



Show-Me 2024

Missouri Agriculture Outlook

RaFF Report #01-2024

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Missouri Agriculture Outlook

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JANUARY 2024



EXECUTIVE SUMMARY

Missouri's diverse agricultural climate positions it among the top 10 nationally in more than 10 commodities, contributing nearly \$100 billion to the economy annually. A 2021 economic study 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 95,000 farms and 27.5 million acres being farmed, over half of Missouri's land is in production agriculture.

Table 1. Missouri National Commodity Rankings, 2022

Commodity	Rank
Farms	2 nd
Hay	2 nd
Beef cows	3 rd
Rice	5 th
Goats	5 th
Turkeys	5 th
Breeding hogs	6 th
Broilers	6 th
Cotton	6 th
Soybeans	7 th
Corn	10 th

Source: USDA National Agricultural Statistics Service.

Missouri's net farm income is projected to decrease in 2023 due to persistently high production expenses and declining cash receipts. Lower farm income is expected to continue into 2024, with cash receipts forecasted to be lower than 2023 levels. Projections for commodity prices and supply vary, with crop production expected to increase, driving prices lower. On the livestock side, beef cow, dairy cow, and breeding hog inventories are projected to decline, while poultry production is expected to increase. This dynamic influences cattle and hog prices higher, whereas dairy and poultry 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 2023 and 2024 estimates, though lower than 2022, remain above the long-run Missouri farm income average. Farmers will need to carefully manage operations amid higher production costs and tighter margins.

Uncertainties, including weather, disease and higher interest rates, loom over the agriculture industry. Despite a reasonably projected year for Missouri agriculture in 2024, concerns persist regarding potential market volatility and uncertainties arising from global events such as the Russian invasion of Ukraine, the Israel-Hamas war and escalating tensions with China.

Throughout this report, insights from the Rural and Farm Finance Policy Analysis Center's (RaFF) shed light on Missouri's agriculture industry. Broad economic indicators, including interest and unemployment rates, are discussed before transitioning to an overview of the agriculture industry's broader economic situation. The report then outlines an in-depth analysis of 2024 projections for Missouri agricultural commodities.

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U.S. and Missouri Economic Outlook



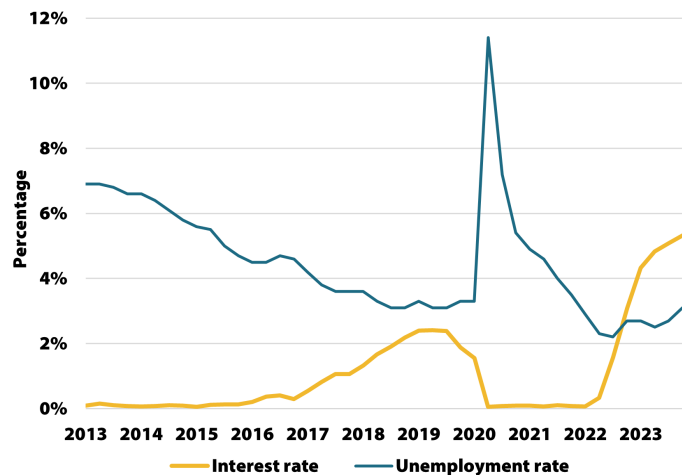
U.S. AND MISSOURI ECONOMIC PROFILE

COVID-19 entered the United States in January 2020, initiating the COVID pandemic. By March, a nationwide shutdown was implemented and lasted several months in various states. Although most of the country fully reopened by 2022, the official end of the pandemic was declared on May 11, 2023. From February 2020 to April 2022, the COVID economic downturn affected individuals and businesses. Impacts on interest rates, unemployment and other macroeconomic factors add to a broad economic overview for the U.S. and Missouri.

Interest and Unemployment Rates

Amid the pandemic, 2020 interest rates fell to their lowest levels since December 2011. The federal funds rate remained below 1% until 2022, experiencing an upward trend and reaching 5.3% by October 2023. While expected to peak at 5.6% by the end of 2023, the projected median interest rate for 2024 is 5.1%, slightly lower than 2023. The 10-year average interest rate stands at 0.73%. In response to inflation concerns, the Federal Reserve raised the federal funds rate at least 11 times since March 2022, as shown in Figure 1.

Figure 1. U.S. Interest and Unemployment Rates, 2013-23



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

The 10-year average unemployment rate in Missouri is 4.4%. During the pandemic-related shutdown, unemployment surged as countless businesses closed to curb the virus spread; Figure 1 also shows changes in Missouri’s unemployment rate pre-pandemic and post-pandemic. In April 2020, the state’s unemployment rate peaked at 11.4%, a 268% increase from April 2019’s 3.1%. By May 2022, the rate had declined to 2.1%. In 2023, Missouri’s unemployment rate has fluctuated between 2.5% and 2.7%. As the nation has moved beyond the COVID pandemic and recession, the economy has recovered, but the outlook for 2024 remains uncertain.

Exchange Rate and GDP

Beyond economic impact domestically, both Missouri and the broader U.S. agriculture industry export a host of agricultural products to global partners. According to USDA’s Foreign Agricultural Service (FAS) 2022 U.S. Agricultural Export Yearbook, U.S. agricultural exports surpassed \$196 billion. Missouri’s top export partners are listed in Table 2; top export partners for the U.S. include China, Mexico, Canada, Japan and South Korea.

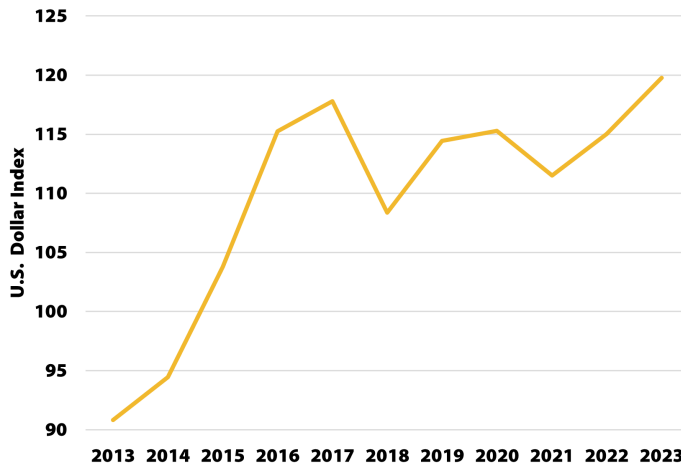
Table 2. Missouri Export Partners, 2022

Partner	Trade Value
Canada	\$5.82 Billion
Mexico	\$3.38 Billion
China	\$0.67 Billion
Brazil	\$0.44 Billion
Japan	\$0.39 Billion

Source: Federal Reserve Bank of St. Louis, FRED Economic Data and Missouri Economic Research Information Center (MERIC).



Figure 2. U.S. Aggregate Exchange Rate, 2013-23

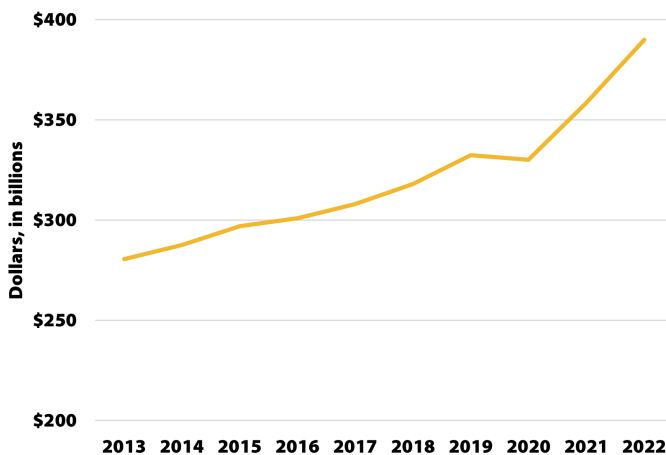


Source: Federal Reserve Bank of St. Louis, FRED Economic Data; Data not seasonally adjusted.

As shown in Figure 2, the U.S. exchange rate strengthened in 2023, leading to a stronger U.S. dollar. While this makes U.S. products more expensive for other countries and potentially impacts the competitiveness of products, a stronger dollar makes imports more affordable for Americans.

GDP is a key indicator reflecting economic performance and activity. In 2022, Missouri's total GDP across all industries reached \$389.9 billion, as shown in Figure 3; agriculture, forestry, hunting and fishing contributed 7.6% to the state's total GDP. Missouri ranked 22nd nationally in GDP for 2022, and the projected real GDP growth rate for 2024 is 1.4%. For a more in-depth assessment of economic well-being, real GDP per capita is considered. The national average real GDP per capita was \$65,415 in 2022. In 2023, Q1 recorded \$66,078, Q2 showed \$66,341 and Q3 increased to \$67,036.

Figure 3. Missouri Gross Domestic Product, 2013-22



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

MISSOURI AGRICULTURAL ECONOMY

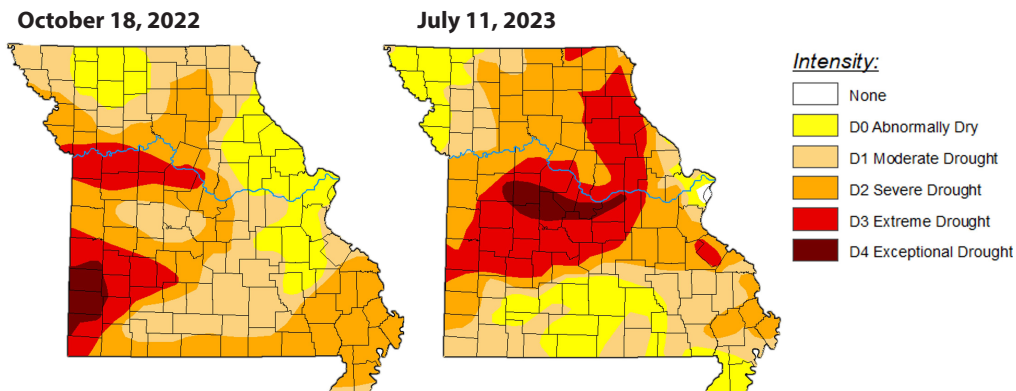
The landscape of the agricultural economy in Missouri and the U.S. changes each year. Missouri agricultural producers faced significant challenges in 2023, including one of the worst droughts in years, record-high commodity prices for some and catastrophically low prices for others. This section highlights key factors impacting Missouri's agricultural economy, as well as a discussion of Missouri farm income and financial indicators.

Drought

Like much of the Midwest, Missouri faced extreme drought conditions in 2022 and 2023, which posed challenges for the state's livestock and crop inventories. There will be several references to drought throughout this report, as it played a role in driving up commodity prices and tightening supplies.

In 2022, corn yields in certain areas of the state plummeted 60%, resulting in final yields of 60-70 bushels per acre. In 2023, state corn yields are estimated to be 16 bushels below trend yields, with much of the state experiencing D3 and D4 drought conditions. Missouri's beef cow inventory fell by approximately 90,000 head from 2021 to 2023, with further reductions anticipated. 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 two years, as illustrated in Figure 4.

Figure 4. Missouri Drought Comparisons, 2022-23



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

During the summers of 2022 and 2023, Missouri Governor Mike Parson signed executive orders declaring more than half of Missouri's counties in a Phase 2 - Drought Alert. Activated through these executive orders, a Drought Assessment Committee of representatives from state and federal agencies, worked to provide resources to agricultural producers affected by the drought.

The United States Department of Agriculture's Farm Service Agency (FSA) disaster assistance programs alleviated some of the financial burden on producers during the drought. 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>).

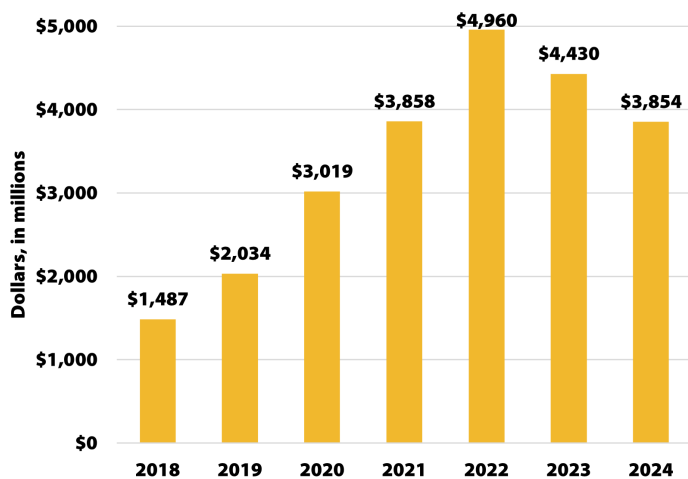
State Legislative Efforts

In response to challenging circumstances, policymakers have taken steps to support the industry. The Missouri legislature passed bills addressing various agricultural issues, from value-added tax credits to flood resiliency measures. At the federal level, Congress is working on the 2024 farm bill, the primary policy instrument for agriculture and food. Members of Congress are also focused on improving programs and policies that impact Missourians, such as the ruling on Waters of the United States (WOTUS), ongoing funding for support programs and other relevant regulations and laws.

In 2023, the Missouri legislature passed two agricultural omnibus bills, House Bill 202 and Senate Bill 138. These bills targeted several priority areas within the agricultural community. Two key pieces of this legislation—the Beginning Farmers Program and the Large Animal Veterinary Student Loan Program—will significantly influence Missouri’s agriculture industry. Both programs encourage investments in young adults aspiring to pursue careers in agriculture, whether through tax deductions or academic aid.

The Beginning Farmers Program introduces an income tax deduction for landowners who sell, lease or crop-share their land to a beginning farmer and/or family member. This legislation is designed to lower entry barriers for beginning farmers and incentivizes landowners to keep their land in production during transitions. The Large Animal Veterinary Student Loan Program awards loans to 12 individuals attending the University of Missouri College of Veterinary Medicine. Upon competing veterinary school, this program offers loan forgiveness for years of service in designated areas of need.

