Show-Me 2025

Missouri Agricultural Outlook

RaFF Report #17-2024

Rural & Farm Finance
Policy Analysis Center
University of Missouri

Authors: Danyelle Chinn and Alejandro Plastina.

Recommended Citation: Chinn, D. & A. Plastina. "Show-Me 2025 Missouri Agricultural Outlook" RaFF Report #17-2024, Division of Applied Social Sciences, University of Missouri-Columbia. December 18th, 2024.

Published by the Rural and Farm Finance Policy Analysis Center (RaFF) at the University of Missouri (MU), 130 Mumford Hall; Columbia, MO 65211. RaFF is part of the Division of Applied Social Sciences (DASS) in the College of Agriculture, Food and Natural Resources (CAFNR). Permission is granted to reproduce this information with appropriate attribution to the authors and RaFF. For questions and comments, please contact Alejandro Plastina (aplastina@missouri.edu).

The Rural and Farm Finance Policy Analysis Center (RaFF) is thankful for the feedback on earlier versions of this report provided by the Missouri Department of Agriculture, Missouri Corn Growers Association, Missouri Soybean Association, Missouri Dairy Association, Missouri Pork Association, Missouri Poultry Federation, and Missouri Beef Industry Council. Any errors or omissions in this report remain the sole responsibility of RaFF.

This material is based upon work supported by the U.S. Department of Agriculture, under Agreement 58-0111-22-017. Any opinion, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture nor the University of Missouri.

Show-Me 2025

Missouri Agricultural Outlook

Table of Contents

EXECUTIVE SUMMARY

Missouri's uniquely diverse agricultural climate positions it among the top 10 nationally in more than 10 commodities, as shown in Table 1. A 2021 economic study[1] found that Missouri's agriculture industry contributed $93.7 billion to the economy, solidifying its standing as one of the state's largest sectors. With approximately 87,600 farms and 27 million acres being farmed, over half of Missouri's land is in production agriculture.[2] The state ranks 2nd nationally for the number of farms.

Table 1. Missouri National Commodity Rankings, 2023

Ranking	Commodity
2nd	Farms
2nd	Goats
3rd	Beef Cows
4th	Rice
4th	Cotton
5th	Turkeys
6th	Breeding Hogs
6th	Total Cattle
7th	Broilers
7th	Soybeans
7th	Total Hogs
8th	Hay
9th	Corn
9th	Peanuts

Source: USDA National Agricultural Statistic Service (NASS). Data accessed on October 28. 2024.

According to the Fall 2024 Farm Income Outlook[3] published by the Rural and Farm Finance Policy Analysis Center (RaFF), Missouri net farm income is projected to decrease by $697 million to $3.6 billion in calendar year 2024, due to a sharp decline in crop receipts and crop insurance payments. Farm income is expected to continue declining by $0.7 billion in 2025, driven by lower farm cash receipts. Production levels for corn, cotton, hay, and rice are projected to decline, but soybean production is projected to increase in 2025. Corn and cotton prices are projected to increase, while hay, rice, and soybean prices are projected to decline. On the livestock side, beef and dairy cow inventories are projected to decline, while breeding hog inventory is forecast to increase. Broiler and egg production is expected to increase in 2025, while turkey production is projected to remain unchanged. This dynamic influences cattle and turkey prices higher, whereas hog, dairy, broiler and egg prices are projected lower. While 2022 marked a record high for Missouri's net farm income, sustaining such levels over the long term proves challenging. The 2024 and 2025 income projections, though lower than 2022 estimates, remain above the income levels seen in 2015 – 2019 in nominal terms.

Farmers and ranchers facing prospects of tighter profit margins in 2025 might benefit from reviewing their production plans, projected costs and living expenses, calculating cash flow needs, and securing access to lines of credit early in the year, if necessary. Uncertainties related to weather, disease and pest pressure, and the economic environment underscore the importance of developing and implementing operation-specific risk management strategies.

---

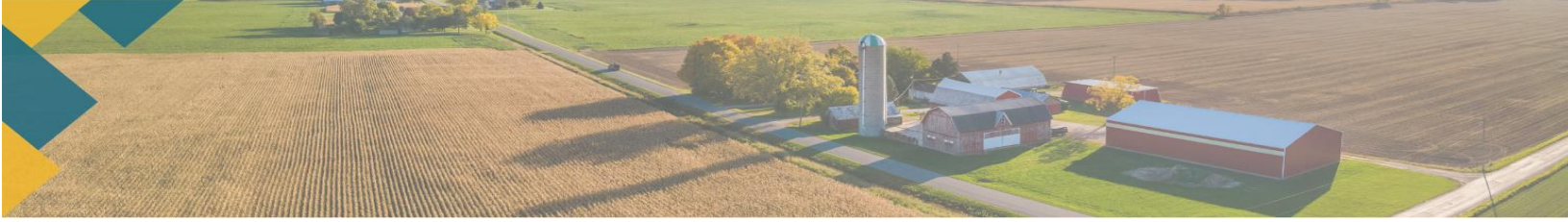
[1]Missouri Department of Agriculture, Missouri Agricultural and Small Business Development Authority. "2021 Economic Contribution Study of Missouri Agriculture and Forestry" (Prepared by Decision Innovation Solutions). 2021. https://agriculture.mo.gov/economicimpact/county-pdf/MissouriAgForestry.

[2] U.S. Department of Agriculture, Economic Research Service. Farm income and wealth statistics: Charts and maps about your state. 2024. https://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/charts-and-maps-about-your-state/.

This report provides detailed insights on Missouri's agriculture. Broad economic indicators, including interest and unemployment rates, are discussed before transitioning to an overview of the agricultural trends. The report then outlines an in-depth analysis of 2025 projections for Missouri agricultural commodities.

Show-Me 2025

U.S. and Missouri Economic Outlook



U.S. & MISSOURI ECONOMIC PROFILE

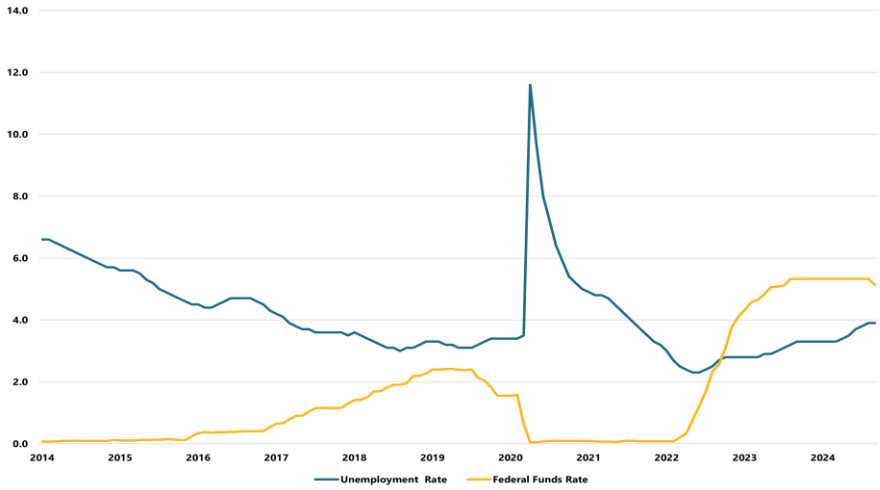
As the United States has officially been out of the COVID-19 pandemic since May 11, 2023, the economy has been adjusting to persistent inflation and higher interest rates. These macroeconomic factors frame our overview of the sectoral trends in U.S. and Missouri agriculture.

Monetary Policy and Unemployment

Two major responsibilities of the Federal Reserve System –the central bank of the United States created by Congress in 1913 – are to conduct the nation's monetary policy in pursuit of full employment and stable prices. Between February and April of 2020, the U.S. unemployment rate jumped from 3.5% to 14.8%[4] due to a recession resulting from an abrupt drop in demand (particularly of services) caused by the stay-home recommendations issued to mitigate the health effects of the COVID-19 pandemic (Figure 1). Over the same period, the Federal Reserve cut the Federal Funds Effective Rate from 1.58% to 0.05% to contain the effects of the recession. The Federal Funds Effective Rate was kept below 1% until mid-2022, when the unemployment rate returned to pre-pandemic levels.

The 10-year average unemployment rate in Missouri is 4.2%. Figure 1 shows changes in Missouri's unemployment rate pre-pandemic and post-pandemic, as the state's unemployment rate peaked at 11.4% in April 2020.[5] The Show-Me State's workforce has recovered gradually, as unemployment averaged 4.1% in 2021 and 2.6% in 2022. However, the rate of unemployment has slowly been on the rise again, averaging 3.1% in 2023, and has ranged from 3.3% to 3.9% in 2024.

Figure 1. Missouri Unemployment and U.S. Interest Rates, 2014 - 24



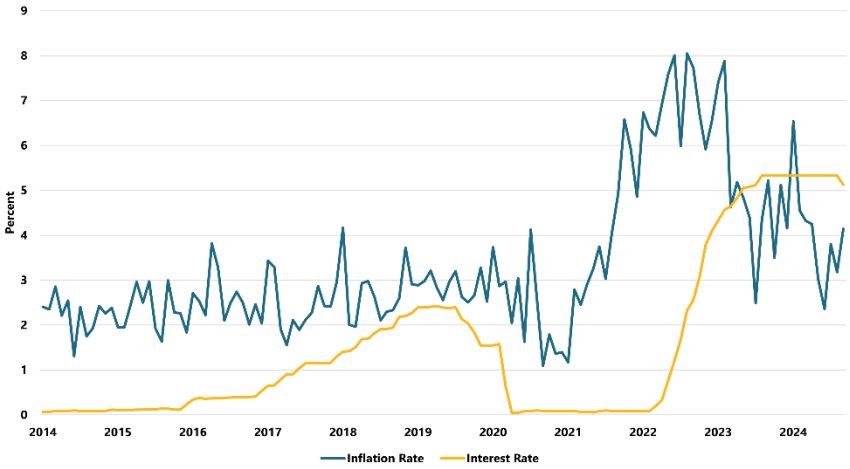
Source: Federal Reserve Bank of St. Louis, FRED Economic Data

[4] Board of Governors of the Federal Reserve System (US). Federal Funds Effective Rate. DTWEXBGS] Retrieved from FRED, Federal Reserve Bank of St. Louis. 2024. https://fred.stlouisfed.org/series/DTWEXBGS.

[5] U.S. Bureau of Labor Statistics, Unemployment Rate in Missouri [MOUR], retrieved from FRED, Federal Reserve Bank of St. Louis. 2024. https://fred.stlouisfed.org/series/MOUR.

An expansive monetary policy and multiple supply chain disruptions created a spiraling inflation that reached its peak at 8% in January 2022 and slowly declined to 3% by 2023, before climbing above 6% in early 2024 and returning to 4% in the 4th quarter of 2024 (Figure 2).[6]

Figure 3. U.S. Inflation and Interest Rates, 2014 - 24



Source: Federal Reserve Bank of St. Louis, FRED Economic Data

To stabilize the spiraling inflation, the Federal Reserve increased the Federal Funds Effective Rate 11 times from 0.08% in February 2022 to 5.33% in August 2022, and kept it at that level until October 2024, when the rate was set at 4.83%. The Federal Open Market Committee (FOMC) of the Federal Reserve System projected in September 2024 that the federal funds effective rate for 2025 and 2026 would continue to be adjusted lower: median projections of 4.4% for calendar year 2024, 3.4% for 2025, and 2.9% for 2026. Lower interest rates are consistent with a perception of a soft-landing, such that a prolonged recession was averted, unemployment is back at historical average levels, and inflation is deescalating and would approach the long-term inflationary goal of 2% per year. It must be noted that a lower inflation rate is consistent with an increasingly higher general level of prices, although the increase in levels should be smaller in future months.

Exchange Rate and Trade

Both Missouri and the United States export a host of agricultural products to global trade partners. In 2023, the top agricultural exports by value were soybeans, corn, beef, dairy products and tree nuts for the United States (Table 2), and soybeans, corn, pork, dairy products and pet food for Missouri (Table 3).[7] U.S. exports of corn, soybeans, and beef have been strong over the past 3 years. Over the first 6 months of Federal Fiscal Year (FFY) 2024, pork and pork products moved up to one of the top five agricultural export

Table 2: U.S. Top Agricultural Exports, Federal Fiscal Year 2023

Commodity	Total
Soybeans	$32.5 Billion
Corn	$13.2 Billion
Beef	$9.8 Billion
Dairy Products	$8.5 Billion
Tree Nuts	$8.1 Billion

Source: USDA Economic Research Service (ERS).

[6] Federal Reserve Bank of Cleveland, Median Consumer Price Index [MEDCPIM158SFRBCLE], retrieved from FRED, Federal Reserve Bank of St. Louis. 2024. https://fred.stlouisfed.org/series/MEDCPIM158SFRBCLE.

[7] U.S. Department of Agriculture, Economic Research Service. Top 5 U.S. agricultural export commodities by State. 2024. https://www.ers.usda.gov/data-products/state-agricultural-trade-data/

Table 4. Missouri Top Agricultural Exports, Federal Fiscal Year 2023

Commodity	Total
Soybeans	$612.1 Million
Pork	$339 Million
Corn	$334.8 Million
Soybean Meal	$258.6 Million
Pet Food	$212.3 Million

Source: USDA Economic Research Service (ERS).

commodities. For Missouri trade, soybeans, corn, and pork have remained among the top export commodities since FFY 2020, while dairy products and pet food have competed for the 4th and 5th spots.

According to the USDA's Foreign Agricultural Service, U.S. agricultural exports totaled $175 billion in 2023, 11% lower than in 2022.[8] The top 5 destinations for U.S. agricultural exports, accounting for 63% of export value in 2023, are China, Canada, Mexico, the European Union and Japan. The list of Missouri's major agricultural export markets includes the same countries as for the United States, although in a different order (Table 4).

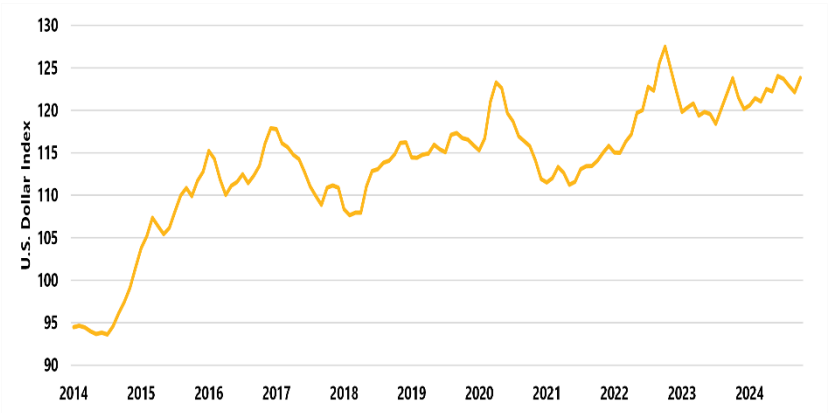
Table 6. Missouri Export Partners, 2023 - 24

Partner	2023	2024 (Q1 & Q2)
Canada	$6.5 Billion	$3.5 Billion
Mexico	$3.9 Billion	$2 Billion
Japan	$0.5 Billion	$0.6 Billion
Germany	$0.7 Billion	$0.4 Billion
China	$0.6 Billion	$0.6 Billion

Source: Missouri Economic Research and Information Center (MERIC).

The exchange rates of the U.S. dollar for other currencies affects the terms of trade. The Nominal Broad U.S. Dollar Index, a trade-weighted average of exchange rates of the U.S. dollar against currencies of a broad group of U.S. trading partners created by the Federal Reserve, is a widely used measure of the strength of the U.S. dollar.[9] When the U.S. dollar strengthens, American exports become more expensive in the local currency of the importing country, which reduces the U.S. products' competitiveness against exports from other countries. Conversely, when the U.S. dollar weakens, American exports become more affordable in the local currency of the importing country, which increases U.S. products' competitiveness against exports from other countries. As shown in Figure 3, the Nominal Broad U.S. Dollar Index continued to increase in 2024, leading to a stronger U.S. dollar and a relative loss of export competitiveness.

Figure 4. Nominal Broad U.S. Dollar Index, 2014 - 24



Source: Federal Reserve Bank of St. Louis, FRED Economic Data

[8] U.S. Department of Agriculture, Foreign Agricultural Service. 2023 U.S. Agricultural Export Yearbook, 2024. https://fas.usda.gov/sites/default/files/2024-05/2023%20Ag%20Export%20Yearbook%20Final.pdf.

[9] Board of Governors of the Federal Reserve System (US). Nominal Broad U.S. Dollar Index [DTWEXBGS] Retrieved from FRED, Federal Reserve Bank of St. Louis. 2024. https://fred.stlouisfed.org/series/DTWEXBGS.

MISSOURI AGRICULTURAL ECONOMY

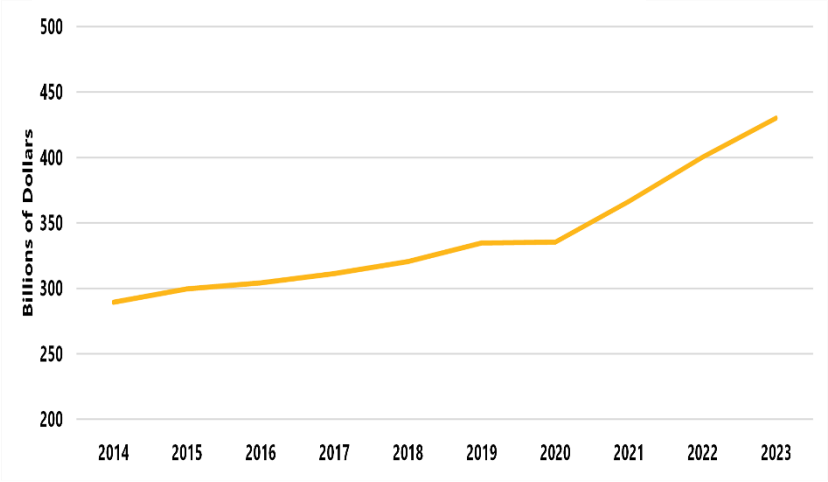
The landscape of the agricultural economy in Missouri and the U.S. changes every year. In 2024, Missouri's producers faced the challenge of a sharp decline in row crop prices mixed with high production costs. This section highlights key factors impacting Missouri's agricultural economy, as well as a discussion of Missouri farm income and financial indicators.

