

CONSUMER TRENDS FORUM: BEEF DEMAND DEEP DIVE

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http://www.agmanager.info/about/contributors/ individual/tonsor.asp

Per Capita Consumption (PCC)

= [Domestic Production + Imports – Exports + Cold Storage Change] /
 U.S. Population

- Measure of available meat supplies presumed to disappear via U.S. consumption
 - So a proxy estimate for domestic consumption

Just volumes (lbs & people) in PCC derivation (no \$ consideration)

Demand is **NOT** Per Capita Consumption

Cow Calf Weekly
Your news, anywhere, anytime.

BEEF



LMIC

2024:58.5 lbs

2025: 56.5 lbs

2026: 54.7 lbs

MARKETING > OUTLOOK

What's The Similarity Between Blue Jeans and Beef Demand?

Beef consumption and beef demand isn't the same thing. Here's an explanation.

Burt Rutherford | Sep 19, 2013

BEEF PRICE-QUANTITY RELATIONSHIP

Annual, Retail Weight, Deflated All Fresh Retail Price



Data Source: Bureau of Economic Analysis & USDA-ERS, Compiled by LMIC

Livestock Marketing Information Center

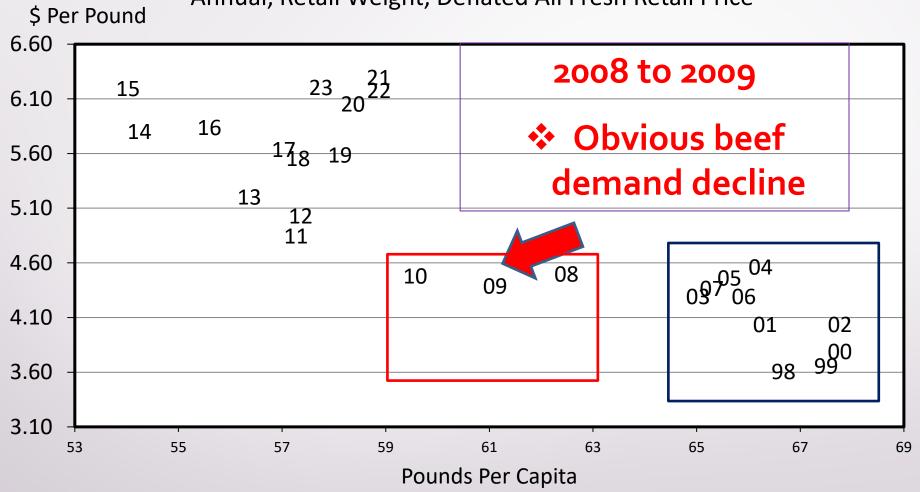
C-P-65A 04/04/24

Scatterplot

Lessons:

BEEF PRICE-QUANTITY RELATIONSHIP

Annual, Retail Weight, Deflated All Fresh Retail Price

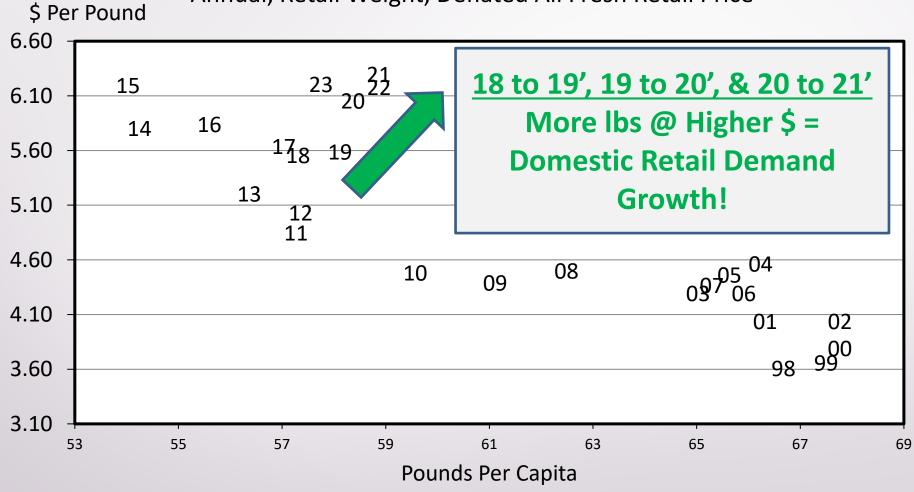


Data Source: Bureau of Economic Analysis & USDA-ERS, Compiled by LMIC

C-P-65A 04/04/24

BEEF PRICE-QUANTITY RELATIONSHIP

Annual, Retail Weight, Deflated All Fresh Retail Price



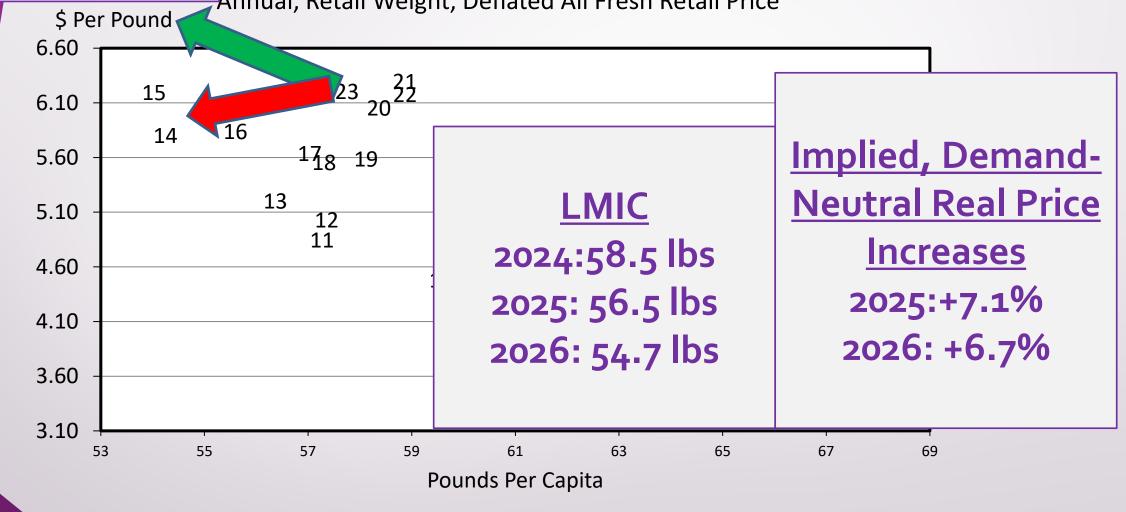
Data Source: Bureau of Economic Analysis & USDA-ERS, Compiled by LMIC

C-P-65A 04/04/24

FUTURE?