Figure 5. Missouri Net Farm Income, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Missouri Farm Income

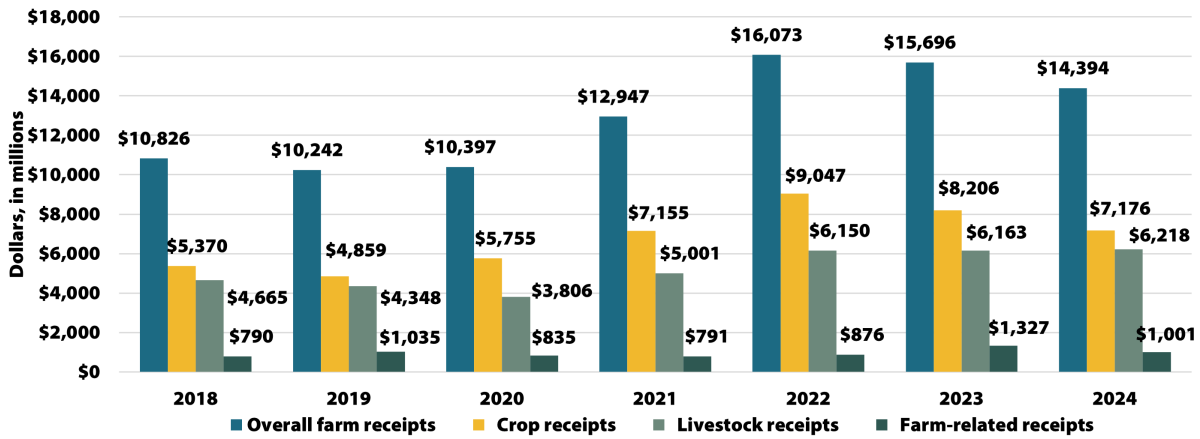
According to USDA’s Economic Research Service (ERS), Missouri ranked 12th in the nation for net farm income at \$5 billion in 2022. Despite high production expenses in 2022, producers saw higher commodity prices; a 55% decrease in government payments and lower production levels added a layer of complexity to the farm income picture. In 2023, net farm income is estimated to decrease to \$4.5 billion, due in part to declining commodity prices. Looking to 2024, declining commodity prices contribute to a projected 13% drop in farm income, reaching \$3.9 billion. Figure 5 offers insight into changes in Missouri net farm income from 2018-24.



Farm Receipts

As shown in Figure 6, overall farm receipts are segmented into crops, livestock and farm-related receipts. Missouri farm receipts reached a record high of \$16.1 billion in 2022, primarily driven by higher commodity prices that boosted cash receipts. Projections indicate a slight decrease in receipts for 2023, reaching \$15.7 billion after declining crop receipts. However, higher cattle prices positively impact livestock receipts in 2023 and 2024. Overall farm receipts are projected to decrease again in 2024, amounting to \$14.4 billion, due to declining crop and farm-related receipts.

Figure 6. Missouri Farm Receipts by Category, 2018-24



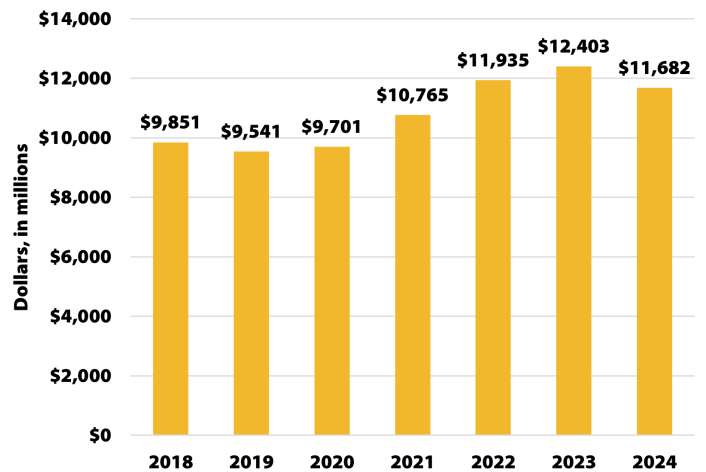
Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Farm Expenses

In 2022, Missouri’s total agricultural production expenses amounted to \$11.9 billion. Production expenses are estimated to climb to \$12.4 billion 2023, partially attributed to higher input costs. Following elevated production costs in 2022 and 2023, there is an expected 5.8% decline in Missouri’s 2024 production expenses, bringing the total to \$11.6 billion. Figure 7 outlines the fluctuation in state production expenses from 2018-24.

As depicted in Figure 8 (on the next page), farm origin input costs constitute a significant portion of Missouri’s production expenses. Feed costs have experienced a continuous increase since 2020, reaching a state-level record high of \$1.8

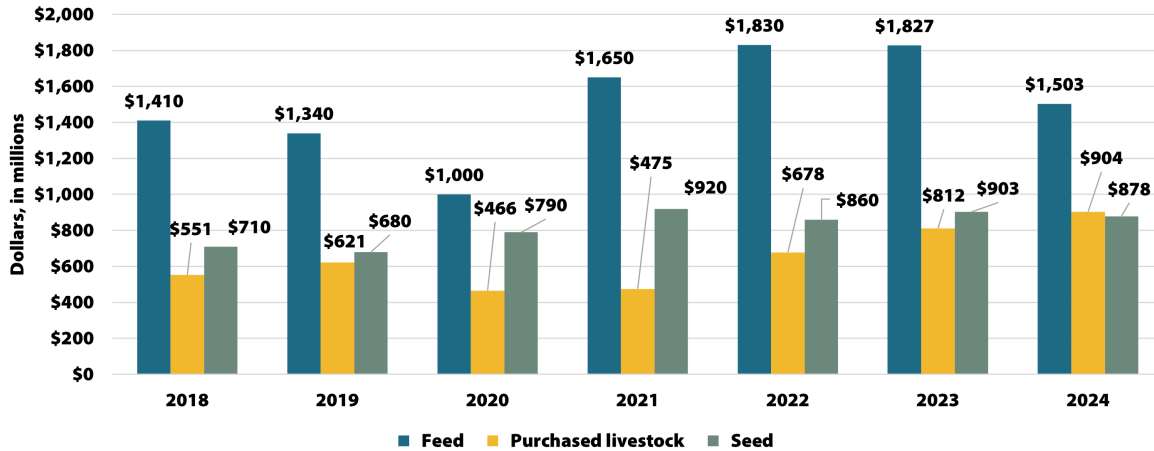
Figure 7. Missouri Production Expenses, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.



Figure 8. Missouri Farm Origin Input Costs by Category, 2018-24

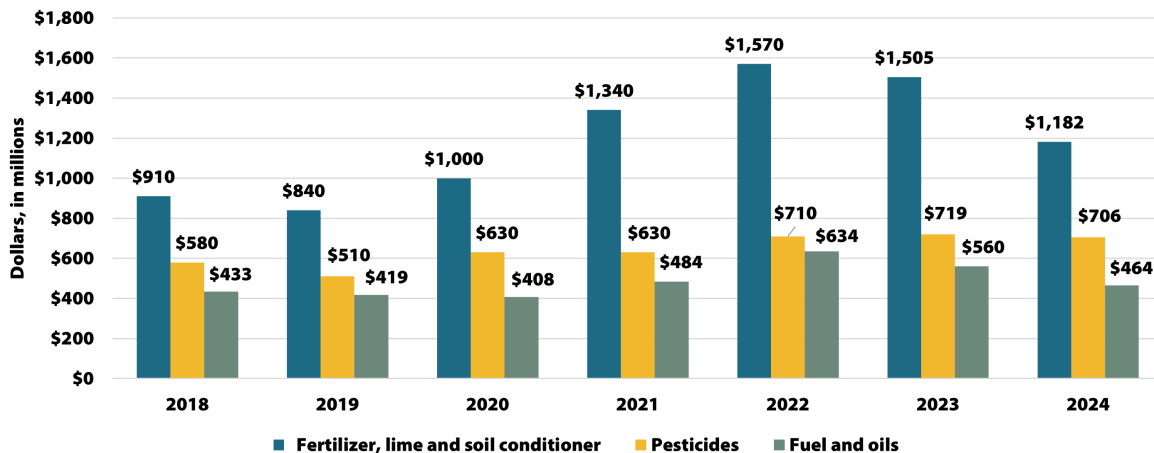


Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

billion in 2022. Although purchased livestock and seed costs have seen gradual increases over the past few years, they have remained below \$1 billion. Projections for 2024 suggest a decrease to \$1.5 billion for feed costs, while purchased livestock and seed costs are estimated to drop to \$904 million and \$878 million, respectively. These anticipated reductions in input costs are partly attributed to the alleviation of supply bottlenecks that arose during the pandemic.

In 2022, fertilizer, lime and soil conditioner emerged as the leading manufactured input costs for Missouri, totaling \$1.6 billion. Estimated costs for these inputs stand at \$1.5 billion in 2023. Across other manufactured input costs for 2023, pesticides are expected to increase to \$719 million and fuels and oils are estimated to drop to \$560 million. Projections for 2024 suggest a decline in fertilizer costs to \$1.2 billion, pesticides to \$706 million and fuels and oils to \$464 million. As seen in Figure 9, the spike in fertilizer cost was a consequence of tightened supply and demand conditions, leading to increased prices for key nutrients like nitrogen, phosphate and potash.

Figure 9. Missouri Manufactured Input Costs by Category, 2018-24



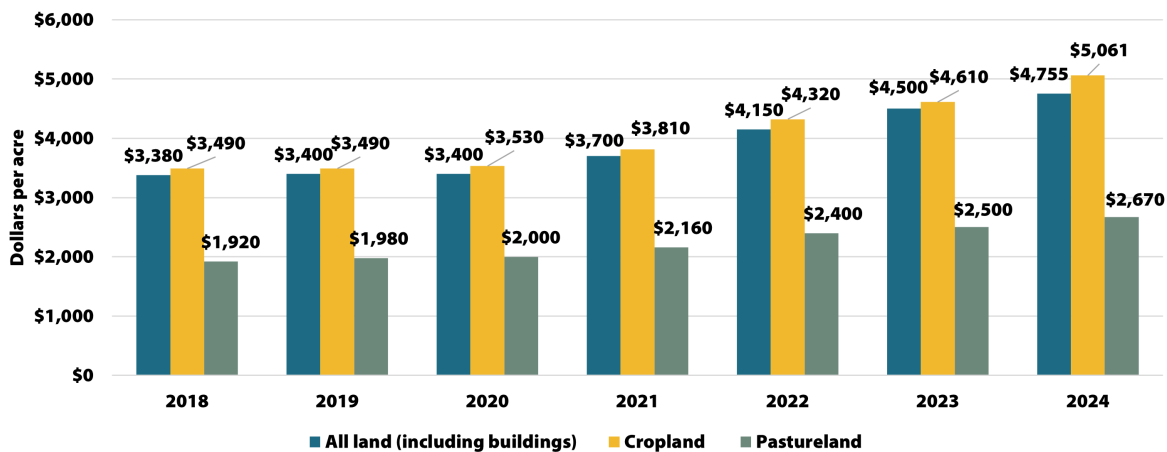
Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.



Land Values and Rental Rates

Over the years, land values have consistently risen, and cropland continues to be at or near record levels. In 2024, cropland values are anticipated to reach \$5,061 per acre, while pastureland is projected at \$2,670 per acre. The University of Missouri Extension’s 2023 Missouri Farmland Values Opinion Survey (<https://extension.missouri.edu/g401>), which gathers insights from agricultural lenders, rural appraisers and farmers on current farmland values and trends, indicates that land prices are expected to continue their upward trajectory. According to the survey, the average value of “good” non-irrigated cropland was estimated at \$8,313 per acre, irrigated cropland at \$9,144 per acre and “good” pastureland at \$4,794 per acre. It is important to note that there is variability in land values across the state; Figure 10 highlights per-acre values based on RaFF’s farm income outlook.

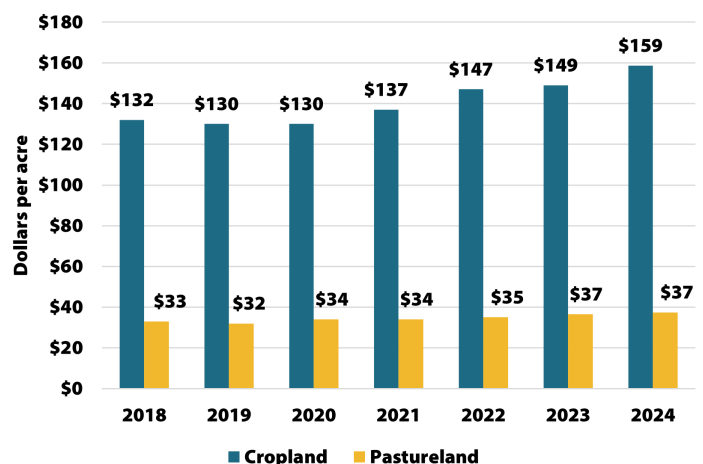
Figure 10. Missouri Land Values by Category, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Similarly, land rental rates reflect the trend of cropland being more expensive than pastureland in Missouri. In 2024, cropland rental rates are projected to reach \$159 per acre, while rates for pastureland are expected to show only slight growth in the short term. Figure 11 shows the fluctuation in rental rates for cropland in Missouri and visualizes the relative stability in pastureland rental rates.

Figure 11. Missouri Land Rental Rates by Category, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

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Missouri Livestock Outlook





MISSOURI LIVESTOCK LANDSCAPE

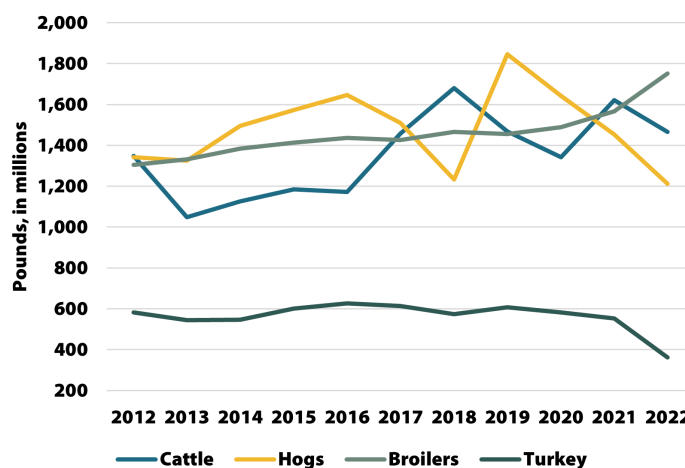
Livestock producers grapple with many challenges in their operations, including the pressure of persistently high input costs. However, they demonstrate gains in production efficiency by consistently increasing meat production per animal. Missouri’s strong livestock industry is a testament to this efficiency, with millions of head of cattle, hogs and broiler chickens. In 2022, Missouri meat marketings reached 4.8 billion pounds—a sector-level breakdown of marketings from 2012-22 can be found in Figure 12.