Gross Domestic Product

Gross Domestic Product by State (GSP) measures the value-added from industries in that state and is a key indicator reflecting economic performance and activity. In 2023, Missouri's GSP totaled $430.1 billion (Figure 4).[10]

The value added by the farm sector[11] accounted for 3.8% of the GSP of Missouri in 2023. In comparison, the average share of GSP represented by the value added from the farm sector over the last decade is 3.7%.

Figure 4. Missouri Gross Domestic Product, 2014 - 23



Source: Federal Reserve Bank of St. Louis, FRED Economic Data

Drought

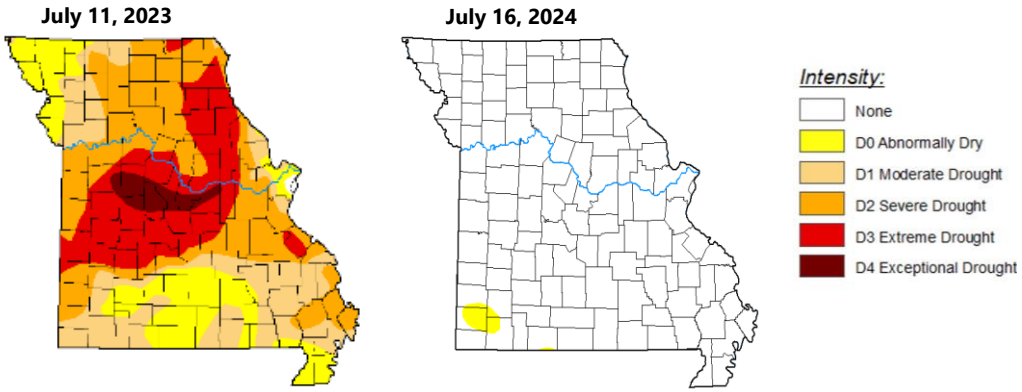
After back-to-back declarations of Drought Alert in the state of Missouri in 2022 and 2023, Missouri was fortunate to primarily avoid *extreme* drought conditions throughout the majority of 2024. The U.S. Drought Monitor, updated weekly based on agency scouting and constituent reporting, provides insights into the severity of the drought over the past year, as illustrated in Figure 5.

[10] U.S. Bureau of Economic Analysis. Gross Domestic Product: All Industry Total in Missouri [MONGSP]. Retrieved from FRED, Federal Reserve Bank of St. Louis; 2024. https://fred.stlouisfed.org/series/MONGSP.

[11] Plastina, A. & Chinn, D. Fall 2024 Missouri Farm Income Tables. Value Added. Division of Applied Social Sciences, University of Missouri – Columbia. Retrieved from Income Outlook. Division of Applied Social Sciences, University of Missouri – Columbia. 2024. https://ruralandfarmfinance.com/wp-content/uploads/2024/10/Fall_2024_Missouri_Farm_Income_Tables.xlsx.

The latter half of winter, the spring and summer months of 2024 provided some relief for the Show-Me State, as none of the state was in stages D3 – D4 from late January – early October While some cases of extreme drought were observed in October, all counties in D3-D4 status were back down to D0, D1, or D2 by the first of November.[12] Overall, 2024 presented a strong growing season for forage and crops.[13]

Figure 5. Missouri Drought Comparisons, Mid-July 2023 – Mid-July 2024



Source: National Drought Mitigation Center at the University of Nebraska-Lincoln, United States Department of Agriculture and the National Oceanic and Atmospheric Administration.

Legislative Efforts

In 2023, the Missouri legislature passed two agricultural omnibus bills, House Bill 202 and Senate Bill 138, targeting several priority areas within the agricultural community, ranging from tax credits to flood resiliency measures. Two key pieces of this legislation being the Beginning Farmers Program and the Large Animal Veterinary Student Loan Program, aimed at supporting young adults planning to pursue careers in agriculture, whether through tax deductions or academic aid.

In 2024, state legislative efforts focused on income tax reductions for farmers, limiting foreign ownership of agricultural land, modifications to the Waters of the State, and other key issues such as mandatory country of origin labeling. HB 2134, signed into law in July 2024,

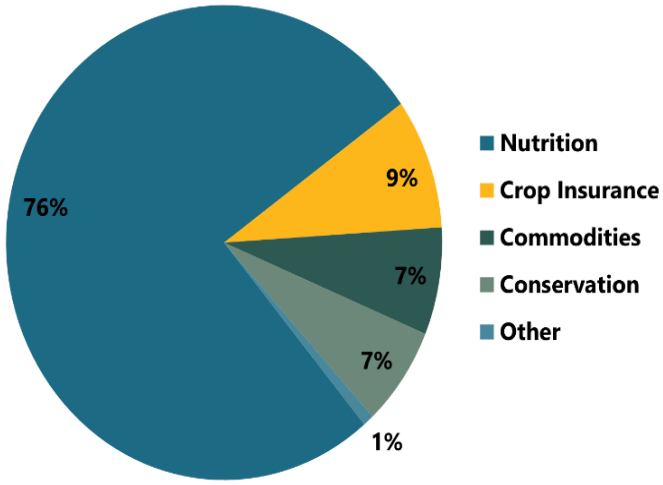
[12] National Drought Monitor Mitigation Center. U.S. Drought Monitor: Missouri.2024. https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?MO

[13] The United States Department of Agriculture's Farm Service Agency (FSA) has disaster assistance programs in place to alleviate some of the financial burdens of drought on producers. These programs include the Livestock Forage Disaster Program (LFP), the Livestock Indemnity Program (LIP), the Emergency Conservation Program (ECP) and the Emergency Loan Program. A list of USDA FSA disaster assistance programs can be found on the agency's website (https://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/index).

establishes new provisions for the land application of industrial wastewater and related wastes to enhance water pollution control, and mandates that any fertilizer or soil amendment products derived from industrial wastewater, including those from meatpacking operations, must comply with stringent water pollution control standards. This includes obtaining necessary permits and adhering to nutrient management standards to ensure that these products do not harm the environment.

At the federal level, Congress continues the debate on the next farm bill, while considering extending the 2018 farm bill for another year. Reauthorized approximately every five years, this legislation stands as the primary policy instrument for agriculture and nutrition programs. Figure 6 illustrates the projected outlays under the 2018 Farm Act over the 2019-2023 period. The major farm bill programs supporting agriculture are the farm safety net (crop insurance and commodity programs) and conservation programs, jointly accounting for 23% of the projected outlays. Nutrition programs, on the other side, account for 76% of the projected outlays.

Figure 6. 2018 Farm Bill Spending



Source: USDA Economic Research Service (ERS).

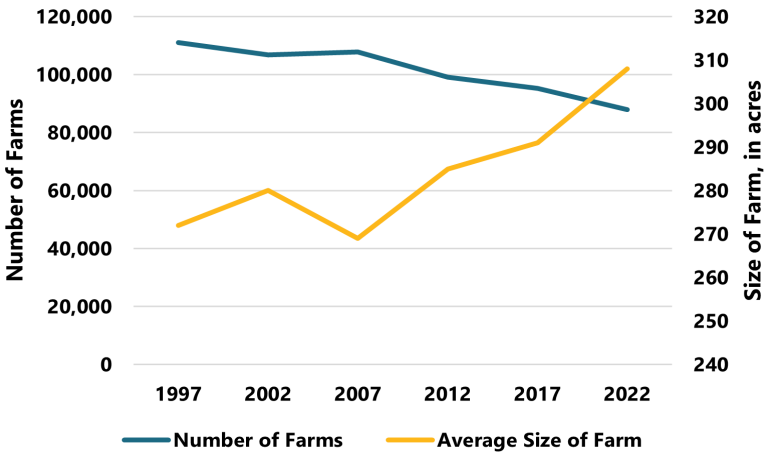
A Farmdoc Daily article published in November 2024[14] offered insights on the challenges facing the reauthorization of the Farm Bill, suggesting budget reconciliation could be used as a legislative tool for Farm Bill funding, potentially leading to changes to the Supplemental Nutrition Assistance Program (SNAP) and conservation funding, crop insurance, and tax cuts. While the path for the Farm Bill is unclear, it is predicted that the most likely avenue will be a second extension of the 2018 Farm Bill into 2025.

[14] Coppess, J. Reauthorization or Reconciliation: Thoughts on the Farm Bill's Prospects. Farmdoc Daily. Department of Agricultural and Consumer Economics. University of Illinois at Urbana-Champaign. 2024. https://farmdocdaily.illinois.edu/2024/11/reauthorization-or-reconciliation-thoughts-on-the-farm-bills-prospects.html

Farm Presence

According to the U.S. Census of Agriculture, Missouri was home to111,000 farms in 1997, spanning across 30.2 million acres of farmland. In 2022, the number of farms was reported at 87,887, indicating a 21% decline from 1997 – 2022. Farmland also declined over the same period by 11%, reaching 27 million acres by 2022.

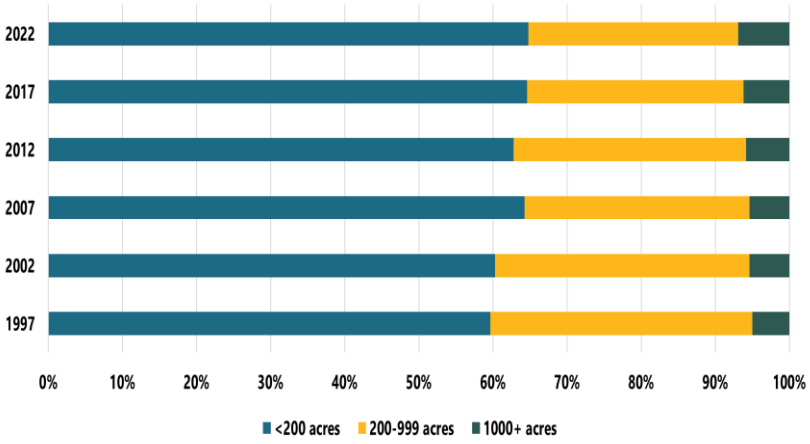
Figure 7. Missouri Farms, 1997-2022



Source: U.S. Census of Agriculture

Cropland consistently accounts for most of Missouri farmland. Total cropland has declined by 26% between 1997 and 2022, from 19.9 million acres to 14.8 million acres. At the same time, the total number of crop farms declined by 31%, from 95,406 farms to 66,282 farms, resulting in fewer but larger farms by the end of the period (Figure 7). In 2022, the average crop farm size was 308 acres. [15]

Figure 8. Missouri Farms by Size, 1997-2022



Source: U.S. Census of Agriculture

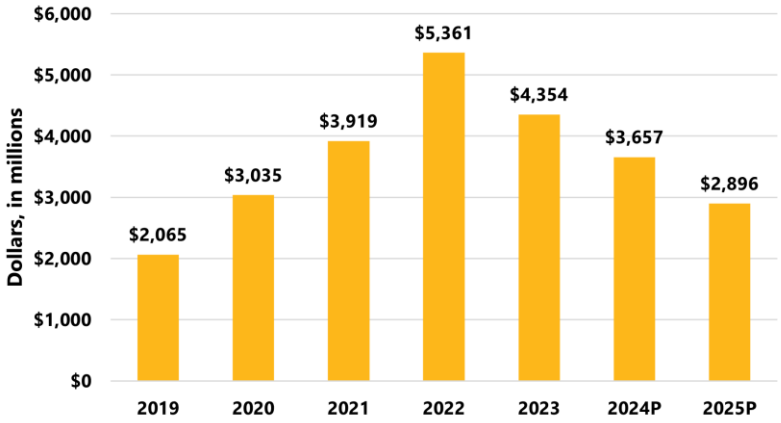
Additionally, while the number of large farms (1,000 acres or larger in size) has ranged between 5,500 and 6,000 since 1997, their share of total farms has consistently increased from 5% in 1997 to 7% in 2022, mainly due to the consolidation of smaller farms into medium-size farms in search of economies of scale and some exits from the agricultural industry (Figure 8).

[15] U.S. Department of Agriculture. 2022 Ag Census. Historical Highlights. 2022. https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_1_State_Level/Missouri/st29_1_001_001.pdf

Missouri Farm Income

According to the USDA's Economic Research Service (ERS), Missouri ranked 11th in the nation for net farm income in 2023 at $4.8 billion.[16] However, since the volume of 2023 hog marketings reported by the ERS on September 2024 (2.4 billion pounds) seemed inconsistent with the mix of hog and feeder pig sales implied by the ERS dataset, RaFF adjusted hog marketings downward, to 1.3 billion pounds. This adjustment translated into a $540 million reduction in net farm income with respect to that published by the ERS.

Figure 9. Missouri Net Farm Income, 2019 – 25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

The adjusted net farm income for Missouri in 2023 amounted to $4.3 billion, on track with the previous year's projection by RaFF.[17] In 2023, producers saw record high production expenses, mixed commodity prices, and an increase in government payments. In 2024, net farm income is projected to decrease by 16% to $3.7 billion, due largely to declining crop prices, and despite a slight decline in production expenses. Looking to 2025, net farm income is projected to fall an additional 21%, reaching $2.9 billion, as lower crop and livestock receipts dominate further reductions in production expenses. Figure 9 offers insights into changes in Missouri net farm income from 2019 – 2025 (not adjusted for inflation).

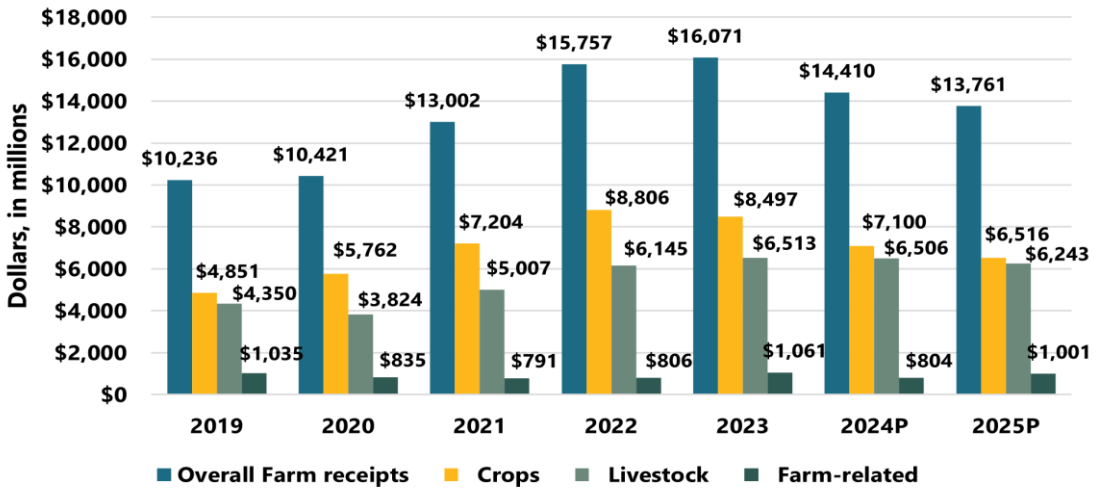
Farm Receipts

As shown in Figure 10, overall farm receipts are segmented into crops, livestock and farm-related receipts. The latter category includes (ordered by decreasing value): gross imputed rental value of farm dwellings, total crop insurance indemnities, and machine hire and custom work. Missouri farm receipts reached a record high of $16.1 billion in 2023, driven primarily by higher farm-related receipts, with the major increases stemming from the imputed rental value of farm dwellings and crop insurance indemnities.

[16] U.S. Department of Agriculture, Economic Research Service. Farm income and wealth statistics: Charts and maps about your state. 2024. https://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/charts-and-maps-about-your-state/.
[17] High, D. Brown, S., and Washburn, T. Show-Me 2024: Missouri Agriculture Outlook. Division of Applied Social Sciences, University of Missouri – Columbia. 2024. https://ruralandfarmfinance.com/wp-content/uploads/2024/11/Missouri-Agriculture-Outlook-Report-2024.pdf

Projections for 2024 indicate an expected 10% decrease in overall receipts, to $14.4 billion, driven by lower crop, livestock, and farm-related receipts. Higher cattle prices have supported livestock receipts in 2023 and 2024. Overall farm receipts are projected to decrease again in 2025, by 4.5% to $13.7 billion, as lower commodity prices affect both crops and livestock receipts.

