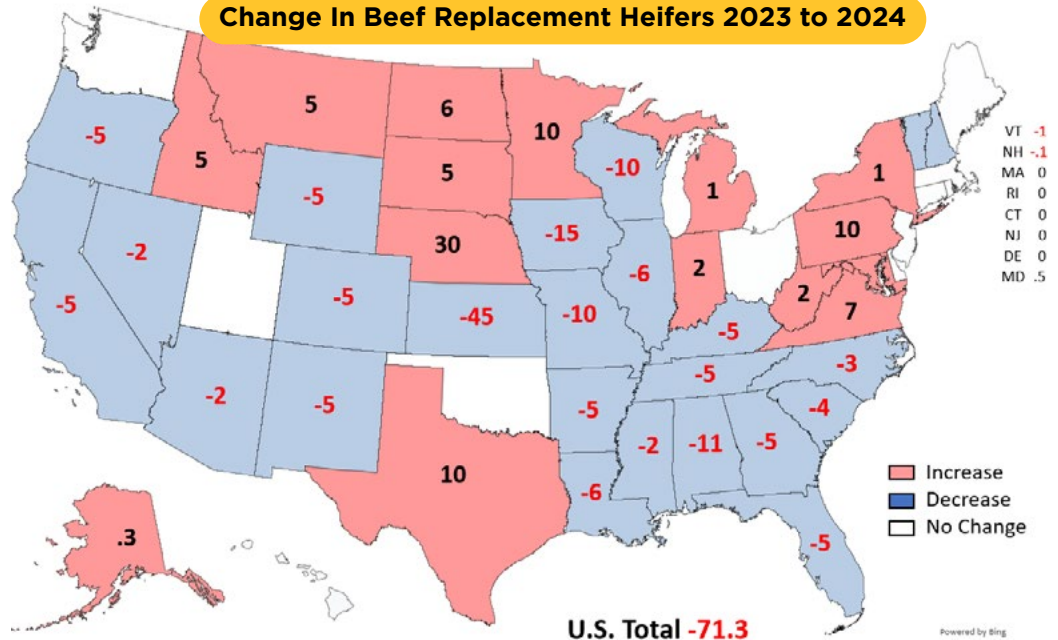
USDA United States Department of Agriculture
This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)

Cattle Areas in Drought

Reflects **March 26, 2024**
 U.S. Drought Monitor data



Change In Beef Replacement Heifers 2023 to 2024



Beef Replacement Heifer Dynamics

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North Dakota cattle producers typically background and develop many replacement heifers as a value-added enterprise. In the last few years prior to drought conditions, top 10 numbers of beef replacement heifers were recorded in the state.

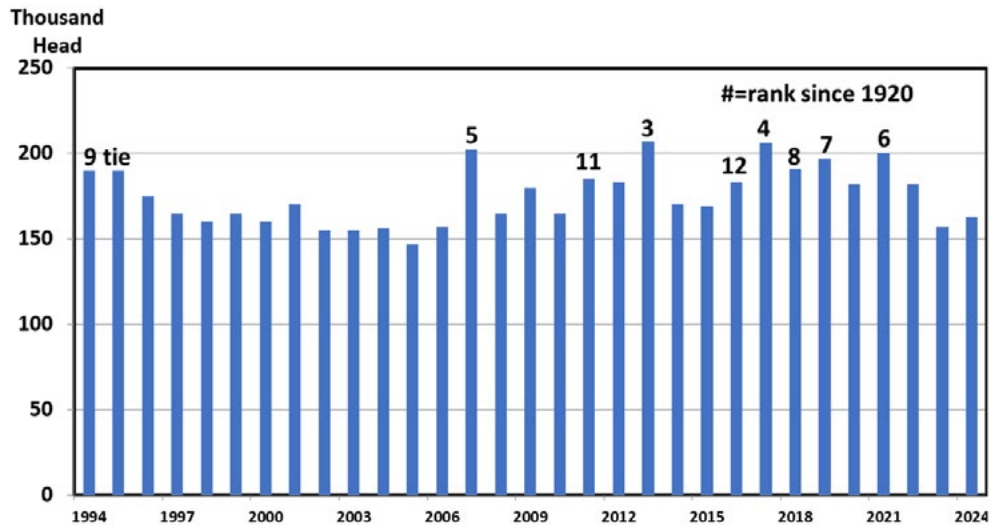
On Jan.1, 2024, NASS reported 163,000 ND beef replacement heifers compared to 157,000 last year.

There are a number of reasons why many heifers are usually retained in ND. Lightweight heifers receive \$30/cwt. or more price discounts to steers in the fall but continue to gain in price relative to steers as weights increase.

Retaining heifers provides marketing flexibility. They can be kept and bred in the summer or marketed in the spring as feeder cattle depending on weather and market conditions. And ND-developed replacement heifers are in demand not only in ND but in other states as well due to the high quality.

North Dakota cattle auction markets are reporting some replacement-quality 800- to 900-lb. heifers from the other heifer category bringing over \$2,000 per head, which may be an early sign of optimism.

Heifers Held as Beef Cow Replacements — January, N.D.



Source: USDA NASS



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