Despite advancements that have propelled production, other challenges continue to threaten livestock producers’ ability to maintain economic viability. Record-level feed expenses, attributed to drought conditions, present a significant hurdle for producer balance sheets. The volatility in output prices has led to decisions by producers that, while seeming optimal at the time, proved incorrect when market conditions shifted in the opposite direction. Consequently, risk management has become increasingly crucial for livestock producers.

Cattle consistently represents the largest share of livestock receipts in Missouri. In 2022, total receipts for cattle amounted to \$2.3 billion. Broiler receipts increased substantially in 2022, reaching \$1.5 billion, driven by rising chicken prices due to lowered production and Avian Influenza impacts. Hog receipts stood at \$0.9 billion, turkey accounted for \$0.4 billion and dairy totaled \$0.2 billion. Overall, Missouri’s livestock sector generated \$5.2 billion in cash receipts in 2022 (see Figure 13 for a species-level breakdown).

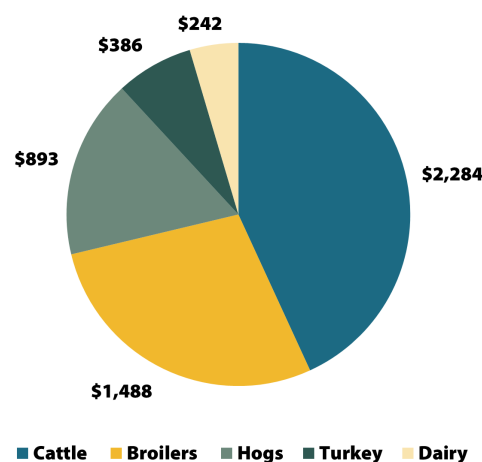
Now that we have examined the broader landscape of Missouri’s livestock industry, highlighting the dominance of cattle and significant contributions from broilers, hogs, turkeys and dairy, it is essential to delve into each sector to gain a comprehensive understanding of their individual dynamics and 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 cattle, dairy, hog and poultry sectors to provide a more nuanced perspective on Missouri’s livestock landscape.

Figure 12. Missouri Meat Marketings by Species, 2012-22



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook and USDA National Agricultural Statistics Service.

Figure 13. Missouri Cash Receipts by Species, 2022
(Dollars, in millions)



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

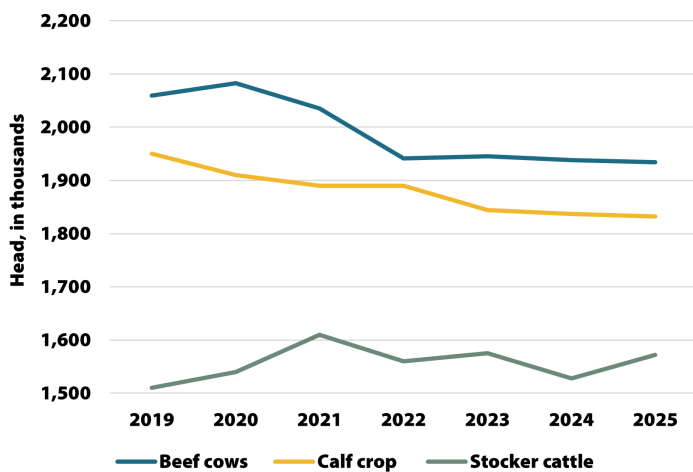


MISSOURI CATTLE

Inventory

Missouri has consistently ranked among the top three cow-calf production states, often competing with Oklahoma for the second slot. In 2022, the state secured 3rd in the nation for the number of beef cows. Despite drought conditions in some areas of Missouri, the state’s beef cow inventory appeared to have increase slightly during 2022 (as highlighted in Figure 14). However, worsening drought conditions in 2023 lead to projections of a slight decline from January 2023 to January 2024. Inventory is projected to decline further in 2024, with an estimated 1.93 million head in January 2025.

Figure 14. Missouri Cattle Inventory by Type, 2019-25

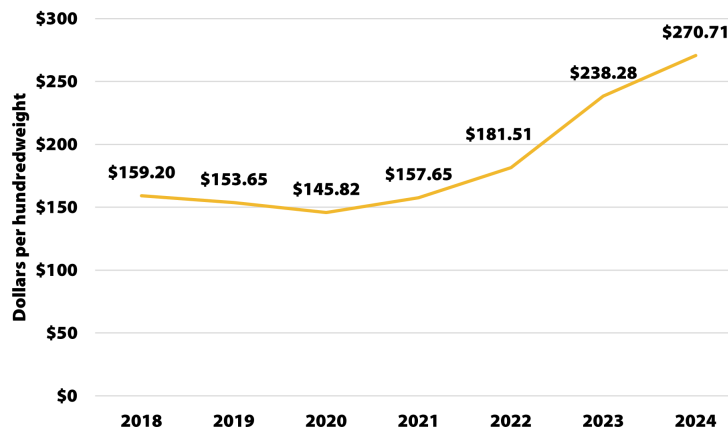


Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook and USDA National Agricultural Statistics Service. Data based on January 1 beginning inventories of each year.

The number of calves born decreased 2.4% in 2022, resulting in a calf crop of 1.9 million head. Projections for 2024 anticipate a calf crop slightly below 1.8 million head, reflecting the decline in beef cow inventory during 2023.

Stocker cattle inventory increased 15,000 head during 2022, reaching 1.6 million head in January 2023. Estimates suggest a 3% decline in stocker inventory in 2023, with a projected 1.5 million head in January 2024. However, stocker inventory is anticipated to increase by roughly 3% in 2024, returning to 1.6 million head. Many producers reduced their herd sizes in 2022 and 2023 to offset tightening margins caused by feed shortages and higher input costs. The U.S. cow herd has declined 6% since 2019—the reduction in beef cows in Missouri and other key cattle states should positively impact cattle prices in the future.

Figure 16. Missouri Feeder Steer Prices, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

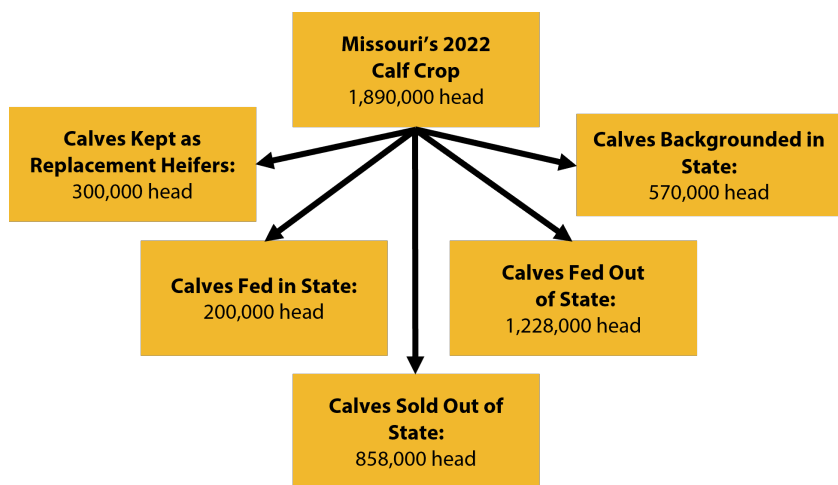
In Figure 15 (on the next page), Missouri’s county-level 2023 cattle inventory showcases the state’s cattle presence, with larger inventories in the southwest and south-central regions. The estimated cattle inventory for 2023 is 4.1 million head, with Lawrence, Polk and Barry counties (outlined in gold) leading in cattle numbers.

Prices

As indicated in Figure 16, feeder steer prices started rising in 2021, reaching \$181.51 per hundredweight in 2022. In 2023, prices increased approximately 31% to \$238.38 per hundredweight, attributed to decreasing cattle



Figure 17. Missouri Calf Crop Flow Chart, 2022



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

of the state's calf crop is crucial. As shown in Figure 17, Missouri's direct out shipment of calves reached 858,000 in 2022, the lowest in a five-year period. Out of total 1.2 million head calf crop, 65% were sent out of state for feeding. The remainder of the calf crop were either kept for replacement heifers, backgrounding or feeder cattle.

Over a five-year period, an average of 47% of calves were sold out of state, 17% were retained for replacement heifers and 12% were fed in-state. While provided data pertains specifically to 2022, it can be assumed

Table 3. Percentage of Calves Sold Out of State, 2022

State	Percentage
Missouri	45%
Arkansas	32%
Oklahoma	20%
Texas	6%
Nebraska	5%
Kansas	0%

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

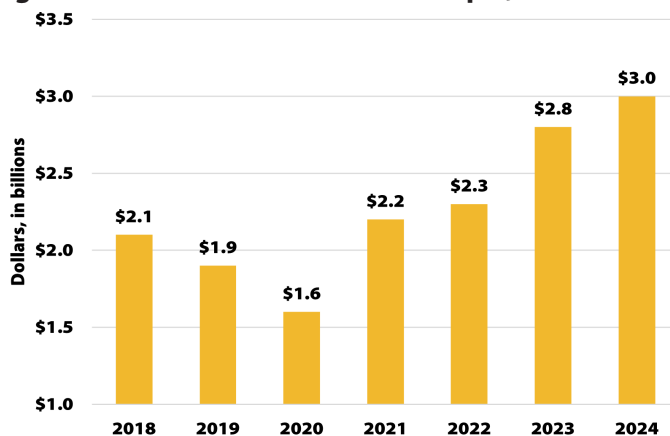
that these percentages do not experience extreme fluctuations year to year.

Table 3 presents a comparison of the percentage of calves sold directly out of state among different cattle-producing states in the Midwest and southern United States. In 2022, Missouri had the highest percentage of calves sold out of state, reaching 45%.

Cash Receipts

In 2022, cash receipts for cattle and calves reached \$2.3 billion, marking a 5% increase from 2021 due to higher cattle prices. Despite drought-related reductions in cattle supplies, 2023 cash receipts are estimated to increase 24%, totaling \$2.8 billion. Projections for 2024 forecast

Figure 18. Missouri Cattle Cash Receipts, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

cash receipts to reach \$3 billion as cattle prices are anticipated to climb even higher; Figure 18 provides visual representation of changes in Missouri cattle and calves cash receipts from 2018-24.

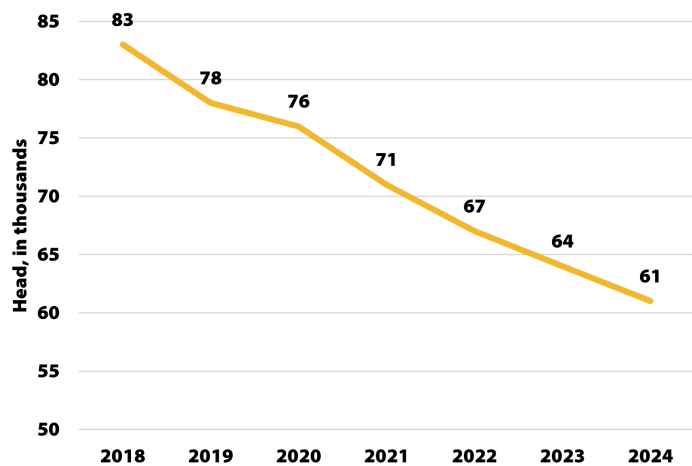


MISSOURI DAIRY

Inventory

In 2023, Missouri is estimated to have 64,000 milk cows, reflecting a 4.5% decrease from the 67,000 head recorded in 2022. In 2024, Missouri's dairy cow inventory is projected to further decline to 61,000 head, a 4.7% decrease from the previous year. The state's dairy cow inventory has experienced an annual average decrease of 4.4%, as shown in Figure 19. The steadily declining inventory is largely driven by the rising cost of production coupled with relatively low milk prices, and financial strain has increased pressure on dairy producers.

Figure 19. Missouri Dairy Cow Inventory, 2018-24

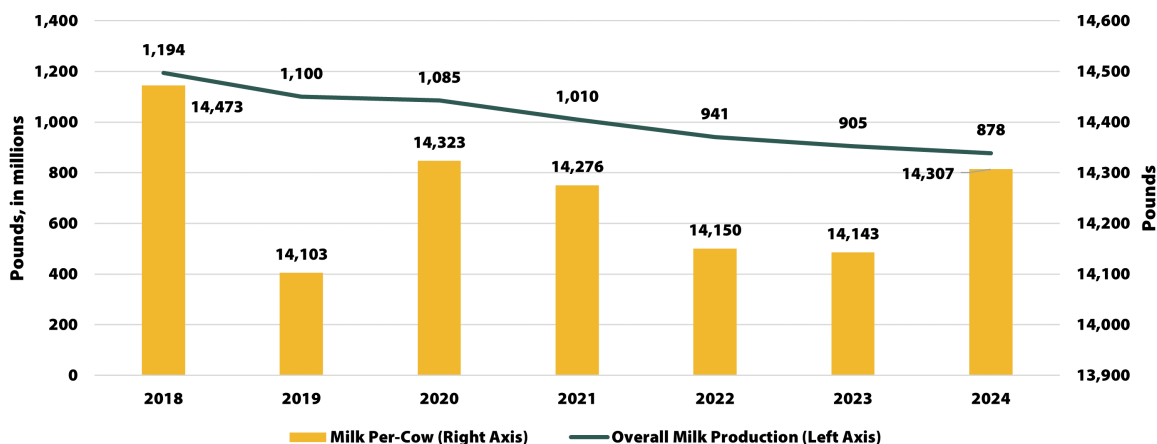


Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Production

Figure 20 compares Missouri's overall milk production and milk production at a per-cow level. On a per-cow basis, milk production has been below trend in 2022 and 2023, likely influenced by drought conditions. Milk production per-cow is estimated at 14,143 pounds in 2023, a slight decrease from 2022. In 2024, production is projected to increase slightly to 14,307 pounds. 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 continues to decline. Missouri's overall milk production is projected at 878 million pounds in 2024, reflecting a 3% decrease from an estimated 905 million pounds in 2023. The decline in milk production aligns with a 5% annual decrease in Missouri's dairy cow population.