Figure 10. Missouri Farm Receipts by Category, 2019-25
**P indicates projected.*

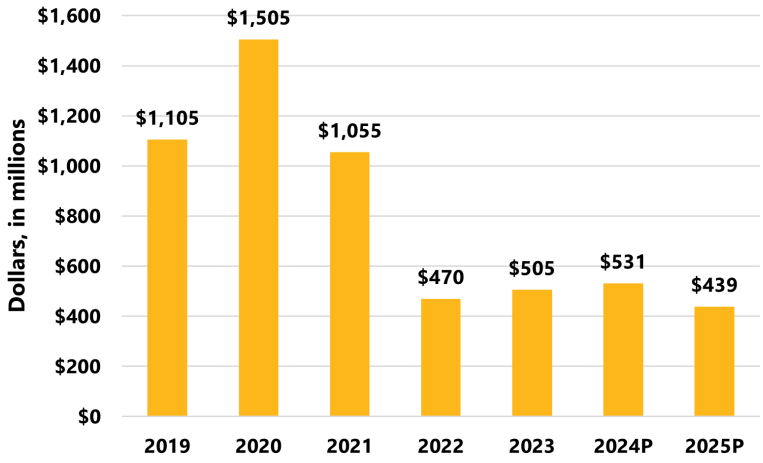


Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Government Payments

As the economy recovered from the COVID-19 pandemic, government payments to Missouri agriculture declined by more than 50%, returning to pre-pandemic norms (Figure 11). In 2023, the Price Loss Coverage (PLC) program accounted for $0.2 million, while the Agriculture Risk Coverage (ARC) program reached $4.8 million of the $505 million in total direct government payments. Supplemental and ad hoc disaster programs accounted for $332.5 million, and Dairy Margin Coverage accounted for an unusual $12.3 million that year. In 2024, total direct government payments are projected to

Figure 11. Missouri Total Direct Government Payments, 2019-25
**P indicates projected.*

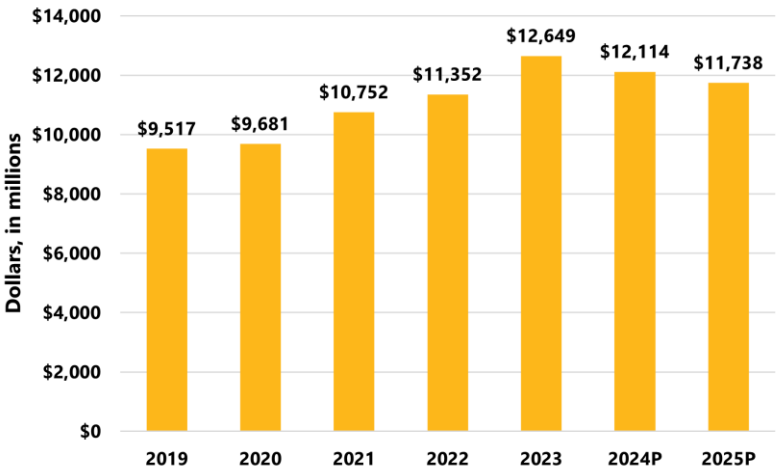


Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

increase slightly to $531 million, with $348 million in supplemental and ad hoc disaster programs, $3.5 in PLC, and $17.3 in ARC. In 2025, total direct government payments are anticipated at $439 million. However, if Congress introduces changes in the statutory reference prices, percent agricultural revenue guarantees, or other variables affecting the 2025 ARC or PLC programs,[18] direct government payments for Missouri might be higher than projected under the current legislation.

Missouri Farm Expenses

Figure 12. Missouri Production Expenses, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

In 2023, Missouri's total agricultural production expenses amounted to $12.6 billion. Production expenses are forecast to be 4% lower in 2024, at $12.1 billion, as input costs retreat (Figure 12). Expenses in feed, seed, fertilizer and pesticides, fuels and oils, labor and overhead costs are expected to lead the decline.

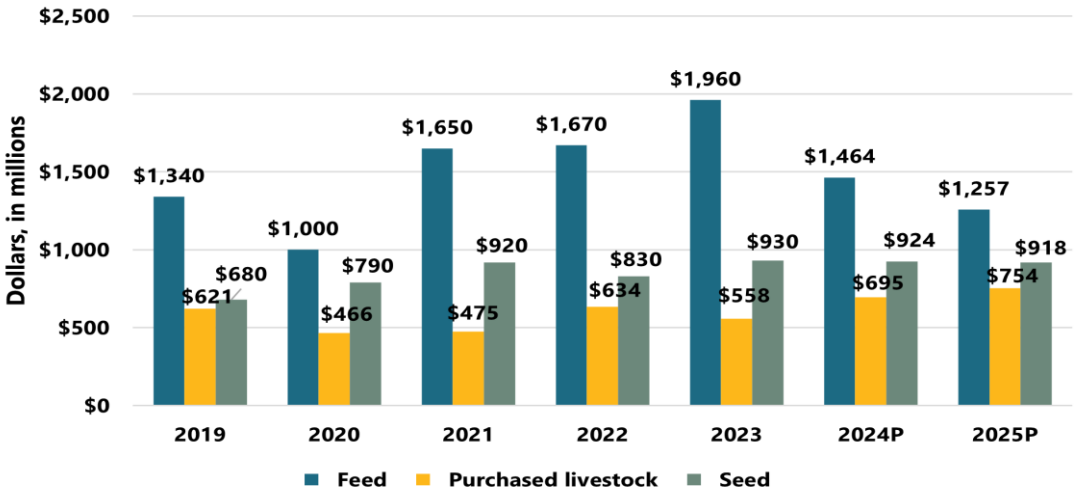
Missouri's production expenses are projected to decline by an additional 3% in 2025, to $11.7 billion, driven by further reductions in feed and seed costs, fertilizer, pesticides, fuel and oils, labor, interest rates, and overhead expenses.

Feed costs experienced a continuous increase between 2020 and 2023, reaching a state-level record high of nearly $2 billion (Figure 13), as beef cattle and breeding hog inventory increased, driving demand higher, and poor weather conditions reduced crop production, reducing feed availability. In 2024, feed costs are projected to decline 25% to $1.5 billion, as crop yields recover, crop prices decline, and beef cattle inventory declines. In tandem with high cattle prices, purchased livestock expenses have increased every year between 2021 and 2024, except for 2023, presumably due to the decline in Missouri's cattle herd. Seed expenses have wavered back and forth, reflecting the fluctuations in crop prices and planted area, as total crop acres have ranged from 12.8 to 14.6 million acres over the 2019-2024 period, while crop prices peaked in 2022.

[18] Schnitkey, G., N. Paulson, C. Zulauf, J. Coppess and B. Sherrick. "Statutory Reference Prices and the Next Farm Bill." Farmdoc Daily, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign. 2024. https://farmdocdaily.illinois.edu/2024/05/statutory-reference-prices-and-the-next-farm-bill.html.

Projections for 2025 suggest a further decline in farm origin input costs, driven by feed and seed expenses, which are forecast to reach approximately $1.3 billion and $918 million, respectively. Meanwhile, purchased livestock expenses are projected 8% higher at $754 million, as feeder steer prices continue to climb in the current low-inventory environment.

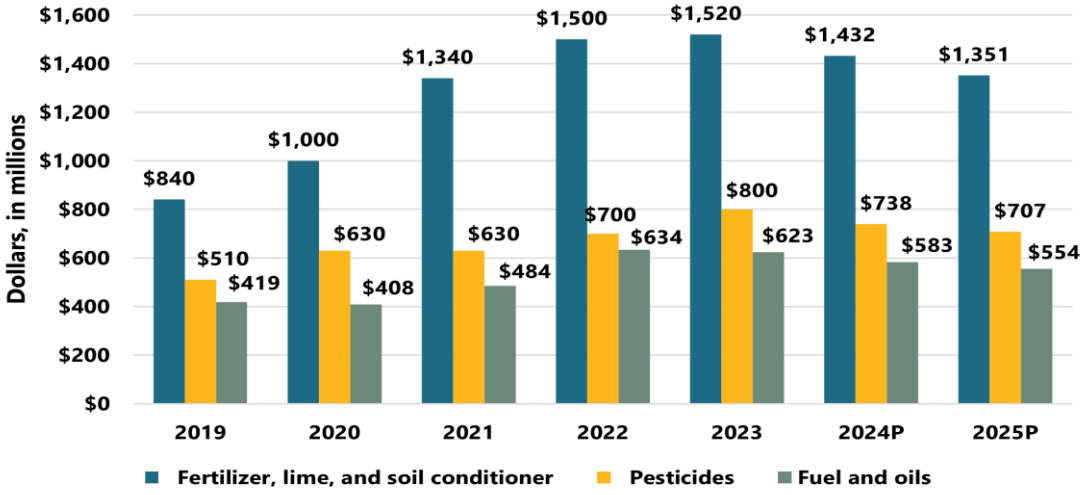
Figure 13. Missouri Farm Origin Input Costs by Category, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Fertilizer, lime and soil conditioner has consistently been the leading manufactured input cost in Missouri agriculture, totaling $1.5 billion in 2022 and 2023 (Figure 14). In 2024 and 2025, this line item is projected to decline to around $1.4 billion, as profit margins in crop

Figure 14: Missouri Manufactured Input Costs by Category, 2019-25
**P indicates projected.*



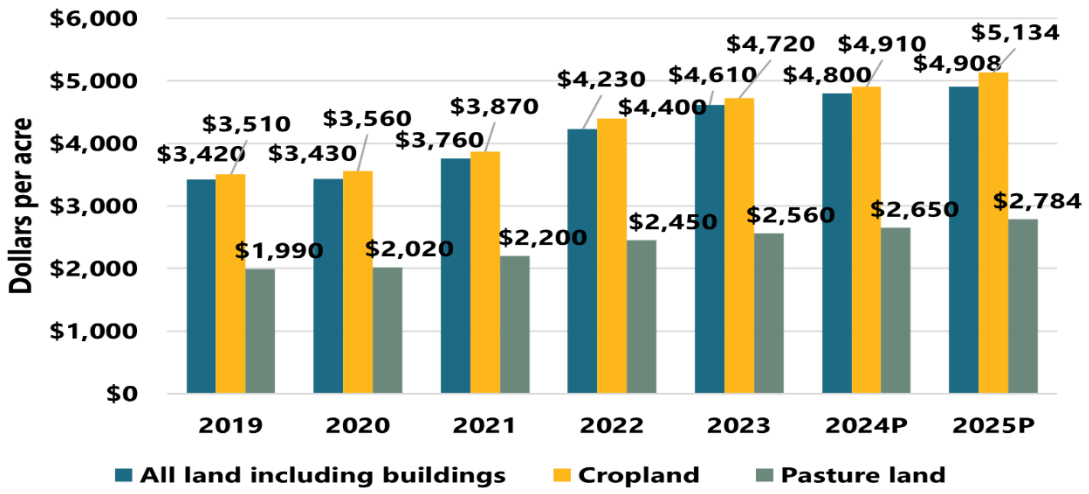
Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

production tighten up. Similarly, pesticides and fuel and oil expenses are also expected to retreat in 2024 and 2025, to $707 million and $554 million, respectively, by the end of the period.

Land Values and Rental Rates

Land values have consistently risen every year since 1998, except for 2016-2017, and cropland continues to be at or near record levels. According to the National Agricultural Statistics Service (NASS),[19] Missouri cropland and pasture values averaged, respectively, $4,910 per acre and $2,650 per acre in 2024. For 2025, RaFF projects those values to increase by 5%, reaching the record-levels of $5,134 per acre and $2,784 per acre, respectively (Figure 15).

Figure 15. Missouri Land Values by Category, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Average land values hide extensive variability associated with land quality, among other variables. According to the 2024 Missouri Farmland Values Opinion Survey,[20] which gathers insights from the public (farmers and landowners, agricultural lenders, and rural appraisers, etc.) on current farmland values and trends, values for irrigated cropland averaged $10,124 per acre in 2024, while "good" non-irrigated cropland averaged $8,524 per acre, "average" non-irrigated cropland averaged $6,996 per acre, and "poor" cropland averaged $5,556 per acre. Similarly, the survey reports different values for "poor", "average" and "good" pastureland in 2024, although the range is much narrower than for cropland: $4,344-$5,697.

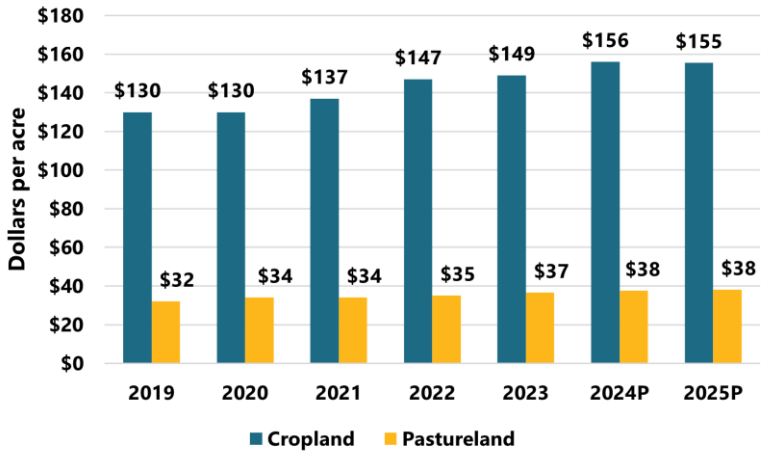
[19] U.S. Department of Agriculture, National Agricultural Statistics Service. Ag Land. Quick Stats. 2024. https://quickstats.nass.usda.gov/results/28DDCBCA-3587-3A1D-AD82-E4FD9CD337A4

[20] Tsay, J. Missouri Farmland Values Opinion Survey. Agricultural Business and Policy. University of Missouri Extension. 2024. https://extension.missouri.edu/g401

Additionally, the survey reports great regional variability across the state within each crop and pastureland category. Survey respondents forecasted land prices would increase by 2.7% for cropland, and 2.9% for pastureland between 2024 and 2025, which is slightly lower than RaFF projections.

In 2025, the average rental rate of cropland is projected to remain high at $155 per acre, but unlike land values, its level would be slightly lower than in 2024 due to depressed crop prices. The rental rate of pasture, on the contrary, is projected stable at $38 per acre (Figure 16).

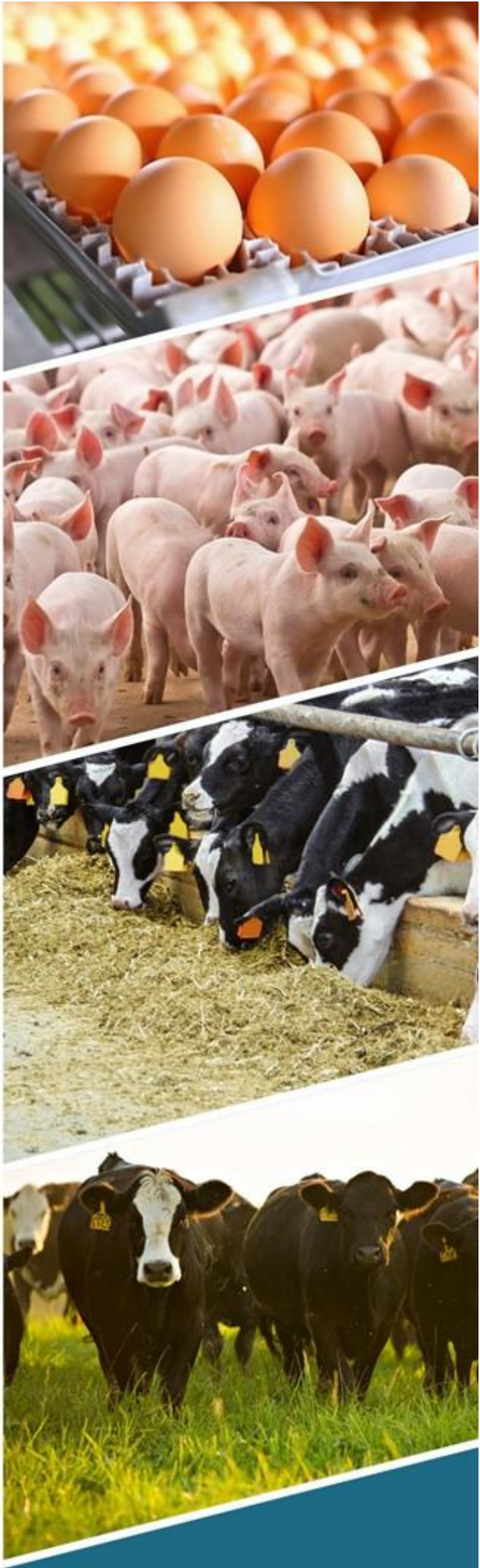
Figure 16. Missouri Land Rental Rates by Category, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Show-Me 2025

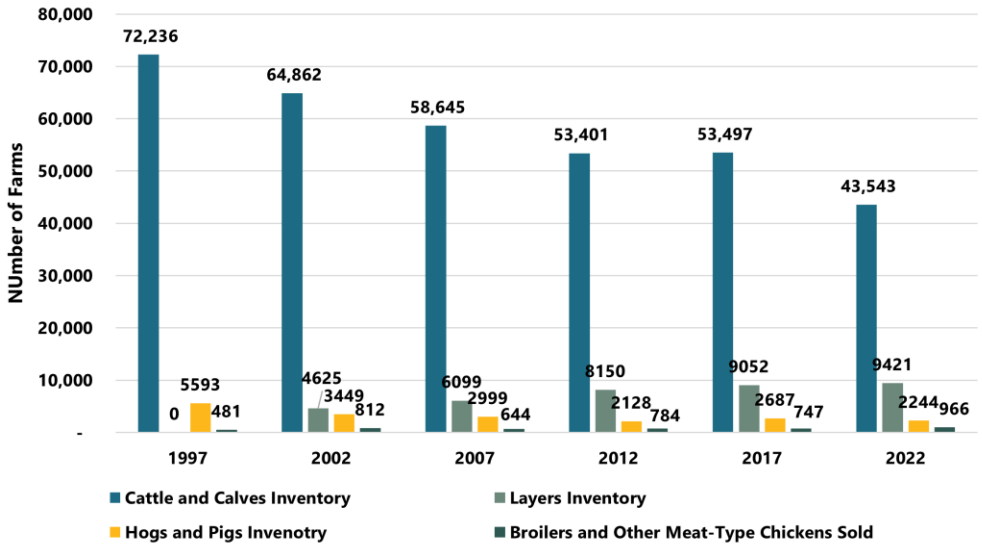
Missouri Livestock Outlook



MISSOURI LIVESTOCK LANDSCAPE

In this section, we examine the broader landscape of Missouri's livestock industry, focusing on recent trends. According to the U.S. Census of Agriculture, the number of operations with cattle and calves has decreased by 40%, from 72,236 farms in 1997 to 43,543 farms in 2022, with the largest decline observed from 2017 to 2022 (Figure 17). Similarly, the number of farms with hogs and pigs decreased by 60% from 5,593 farms in 1997 to 2,244 farms in 2022, despite the 26% increase in the number of farms with hogs and pigs between 2012 and 2017. The number of farms with layers' inventory has increased by 104%, from 4,625 farms in 2002 to 9,421 farms 2022. The number of farms with broilers and other meat-type chickens has increased 101% from 481 farms in 1997 to 966 farms in 2022.[21]

Figure 17. Number of Livestock Farms in Missouri by Census Year, 1997 - 2022



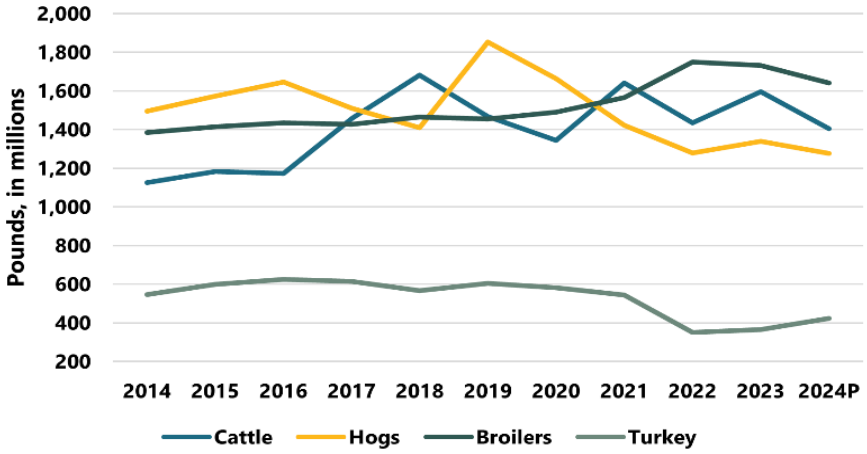
Source: USDA National Agricultural Statistics Service.