BEEF PRICE-QUANTITY RELATIONSHIP

Annual, Retail Weight, Deflated All Fresh Retail Price



Data Source: Bureau of Economic Analysis & USDA-ERS, Compiled by LMIC

Livestock Marketing Information Center

C-P-65A 04/04/24

Host of Meat Demand Resources on AgManager.info

Livestock & Meat Marketing

Home / Livestock & Meat / Meat Demand



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AgKansitions and Kansas LandLink

Agronomy

Animal Science

Kansas Ag Mediation Service (KAMS)₽

Extension Agent Link

Livestock & Meat

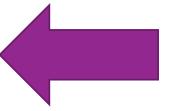
Cattle Finishing Returns

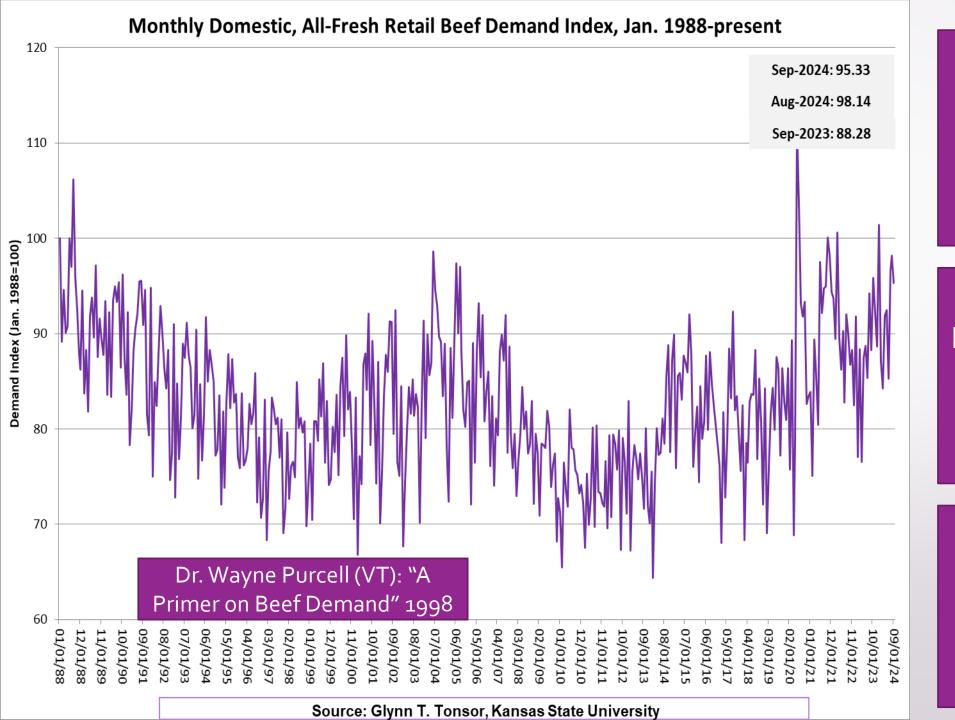
Meat Demand

Meat Demand

Meat Demand

- · Maps Meat Demand
- · Meat Demand Research Studies
- Monthly Domestic Meat Demand Indices [USDA/BLS Data]
- Monthly Export Meat Demand Indices [USDA/BLS Data]
- Monthly Meat Demand Monitor [Survey Data]
 - Monthly Meat Demand Monitor (Prior Years)



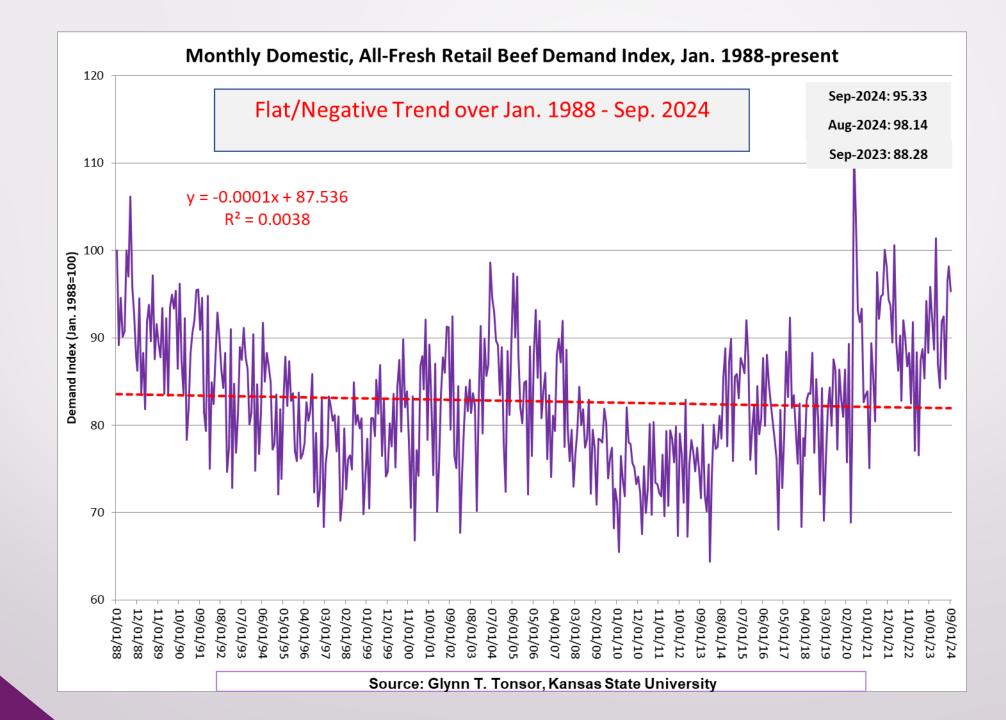


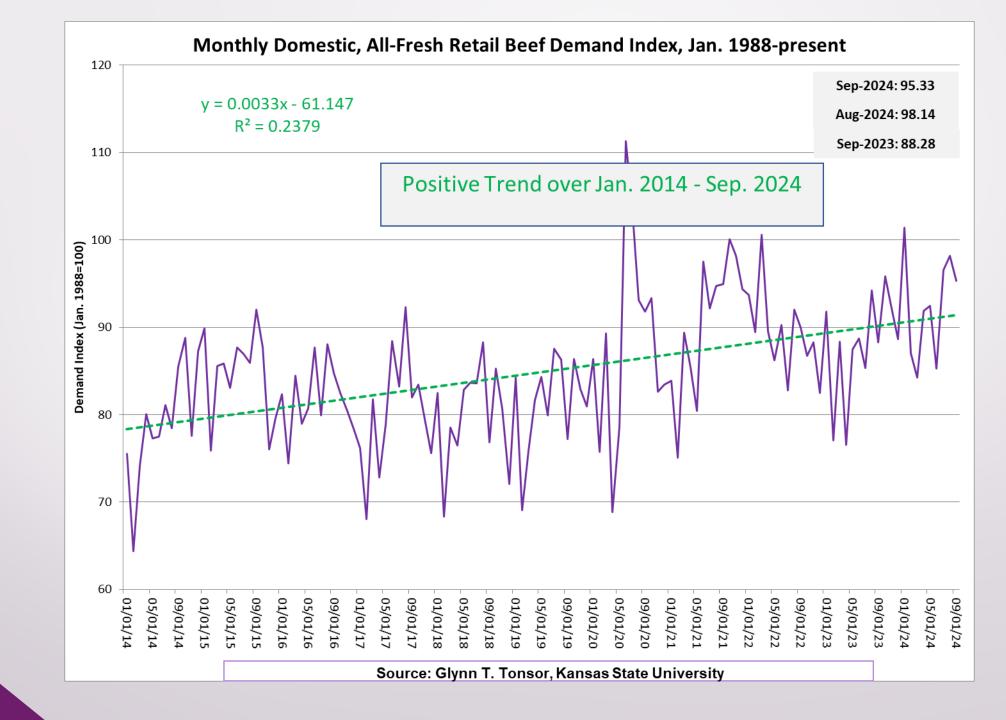
Index =
Observed Per Cap.
Cons. (PCC)
/ Expected PCC