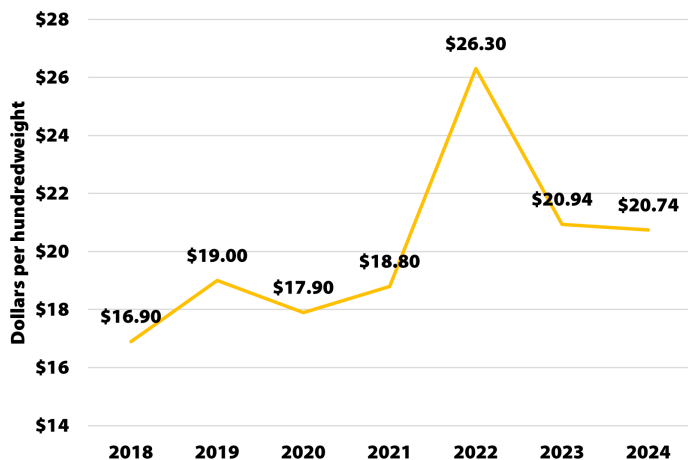
Figure 20. Missouri Overall Milk Production Versus Per-Cow Production, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.



Figure 21. Missouri All-Milk Prices, 2018-24

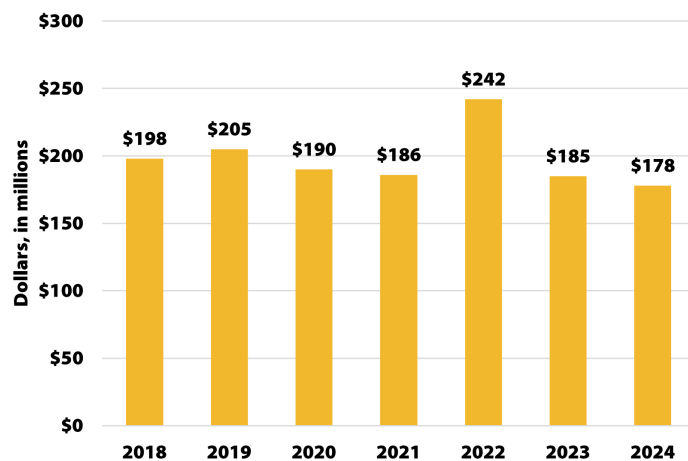


Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Prices

Figure 21 displays Missouri’s all-milk prices, reaching a record high of \$26.30 per hundredweight in 2022 due to strengthened demand and increased milk consumption. However, the 2022 price surge was accompanied by market volatility, underscoring the importance of risk management for dairy producers. In 2023, the all-milk price is estimated to drop to \$20.94 per hundredweight, a 20% decrease from the peak in 2022. Looking to 2024, prices are anticipated to decline further to \$20.74 per hundredweight.

Figure 22. Missouri Dairy Cash Receipts, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Cash Receipts

Missouri dairy cash receipts totaled \$242 million in 2022, marking a 30% increase from the previous year and due in large part from higher all-milk prices. However, 2023 estimates indicate a 23% drop to \$185 million, reflecting the impact of lower prices. In 2024, receipts are expected to decline to \$178 million, a 3.8% decrease from the previous year, as milk prices remain largely unchanged and overall production continues to fall. Figure 22 shares an overview of Missouri dairy cash receipts and illustrates the peak seen in 2022.

MISSOURI HOGS

Inventory

In 2022, Missouri ranked 6th in the nation for number of breeding hogs and 7th for market hogs and total hog inventory. Between 2018 and 2020, the state's breeding hog inventory grew, contributing to Missouri's pig crop reaching 11.1 million in 2020. However, the breeding herd began to decline from 490,000 head at the beginning of 2020 due to disease and lower economic returns affecting hog operations.

At the start of 2023, Missouri's breeding hog inventory stood at 430,000 head, reflecting a 2.4% increase from 420,000 head in 2022. Projections for 2024 anticipate a slight decrease to 428,000 head, and further decline to 426,000 head at the beginning of 2025.

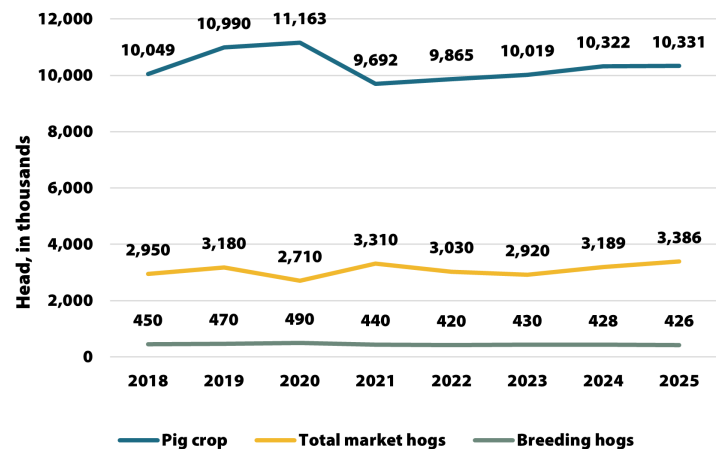
In comparison, the 2023 total market hog inventory started at 2.9 million head, a 3.6% decrease from 2022. In 2024, a 9.2% increase is projected, growing from 3.1 million to 3.3 million head by the start of 2025. The pig crop increased to 10.3 million head in 2023, a 3% increase from the previous year, with another slight increase expected in 2024. Figure 23 provides insight into the state's breeding and total market hog inventories, compared to the pig crop.

Although the breeding hog inventory may seem relatively low compared to market hog and pig crop inventories, it's important to note that sows produce an average of 11 pigs per litter and can have slightly more than two litters per year. Like the significance of the calf crop, the pig crop is crucial as it indicates the supplies of animals coming available for slaughter.

Prices

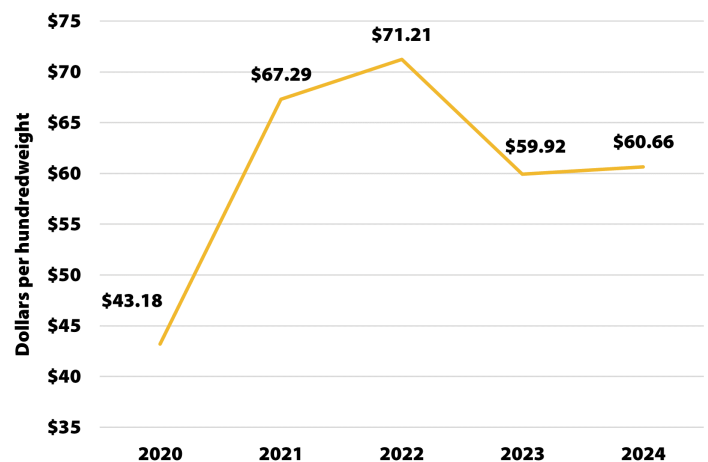
In 2022, 51-52% lean hog prices averaged \$71.21 per hundredweight, a 5.8% increase from the previous year, as hog supplies tightened (highlighted in Figure 24). In 2023, prices are estimated to decline 16% to \$59.92 per hundredweight, attributed to a retreat in pork demand. Looking to 2024, prices are projected to remain unchanged from 2023 levels at \$60.66 per hundredweight, with limited movement in pork demand.

Figure 23. Missouri Hog Inventory by Type, 2018-25



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

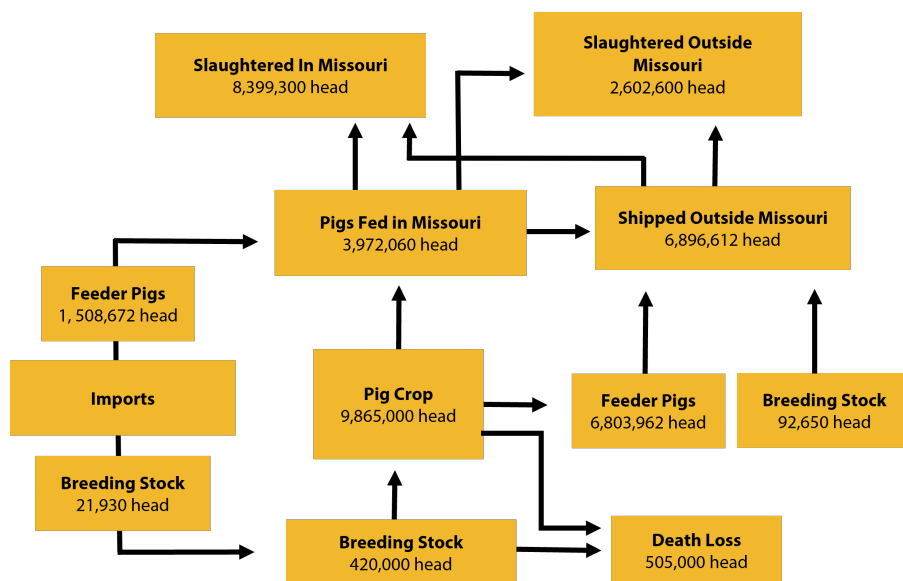
Figure 24. Missouri 51-52% Lean Hog Prices, 2020-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.



Figure 25. Missouri Hog Flow Chart, 2022



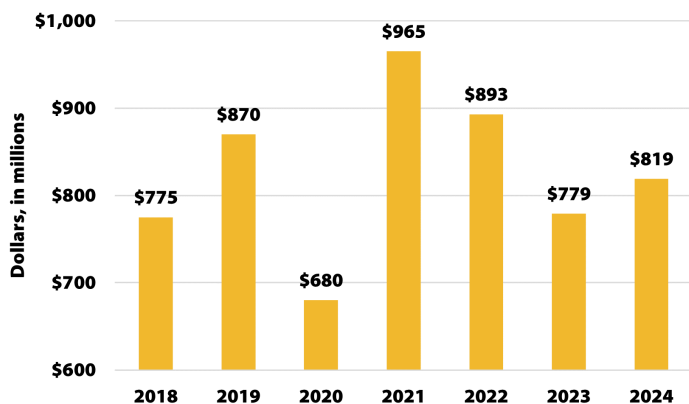
Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook, the USDA National Agricultural Statistics Service and the Missouri Department of Agriculture.

Figure 25 illustrates the stages of hog production in Missouri, with the pig crop forming the basis of the flow chart. The production cycle begins with breeding hogs, and the size and movement of the pig crop serves as an indicator of the industry’s operation. In 2022, roughly 6.8 million of Missouri’s 9.8 million hogs were exported as feeder pigs or breeding stock, while the remaining were either fed and processed in-state or shipped out-of-state for processing.

A significant challenge for the pork industry is the U.S. Supreme Court’s ruling in favor of California’s Proposition

12, effective July 1, 2023. This ruling imposes additional costs for hog producers complying with Proposition 12, necessitating changes in production methods. While the exact impact on U.S. pork prices remains unclear, it is anticipated that Missouri hog inventories will face pressure as producers exit the production industry due to increased complications and compliance costs.

Figure 26. Missouri Hog Cash Receipts, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Cash Receipts

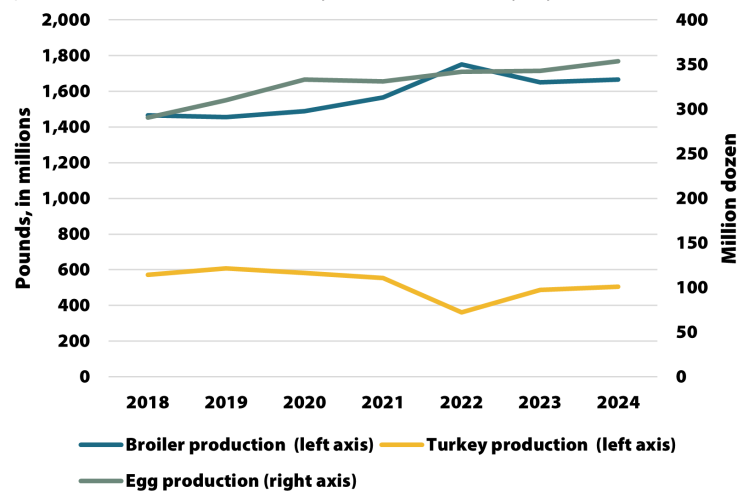
Missouri’s hog cash receipts reached \$893 million in 2022, reflecting a 7.5% decrease from 2021. Figure 26 shows that estimates for 2023 indicate a 13% decrease to \$779 million, aligning with the decline in hog prices throughout the year. In 2024, receipts are projected to increase 5% to \$819 million, due to an expected increase in hog production.

MISSOURI POULTRY

Production

In 2022, Missouri ranked 6th in broiler production nationally, processing approximately 318 million head. 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. Driven by heightened demand for chicken, the state witnessed a substantial increase in broiler production since 2019, growing at an average rate of 6.4% per year. However, in 2023, Missouri's broiler production decreased 5.7% to 1.6 billion pounds. Looking to 2024, projections suggest a slight increase in broiler production. Figure 27 compares production by poultry type.

Figure 27. Missouri Poultry Production by Type, 2018-24



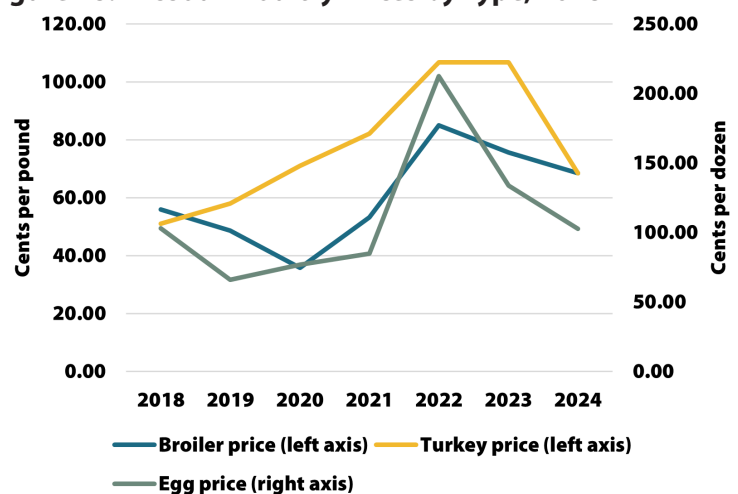
Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Missouri also ranked 5th nationally for turkeys in 2022, with approximately 17 million head. The state produced 362 million pounds of turkey in 2022, experiencing a 35% decrease from 2021, primarily due to the impact of Highly Pathogenic Avian Influenza (HPAI). In 2023, turkey production rebounded with a 34% increase, reaching 486 million pounds. Projections for 2024 anticipate a further increase to 504 million pounds, a 3.7% growth from 2023. The state's 2022 egg production reached 342 million dozen, a 3% increase from 2021, and appeared to be unaffected by HPAI. Egg production is estimated to increase slightly in 2023, totaling 343 million dozen. In 2024, production is projected to reach 354 million dozen.