Figure 18 portrays livestock marketings in million pounds of meat from cattle, hogs, broiler chickens, and turkeys. In 2023, Missouri's total meat marketings reached 5 billion pounds, up 4.1% from 2022. Despite advancements in production, livestock producers are presented with many challenges on their operations stemming from changes in consumer demand, supply

[21] U.S. Department of Agriculture. 2022 Ag Census. Historical Highlights. 2022. https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_1_State_Level/Missouri/st29_1_001_001.pdf

chain disruptions, and weather events, highlighting the need to develop and implement risk management strategies

Figure 18. Missouri Meat Marketings by Species, 2014-24
**P indicates projected.*

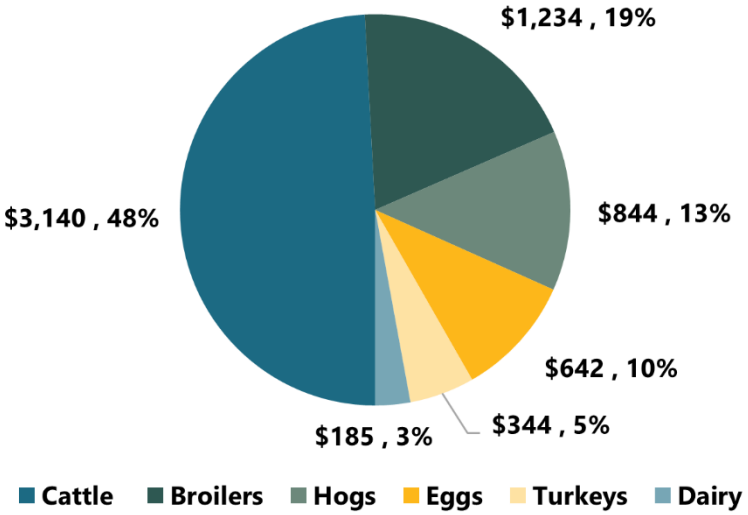


Source: Fall 2024 Missouri Farm Income Outlook, RaFF

Cattle consistently accounts for the largest share of livestock receipts in Missouri. In 2023, total receipts for cattle amounted to $3.1 billion, up 40% from 2022. Broilers accounted for $1.2 billion, hogs totaled $0.8 billion, eggs accounted for $0.6 billion, turkeys stood at $0.3 billion, and dairy cattle receipts totaled nearly $0.2 billion. See Figure 19 for a breakdown of cash receipts by animal and animal product category.

In the following sections, we will explore the unique characteristics, trends and factors influencing each livestock sector to provide a nuanced outlook for the Missouri's livestock industry.

Figure 19. Missouri Cash Receipts by Animal and Animal Product 2023
(Dollars in Millions; % Share of Total)



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

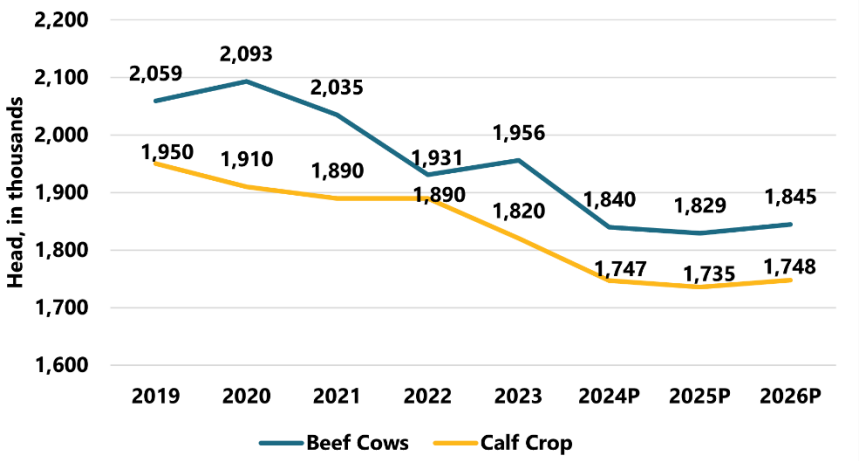
MISSOURI CATTLE

Inventory

Missouri has consistently ranked among the top three cow-calf production states in recent history, competing with Oklahoma for the second position, and after the highest-ranking state, Texas. Yet again, Missouri secured 3rd position in the nation for the number of beef cows in 2023.[22] After consecutive drought years, increased production costs and tighter profit margins, Missouri's beef cow inventory decreased 6% from January 2023 to January 2024 (Figure 20). Projections of further decline place beef cow inventory at 1.83 million head by January 2025, resulting from persistently high input costs, market uncertainty, and herd liquidation, as the 2022-2023 drought effects linger. A slight recovery in inventories is projected throughout 2025, to an estimated 1.84 million head of beef cows in January 2026, although that level would be 6% lower than in January 2023, and 12% lower than in January 2020.

Missouri's calf crop decreased 4% throughout 2023, reflecting the decline in beef cow inventory, totaling 1.74 million head of calves in January 2024. Additionally, the liquidation of the beef cow herd leads to projections of a smaller calf crop in January 2025 at 1.73 million head. By January 2026, the calf crop is estimated to increase to 1.74 million head, as the beef cow inventory grows.

Figure 20. Missouri Cattle Inventory by Type, 2019-25
**P indicates projected.*

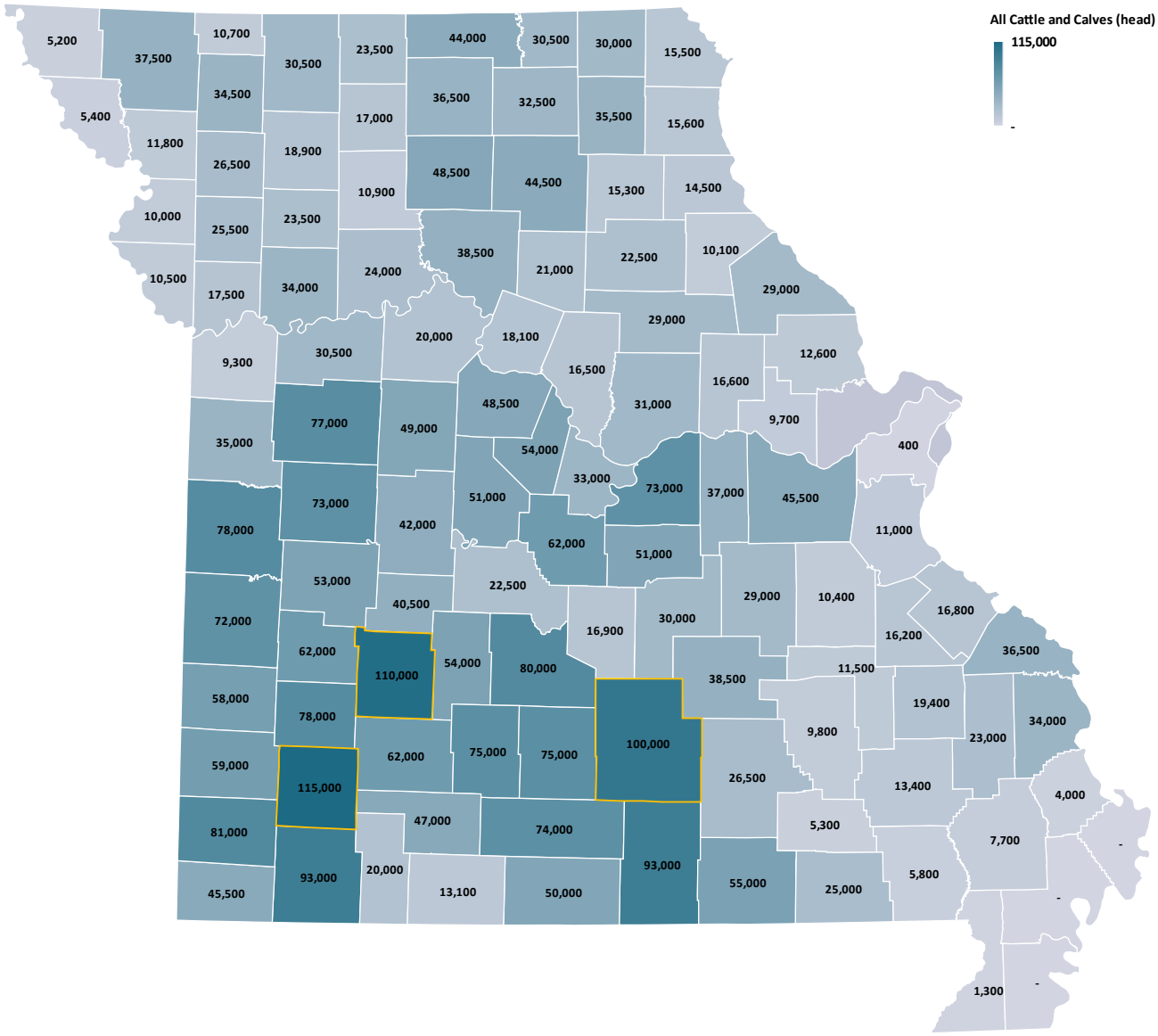


Source: USDA National Agricultural Statistics Service and Fall 2024 Missouri Farm Income Outlook, RaFF. Data based on January 1 beginning inventories of each year.

[22] U.S. Department of Agriculture, National Agricultural Statistics Service. Beef Cow Inventory. 2024. https://quickstats.nass.usda.gov/results/AE446061-F08B-3A39-83AF-0963396E9768

In Figure 21, Missouri's county level cattle inventory map as of January 1, 2024, showcases the regional distribution of cattle, with larger inventories in the southwest and south-central regions.[23] The estimated cattle inventory for 2024 is 3.9 million head, with Lawrence, Polk and Texas counties (outlined in gold) jointly accounting for 323 thousand head.

Figure 21. Missouri Cattle Inventory by County, 2024



Source: USDA National Agricultural Statistics Service.

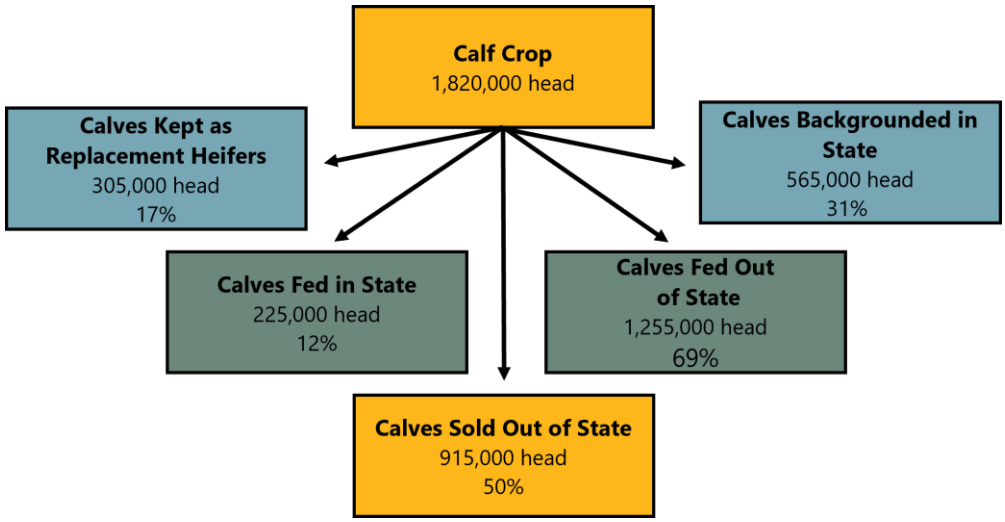
[23] U.S. Department of Agriculture. National Agricultural Statistics Service. Missouri Cattle County Estimates. 2024. https://www.nass.usda.gov/Statistics_by_State/Missouri/Publications/County_Estimates/2024/20240513-MO-Cattle-County-Estimates.pdf

Production

Missouri's newest beef processing facility, American Foods Group, is expected to open in the eastern portion of the state in 2025, with a processing capacity of 2,400 head per day. American Foods Group's expansion into Missouri could promote competition in the beef packing industry, giving producers more opportunity for price discovery and production stages. Concerns have reemerged in recent years of the financial implications to farmers and ranchers if the supply chain is or becomes more vulnerable to meatpacker concentration.[24] Missouri is home to various smaller scale, state inspected meat processing facilities, serving personal and commercial use needs, allowing Missourians to support local meat processing businesses and producers.[25]

As Missouri aims to expand its presence in the beef processing sector, evaluating the destination of the state's calf crop is crucial. As shown in Figure 22, Missouri's direct out shipment of calves reached 915,000 in 2023.[26] Out of a total 1.8 million head calf crop, 69% were fed out of state. The remainder of the calf crop were either kept for replacement heifers, backgrounding or in state feeding. Over the period 2018 – 2023, an average of 12% of calves

Figure 22. Missouri Calf Crop Flow Chart, 2023



Source: USDA data and the University of Missouri Extension Estimation Formulas, Joe Horner and Ryan Milhollin.

[24] U.S. Department of Agriculture, Economic Research Service. Concentration in U.S. Meatpacking Industry and How It Affects Competition and Cattle Prices. 2024. https://www.ers.usda.gov/amber-waves/2024/january/concentration-in-u-s-meatpacking-industry-and-how-it-affects-competition-and-cattle-prices/

[25] Missouri Department of Agriculture, Meat and Poultry Inspection Program. Inspected and Custom Plants in Missouri Map. 2024. https://agriculture.mo.gov/animals/health/inspections/

[26] U.S. Department of Agriculture. National Agricultural Statistics Service. Meat Animals Production, Disposition, and Income. 2024. https://downloads.usda.library.cornell.edu/usda-esmis/files/02870v85d/ht24z715t/hm50wf330/meatan24.pdf

were fed in state, 17% were retained as beef cow replacement heifers, and 48% were sold out of state.[27]

Table 5 presents a comparison of the percentage of calves sold directly out of state among the top cattle-producing states in the Midwest and southern United States. In 2023, Missouri had the highest percentage of calves sold out of state, reaching 50%, 5% higher than the previous year. Comparatively, this table illustrates which states, and to what extent, are participating in cattle feeding: Kansas, Nebraska and Texas are the most cattle feeding intensive states, as a small to negligible share of cattle leave those states to be fed out elsewhere.

Table 5. Percentage of Calves Sold Out of State, 2023

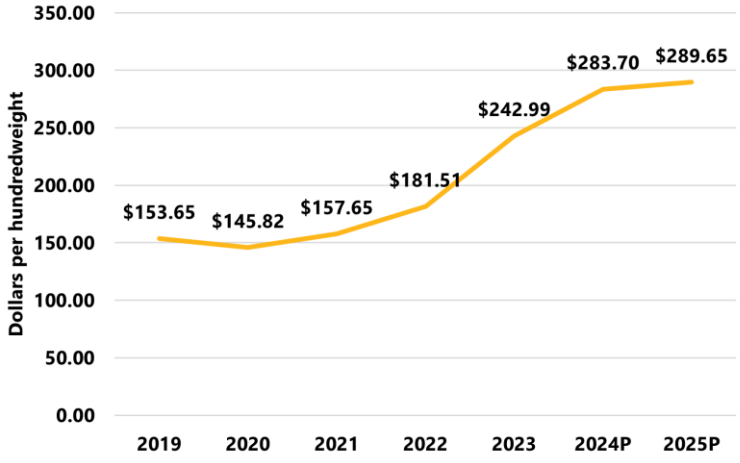
State	Percentage
Missouri	50%
South Dakota	27%
Oklahoma	18%
Texas	6%
Nebraska	4%
Kansas	0%

Source: USDA National Agricultural Statistics Service, Meat Animal Production, Disposition and Income Summary.