Expected PCC reflects
-0.479 own-price
elasticity assumption

Demand Peaked in June 20 @ 111

7 of 1st 9 months of 2024 > 2023





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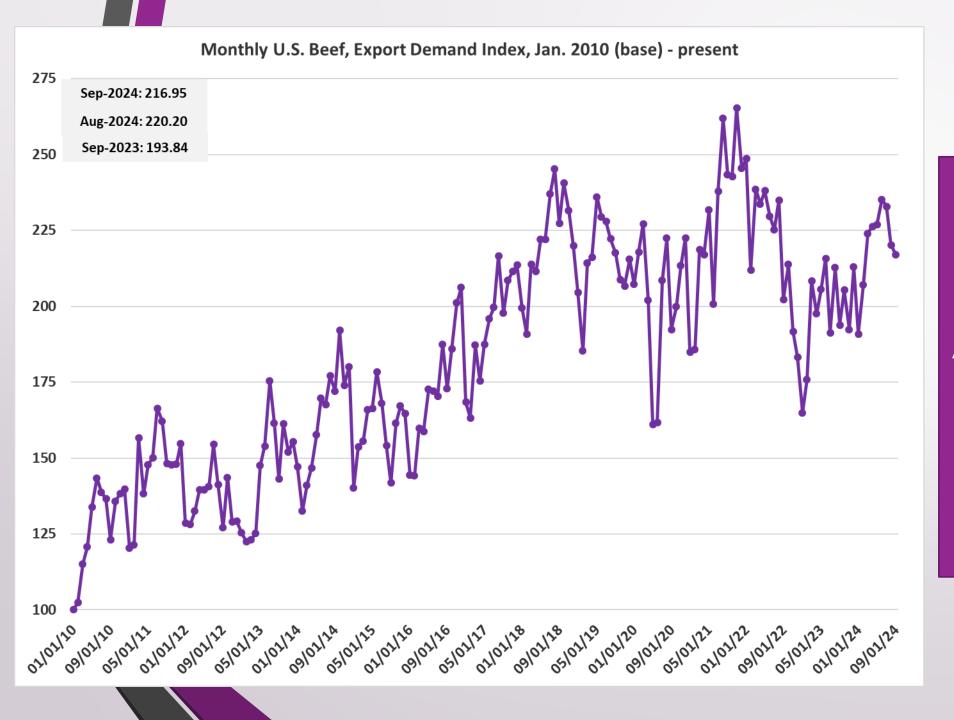
Cattle Finishing Returns

Meat Demand

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Demand Peaked in Nov 21 @ 265

All 9 months in 2024 > 2023

Recent "lows" in May 2020 & Jan 2023

Host of Meat Demand Resources on AgManager.info

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Monthly Meat Demand Monitor, Methods, and Supporting Information

Home / Livestock & Meat / Meat Demand / Monthly Meat Demand Monitor [Survey Data]





Sign up for weekly email updates.

K-State College of Agriculture Links

Agronomy & Kansas Ag Mediation Service (KAMS) ₪

Extension Agent Link

Monthly Meat Demand Monitor [Survey Data]

The Meat Demand Monitor (MDM) project is funded in-part by the beef checkoff and the pork checkoff. Monthly reports and supporting documentation are available here.







Livestock & Meat

Projected Feeder Cattle Prices

Cattle Finishing Returns

Meat Demand

Meat Demand Research Studies

Monthly Domestic Meat Demand Indices [USDA/BLS Data]

Monthly Export Meat Demand Indices [USDA/BLS Data]

Monthly Meat Demand Monitor [Survey Data]

Monthly Meat Demand Monitor

Title	Author	Date	Downloads
Meat Demand Monitor - August 2020	Tonsor	September 4, 2020	Downloads →
Meat Demand Monitor - July 2020	Tonsor	August 4, 2020	Downloads -
Meat Demand Monitor - February-June 2020 Summary Report	Tonsor	July 27, 2020	Downloads -
Meat Demand Monitor - June 2020	Tonsor	July 2, 2020	Downloads -
Meat Demand Monitor - May 2020	Tonsor	May 29, 2020	Downloads -
Meat Demand Monitor - Coronavirus (COVID-19) Impact on U.S. Meat Demand:	Tonsor	May 12, 2020	Downloads →

https://www.agmanager.info/livestock-meat/meatdemand/monthly-meat-demand-monitor-survey-data

Meat Demand Monitor (MDM) Overview

1-STOP LOCATION FOR U.S. MEAT <u>DEMAND TRENDS &</u> INFORMATION

- Monthly surveys & experiments > 2,000
 U.S. residents
 - >1,000 food service, restaurant focused
 - >1,000 retail, grocery-store focused
- Systematic economic modeling of consumer meat demand, preference, and behavior

FUNDING PARTNERSHIP & TIMING

- Fully launched Feb. 2020
 - Jointly funded by Beef & Pork Checkoffs

- Current Beef Checkoff support scheduled to end September 2025
- Pork Checkoff under annual renewal



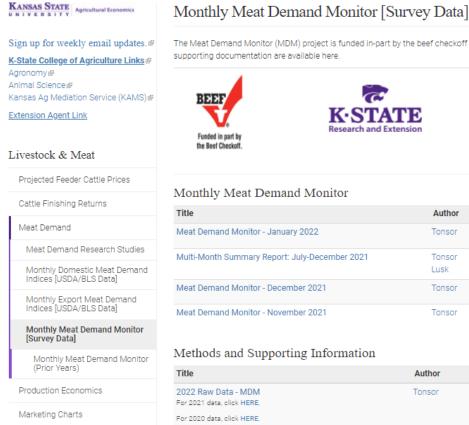
https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data

All MDM outputs, procedures, & data fully available on KSU's AgManager.info website