Prices

Figure 28 provides poultry prices for Missouri's broiler, turkey and egg sectors. The weighted average broiler price rose 31.80 cents in 2022 compared to 2021. The prevalence of HPAI in Missouri in 2022 led to a spike in broiler prices due to required flock depopulation across the state. Prices dipped in 2023, decreasing to 75.55 cents per pound. Projections for 2024 anticipate a decrease to 68.36 cents per pound, correlating with the expected increase in production.

Figure 28. Missouri Poultry Prices by Type, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.



Like broilers, turkey prices surged in 2022 as production fell nationwide, reaching a record high of 106.70 cents per pound. Prices remained at 106.70 cents per pound throughout 2023 and are projected to decline by approximately 39 cents per pound in 2024 as inventories recover from HPAI effects. Egg prices soared in 2022 due to the HPAI outbreak in the U.S., with the weighted average price reaching 212.23 cents per dozen, a 151% increase from 2021. Prices declined in 2023 to 133.52 cents per dozen, and for 2024, they are expected to fall by nearly 31 cents per dozen to 102.55 cents per dozen.

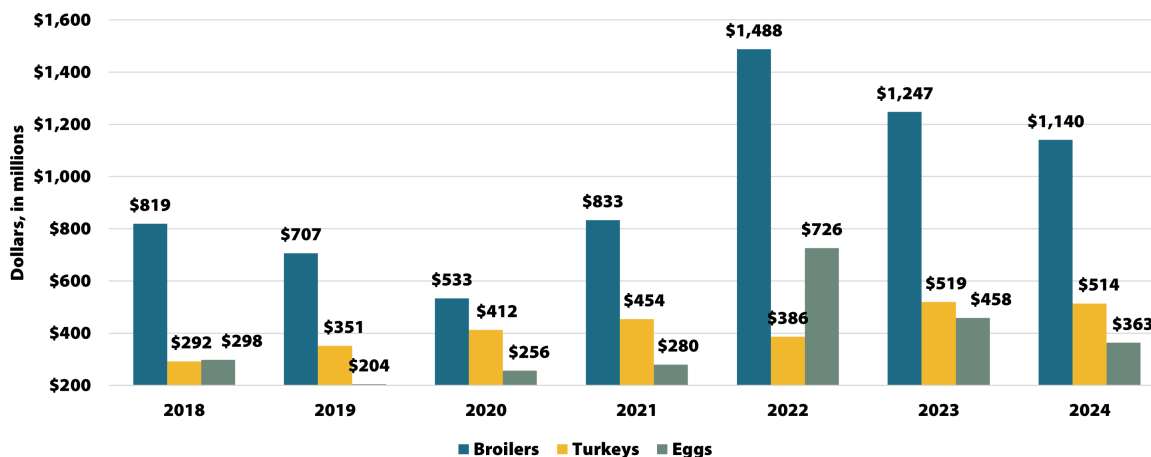
Cash Receipts

Despite challenges in 2022, including HPAI disruptions, high input costs and lower margins, broiler prices surged. In turn, cash receipts saw a 78% increase, totaling \$1.4 billion in 2022 (see Figure 29). In 2023, receipts are estimated to decline to \$1.2 billion, a 16% drop from 2022. Projections for 2024 forecast slightly lower receipts at \$1.1 billion, reflecting an 8.6% decrease as markets recover from the impact of HPAI. Figure 29 outlines changes in cash receipts for broilers, turkeys and eggs.

Record high turkey prices in 2022 seemed to have minimal impacts on cash receipts, which declined 15% to \$386 million due to the impact of HPAI on production levels. In 2023, receipts are estimated at \$519 million, reflecting a 34% increase from the previous year. Receipts are projected to decrease slightly in 2024, totaling \$514 million, as turkey prices decline due to increased production levels.

Corresponding with the increase in egg prices, 2022 egg cash receipts reached \$726 million, a 159% increase from 2021. In 2023, receipts are estimated to decline 37% to \$458 million as egg prices decrease. With a continued decline in prices from the record high of 2022, receipts are projected to decrease again in 2024 by 21%, totaling \$363 million.

Figure 29. Missouri Poultry Cash Receipts by Type, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.



Show-Me 2024

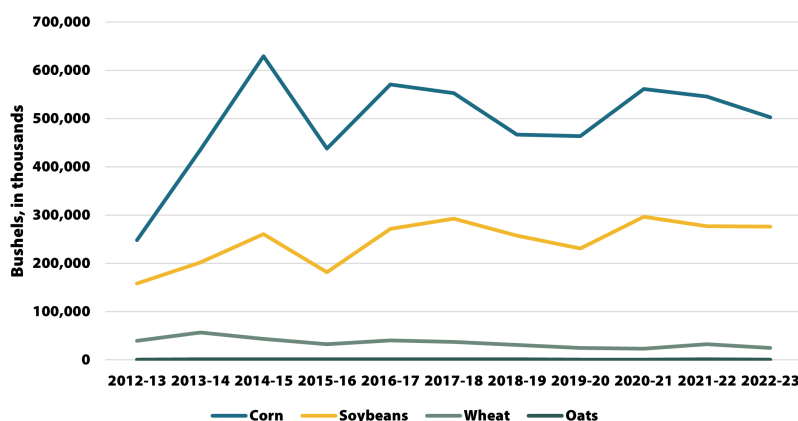
Missouri Crop Outlook



MISSOURI CROP LANDSCAPE

Crop production is a crucial aspect of Missouri’s agriculture industry, with the state holding prominent national rankings in corn, soybean, cotton and rice production. Like the livestock sector, crop producers continuously enhance production efficiency by adopting advanced seed technology and improved production practices, leading to increased yields. While common field crops, like corn and soybeans, are grown all over the state, rice, cotton and select others are concentrated in the southeast area of Missouri. In 2022, production of the state’s four primary field crops totaled 803 million bushels, as shown in Figure 30.

Figure 30. Missouri Field Crop Production by Type, 2012-22



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Feed crops, traditionally cultivated for livestock feed, are among the most widespread crops in the Midwest and Missouri. These commodities have diversified their applications to include biofuel production and food uses; international trade continues to play a crucial role in the feedgrain commodity market. Feed crops include corn, hay, oats, rice and wheat.

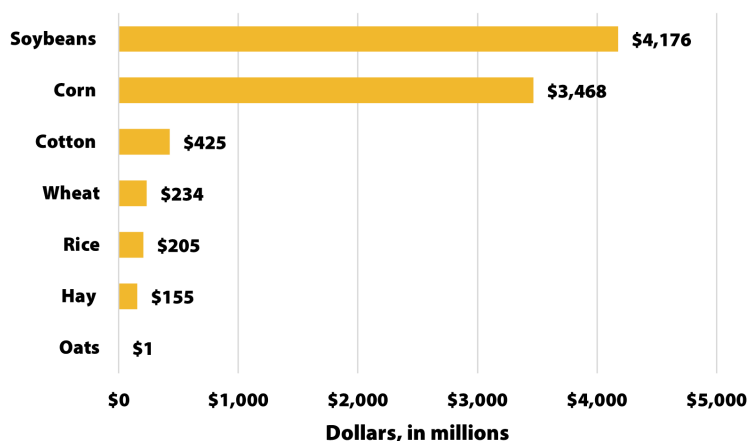
Food grain crops, primarily grown for human consumption, include rice and wheat. Wheat contributes to about 50% of total use, while domestic use accounts for around 60% of total rice utilization.

Oilseed crops, cultivated for their oil and protein meal content, are a prominent feature

in Missouri agriculture. Soybeans, the primary oilseed in the state, hold the title of the largest oil crop grown in the entire U.S.

In 2022, production of the state’s four primary field crops totaled 803 million bushels, as shown in Figure 39. Soybeans and corn stand out as Missouri’s top two cash receipt crops, contributing significantly to the state’s agricultural revenue. Soybeans took the lead in cash receipts for 2022, totaling \$4.1 billion, followed by corn with \$3.4 billion. The combined cash receipts from the seven crops listed in Figure 31 totaled \$8.6 billion in 2022.

Figure 31. Missouri Crop Receipts by Type, 2022



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

After a quick review of the broader landscape of Missouri’s crop industry, each sector must 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.

MISSOURI CORN

Production

In the 2022-23 crop year, Missouri ranked 10th nationally for corn production, yielding 502 million bushels. The reduced corn output can likely be attributed to dry weather experienced in 2022. Projections for the 2023-24 crop year estimate a 6% increase in production, reaching 532 million bushels. For 2024-25, forecasts suggest a slight uptick to 533 million bushels.

Up 15%, 3.8 million acres of corn were planted in the 2023-24 crop year with 3.6 million harvested, resulting in a 95% harvested-to-planted ratio. For the 2024-25 crop year, an estimated 3.4 million acres are set to be planted in corn, with 3.2 million acres forecasted for harvesting. The average of corn harvested relative to planted acreage for 2018-2023 is 95%; other planting and harvesting data can be observed in Table 4.

Table 4. Missouri Corn Production by Acreage Type, 2018-24

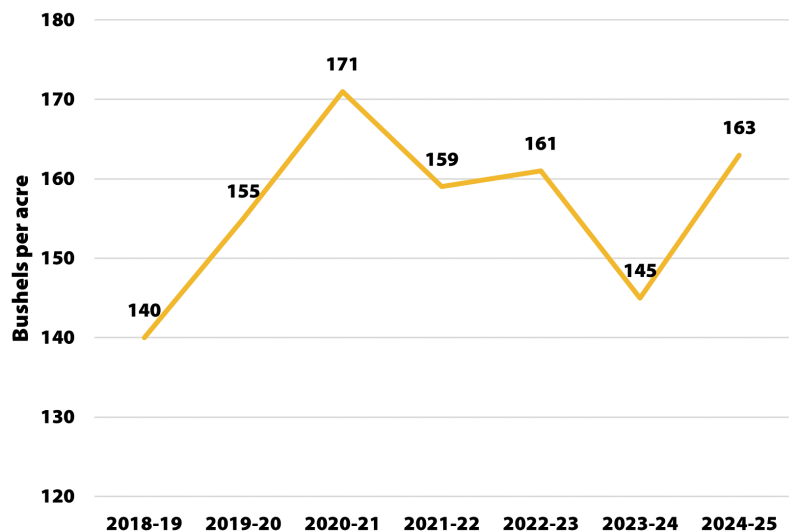
Stage	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Planted (1,000 acres)	3,500	3,200	3,450	3,600	3,350	3,850	3,432
Harvested (1,000 acres)	3,330	2,990	3,280	3,430	3,120	3,670	3,265
Percent harvested	95%	93%	95%	95%	93%	95%	95%

Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Figure 32 (on the next page) depicts Missouri’s 2022 corn planted acreage by county. While USDA data is available for many of Missouri’s 114 counties, many counties have undisclosed data and are denoted with an “-” symbol. Based available data, corn production appears strongest in counties near the Missouri or Mississippi rivers where acres are largest.

After reaching a peak of 171 bushels per acre in 2020-21, Missouri’s corn yields have fluctuated in response to back-to-back droughts. As seen in Figure 33, yields stood at 161 bushels per acre in the 2022-23 crop year, up 1.3% from the preceding year.

Figure 33. Missouri Corn Yields, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Prices

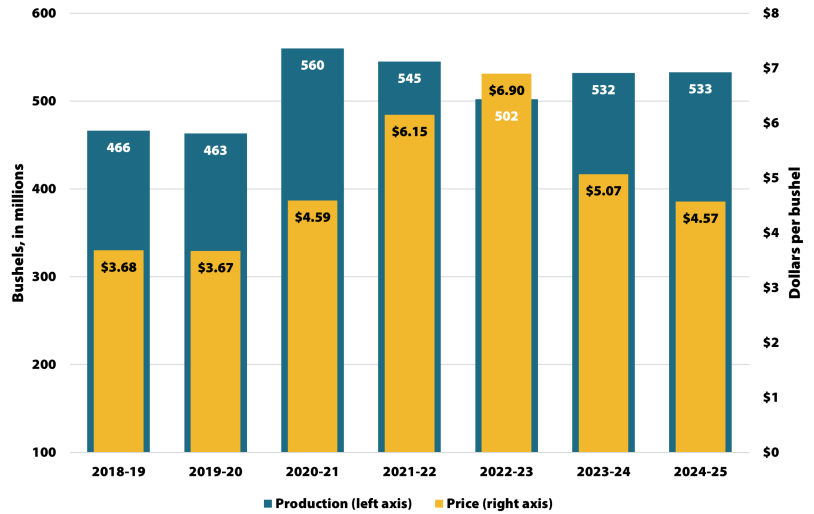
Corn prices are expected to decline due to rising U.S. and global corn supplies. Figure 33 illustrates the trajectory, with corn prices soaring to \$6.90 per bushel in 2022-23—an impressive 12% climb from 2021-22 and the highest price in over a decade. In 2023-24, prices are estimated to decline 27% to \$5.07 per bushel as supplies increase. In 2024-25, corn prices are expected to decline 10% to \$4.57 per bushel.

Cash Receipts

Reflecting the high corn prices of 2022-23, cash receipts for corn grew 20% to \$3.5 billion in 2022 as shown in Figure 34. Despite the makings for a good year for producers, the impact of elevated input costs offset some of the additional revenue gain. Coming off record-level 2022, 2023 receipts are estimated at around \$3.1 billion, an 11% decline from the previous year due to lower corn prices.

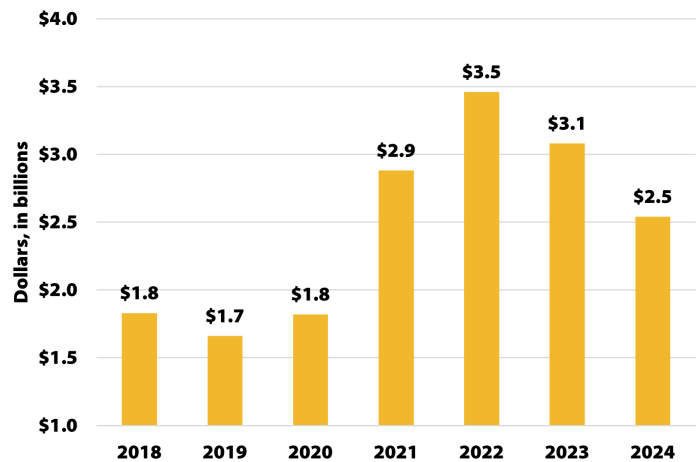
Although corn production is projected to increase in 2024, the expected decline in prices is anticipated to lower receipts to a projected \$2.5 billion.