Price

As indicated in Figure 23, feeder steer prices have been on the rise since 2021 – reaching $242.99 per hundredweight in 2023, nearly $100 per hundredweight higher than in 2020. In 2024, average prices are projected higher at $283.70 per hundredweight, due to decreasing cattle inventories and sustained demand for beef. In 2025, feeder steer prices are projected to increase 2% to $289.65 per hundredweight.

Figure 23. Feeder Steer Prices, 2019 – 25
**P indicates projected.*



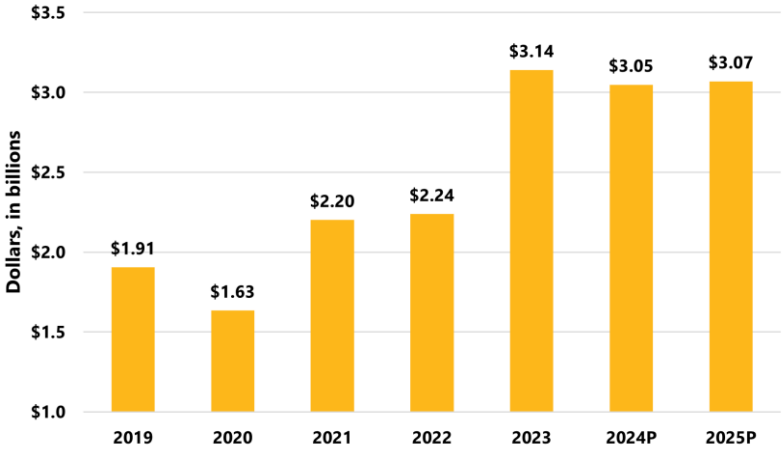
Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

[27] U.S. Department of Agriculture. National Agricultural Statistics Service. Cattle. 2024. https://usda.library.cornell.edu/concern/publications/h702q636h?locale=en
*Note: Percentages will not equal 100%, as number of calves backgrounded, fed in state, and fed out of state can overlap due to imported calves and/or retainment of calves for various stages of production.

Cash Receipts

In 2023, cash receipts for cattle and calves reached $3.1 billion, a 40% increase from 2022's 2.2 billion, due to the significant increase in cattle prices. In 2024, cash receipts are estimated slightly lower at $3.05 billion, as cattle supplies tighten. For 2025, cash receipts are projected to remain stable, at $3.07 billion, due to lower marketings, despite higher cattle prices. Figure 24 provides a visual representation of the changes in Missouri's cattle and calves cash receipts from 2019 – 25.

Figure 24. Missouri Cattle Cash Receipts, 2019 – 25
**P indicates projected.*



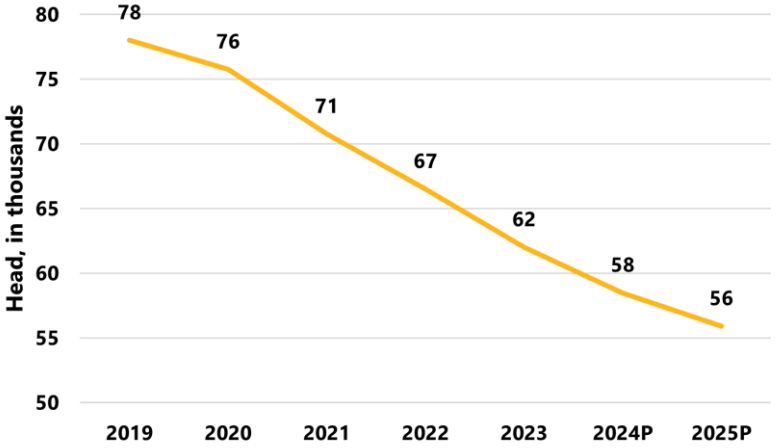
Source: Fall 2024 Missouri Farm Income Outlook. RaFF.

MISSOURI DAIRY

Inventory

In 2024, Missouri is estimated to have 58,000 milk cows, reflecting a 6.4% decrease from the 62,000 head recorded in 2023. In 2025, Missouri's dairy cow inventory is projected to further decline to 56,000 head, a 3.4% decrease from the previous year. The state's dairy cow inventory has experienced an annual average decrease of 5.4%, as shown in Figure 25. The steadily declining inventory is largely driven by the rising cost of production, as operating costs outweigh the returns associated with dairy operations in the Corn Belt,[28] and has increased pressure on dairy producers.

Figure 25. Missouri Dairy Cow Inventory, 2019 – 25
**P indicates projected.*

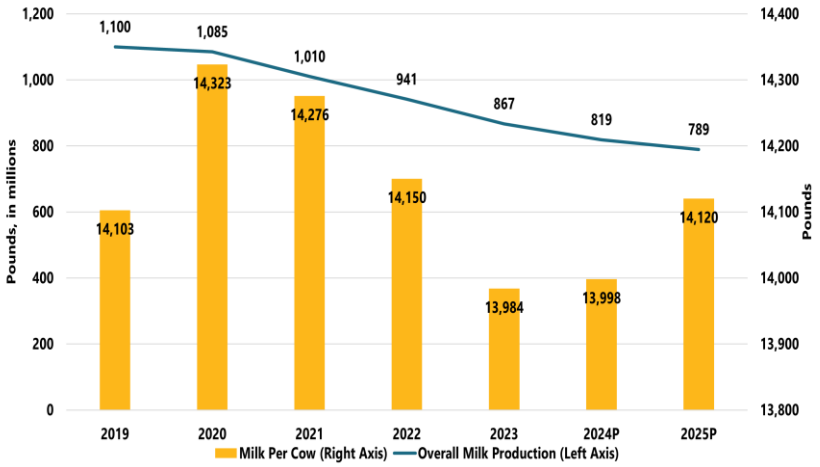


Source: Fall 2024 Missouri Farm Income Outlook, RaFF

Production

Figure 26 compares Missouri's overall milk production and milk production per cow. On a per-cow basis, milk production fell below 14,000 pound in 2023, likely influenced by drought conditions and high feed costs that might have induced changes in diets. Milk production per-cow is estimated at 13,998 pounds in 2024, a slight increase from 2023. In 2025, production is projected to increase to 14,120 pounds, returning to more normal per-cow levels. Despite the anticipated rise in production on a per-cow basis, overall milk production is expected to trend downward as the number of dairy cows

Figure 26. Missouri Overall Milk Production vs Per-Cow Production, 2019 – 25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

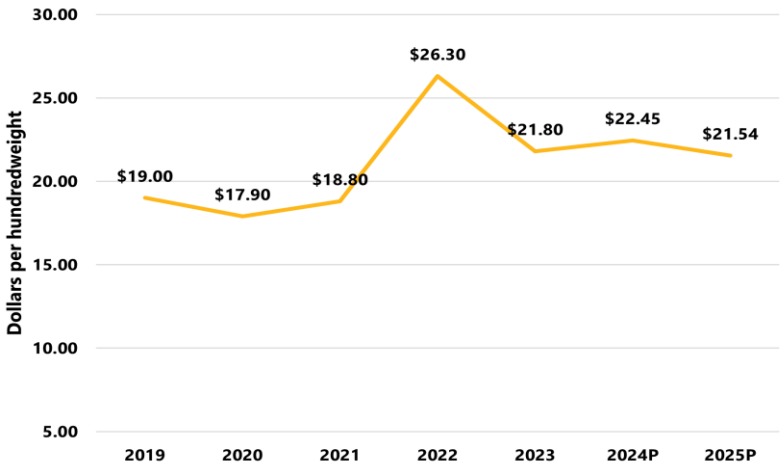
[28] U.S. Department of Agriculture. Economic Research Service. Structure, Costs, and Technology Used on U.S. Dairy Farms. 2024. https://www.ers.usda.gov/webdocs/publications/109626/err-334.pdf?v=9484.1

continues to decline. Missouri's overall milk production is projected at 789 million pounds in 2025, reflecting a 3.6% decrease from an estimated 819 million pounds in 2024. The decline in milk production aligns with a 5.4% annual decrease in Missouri's dairy cow population.

Price

Figure 27 displays Missouri's all-milk prices, showing the dynamic shift in prices after the 2022 record high price. While prices declined from the $26 per hundredweight mark, they have remained above the $20 mark, slightly higher than historical averages. In 2024, the all-milk price is estimated to increase to $22.45 per hundredweight, a 3% increase from 2023. Looking to 2025, prices are anticipated to decline slightly to $21.54 per hundredweight.

Figure 27. Missouri All-Milk Prices, 2019-25
**P indicates projected.*

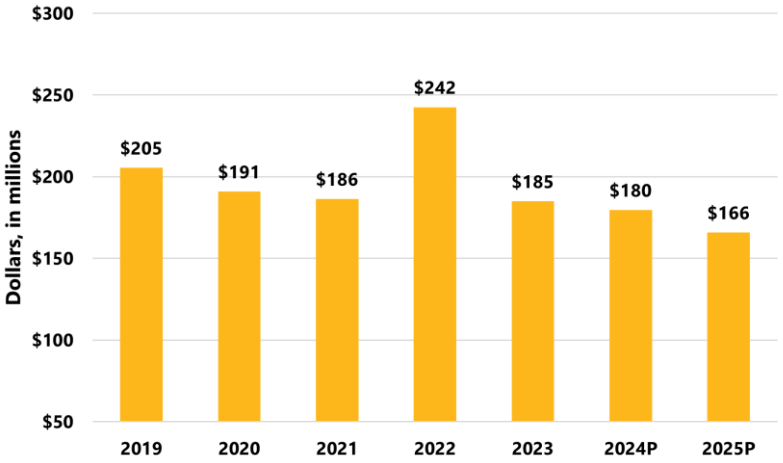


Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Cash Receipts

Missouri's dairy cash receipts totaled $185 million in 2023, a 24% decrease from 2022's record year. This decline reflects the change in milk prices, as they returned to historical levels (Figure 28). In 2024, cash receipts from dairy cows are estimated even lower, at $180 million, as a result of an expected 6% reduction in the dairy cow herd. Despite this decline, cull cow and bull calf prices were in the dairy farmer's favor, as the beef cattle market prices remained strong. Projections for 2025 suggest cash receipts will decrease approximately 8% from 2024, totaling $166 million, due to a projected 3% additional decline in the dairy cow herd and a projected 4% drop in milk prices.

Figure 28. Missouri Dairy Cash Receipts, 2019-25
**P indicates projected.*



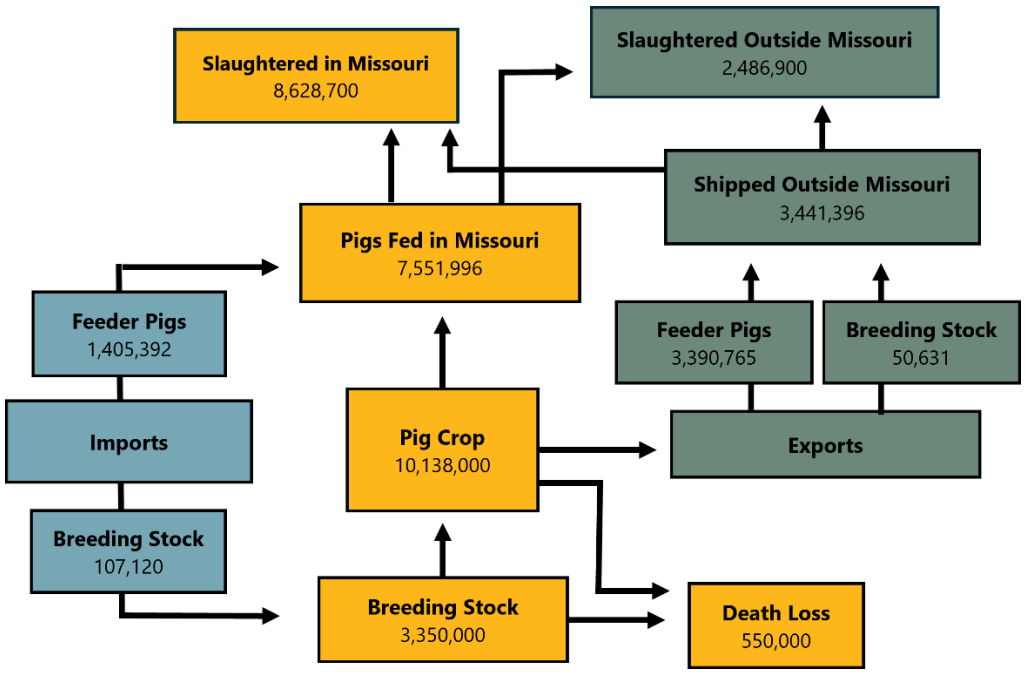
Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

MISSOURI HOGS

Inventory

Missouri ranked 6th in the nation for the number of breeding hogs and 7th for total hog inventory again in 2023. Figure 29 illustrates the origins and destinations of pork bred, fed, or slaughtered in Missouri in 2023.

Figure 29. Missouri Hog Industry Flow Chart, 2023



Source: Fall 2024 Missouri Farm Income Outlook, RaFF. the USDA National Agricultural Statistics Service, and the Missouri Department of Agriculture

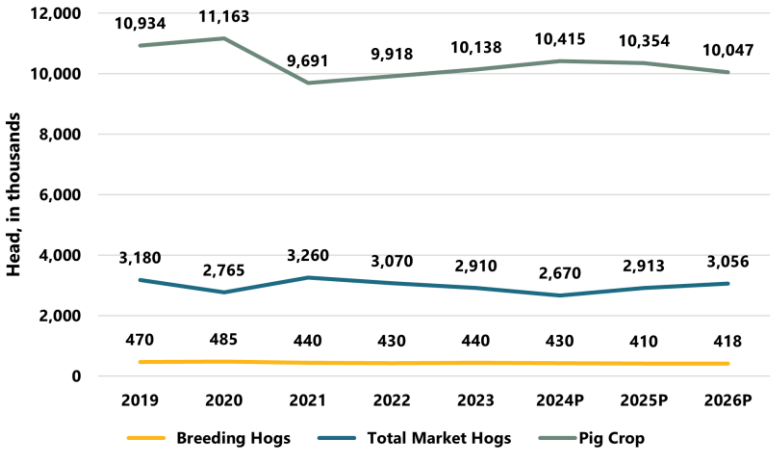
The state's breeding hog inventory at the start of 2024 was 2.3% lower than the previous year, at 430,000 head, while the market hog inventory declined by 8% to 2.67 million head. However, the number of sows farrowed increased to 921,000, resulting in a larger pig crop at 10.42 million head, likely related to slightly higher hog prices and reduced incidence of diseases.

Projections anticipate 2025 beginning inventories of breeding hogs to be lower than in 2024, at 410,000 head, but beginning inventories of market hogs to increase to 2.91 million head. The 2024 pig crop is estimated lower, at 10.35 million head. However, the number of market hogs is projected to increase by 9% to 2.9 million head.

Looking further ahead, the numbers of breeding hogs and market hogs are projected to increase throughout 2025, totaling 418,000 head and 3.06 million head, respectively, by the start of 2026. Figure 30 provides insight into the state's breeding and total market hog inventories, compared to the pig crop. It's important to note that sows can produce an average of 11.5 pigs per litter and can have 2.5 litters per year. Like the calf crop, the pig crop is crucial in indicating the supply of animals becoming available for slaughter.

Figure 30. Missouri Beginning Hog Inventory by Type and Annual Pig Crop, 2019-26

**P indicates projected.*



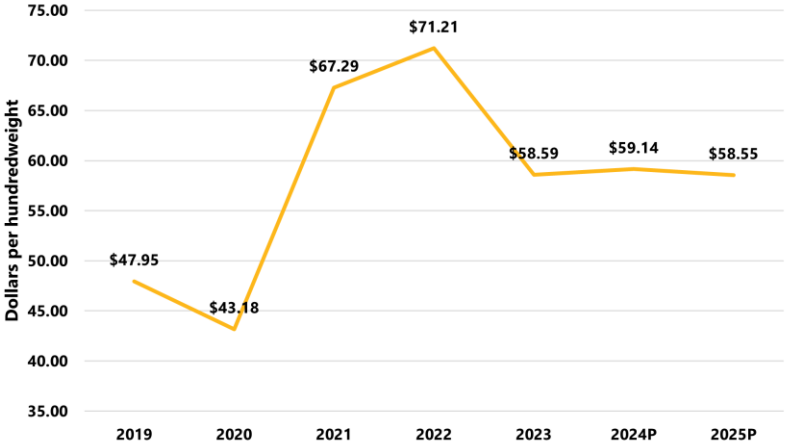
Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Price

In 2023, 51-52% lean hog prices averaged $58.59 per hundredweight (Figure 31). In 2024, average prices are estimated to increase slightly to $59.14 per hundredweight, attributed to an increase in pork demand. Looking to 2025, prices are projected to decline slightly from 2023 levels to $58.55 per hundredweight, with limited movement in pork demand.