Monthly Meat Demand Monitor, Methods, and Supporting Information

Home / Livestock & Meat / Meat Demand / Monthly Meat Demand Monitor [Survey Data]

Monthly Survey - January 2022



The Meat Demand Monitor (MDM) project is funded in-part by the beef checkoff and the pork checkoff. Monthly reports and supporting documentation are available here. BEEF the Reaf Checkof Monthly Meat Demand Monitor Author Date Downloads

- January 28, 2022 Tonsor January 13, 2022 Lusk Tonsor January 6, 2022 December 3, 2021 Author Date **Downloads** Tonsor February 2, 2022 Tonsor January 31, 2022
- ✓ SHORT MONTHLY REPORTS & APPROVED TWEETS/LINKEDIN POSTS (#MDM)
- **✓** RAW DATA
- ✓ SURVEY INSTRUMENTS & UNDERLYING PROCEDURE DOCS
- **✓** ACADEMIC PAPERS USING MDM
- ✓ LINKS TO EXAMPLE MEDIA USE



CLPER Newsletter

Broad Activity Flow

- Ongoing data collection (~1st 25 days of each month)
 - KSU's Qualtrics & Dynata/Samplify

- Monthly base analysis
 - USDA approval on 4-page report & Tweets/LinkedIn posts
 - AoA live interview summary

Periodic USFR coverage & other 1-off Assessments

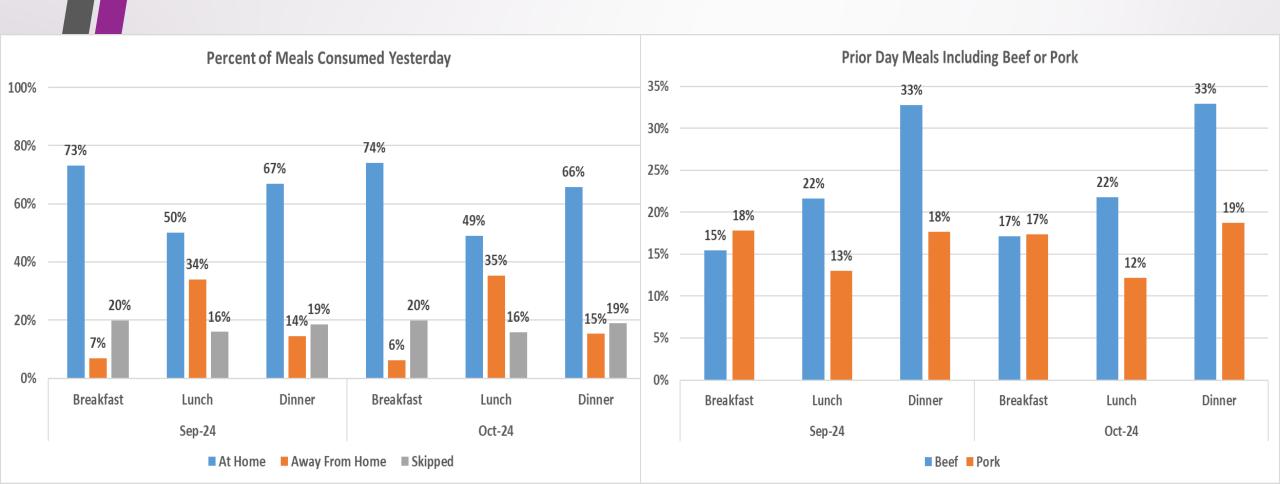


- Prior Day RecallProtein Values

- Choice Experiment
 Consumer Knowledge
 Ad Hoc Section
- Socio-Economic Questions



Prior Day Recall



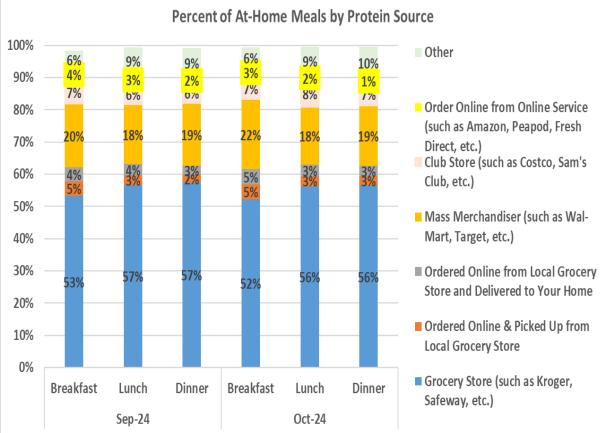
Prior Day Recall

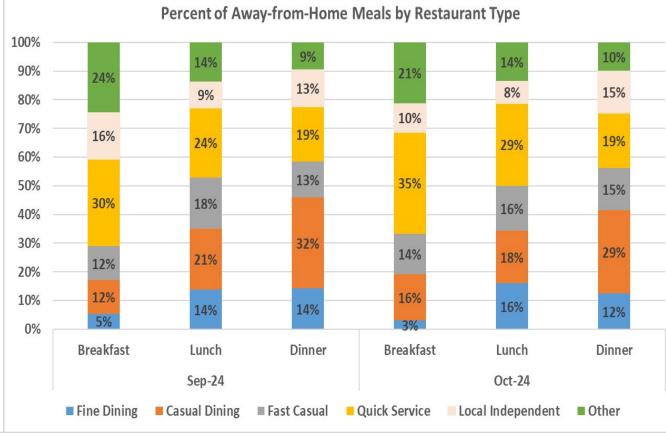
FD: Ruth's Chris, Capital Grille, Morton's Steakhouse