Figure 33. Missouri Corn Production and Price, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Figure 34. Missouri Corn Cash Receipts, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

MISSOURI HAY

Production

In the 2022-23 crop year, Missouri ranked 2nd nationally for hay production, totaling 5.8 million tons. This marked an 11% decrease from 2021-22, attributed to a significant decline in hay production due to persistent drought conditions in 2022. In the 2023-24 crop year, hay production is estimated at 5 million tons—a further 14% decrease from the previous hay season, reflecting worsening drought conditions in Missouri throughout the 2023 growing season. The forecast for 2024-25 hay production projects a recovery to 6.5 million tons, a 37% increase, assuming average weather conditions prevail.

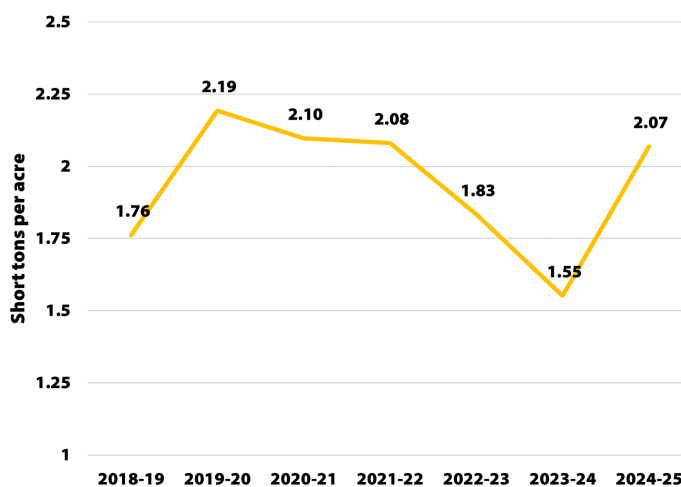
As shown in Table 5, despite drought conditions, 3.1 million acres of hay were harvested in the 2022-23 crop year. In 2023-24, 3.2 million acres are estimated to be harvested, a slight 1.4% increase from the 2022-23 hay season, as producers sought to compensate for the loss in yields. Looking to 2024-25, harvested acres are projected to increase by 2.8% as producers aim to rebuild hay supplies.

Table 5. Missouri Hay Production by Acreage Type, 2018-24

Stage	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Harvested (1,000 acres)	3,070	3,360	3,070	3,140	3,180	3,225	3,314
Percent change from previous year	2.3%	9.5%	-8.6%	2.3%	1.3%	1.4%	2.8%

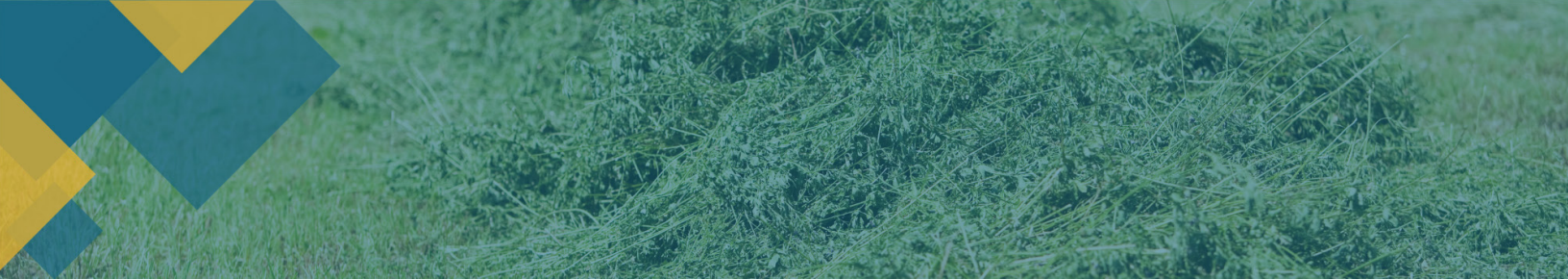
Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Figure 35. Missouri Hay Yields, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

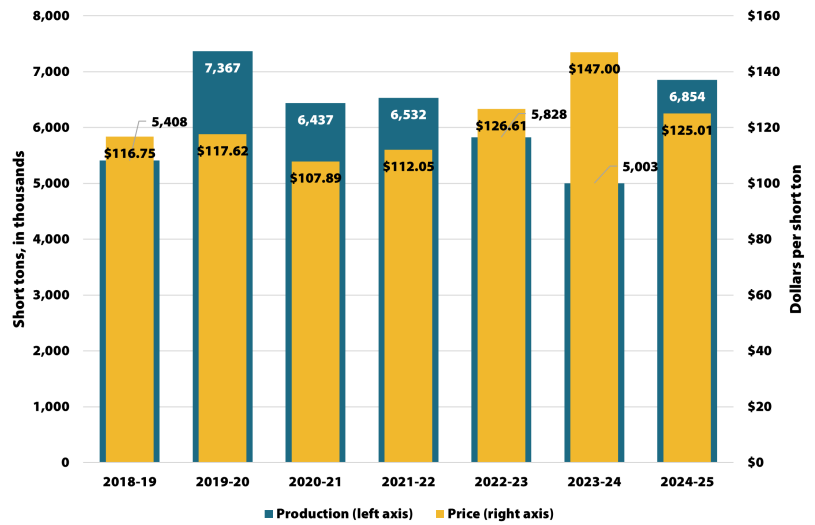
In 2022-23, Missouri’s hay yield was 1.83 tons per acre, 12% below the 2021-22 yield. The 2023-24 yield is estimated at 1.55 tons per acre, reflecting a 15% decrease from the previous year, a consequence of the drought conditions experienced in 2022 and 2023. Figure 35 indicates that for 2024-25, the hay yield is projected to rebound to roughly 2.07 tons per acre, a 33% increase that would align with average levels. However, the hay crop could dip below 2 tons per acre if Missouri experiences drought conditions during the summer months of 2024.



Prices

Like other commodities affected by short supplies, hay prices spiked in 2022-23 due to national drought conditions. At \$126.61 per ton, hay prices increased 13% from the 2021-22 level. As illustrated in Figure 36, prices are estimated to further increase by 16% in 2023-24, reaching \$147 per ton. In 2024/25, prices are projected to decline by 15% to approximately \$121.01 per ton, driven by the assumption of increased hay production with the return of average weather. Given that the annual hay crop serves as a major feed source for Missouri’s livestock producers, drought conditions and future hay prices will play a pivotal role in shaping the livestock industry.

Figure 36. Missouri Hay Production and Price, 2018-24

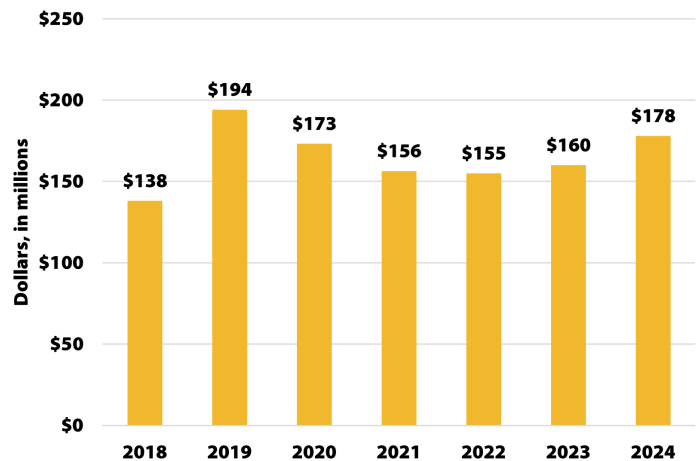


Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Cash Receipts

Shown in Figure 37, 2022 hay cash receipts were down slightly from 2021 at \$155 million, influenced by dry weather. In 2023, receipts are estimated at \$160 million, a 3.2% increase from the previous year, driven by tighter national supplies pushing prices higher. The forecast suggests a further increase in 2024 hay receipts, totaling \$178 million—a significant 11% rise from 2023 receipts, as production and yields are projected to increase.

Figure 37. Missouri Hay Cash Receipts, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

MISSOURI OATS

Production

In the 2022-23 crop year, oat production in Missouri suffered a significant setback, plummeting by 54% to 416,000 bushels; this was primarily due to severe drought conditions. For 2023-24, production is estimated to further decline to 364,000 bushels as drought conditions worsened. However, in the 2024-25 crop year, production is projected to rebound and reach 804,000 bushels, an impressive 121% increase from the previous year.

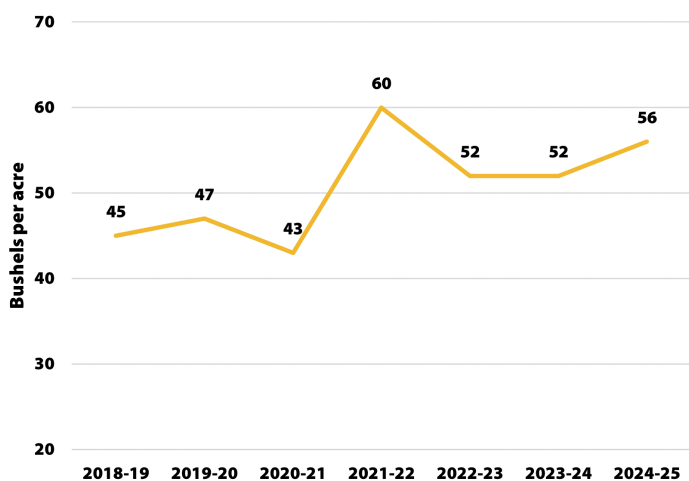
Illustrated in Table 6, with a 33% decline from the 2022-23 level, 30,000 acres were reportedly planted to oats in 2023-24. Of those, 7,000 acres are estimated to be harvested, leading to a 23% harvested rate for the 2023-24 crop year as dry weather reduced harvestable acres. For 2024-25, 38,000 acres are projected to be planted in oats, up 27% from the previous crop year, and 14,000 of those acres are projected to be harvested. The percentage of oat acres harvested could increase in 2024, assuming extreme drought and other weather conditions do not affect harvestable acreage.

Table 6. Missouri Oat Production by Acreage Type, 2018-24

Stage	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Planted (1,000 acres)	35	50	35	50	45	30	38
Harvested (1,000 acres)	16	6	10	15	8	7	14
Percent harvested	46%	12%	29%	30%	18%	23%	37%

Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Figure 38. Missouri Oat Yields, 2018-24



As shown in Figure 38, Missouri's oat yields reflect the lingering impact of the 2022 and 2023 drought. The 2022-23 crop year yield was down 13% from the 2021-22 yield, at 52 bushels per acre. In 2023-24, yields are estimated to hover around 52 bushels per acre. However, yields for 2024-25 are projected to increase by approximately 8% to 56 bushels per acre as production recovers from the recent dry years. Figure 38 provides a glimpse into changes in oat yields over time.

Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.



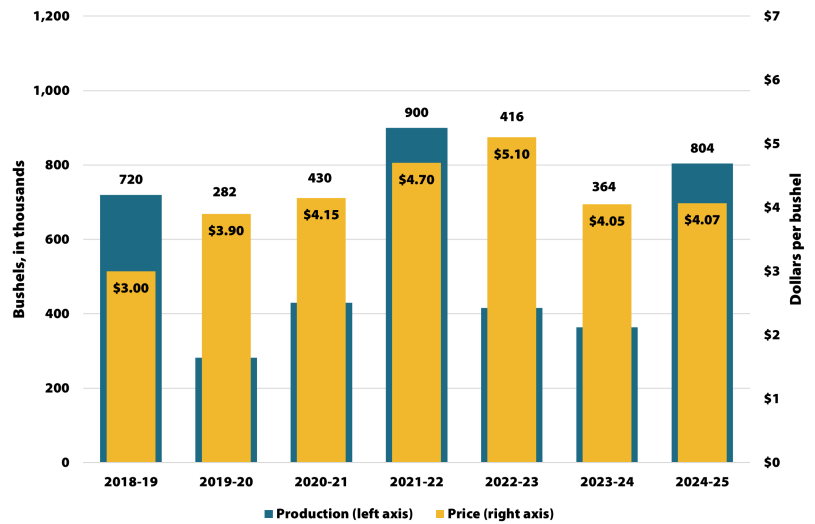
Prices

Oat prices surged to \$5.10 per bushel in 2022-23 due to tightened oat supplies caused by drought across key oat-growing states. Prices are estimated to decrease by 21% in 2023-24 to \$4.05 per bushel as national oat supplies recover. In 2024/25, prices are projected slightly higher at \$4.07 per bushel. Figure 39 compares Missouri oat production and prices.

Cash Receipts

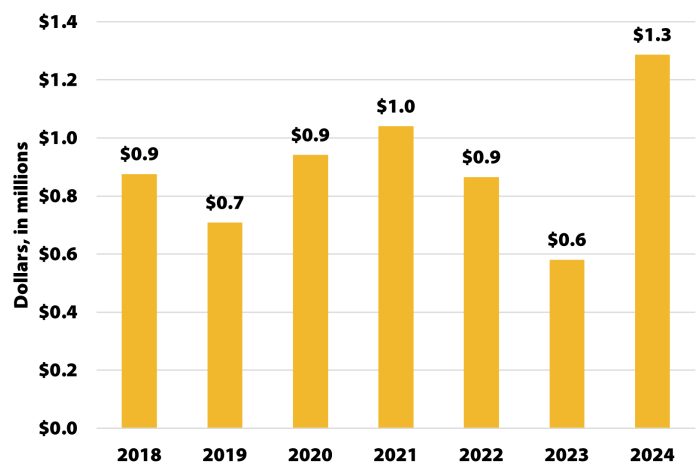
The lower level of oat cash receipts reflects the relatively small quantity of oats produced in Missouri annually. Depicted in Figure 40, receipts for oats stay relatively consistent from year to year despite the fluctuations in production and price. Receipts are projected to increase to \$1.3 million in the 2024-25 crop year.

Figure 39. Missouri Oat Production and Price, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Figure 40. Missouri Oat Cash Receipts, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

MISSOURI RICE

Production

Missouri rice production is concentrated in the bootheel region, contributing significantly to the state's agricultural landscape. In 2022, Missouri ranked 5th nationally for rice production, producing 11 million hundredweights. However, the 2022-23 crop year saw a drastic reduction in rice production due to late planting caused by increased rainfall, coupled with drought during the summer months that impeded rice growth. In the 2023-24 crop year, production increased to an estimated 16 million hundredweights of rice, a 37% increase from 2022-23 due to expanded planted acres. For 2024-25, production is projected to fall to 14 million hundredweights, reflecting expectations of reduced acreage being planted.