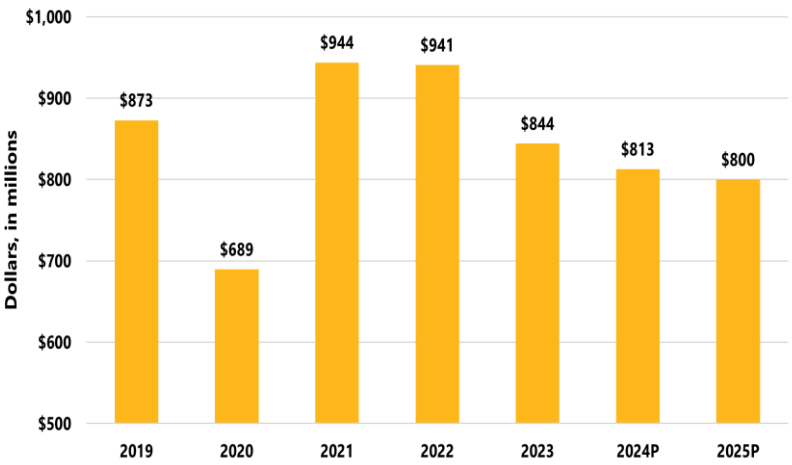
Figure 31. Missouri Hog Prices, 2019-25

**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Figure 32. Missouri Hog Cash Receipts, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Cash Receipts

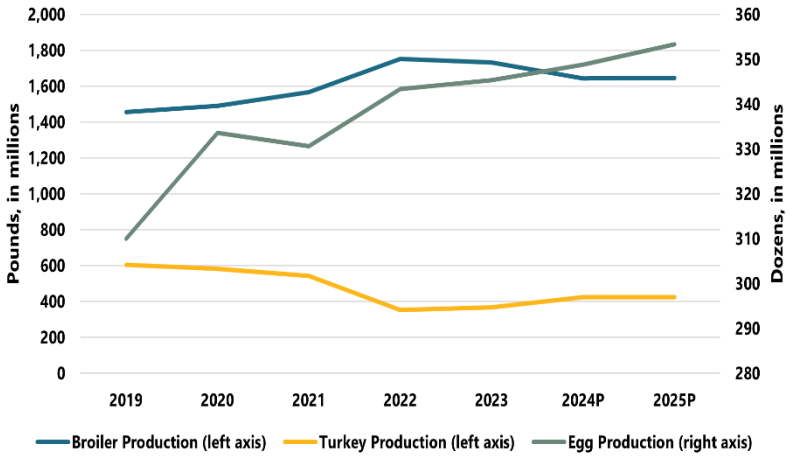
Missouri's hog cash receipts amounted to $844 in 2023, 10.3% lower than in 2022 (Figure 32). In 2024, cash receipts are projected to decline 4%, as marketings in liveweight basis are forecast 5% lower than in 2023. For 2025, receipts are projected to fall slightly to $800 million, as hog prices decline.

MISSOURI POULTRY

Production

In 2023, Missouri ranked 7th in broiler production nationally, processing approximately 303 million head, down one spot from 2022. While Missouri ranks nationally for broiler production, much of the state's production is concentrated in the central, southwest, and southeast portions of the state. Partially driven by the closure of two processing plants, the state has witnessed a 6.2% decrease in broiler production since 2022, totaling 1.6 billion pounds in 2024. Looking to 2025, projections suggest a slight increase in broiler production. Figure 33 compares production by poultry type.

Figure 33. Missouri Poultry Production by Type, 2019-25
**P indicates projected.*



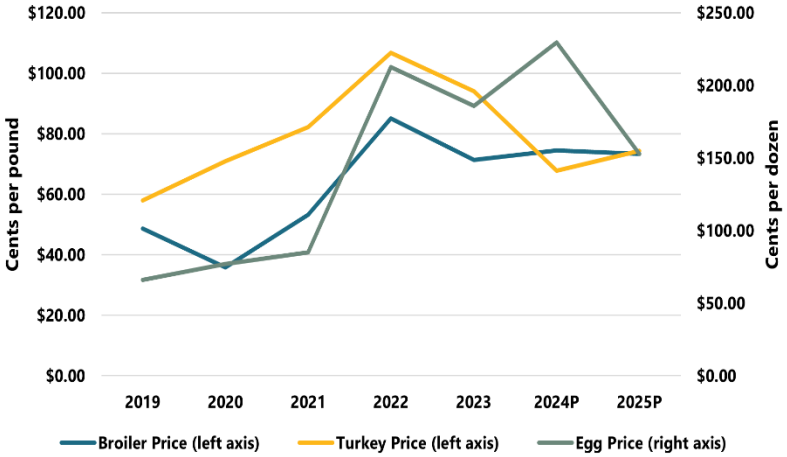
Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Missouri ranked 5th nationally for turkey production in 2023, with approximately 17 million head. The state produced 366 million pounds of turkey in 2023. In 2024, turkey production is estimated to have rebounded with a 16% increase, reaching 423 million pounds. Projections for 2025 anticipate production to remain stable at 423 million pounds. The state's 2024 egg production is projected to reach 349 million dozen, a 1% year-over-year increase from 345 million dozen. Egg production is estimated to increase slightly in 2025, totaling 353 million dozen.

Prices

Figure 34 provides poultry prices for Missouri's broiler, turkey and egg sectors. The weighted average broiler price dipped 13.70 cents in 2023 compared to 2022. Prices rose in 2024, increasing to 74.45 cents per pound. Projections for

Figure 34. Missouri Poultry Prices by Type, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

2025 anticipate a decrease to 73.31 cents per pound, correlating with the expected increase in production.

Turkey prices dipped in 2023, to 94.00 cents per pound, as production increased across the state. In 2024, prices are in line to decrease 28%, to 67.69 cents per pound, as supply increases. In 2025, turkey prices are projected to increase to 74.31 cents per pound. Egg prices remained high in 2023, after skyrocketing in 2022, at $1.86 per dozen. Prices are projected even higher in 2024, totaling $2.29 per dozen, despite the increase in egg production. Egg prices are projected to dip in 2025, to $1.53 per dozen.

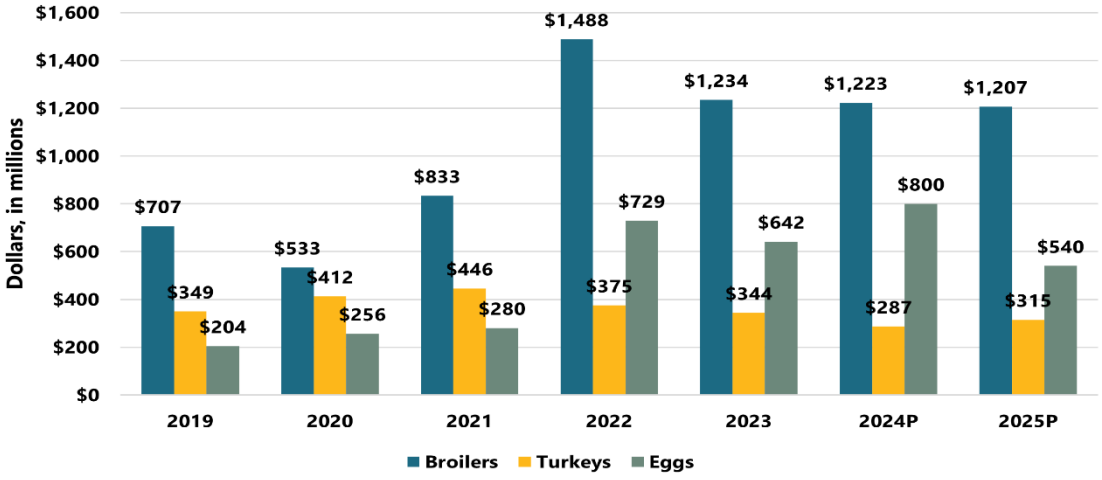
Cash Receipts

As the U.S. poultry industry faced challenges from the Highly Pathogenic Avian Influenza (HPAI), prices spiked in 2022 (Figure 35). As broiler, turkey, and egg prices retreated in 2023, so did cash receipts. In 2024, receipts for broilers are projected slightly lower, totaling $1.22 billion. In 2025, broiler receipts are projected to decline further, to $1.20 billion, reflecting the slight decline in prices.

Turkey receipts are expected to decline approximately 17% from 2023, to $287 million in 2024, resulting from reduced production and lower turkey prices. Looking to 2025, turkey receipts are projected to recover, totaling $315 million.

Egg receipts have more than doubled from 2019 to 2022, before declining 12% and totaling $642 million in 2023. In 2024, egg receipts are forecast to increase 25% to a record $800 million. This reflects the projected 24% increase in egg prices from 2023 to 2024. For 2025, egg receipts are forecast to see a sharp decline, as egg prices retreat.

Figure 35. Missouri Poultry Cash Receipts by Type, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

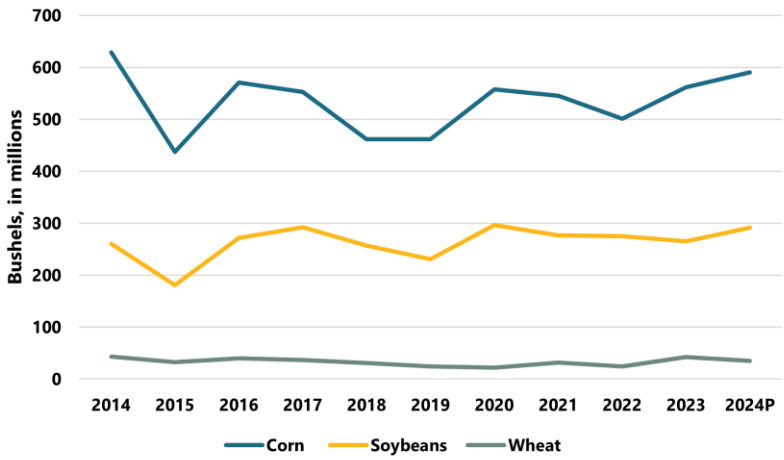
Show-Me 2025

Missouri Crop Outlook

MISSOURI CROP LANDSCAPE

Crop production is a crucial aspect of Missouri's agriculture industry, with the state holding national rankings in corn, cotton, rice, soybeans, hay, and peanut production. Like the livestock sector, crop producers continuously enhance production efficiency by adopting advanced seed technology and improved production practices, in efforts to increase yields. While some field crops, like corn and soybeans, are grown all over the state, other crops such as rice, cotton, and peanuts are concentrated in the southeast area of Missouri. In 2023, production of the state's three traditional field crops totaled 916.7 million bushels, as shown in Figure 36.

Figure 36. Missouri Field Crop Production by Type, 2014-24
**P indicates projected.*

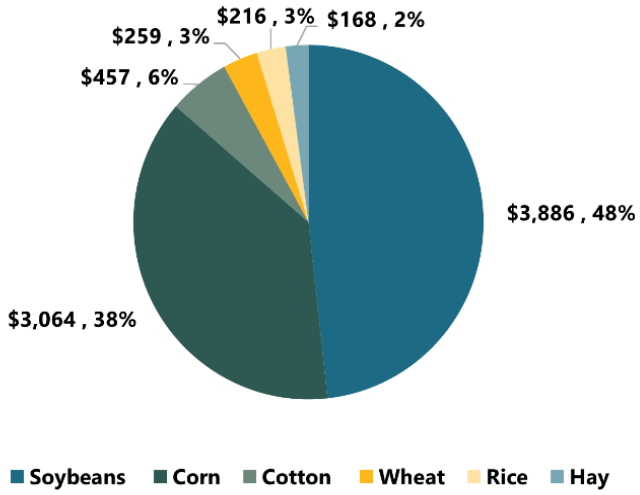


Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

As shown in Figure 37 (above), planted acres for soybeans account for the largest share of planted acres in Missouri, followed by corn and wheat. Cotton area has gradually been on the rise from 2020 – 2024, reaching 400,000 acres planted in 2024. Rice area has also made strides in recent years, increasing from 157,000 to 220,000 acres from 2022 – 2024.

Soybeans and corn consistently accounted for 81% of crop receipts in Missouri over 2014-2023 (Figure 38). In 2023, soybean receipts amounted to $3.8 billion, and corn receipts totaled $3.1 billion, while cotton, wheat, rice, and hay receipts jointly tallied $1.1 billion. The six crops totaled $8 billion, combined.

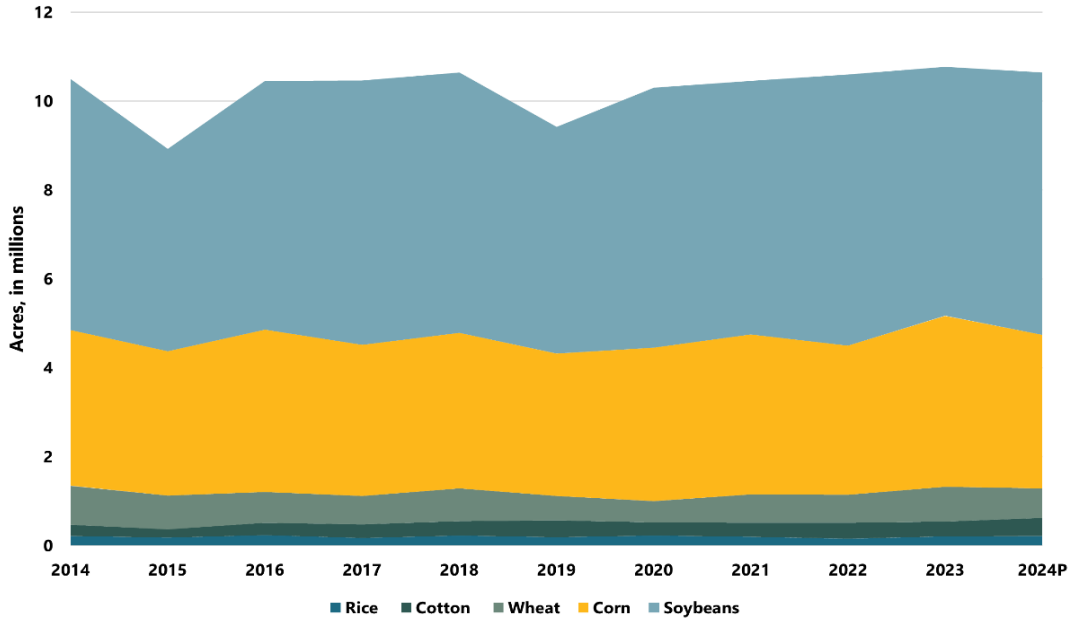
Figure 38. Missouri Crop Receipts by Type, 2023
(Dollars in Millions, and % of Total Crop Receipts)



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

After a brief review of the broad landscape of Missouri's diverse crop industry, each sector will be thoroughly explored to gain a comprehensive understanding of the individual dynamics and challenges. Each sector plays a crucial role in the state's agricultural economy; this section will explore the unique characteristics, trends and factors influencing the state's major crop sectors to provide a more robust perspective of Missouri's crop landscape.

Figure 37. Missouri Planted Acres by Crop, 2014-24
**P indicates projected.*



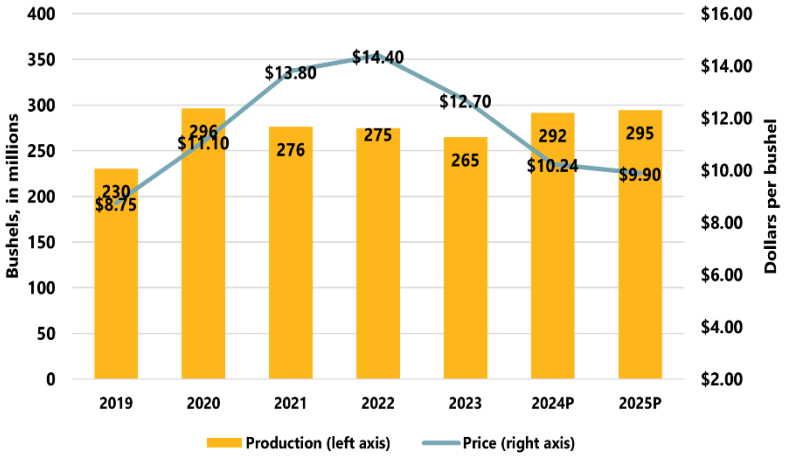
Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

MISSOURI SOYBEANS

Price

Figure 39 displays Missouri's soybean production levels and prices. In 2023, prices decreased to $12.70 per bushel, despite the tightening of the U.S. soybean supply. The U.S. stocks-to-use ratio was 8% at the end of the 2023/24 marketing year, up 2% from the previous year.[29] In 2024, Missouri's average soybean price is estimated at $10.24 per bushel, 20% lower than in 2023, as the U.S. ending stocks-to-use ratio is projected to increase to 13% in 2024/25, due to a large U.S. crop. Looking to 2025, the price of soybeans is projected to decrease to $9.90 per bushel, as the U.S. crop is projected higher at 5 billion bushels.[30]

Figure 39. Missouri Soybean Production and Price, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Production

In 2023, Missouri ranked 7th in soybean production, at approximately 265 million bushels, with 5.6 million planted acres, and 5.5 million acres harvested, accounting for 6% of the U.S. soybean crop. Projections for 2024 estimate a 5% increase in planted acres from 2023, to 5.9 million planted acres. With a 99% harvested-to-planted area ratio, the state's soybean crop is projected at 291 million bushels.