CD: Applebee's, Olive Garden, Outback

FC: Panera, Chipotle, Panda Express

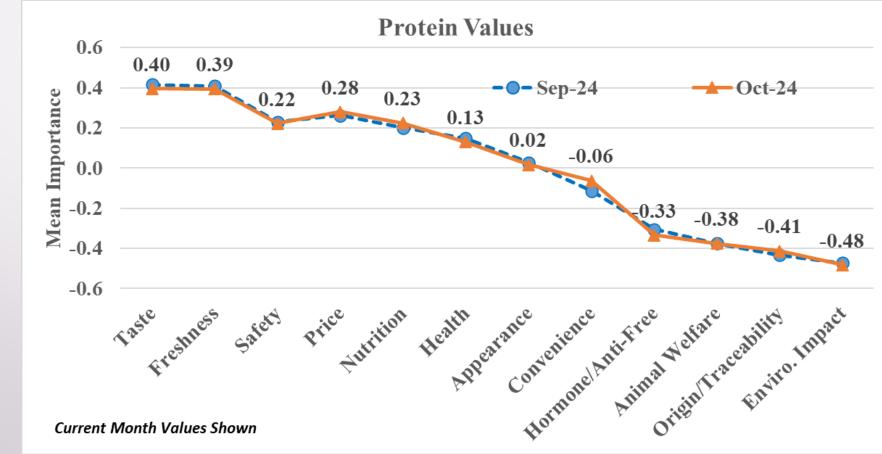
OSR: McDonalds, Subway, Chick-fil-A





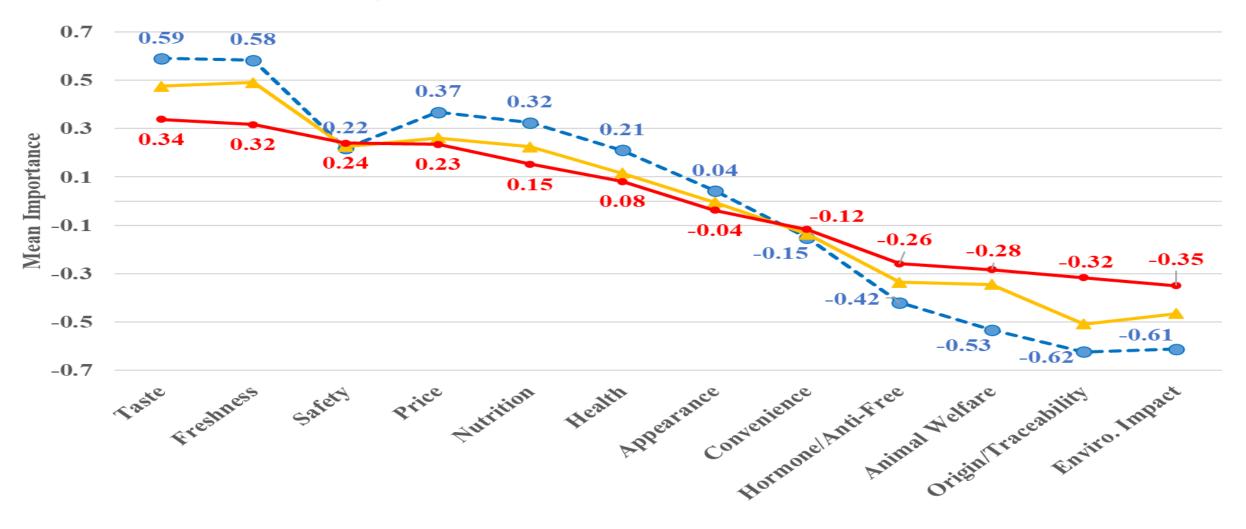
Protein Values

Most/Least important factors in protein purchasing decision



Protein Values – What Drives Purchasing?

Protein Values, by Generation (March 2024, Meat Demand Monitor)

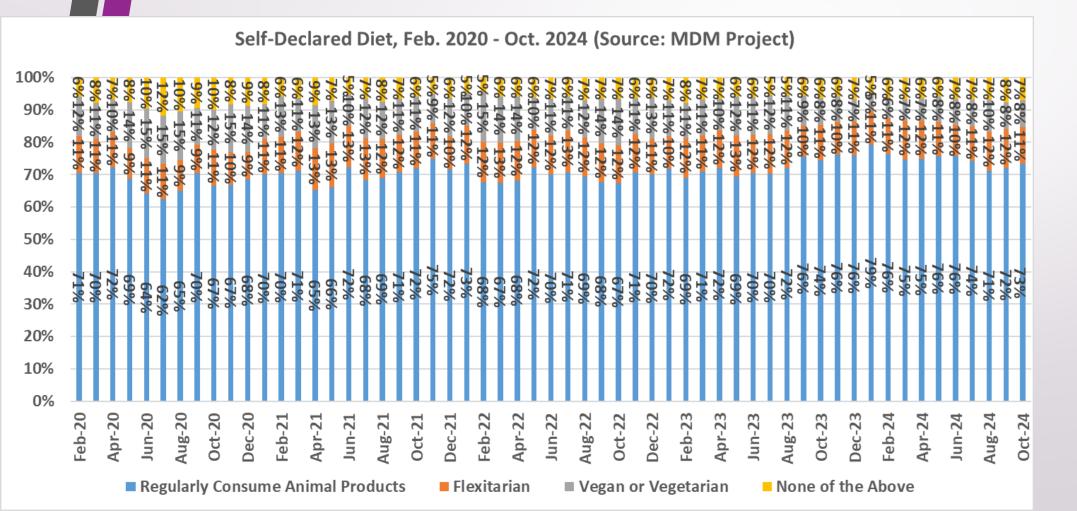


Choice Experiment: Mean WTP Estimates

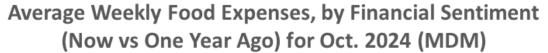
RETAIL	Ribeye Steak	Ground Beef	Pork Chop	Bacon	Chicken Breast	Plant-Based Patty	Shrimp	Beans and Rice	Something Else
Sep-24 WTP (\$/lb)	\$ 17.45	\$ 8.61	\$ 6.82	\$ 5.71	\$ 8.28	\$ 8.44	\$ 9.33	\$ 2.88	
Market Share	8%	24%	12%	8%	26%	3%	4%	7%	7%
Oct-24 WTP (\$/lb)	\$ 17.68	\$ 8.70	\$ 7.22	\$ 5.58	\$ 8.55	\$ 8.46	\$ 9.56	\$ 2.94	
Market Share	8%	24%	13%	7%	26%	2%	5%	7%	7%
FOOD SERVICE	Ribeye Steak	Beef Hamburger	Pork Chop	Baby Back Ribs	Chicken Breast	Plant-Based Patty	Shrimp	Salmon	Something Else
Sep-24 WTP (\$/lb)	\$ 27.18	\$ 20.46	\$16.33	\$ 19.00	\$ 18.37	\$ 12.60	\$ 17.97	\$19.50	,
Market Share	15%	26%	5%	10%	14%	3%	12%	9%	5%
Oct-24 WTP (\$/lb)	\$ 27.42	\$ 20.68	\$16.56	\$ 19.24	\$ 18.86	\$ 12.95	\$ 18.43	\$19.77	
Market Share	15%	26%	4%	10%	15%	3%	13%	8%	5%



Socio-Economic Questions: Self-Declared Diet









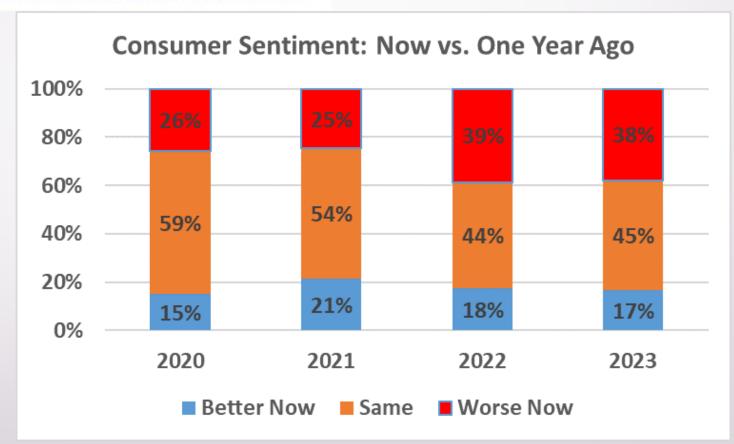


Feb. 2024 Special Report

MDM: Meat Demand Monitor

The MDM tracks U.S. consumer preferences, views, and demand for meat with separate analysis for retail and food service channels. MDM is a monthly online survey with a sample of over 2,000 respondents reflecting the national population.