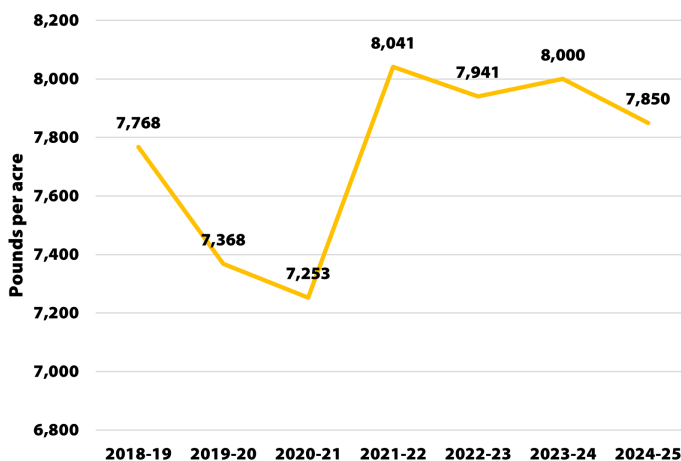
Rice planting in Missouri showed a 34% increase from 2022-23, with 208,000 acres planted in 2023-24; 203,000 acres are estimated to be harvested. As shown in Table 7, 2024-25 projections suggest that 194,000 acres will be planted, with 188,000 acres expected to be harvested.

Table 7. Missouri Rice Production by Acreage Type, 2018-24

Stage	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Planted (1,000 acres)	224	187	228	199	155	208	194
Harvested (1,000 acres)	220	173	214	194	149	203	188
Percent harvested	98%	93%	94%	97%	96%	98%	97%

Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Figure 41. Missouri Rice Yields, 2018-24



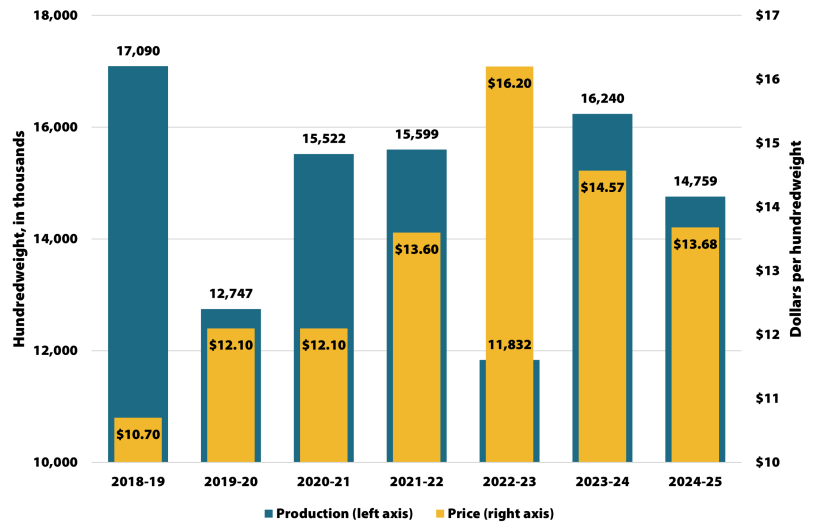
As seen in Figure 41, Missouri rice yields achieved a record high of 8,041 pounds per acre in the 2021-22 crop year. In 2022-23, yields slightly declined to 7,941 pounds per acre due to weather conditions. For 2023-24, yields are estimated to increase to 8,000 pounds per acre, a slight increase from the previous crop year. In 2024/25, yields are projected to decrease by approximately 2% yielding 7,850 pounds per acre.

Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Prices

In line with trends seen in other commodities, rice prices surged in 2022-23, reaching an all-time high of \$16.20 per hundredweight—a 19% increase from the previous year. The challenges faced in 2022, leading to a significant supply decrease, justified the spike in rice prices. Figure 42 contrasts rice prices with production levels. In 2023-24, rice prices are estimated to decrease to \$14.57 per hundredweight, a 10% decrease from the previous year, as supplies gradually increase. Projected prices for 2024-25 indicate a further decline of approximately 6%.

Figure 42. Missouri Rice Production and Price, 2018-24

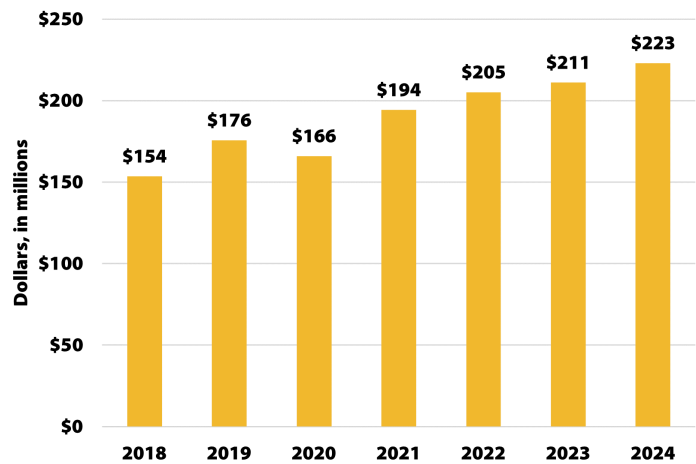


Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Cash Receipts

As illustrated in Figure 43, cash receipts for rice saw a notable boost in 2022, reaching \$205 million—a 5.7% increase from the 2021 level, propelled by a 19% bump in rice prices. In 2023, receipts are estimated at \$211 million, a 3% increase from the previous year as higher rice supplies contribute to higher receipts. Projections for 2024 anticipate a 5.7% increase in receipts, amounting to \$223 million. Despite the projected decrease in production, the rise in receipts is likely attributed to increased rice marketings throughout the 2023/24 crop year.

Figure 43. Missouri Rice Cash Receipts, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

MISSOURI WHEAT

Production

Missouri wheat production faced a significant downturn in the 2022-23 crop year, dropping to 24 million bushels. However, a reversal is expected in the 2023-24 season, with production estimated to rise sharply to 41 million bushels, a 69% increase from 2022-23. In 2024-25, wheat production is projected to increase approximately 2.2%, reaching 42 million bushels.

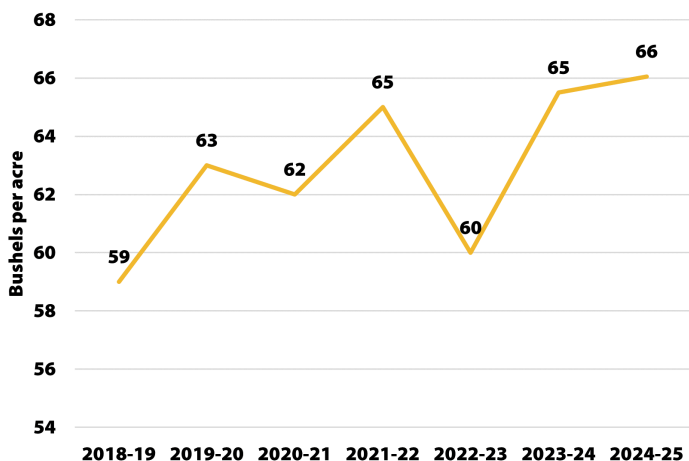
Table 8 shows that planting of wheat in the 2023-24 crop year grew by 32%, with 830,000 wheat acres reported being planted and 640,000 acres harvested. In 2024-25, 854,000 acres are projected to be planted and 668,000 acres are projected to be harvested, increasing the harvested rate to 78%. The annual average percentage of wheat harvested from 2018 to 2023 is 73%.

Table 8. Missouri Wheat Production by Acreage Type, 2018-24

Stage	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Planted (1,000 acres)	740	550	480	640	630	830	854
Harvested (1,000 acres)	520	390	370	490	410	640	668
Percent harvested	70%	71%	77%	77%	65%	77%	78%

Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Figure 44. Missouri Wheat Yields, 2018-24



Wheat yields have consistently hovered around the 60 bushel range for several years, as seen in Figure 44. In 2022-23, yields were at 60 bushels per acre, comparatively low against trend yields. The 2023-24 yield increased by 8%, reaching 65 bushels per acre. The 2024-25 yield is anticipated to slightly increase to 66 bushels per acre, a 1.5% increase from the 2023-24 level.

Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

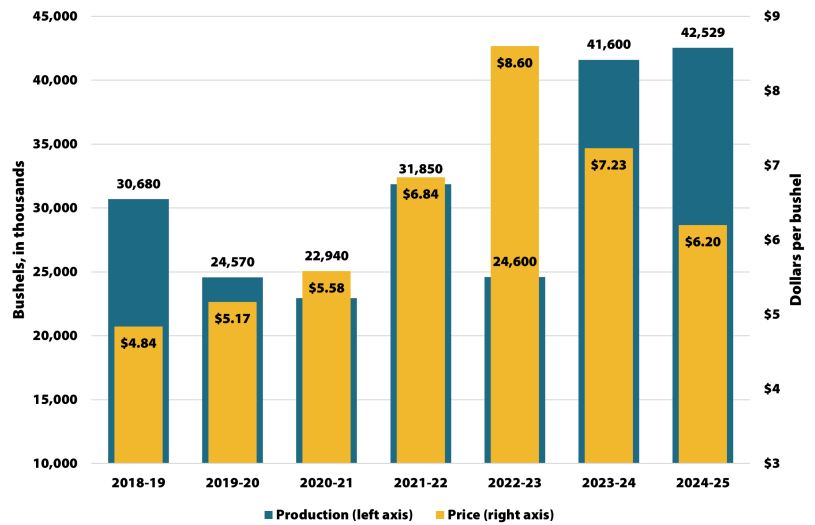
Prices

Wheat prices saw an upswing in 2022-23, peaking at \$8.60 per bushel, a 26% increase from the 2021-22 price and attributed to tight wheat prices. In 2023-24, prices are estimated to decline 16% to \$7.23 per bushel, reflecting the recovery of wheat supplies from previous levels. As seen in Figure 45, projections for the 2024-25 crop year indicate a further price decline to \$6.20 per bushel, a 14% decrease from the 2023-24 level.

Cash Receipts

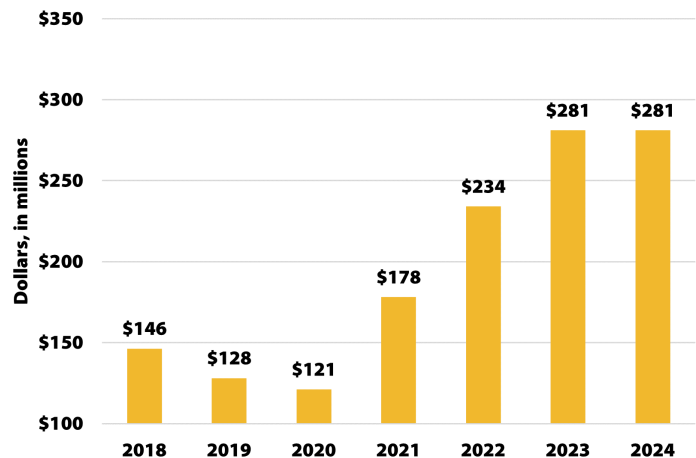
Cash receipts for wheat exhibited robust growth, reaching \$234 million in 2022—a remarkable 31% increase from 2021, driven by elevated wheat prices. As depicted in Figure 46, receipts are estimated at \$281 million in 2023, marking a 20% increase from the 2022 level, attributed to heightened supplies. In 2024, cash receipts are forecasted to remain stable at \$281 million. Despite the projected decline in wheat prices, the simultaneous increase in production is expected to balance out, maintaining steady receipts.

Figure 45. Missouri Wheat Production and Price, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Figure 46. Missouri Wheat Cash Receipts, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

MISSOURI SOYBEANS

Production

Missouri ranked 7th nationally for soybean production in 2022-23, yielding 275 million bushels. This production level remained nearly unchanged from 2021-22, despite increased acreage mitigating the drought’s impact on soybean yields. In 2023-24, production is expected to decrease by 9.5% to 249 million bushels, as both acreage planted and yields reported lower figures due to the adverse effects of drought on production in the 2022 and 2023 growing seasons. Anticipating a recovery, 2024-25 production is estimated to reach 274 million bushels, driven by growth in acreage planted and yields.

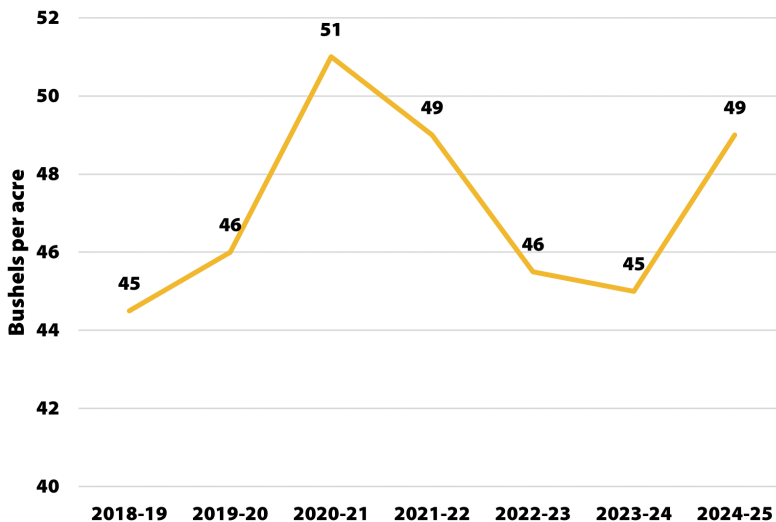
Table 9 highlights the key stories of Missouri soybean planting and harvest. In the 2023-24 season, an estimated 5.6 million acres of soybeans were reportedly planted, down 8% from the 2022-23 level; it is expected that 5.5 million of those acres will be harvested. Projections for next spring indicate that 5.6 million soybean acres are anticipated to be planted.