Table 6. Missouri Soybean Production by Acreage, 2019-25
**P indicates projected.*

Stage	2019	2020	2021	2022	2023	2024P	2025P
Planted *(1,000 acres)*	5,100	5,850	5,700	6,100	5,600	5,900	6,043
Harvested *(1,000 acres)*	5,010	5,810	5,640	6,040	5,520	5,830	5,973
Percent Harvested	98%	99%	99%	99%	99%	99%	99%

Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

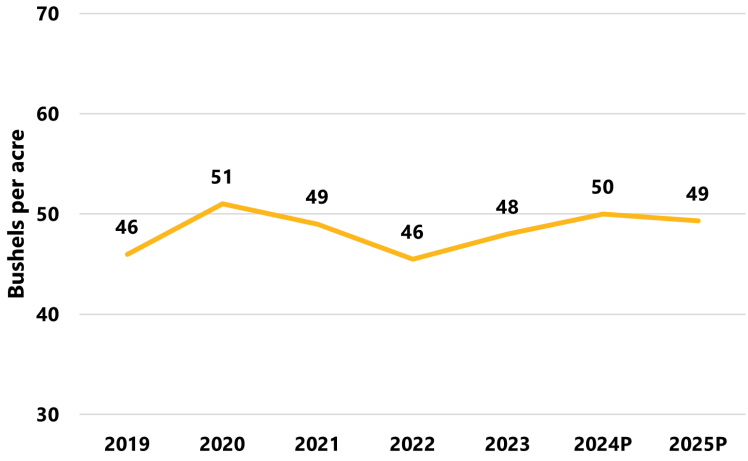
[29] Stocks-to-use ratios are calculated by the Rural and Farm Finance Policy Analysis Center (RaFF) using data from the Food & Agricultural Policy Research Institute's (FAPRI) Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

[30] Food & Agricultural Policy Research Institute. Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

For 2025, approximately 6 million acres and 5.9 million acres are projected to be planted and harvested, respectively (Table 6).

In 2023, Missouri's soybean yield was recorded at 48 bushels per acre, up 4% from 2022. The state average yield was 5% lower than that of the United States, at 50.6 bushels per acre.[31] In 2024, the state average yield was projected 4% higher, at 50 bushels per acre. However, as the U.S. yield also trended higher, to 53.2 bushels per acre, Missouri's yield is expected to remain 6% below the national average. Figure 40 illustrates that for 2025, the soybean yield is projected slightly lower at 49 bushels per acre. Similarly, the U.S. soybean yield for 2025 is projected to decline to 52.5 bushels per acre.

Figure 40. Missouri Soybean Yields, 2019-25
**P indicates projected.*

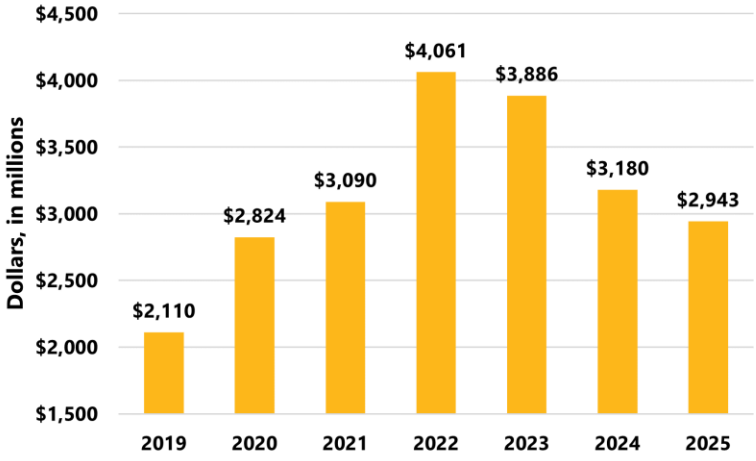


Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Cash Receipts

In 2023, soybean cash receipts declined 4% from 2022 to $3.9 billion, as expected after the record-setting year (Figure 41). In 2024, receipts are estimated lower, at $3.2 billion, as soybean prices retreat. In 2025, cash receipts are projected to decline by 7% to $2.9 million, reaching nominal levels not seen since 2020.

Figure 41. Missouri Soybean Cash Receipts, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

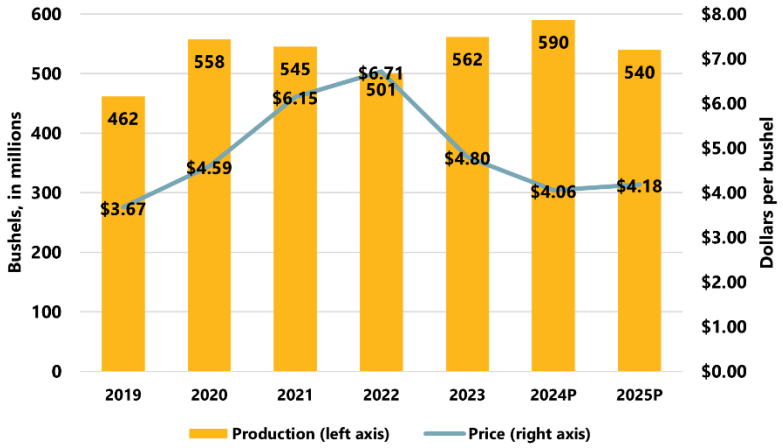
[31] Food & Agricultural Policy Research Institute. Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

MISSOURI CORN

Price

Figure 42 illustrates the relationship between corn production and average price. As corn production in Missouri and the United States expanded more rapidly than the demand for corn in 2023 and 2024, ending national stocks increased and prices declined. The projected U.S. stock-to-use ratio by the end of marketing year 2023/24 (August 31, 2024), is 13%, 3 percentage points higher than by the beginning of that marketing year (September 1, 2023).[32] In calendar year 2024, the average corn price was predicted to fall to $4.06, but tight profit margins across all field crops prevented a larger decline in corn area and improved growing conditions over the season resulted in high yields and a large corn crop in Missouri. For 2025, the corn price is projected to increase slightly, to $4.18, and Missouri corn production is projected to decline by 50 million bushels. The ending U.S. stock-to-use ratios for the 2024/25 and 2025/26 marketing years are projected at 14%.

Figure 42. Missouri Corn Production and Price, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook. RaFF.

Table 7. Missouri Corn Production by Acreage, 2019-25
**P indicates projected.*

Stage	2019	2020	2021	2022	2023	2024P	2025P
Planted (1,000 acres)	3,200	3,450	3,600	3,350	3,850	3,450	3,499
Harvested (1,000 acres)	2,980	3,280	3,430	3,110	3,670	3,260	3,323
Percent Harvested	93%	95%	95%	93%	95%	94%	95%

Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Production

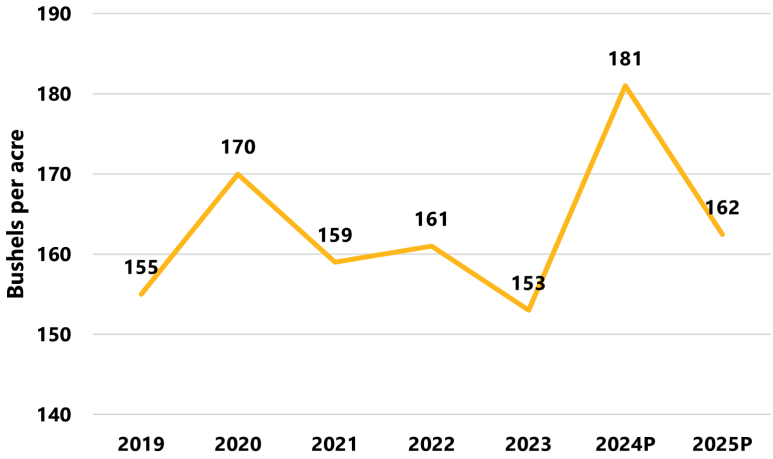
In 2023, Missouri ranked 9th in corn production, totaling 562 million bushels, moving up from 10th in the nation in the previous year. Corn planted area declined 10.4% in 2024, reaching 3.4 million acres. Harvested area is estimated to account for 94% of the planted area or 3.2 million acres, in line

[32] Stocks-to-use ratios are calculated by the Rural and Farm Finance Policy Analysis Center (RaFF) using data from the Food & Agricultural Policy Research Institute's (FAPRI) Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

with recent trends (Table 7). For 2025, an approximate 3.5 million acres are forecast to be planted in corn, and 3.3 million acres harvested.

Projections for 2024 suggest a 5% increase in production to a total of 590 million bushels. This would mainly be the result of an 18% increase in yields, since harvested area is estimated 11% lower than in 2023.

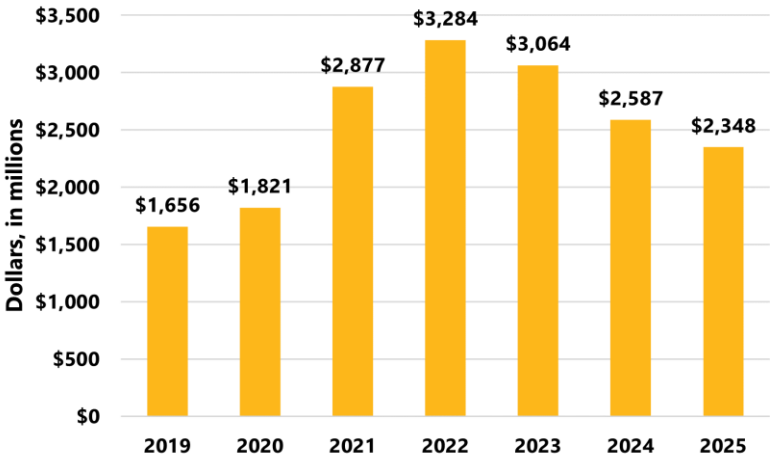
Figure 63. Missouri Corn Yields, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Prevailing drought conditions in 2022 and 2023 dampened Missouri's corn yields to 153 bushels per acre in 2023, a reduction of 10% from 2020 yields. Timely precipitation in 2024 virtually eliminated extreme drought conditions in the state, and corn yields climbed 18% to 181 bushels per acre in 2024, almost reaching the 183.1 bushel per acre average yield at the U.S. level.[33] Looking to 2025, yields are projected to revert to average, reaching 162 bushels per acre, while the average U.S. corn yield is projected higher at 183.3 bushels per acre (Figure 43).

Figure 44. Missouri Corn Cash Receipts, 2019 – 25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Cash Receipts

Coming off a record-level in 2022, corn receipts declined in 2023 due to lower corn prices, totaling $3 billion. Although corn production increased in 2024, the expected decline in prices is anticipated to lower receipts to a projected $2.6 billion. In calendar year 2025, receipts are forecast lower at $2.3 billion, due to lower production and despite the anticipated increase in price (Figure 44)

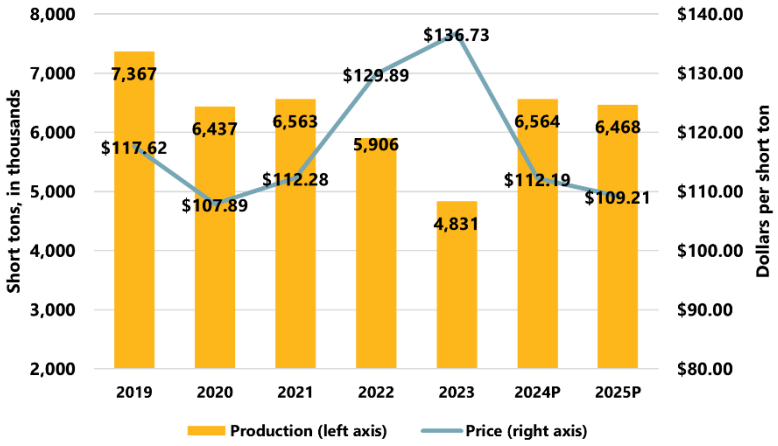
[33] Food & Agricultural Policy Research Institute. Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

MISSOURI HAY

Price

Figure 45 shows hay production and prices. In 2023, prices hit record-setting levels, at $136.73 per short ton, as drought conditions reduced the hay supply. In 2024, production recovered in Missouri and neighboring states, lowering the price of hay by 18% to $112.19 per short ton. Looking ahead to 2025, hay production is projected to remain fairly stable, with slightly lower prices averaging $109.21 per short ton.

Figure 45. Missouri Hay Production and Price, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Production

In 2023, Missouri ranked 8th in hay area, at 3.8 million acres harvested, dropping from 2nd place in 2022. Projections for 2024 suggest a 24% decrease in area from the previous year, to 2.9 million acres. Contrary to expectations, hay area was higher in 2022 and 2023 during drought years than in 2024. For 2025, approximately 3.1 million acres are projected to be harvested. The harvesting data for Missouri's hay crop can be observed in Table 8.

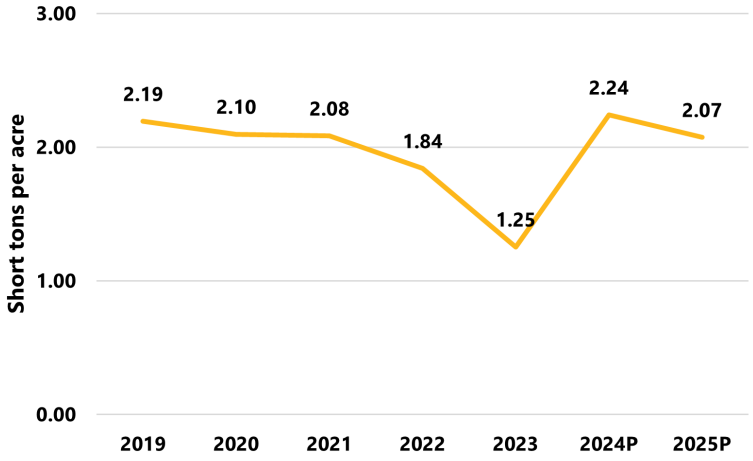
Table 8. Missouri Hay Production by Acreage, 2019-25
**P indicates projected.*

Stage	2019	2020	2021	2022	2023	2024P	2025P
Harvested (1,000 acres)	3,360	3,070	3,150	3,210	3,855	2,930	3,121
Percent Change from Previous Year	9%	-9%	3%	2%	20%	-24%	7%

Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

In 2023, Missouri's hay yield reached a low of 1.25 tons per acre. The 2024 yield was estimated higher, at 2.24 short tons per acre, reflecting a 79.2% increase from the previous year, showing signs of recovery from drought conditions. Figure 46 indicates that for 2025, the projected hay yield is 2.07 tons per acre, an 8% decline that would align with historical average levels. However, the hay crop could dip back below 2 tons per acre if Missouri experiences drought conditions during the summer months of 2025.

Figure 46. Missouri Hay Yields, 2019-25
**P indicates projected.*



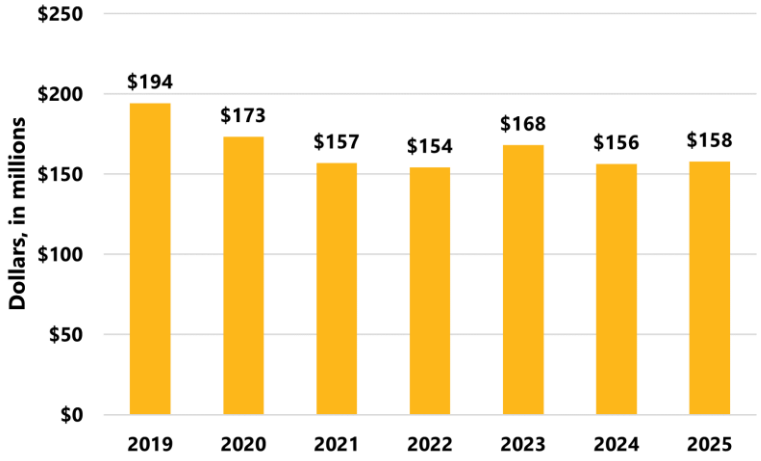
Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

The U.S. hay yield for 2024 was estimated at 2.46 tons per acre, nearly 10% higher than Missouri's average yield. For 2025, the U.S. yield is projected slightly lower at 2.40 tons per acre. [34]

Cash Receipts

Shown in Figure 47, 2023 hay cash receipts were 9% higher than in 2022, at $168 million. In 2024, receipts are estimated at $156 million, a 7% decrease from the previous year, driven by a higher national supply resulting in lower prices. The forecast suggests an increase in 2025 hay receipts, totaling $158 million—a slight 1.2% rise from 2024 receipts, despite the projected decline in production and price, due to carry over of inventory from 2024.

Figure 47. Missouri Hay Cash Receipts, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

[34] Food & Agricultural Policy Research Institute. Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

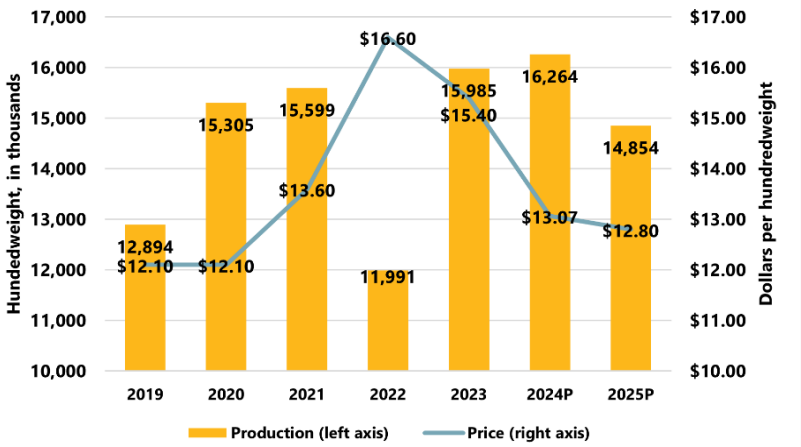
MISSOURI RICE

Price

Figure 48 displays rice production and prices. In calendar year 2023, the average price of rice in Missouri decreased to $15.40 per hundredweight, influenced by the increase in the U.S. rice supply, and the increase in the ending US stocks-to-use ratio from 14% in marketing year 2022/23 to 15% in 2023/24.[35] In calendar year 2024, the price fell to $13.07 per hundredweight, as U.S. production increased again and the ending U.S. stocks-to-use ratio projected for 2024/25 is 2 percentage points higher than for 2023/24, at 17%. For calendar year 2025, the price of rice is projected to decline to $12.80 per hundredweight, as the projected tightening in U.S. rice supplies would mostly put upward pressure on prices during the last quarter of 2025.

Figure 48. Missouri Rice Production and Price, 2019-25

**P indicates projected.*



Source: Fall 2024Missouri Farm Income Outlook, RaFF.

