

## Texas A&M University Food Price Predictor: Summer 2024 Meat Prices

**Lead Author:** Dr. Simon Somogyi, Director of the Weston Agrifood Sales Program, Dept of Agricultural Economics, Texas A&M University

### Co-Authors:

- Dr. David Anderson, Professor and Extension Specialist - Livestock and Food Product Marketing, Dept of Agricultural Economics
- Dr. Yong Liu, Assistant Professor in Agricultural Economics
- Ms. Weifang Liang, PhD student in Agricultural Economics

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### Introduction

This report delivers an analysis and forecast of meat prices for the summer of 2024, with a focus on key cuts of beef, pork, and chicken. Conducted by the Department of Agricultural Economics at Texas A&M University, this study integrates historical data, current market trends, and predictive models to offer a detailed projection of future retail meat prices. Timed with the peak of the U.S. grilling season, this report aims to assist consumers in effectively planning their budget for summer barbecues.

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### Methodology

The research team analyzed market data employing a combination of statistical models to predict price changes for various meat products.

The study's focus includes ground beef, chuck roast choice, steak sirloin choice, all pork chops, and chicken boneless breast. These are the typical cuts of meat consumed during the traditional grilling season. While a chuck roast is not considered a typical grilling cut, their prices do provide some insight into other items such as ground beef and some steak cuts, for instance, flat iron steaks.

We evaluated a range of forecasting methods, including traditional econometric models like the autoregressive integrated moving average (ARIMA) and exponential smoothing, non-parametric methods such as the Gaussian Process (GP) and local linear regression, as well as machine learning algorithms including Prophet and Automated Machine Learning (AutoML). We adopted a robust ensemble method that combines these models, evaluating each model's performance and assigning optimal weights to maximize their aggregate predictive accuracy. Each category's models were trained and tested separately, spanning from January 2021 to February 2024, with the best-performing model selected to forecast for 2024.

## Results

To contextualize our forecast, we examined meat price trends from September 2023 to February 2024. This historical analysis helps underline the projected shifts in meat pricing. Notable trends from this period include modest increases in beef and pork prices and a decrease in chicken breast prices. Price changes from September 2023- February 2024 were:

- Ground Beef: +0.45%
- Chuck Roast: +4.68%
- Sirloin Steak: +0.77%
- Pork Chops: -3.93%
- Boneless Chicken Breast: -2.93%

Looking ahead from May to October 2024, we anticipate the following changes in meat prices:

Table 1: Meat Cut Price forecast May 2024- October 2024

Meat Cut Price Changes	Anticipated change from May 2024- Oct 2024
Ground Beef 100% Beef	0.1% to 0.7%
Chuck Roast Choice	0.7% to 1.3%
Steak Sirloin Choice	0.1% to 0.6%
Pork chops	0.1% to 1.0%
Chicken, boneless breast	-2.6% to -0.5%

Based on the results show in Table 1, we expect national meat cut prices as indicated in Table 2

Table 1: Meat cut price expectations from May 2024- October 2024

Meat Cuts Average Price Expectations*	May 2024- Oct 2024
Ground Beef 100% Beef	\$5.13-5.19 per pound
Chuck Roast Choice	\$7.21-7.34 per pound
Steak Sirloin Choice	\$11.72- 11.78 per pound
Pork chops	\$4.24- 4.28 per pound
Chicken, boneless breast	\$4.06- 3.91 per pound

\* Retail prices are heavily influenced by retail location, price discounting and other market variables. These price expectations are averaged across the USA.

## Discussion

There are numerous economic and industry reasons for the meat price changes we have detailed in this report. These include:

1. **Supply Chain Adjustments:** Post-pandemic recovery and ongoing adjustments in the global supply chain have impacted meat production and distribution costs.
2. **Feed Costs:** Fluctuations in the prices of feed grains have a direct impact on meat production costs, particularly affecting pork and chicken prices. Corn prices have fallen dramatically this year due to last year's record large corn harvest.
3. **Energy Prices:** Changes in energy prices can significantly influence the costs associated with processing, refrigeration, and transportation of meat products.
4. **Consumer Demand:** The summer season typically sees an increase in demand for certain meat products due to holiday grilling and outdoor cooking trends. Consumers may switch between meat items based on their budgets.
5. **Global Market Influences:** International trade policies, health scares, and changes in meat consumption patterns in key markets can affect meat prices. For instance, high beef prices in the U.S. are boosting imports and restraining exports helping to bring retail prices down.
6. **Production Innovations:** Technological advancements in meat production and processing can lead to cost reductions or increases, depending on their nature and implementation.