U.S. Meat Demand Update & Role of Financial Sentiment: 2020-2023



https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data

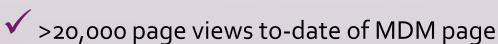
Media Partnering







- ✓ AOA (MIKE PEARSON/JESSE ALLEN HOST)
 - ✓ GT monthly interview w/ latest MDM info
 - ✓ 1 million live listeners each interview;
 - + 200k via Sirus Rural Radio
 - 5,500 AoA podcast downloads each month
- ✓ USFR (TYNE MORGAN HOST)
 - ✓ 500,000 listeners/video viewers each interview
- ✓ #MDM TWEETS & LINKEDIN POSTS (@TONSORGLYNN)
- ✓ AGMANAGER.INFO





EXAMPLES OF HIGH-IMPACT

ACADEMIC ARTICLES, THESES, & DISSERTATIONS

9 peer-reviewed articles so far

■ 1 KSU M.S. Thesis (Taylor, 2021) & 2 KSU Ph.D Dissertations (Anderson, 2023; Bina, 2024)

MDM data currently being used in multiple active research projects



EXAMPLES OF HIGH-IMPACT

ACADEMIC ARTICLES, THESES, & DISSERTATIONS

Meat Science 190 (2022) 108843

Contents lists available at ScienceDirect

Meat Science

journal homepage: www.elsevier.com/locate/meatsci



https://www.sciencedirect.com/science/article/pii/S0309174022001115

https://onlinelibrary.wiley.com/doi/epdf/10.1002/aepp.13287

Received: 6 August 2021

Accepted: 17 April 2022

DOI: 10.1002/aepp.13287

U.S. perspective: Meat demand outdoes meat avoidance

Glynn T. Tonsor ^a, Jayson L. Lusk ^{b,*}

FEATURED ARTICLE



Benchmarking US consumption and perceptions of beef and plant-based proteins

Hannah Taylor¹ | Glynn T. Tonsor² | Jayson L. Lusk³ | Ted C. Schroeder²

Department of Agricultural Economics, Kansas State University, United States of America

b Department of Agricultural Economics, Purdue University, United States of America

EXAMPLES OF HIGH-IMPACT

Half cows, entire pigs: Families are buying meat in bulk to save money

ing meat prices — up 11 percent from last year — are leading many to change purchasing and consumption habits









NATIONAL

PRODUCERS COUNCIL

International Meat Secretariat

WORLD



What the **SCIENTIFIC EVIDENCE** savs

https://www.agweb.com/news/business/taxes-and-finance/us-now-officially-recession?

Is the U.S. Now Officially in a Recession?