Production

In 2023, Missouri ranked 4th nationally in rice area, at 200,000 acres harvested, up one spot from 2022, and accounting for 7% of the U.S.'s 2.85 million acres harvested in the 2023/24 marketing year.[36] All rice in Missouri is grown in the bootheel region of the state.

Projections for 2024 estimate a 7% year-over-year increase in harvested acres, to a total 214,000 acres, with a projected 16.2 million hundredweights of rice production. This would result in a 97% harvested-to-planted ratio, of the 220,000 planted acres.

---

[35] Stocks-to-use ratios are calculated by the Rural and Farm Finance Policy Analysis Center (RaFF) using data from the Food & Agricultural Policy Research Institute's (FAPRI) Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

[36] Food & Agricultural Policy Research Institute. Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

For 2025, approximately 198,000 acres are projected to be planted, with 191,000 acres forecasted to be harvested. The 1% decline in harvested area would result in an 9% decline in rice production, to 14.8 million hundredweights. The harvesting data for Missouri's rice crop can be observed in Table 9.

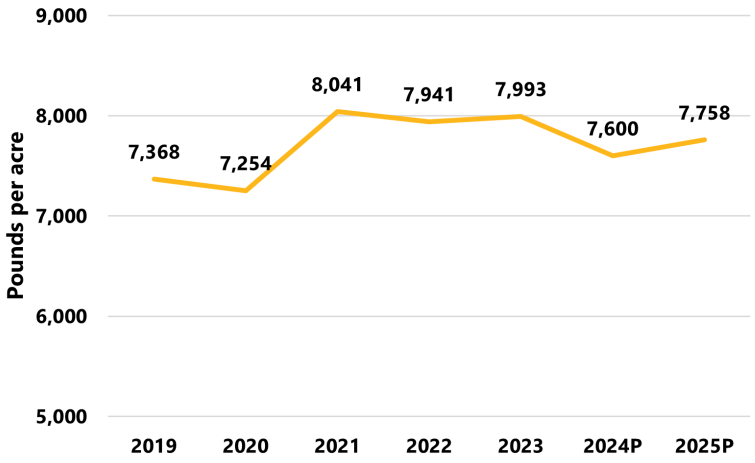
Table 9. Missouri Rice Production by Acreage, 2019-25
**P indicates projected.*

Stage	2019	2020	2021	2022	2023	2024P	2025P
Planted (1,000 acres)	189	225	199	157	205	220	198
Harvested (1,000 acres)	175	211	194	151	200	214	191
Percent Harvested	93%	94%	97%	96%	98%	97%	97%

Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

In 2023, Missouri's rice yield was 7,993 pounds per acre, 4.5% higher than the U.S. average yield of 7,649 pounds per acre.[37]The state's 2024 yield is 5% lower than in 2023, at 7,600 pounds per acre, and slightly lower than the U.S. average yield of 7,623 pounds per acre. Figure 49 indicates that for 2025, the rice yield is projected at 7,758 pounds per acre, reverting to the increasing trend seen in recent years. However, Missouri's rice production is projected 9% lower than the previous year at 14.8 million hundredweights.

Figure 49. Missouri Rice Yields, 2019-25
**P indicates projected.*



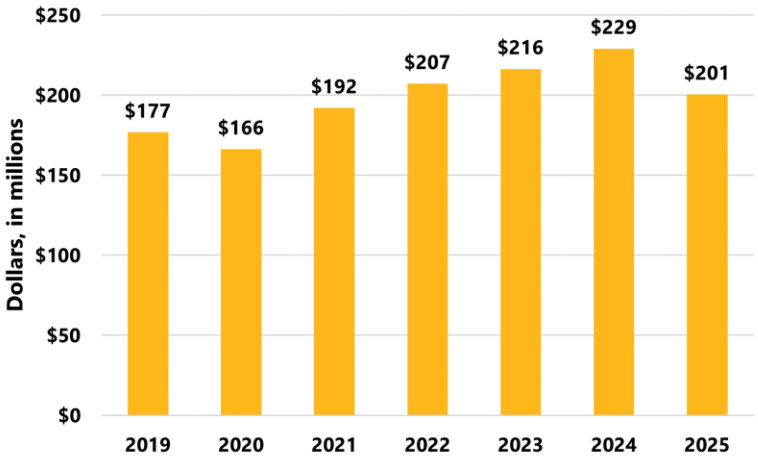
Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

[37] Food & Agricultural Policy Research Institute. Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

Cash Receipts

In 2023, rice cash receipts were up 4% from 2022 at $216 million. In 2024, receipts are estimated higher at $229 million, due to the sale of previous year's inventory and increased production. In 2025, cash receipts are projected to decline by 12% to $201 million, reflecting the projected decline in production and prices (Figure 50).

Figure 50. Missouri Rice Cash Receipts, 2019-25
**P indicates projected.*



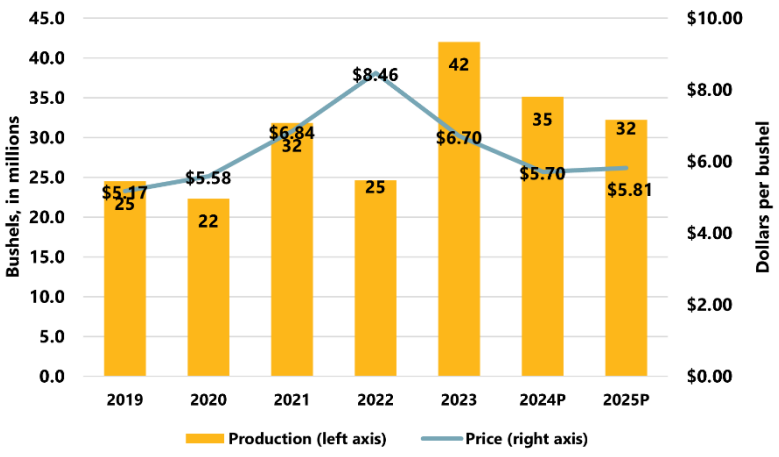
Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

MISSOURI WHEAT

Price

Figure 51 displays wheat production and prices. Missouri's wheat price declined to $6.70 per bushel in 2023 after hitting a record-high in 2022, as the U.S. ending stocks-to-use ratio increased from 30% in the 2022/23 marketing year to 39% in 2023/24.[38] In 2024, the wheat price is projected to fall 15% to $5.70, as the U.S. supply increased, driving the projected ending stocks-to-use ratio to 42% for the 2024/25 marketing year. For 2025, the wheat price is forecast to increase slightly, to $5.81, as the U.S. ending stocks to use ratio is forecast to decline slightly to 41%.

Figure 51. Missouri Wheat Production and Price, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Production

Although Missouri plants thousands of acres of wheat, it is not one of the top crops in the state. However, Missouri placed 14th nationally for wheat in 2023 at 42 million bushels, accounting for 2% of the nation's crop. In 2023, Missouri planted 780,000 acres of wheat and harvested 600,000 acres (Table 10). Planted area in 2024 is estimated14% lower than in the previous year, and harvested area is estimated at 510,000 acres, with a production of 35.1 million bushels. Approximately 604,000 acres are projected to

Table 10. Missouri Wheat Production by Acreage, 2019-25
**P indicates projected.*

Stage	2019	2020	2021	2022	2023	2024P	2025P
Planted (1,000 acres)	550	480	640	630	780	670	604
Harvested (1,000 acres)	390	360	490	410	600	510	478
Percent Harvested	71%	75%	77%	65%	77%	76%	79%

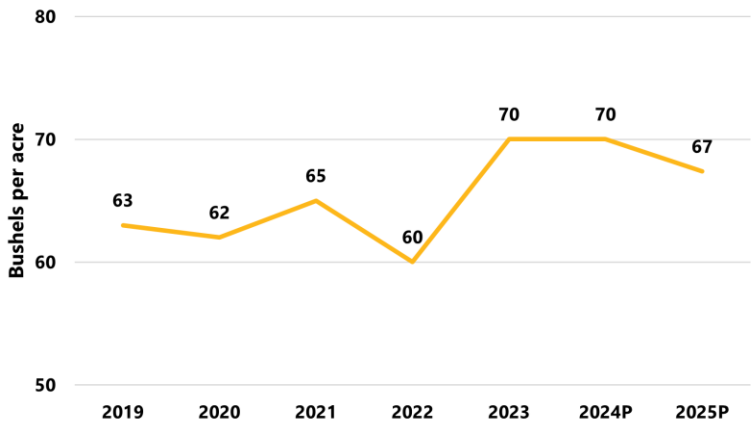
Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

[38] Stocks-to-use ratios are calculated by the Rural and Farm Finance Policy Analysis Center (RaFF) using data from the Food & Agricultural Policy Research Institute's (FAPRI) Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

be planted in wheat, of which 487,000 acres would be harvested. The average of wheat harvested relative to planted acreage for 2019-2024 is 73%.

Missouri's wheat yields increased 16% year-over-year in 2023 to 70 bushels per acre (Figure 52). The state average yield was 44% higher than the U.S. wheat yield, at 48.6 bushels per acre.[39] State yields remained steady in 2024 at 70 bushels per acre, while U.S. yields tailed behind at 52.2 bushels per acre. Looking to 2025, state yields are projected to fall slightly to 67 bushels per acre, while U.S. yields are still projected lower at 51.4 bushels per acre.

Figure 52. Missouri Wheat Yields, 2019-25
**P indicates projected.*

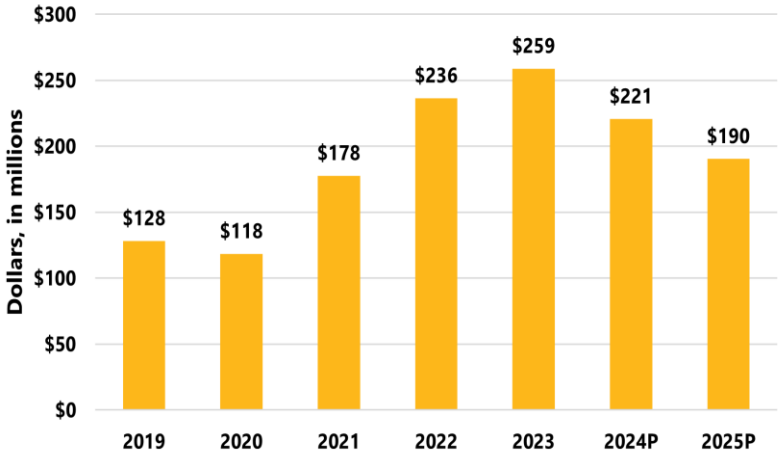


Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Cash Receipts

Unlike other field crops, wheat producers didn't see ground-breaking receipts in 2022 (the nominal record was established in 2013 at $365 million), but did experience 32% higher receipts than in the previous year. Wheat receipts trended higher in 2023, to $259 million, as increased yields and production pushed receipts up. In 2024, receipts are anticipated at $221 million, as price and production decline. Looking to 2025, receipts are projected to decline sharply to $190 million, as production and price are both forecast to decline (Figure 53).

Figure 53. Missouri Wheat Cash Receipts, 2019 – 25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

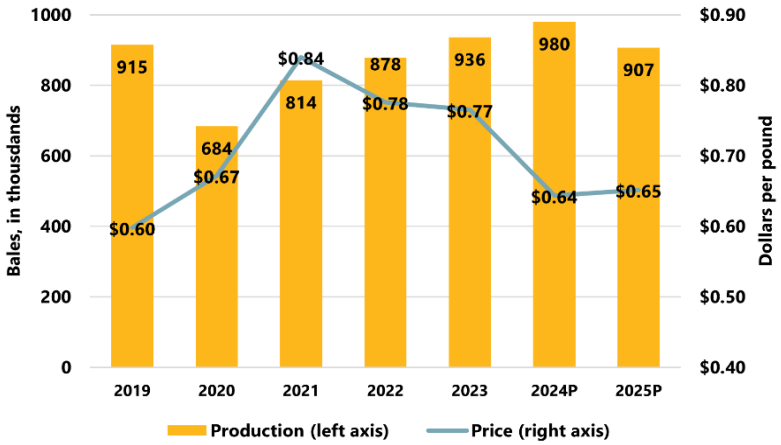
[39] Food & Agricultural Policy Research Institute. Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

MISSOURI COTTON

Price

Figure 54 displays production and price, reflecting the relationship between the state supply and equilibrium prices driven by global supply and demand factors. In 2023 cotton prices decreased just slightly to $0.77 per pound, as the U.S. cotton supply decreased, and the ending stocks-to-use ratio declined from 28% in 2022/23 to 23% in 2023/24.[40] In 2024, Missouri's average cotton price fell to $0.64 per pound, on par with the national price of $0.66 per pound for upland cotton.[41] The U.S. ending stocks-to-use ratio is projected to increase to 31% for the 2024/25 marketing year and remain at that level in 2025/26. Consequently, the price of Missouri cotton is projected at $0.65 per pound in 2025.

Figure 54. Missouri Cotton Production and Price, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Production

In 2023, Missouri ranked 4th in the nation in cotton production, at 335,000 planted acres, 330,000 acres harvested, and 936,000 bales of cotton, accounting for 8% of the U.S. crop. Similar to rice, Missouri's cotton is grown in the bootheel region of the state. In the 2024 growing season, Missouri saw a

Table 11. Missouri Cotton Production by Acreage, 2019-25
**P indicates projected.*

Stage	2019	2020	2021	2022	2023	2024P	2025P
Planted (1,000 acres)	380	295	315	360	335	400	340
Harvested (1,000 acres)	368	287	310	340	330	380	335
Percent Harvested	97%	97%	98%	94%	99%	95%	99%

Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

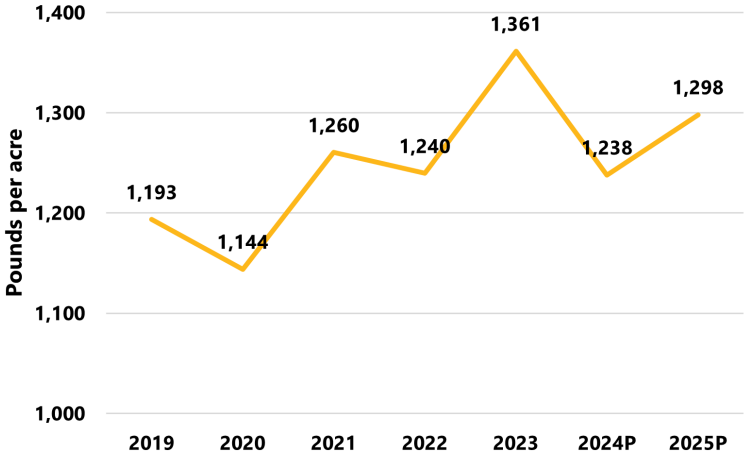
[40] Stocks-to-use ratios are calculated by the Rural and Farm Finance Policy Analysis Center (RaFF) using data from the Food & Agricultural Policy Research Institute's (FAPRI) Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

[41] Food & Agricultural Policy Research Institute. Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf

19.4% increase in planted acres from the previous year, to 400,000 acres, increasing the state's production to 980,000 bales. For the 2025 growing season, approximately 340,000 acres are projected to be planted, with 335,000 acres forecasted for harvesting. The planted and harvested area estimates for Missouri's cotton crop can be observed in Table 11.

In 2023, Missouri's cotton yield was 1,361 pounds of lint per acre, up 10% from 2022, and 41% higher than the U.S. yield of 895 pounds per acre.[42] The 2024 yield was estimated 9% lower at 1,238 pounds per acre; however, it still surpassed the national average of 828 pounds per acre. Figure 55 indicates that for 2025, the cotton yield is forecast at 1,298 pounds per acre, continuing the overall increasing trend seen in recent years.

Figure 55: Missouri Cotton Yields, 2019-25
**P indicates projected.*

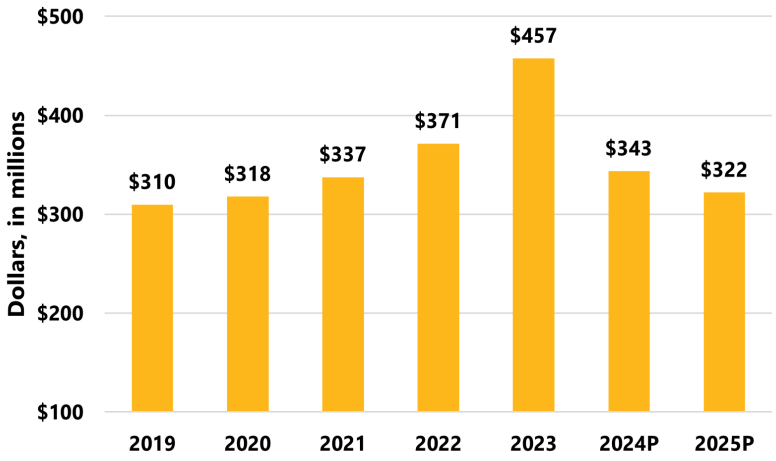


Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

Cash Receipts

In 2023, cotton cash receipts were up 23% from 2022 at $457 million, as yields and production trended higher and prices remained stable. In 2024, receipts are estimated lower, at $343 million, due to the drop in prices described above. In 2025, cash receipts are projected to decline by 6% to $322 million, reflecting the projected decline in production (Figure 56).

Figure 56. Missouri Cotton Cash Receipts, 2019-25
**P indicates projected.*



Source: Fall 2024 Missouri Farm Income Outlook, RaFF.

[42] Food & Agricultural Policy Research Institute. Baseline Update for U.S. Agricultural Markets. 2024. https://fapri.missouri.edu/wp-content/uploads/2024/08/2024-Baseline-Outlook-Update.pdf