Table 9. Missouri Soybean Production by Acreage Type, 2018-24

Stage	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Planted (1,000 acres)	5,850	5,100	5,850	5,700	6,100	5,600	5,664
Harvested (1,000 acres)	5,780	5,010	5,8410	5,650	6,060	5,550	5,607
Percent harvested	99%	98%	99%	99%	99%	99%	99%

Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Figure 47. Missouri Soybean Yields, 2018-24

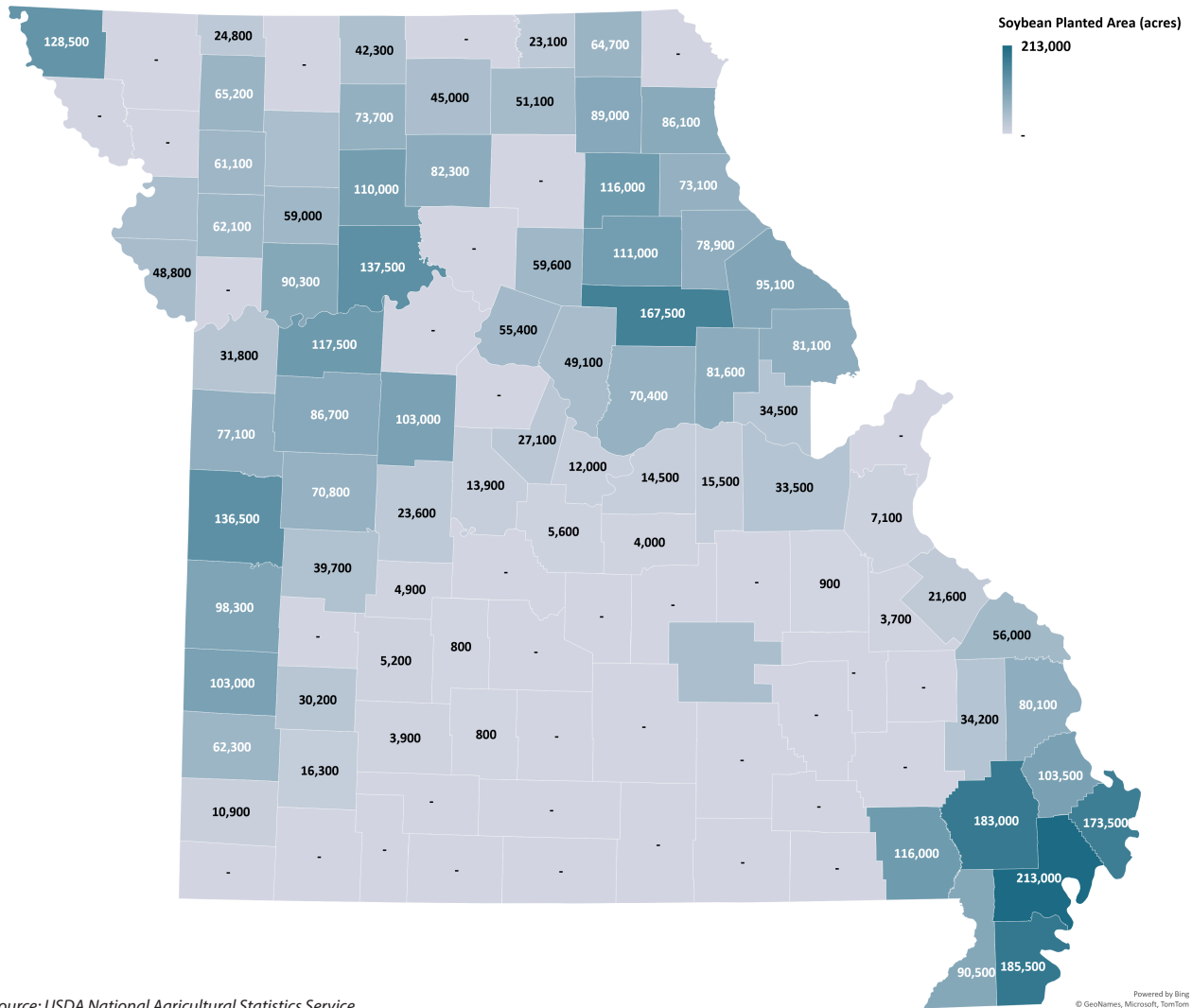


Soybean yields experienced fluctuations in recent years as shown in Figure 47, reaching 46 bushels per acre in the 2022-23 crop year, a 6% decline from 2021-22. In 2023/24, yields are estimated to decline 2% to 45 bushels per acre, as dry weather and heat reduced yields. The 2024/25 soybean yield is projected to increase to 49 bushels per acre, up nearly 9% from last year.

Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.



Figure 48. Missouri Estimated Planted Soybean Acreage by County, 2023

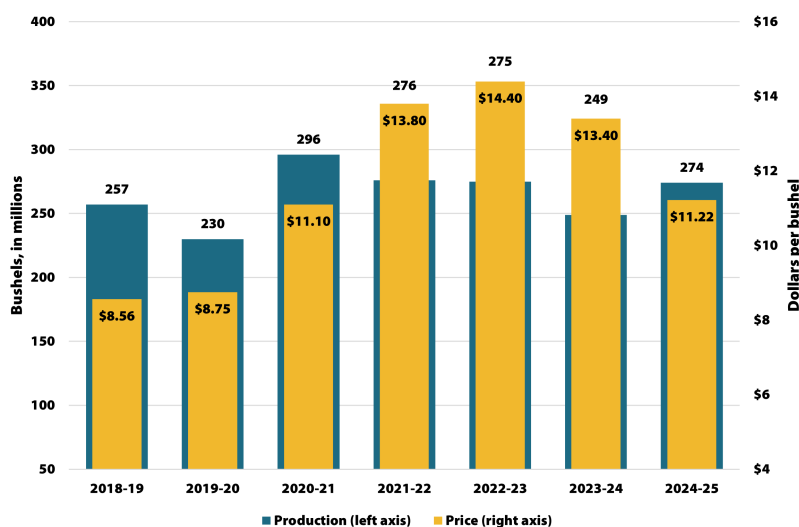


Source: USDA National Agricultural Statistics Service.

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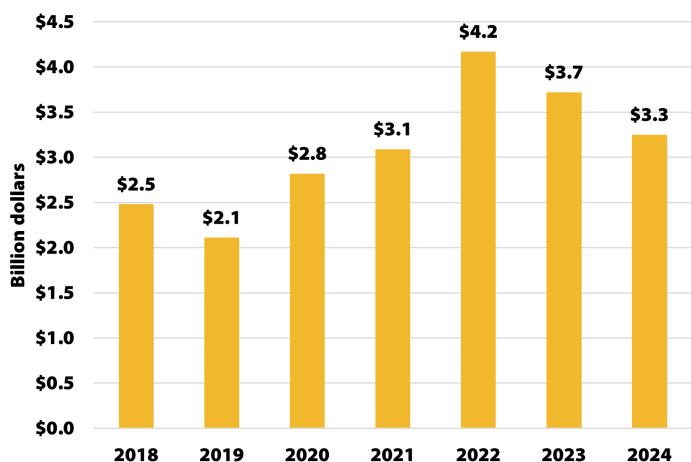
Similar to corn, Figure 48 illustrates county-level 2022 soybean planted acreage in Missouri. While data are available for many of Missouri’s 114 counties, some have nondisclosed data and are denoted with an “–” symbol. Based available data, soybean production is most prominent in the state’s bootheel region; the northeast and western parts of the state also show greater soybean acreage.

Figure 49. Missouri Soybean Production and Price, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Figure 50. Missouri Soybean Cash Receipts, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Prices

In 2022-23, soybean prices reached \$14.40 per bushel, marking a 4.3% increase from the previous year and propelled by strong demand and dry weather. As depicted in Figure 49, prices for the 2023-24 crop year are estimated to fall nearly 7%, settling at \$13.40 per bushel. In 2024-25, prices are projected to decrease to \$11.22 per bushel, a 16% decline from 2023-24, as supplies grow with increased yields.

Cash Receipts

Missouri soybean cash receipts reached \$4.2 billion in 2022, reflecting a substantial 35% increase from the 2021 crop season, driven by elevated soybean prices. Seen in Figure 50, in 2023, receipts are estimated to decrease 11%, totaling \$3.7 billion. For 2024, receipts are expected to decrease further to \$3.3 billion, a 13% decrease from the 2023 level. The projected decline in 2023 and 2024 receipts in 2023 are primarily influenced by lower soybean prices.

MISSOURI COTTON

Production

In the 2022-23 growing season, Missouri ranked 6th nationally for cotton production. Like rice, cotton is primarily produced in the southeastern region of the state. In 2022-23, cotton production reached 878,000 bales, an 8% increase from the previous year. However, a notable shift is expected in 2023-24, with Missouri estimated to produce 770,000 bales, reflecting a 12% decrease from the 2022-23 level. For 2024-25, production is projected to increase approximately 16% to 891,000 bales.

In the 2023-24 season, 335,000 acres were reported planted with cotton, marking a 7% decrease from the 2022-23 level. Projections for 2024-25 indicate that 340,000 acres are expected to be planted with cotton, according to Table 10.

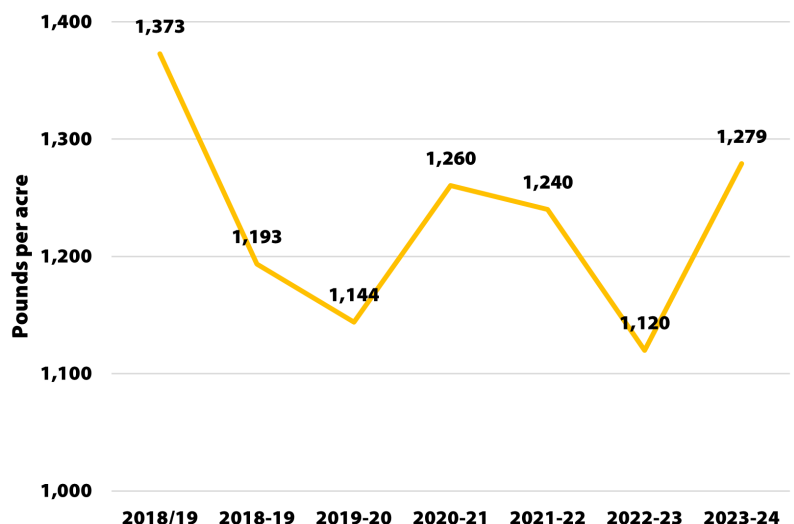
Table 10. Missouri Cotton Production by Acreage Type, 2018-24

Stage	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Planted (1,000 acres)	325	380	295	315	360	335	340
Harvested (1,000 acres)	322	368	287	310	340	330	334
Percent harvested	99%	97%	97%	98%	94%	99%	98%

Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Missouri's 2022-23 cotton yield was 1.6% lower than the previous year, settling at 1,240 pounds per acre, due to widespread drought. Cotton yields are estimated to decline again this year, to 1,120 pounds per acre, a 9.7% decrease from last year (as seen in Figure 51). For the current year, yields are estimated to decline further to 1,120 pounds per acre, reflecting a 9.7% decrease from last year. However, a positive shift is projected for 2024-25, anticipating a 14% increase in yield to 1,279 pounds per acre.

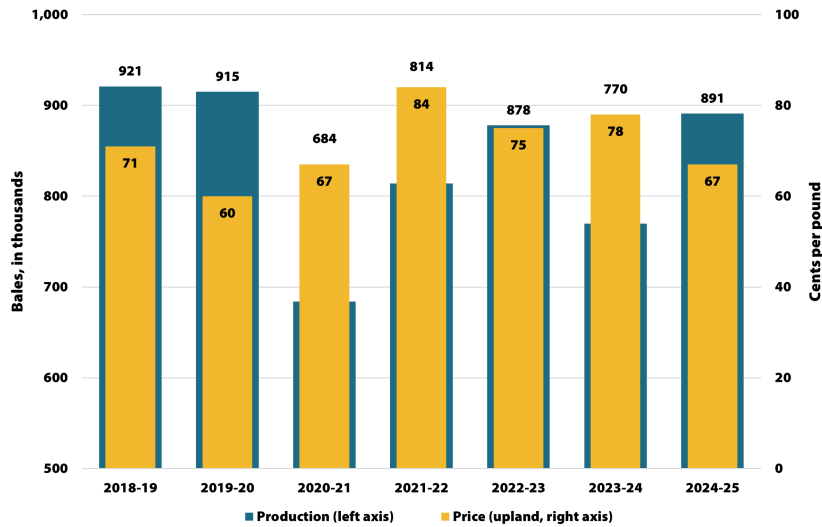
Figure 51. Missouri Cotton Yields, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

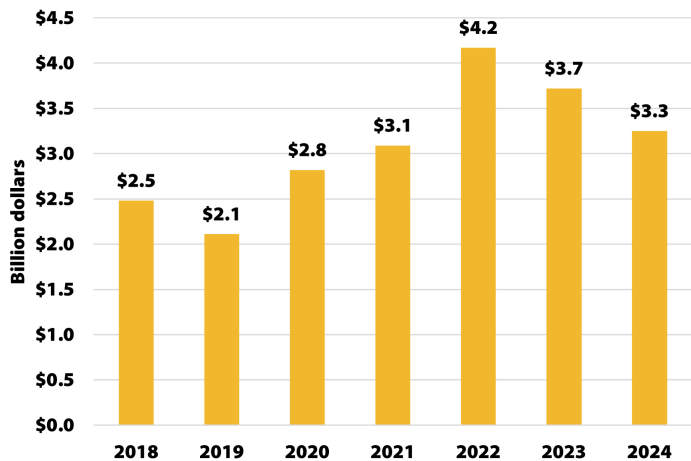


Figure 52. Missouri Cotton Production and Price, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Figure 53. Missouri Cotton Cash Receipts, 2018-24



Source: Rural and Farm Finance Policy Analysis Center graphic using data from the fall 2023 Missouri Farm Income Outlook.

Prices

According to Figure 52 price of upland cotton in 2022-23 was 75 cents per pound, exhibiting a decline from the 84 cents per pound recorded in the 2021-22 season. In 2023-24, prices are estimated to rise to 78 cents per pound, a 4% increase from the 2022-23 level. However, a decline is projected for 2024-25, with prices expected to reach 67 cents per pound—a 14% decrease from the preceding year—as cotton supplies experience growth.

Cash Receipts

Missouri cotton cash receipts were \$425 million in 2022, indicating a substantial 26% increase from 2021 as highlighted in Figure 53. This increase was attributed to higher production despite lower cotton prices. However, in 2023, receipts are estimated to decrease by 14%, amounting to \$365 million. Further decline is forecasted for 2024, with receipts expected to reach \$363 million, as the increase in cotton production is offset by the lower price of cotton.