## Insights on Predicted Price Changes (May 2024 - Summer 2024)

### Dr. Simon Somogyi:

1. "The anticipated slight increase in beef prices, particularly for ground beef and chuck roast, can be attributed to the seasonal surge in demand as we approach the summer grilling season. This period historically sees a rise in beef consumption, pushing prices upward. Additionally, global supply chain challenges continue to exert upward pressure on prices, albeit modestly. Our predictions reflect these market dynamics."
2. "Interestingly, we're observing a divergent trend with chicken prices, particularly boneless breast, which are expected to decrease. This is largely due to efficiencies gained in poultry production and a stabilization in feed costs. The poultry industry's agility in adjusting to market demands and supply chain improvements contributes to this favorable outcome for consumers."
3. "Ground beef prices are expected to hold steady in the coming months, reflecting a balanced market equation. This stability is grounded in the intersection of efficient production practices and stable feed costs, which have mitigated potential price volatilities. Industry-wide, ground beef continues to benefit from consistent consumer demand, particularly in the fast-food sector, which remains a steadfast supporter of this meat category. Lean beef wholesale prices have surged higher on declining supplies while ample supplies of fed beef have been available."
4. "The slight uptick we're predicting for sirloin steak prices is a response to a shift in consumer preferences towards quality over quantity, fueled by an improving economy. The industry is adapting to this trend, and while production costs remain controlled, the premium nature of sirloin is what's guiding

this gentle price increase. The high price of even higher quality ribeyes and strip steaks makes sirloin a good option for price conscious consumers.”

**Dr. David Anderson:**

1. "The modest uptick in pork chop prices we're forecasting aligns with the expected seasonal increase in demand, combined with slightly constrained supply levels. The pork industry has faced its share of challenges, from large financial losses over the last year or more to productivity problems. Past losses should constrain supplies in coming months. "
2. "The smallest cow herd in the U.S. since 1961 and fewer cows going to market should keep the upward pressure on ground beef prices. Relatively small projected increases in prices reflect the balance of fed beef supplies, lean beef supplies, and growing beef imports.”
3. "While the overall meat prices are experiencing various levels of change, sirloin steak prices are forecasted to see only a minor rise. Sirloin steaks may provide a good option for consumers looking to avoid more expensive ribeyes and strips yet still enjoy a steak.
4. “The chicken industry has always been able to respond to market signals faster than the pork or beef industries. Some profitability signals from lower feed costs should keep supplies plentiful”.
5. “Overall, retail meat prices should stay close to record high. Consumer’s disposable incomes will have a lot to say about demand and prices this summer”
6. “Total meat supplies are expected to decline compared to a year ago with increases in chicken and pork not fully offsetting reduced beef production”

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**Conclusion**

The Texas A&M University Food Price Predictor indicates a modest increase in most meat prices for the summer of 2024, apart from chicken boneless breast, which is expected to decrease. These changes are influenced by a complex interplay of economic and industry factors, highlighting the importance of continuous monitoring and analysis to accurately predict market trends. This report is important for U.S. consumers as it provides insights into future meat prices, which will allow households to budget more effectively.

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**Media Contacts**

Dr. Simon Somogyi, Director of the Weston Agrifood Sales Program, Dept of Agricultural Economics, Texas A&M University: [simon.somogyi@ag.tamu.edu](mailto:simon.somogyi@ag.tamu.edu)

Dr. David Anderson, Professor and Extension Specialist - Livestock and Food Product Marketing, Dept of Agricultural Economics, Texas A&M University: [david.anderson@ag.tamu.edu](mailto:david.anderson@ag.tamu.edu)

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**Next Release**

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