U.S. Farm Report 10/29/22 - Roundtable 1

By TYNE MORGAN October 28, 2022











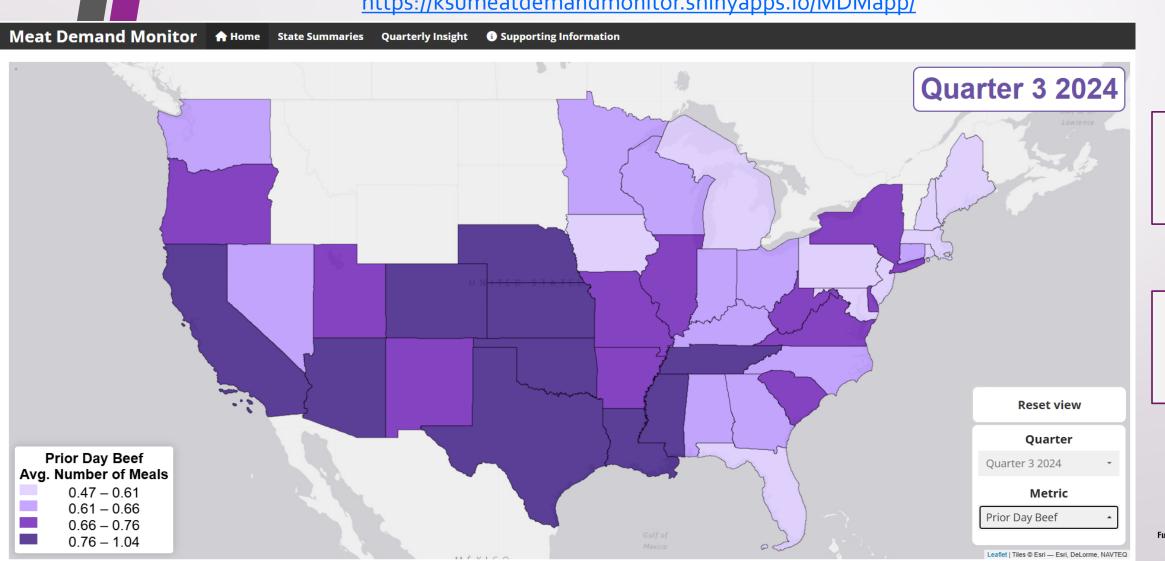
REGISTER NOW MARCH 18-20, 2024 **GAYLORD OPRYLAND • NASHVILLE, TN**







https://ksumeatdemandmonitor.shinyapps.io/MDMapp/

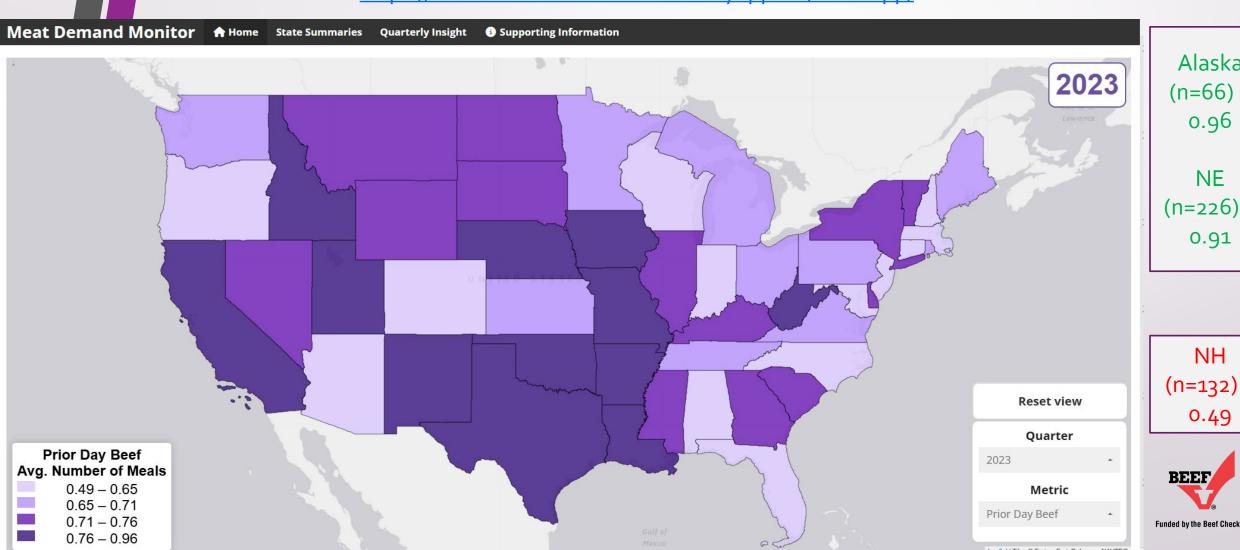


NE (n=55) = 1.04

RI (n=41) = 0.47



https://ksumeatdemandmonitor.shinyapps.io/MDMapp/



Alaska (n=66) =(n=226) =

(n=132) =

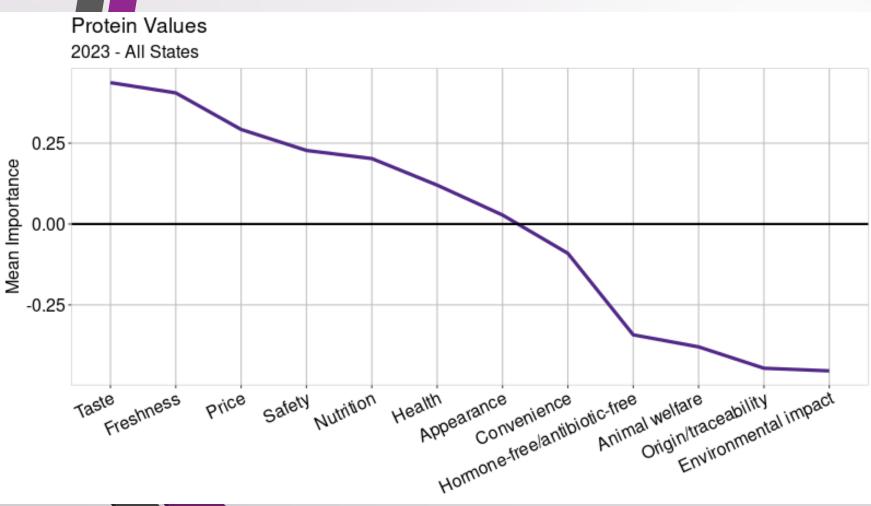


https://ksumeatdemandmonitor.shinyapps.io/MDMapp/

UNITED STATES

- **33,135** respondents in 2023
 - Mean \$73.4k household income
 - Mean \$115 (\$68) at-home (away-from-home) weekly food expenditures
 - 72% regularly consume meat, 11% flexitarian, 10% veg or veg, 6% other





Taste: PV= 0.44 58% Top-4 vs 14% Bottom-4

Price: PV= 0.29 49% Top-4 vs 20% Bottom-4

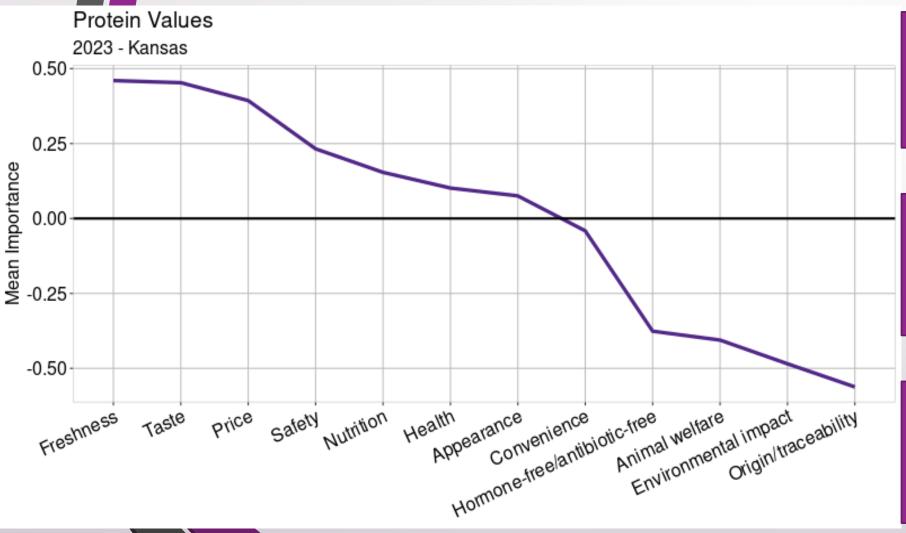
Taste is 1.5 times as important as Price

https://ksumeatdemandmonitor.shinyapps.io/MDMapp/

- KANSAS (2.4 MILLION, 0.9% OF U.S. POPULATION)
 - 317 respondents in 2023
 - Mean \$63k household income
 - Mean \$105 (\$65) at-home (away-from-home) weekly food expenditures
 - 74% regularly consume meat, 13% flexitarian, 6% veg or veg, 7% other

State-Level Dashboard (Justin Bina)





Taste: PV= 0.45 59% Top-4 vs 14% Bottom-4

Price: PV= 0.40 55% Top-4 vs 15% Bottom-4

Taste is 1.15 times as important as Price

Two Quick Insights from the Meat Demand Monitor (MDM) Project

Glynn Tonsor

Sept. 18, 2024

Virtual BEEF Experience

https://www.beefmagazine.com/livestock-management/join-us-for-the-virtualbeef-experience





Meat Demand Monitor: Who's Buying Big in Beef?

Justin D. Bina, Glynn T. Tonsor¹
Kansas State University, Department of Agricultural Economics — July 2024

https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data/meat-demand-monitor-who%E2%80%99s-buying

MDM: Who's Buying Big in Beef?

- Per capita beef consumption (disappearance) measures can both be accurate and incomplete
- Willits-Smith, A., Odinga, H., O'Malley, K., & Rose, D. (2023).
 Demographic and Socioeconomic Correlates of Disproportionate Beef Consumption Among US Adults in an Age of Global Warming.
 Nutrients, 15(17), 3795. https://doi.org/10.3390/nu15173795
 - Used Centers for Disease Control and Prevention's National Health and Nutrition Examination Survey data
 - Found that 12% of respondents (majority male) consumed one-half of beef



MDM: Who's Buying Big in Beef?

- Justin Bina & Glynn Tonsor re-examine concentration of beef consumption using MDM data
 - Used 2nd quarter, 2024 data on prior day beef consumption (0-3 meal count frequency)

- Nationally, on average 0.70 prior day meals included beef
 - ■0.82 for males vs 0.58 for females
 - 0.92 for those 18-24 years old vs 0.49 for those 65 and older



MDM: Who's Buying Big in Beef?

- Nationally, on average 0.70 prior day meals included beef
 - ■0.73 for those with household incomes under \$60k vs 0.66 for those over \$60k
 - Those with lower incomes shift to ground beef (from steak) rather than exit beef to other proteins
 - Deep dive into gender/age/income cohorts
 - Females aged 55 and older generally consume beef less frequently
 - Males aged 18-54 across any income bracket consume beef more frequently

✓ Overall, take-home point of "concentrated beef consumption" aligns with Willits-Smith et al. (2023)

KANSAS STATE

Department of Agricultural Economics

Nov. 2024 Special Report

MDM: Meat Demand Monitor

Mar-Sep 2024 MDM %	19%	12%	7%	18%	21%	9%	13%
NPB 2023 Seg. Study %	16%	14%	8%	18%	20%	12%	11%
NPB Seg Name	Culinary Adventures	Mindful Choicemakers	Culture Cele brators	Tasty Value Seekers	Confident Meat Eaters	Simple Feeders	Meat Minimizers



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Nov. 2024 Special Report

MDM: Meat Demand Monitor

Retail Demand Measure	National Average (\$/lb)	Culinary Adventures	Mindful Choicemakers	Culture Celebrators	Tasty Value Seekers	Confident Meat Eaters	Simple Feeders	Meat Minimizers
Ribeye Steak	\$ 17.63	119	114	110	88	95	91	95
Ground Beef	\$ 8.74	126	130	118	80	89	95	92
Pork Chop	\$ 7.19	131	133	119	81	96	84	75
Bacon	\$ 5.94	125	123	118	82	102	97	64
Chicken Breast	\$ 8.56	121	148	122	82	84	87	105
Plant-Based Patty	\$ 8.29	112	136	112	79	87	87	98
Shrimp	\$ 9.47	119	133	114	91	91	84	88
Beans and Rice	\$ 3.27	134	161	139	70	68	75	132



Discussion Points for 2025

Will food service demand improve if/when financial sentiment improves?

•Will we see more innovation on "beef as an ingredient" vs. center-of-the-plate?

Will industry be ready to "defend" higher end-user beef prices?

Will beef trade internationally get further contentious?





More information available at:



This presentation will be available in PDF format at:

http://www.agmanager.info/about/contributors/individual/tonsor.asp

Host of additional industry resources are cross-linked as well

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Nov. 2024 Special Report

MDM: Meat Demand Monitor

Measure	National Average	Culi nary Adventures	Mindful Choicemakers	Culture Celebrators	Tasty Value Seekers	Confident Meat Eaters	Simple Feeders	Meat Minimizers
Baby Boomer	28.7%	71	87	71	138	125	96	82
GenX	26.6%	91	100	93	98	112	106	96
Millennial	29.0%	126	105	112	77	85	95	110
GenZ	15.7%	121	115	142	76	61	104	123
Male	48.6%	110	100	102	94	103	96	90
Married Now	45.9%	102	109	101	99	105	91	89
Kids Under 12	24.3%	134	122	115	68	86	84	101
4-Year College Degree	32.4%	113	135	108	89	72	86	115
Hausehold Income Over \$100,000	30.2%	118	131	104	88	83	79	101
Hispanic/Latino	17.1%	131	106	144	73	70	88	119
White/Caucasian	76.9%	95	96	90	102	109	106	95
Black/AfricanAmerican	13.3%	121	111	119	93	75	79	112
Northeast	17.1%	104	110	99	97	92	93	106
Midwest	21.0%	87	92	87	104	120	112	88
Southeast	38.2%	97	101	101	105	99	96	99
West	23.8%	113	98	110	91	89	101	108



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Nov. 2024 Special Report

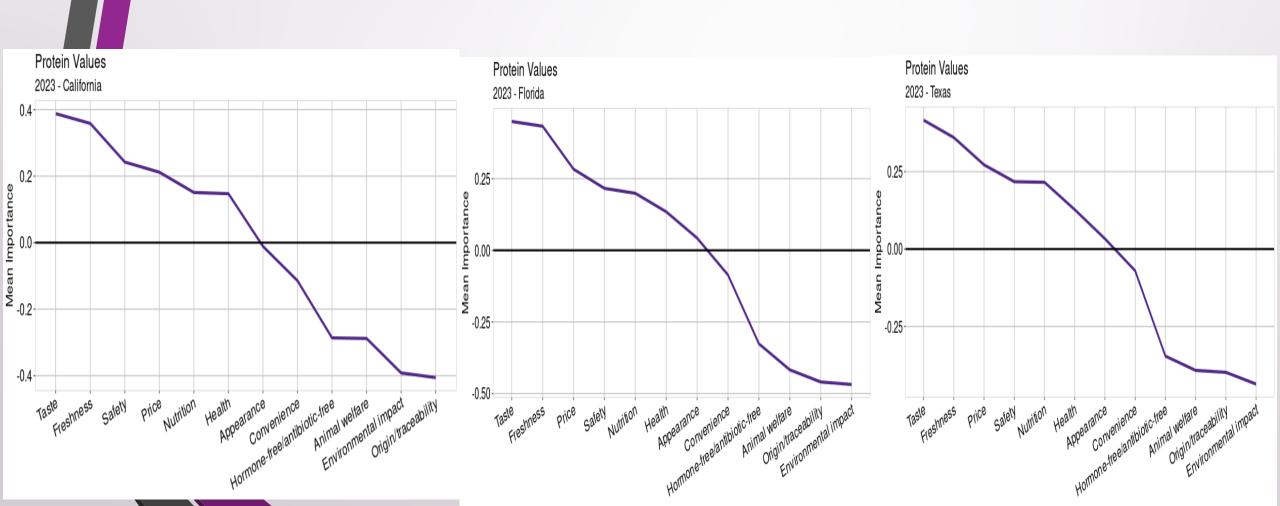
MDM: Meat Demand Monitor

Measure	National Average	Culinary Adventures	Mindful Choicemakers	Culture Celebrators	Tasty Value Seekers	Confident Meat Eaters	Simple Feeders	Meat Minimizers
Prior Day Meals, Beef	0.681	117	96	101	87	107	102	85
Prior Day Meals, Chicken	0.812	115	106	113	92	87	92	102
Prior Day Meals, Pork	0.481	117	90	98	94	115	93	77
Prior Day Meals, Fish/Seafood	0.292	131	140	117	91	61	58	114



State-Level Dashboard (Justin Bina)

https://ksumeatdemandmonitor.shinyapps.io/MDMapp/



State-Level Dashboard (Justin Bina)



