KANSAS STATE
Department of Agricultural Economics
Jan. 2021 Summary 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.

Multi-Month Summary Report: July - December 2020

Executive Summary

In February 2020, the Meat Demand Monitor (MDM) project was launched collecting data from over 2,000 U.S. consumers each month. The MDM project is funded in-part by the beef and pork checkoffs and tracks U.S. consumer preferences, views, and demand for meat with separate analysis for retail and food service channels.[1]

In this report, insights from the MDM surveys conducted between July and December 2020 are outlined, providing the project's second multi-month, summary report. Data from over 12,000 survey respondents are used to examine trends for these six months.

Key insights include:

- Grocery and food service meat demand generally declined from July levels.
- Taste, Freshness, Safety, and Price persistently rank highest in importance to protein purchasing decisions, with Nutrition increasing in importance since July.
- Away-from-home consumption of all three daily meals generally was steady between July and December.
- Across restaurant groups, the Quick Service group gained share, while Fine Dining lost share.
- Across sources of protein for at-home consumption, the Grocery Store group continues to lead in prevalence while the Club Store group lost share.
- Overall inclusion of beef and pork in daily meals was steady to increasing over this period.
- Consumer knowledge on USDA inspection increased while knowledge on assessing meat doneness, pork product color, and beef grades held steady for the evaluated period.

The foregoing provides additional details on the above findings as well as new findings and analysis. We offer a multitude of focused insights from monthly ad hoc questions listed at the end of this report. Modeling of beef and pork demand determinants, by market channel and product, is also provided.

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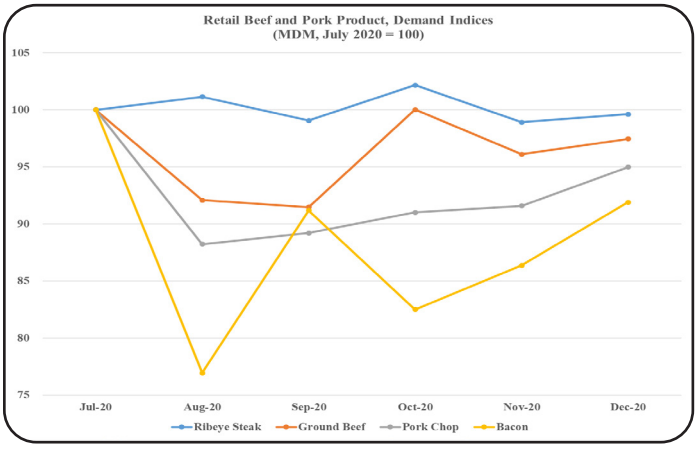
Meat Demand: Willingness to Pay Trends

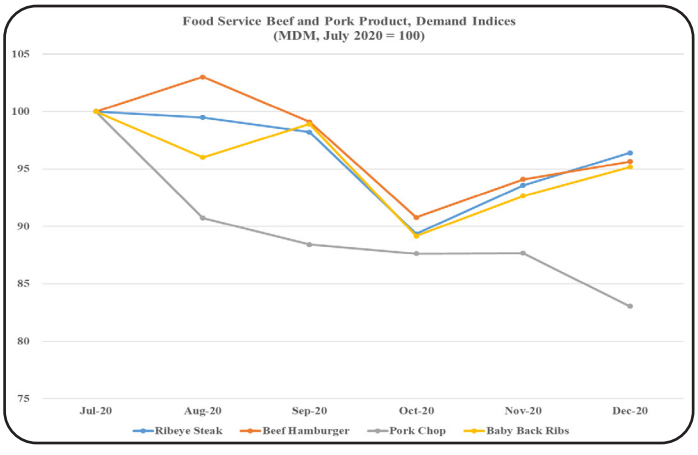
Maximum willingness-to-pay (WTP) for eight different items and meals was calculated each month. WTP is shown separately for retail (grocery) and food service (restaurant, away-from-home) channels in the following table.

RETAIL		Ribeye Steak	Ground Beef	Pork Chop	Bacon	Chicken Breast	Plant-Based Patty	Shrimp	Beans and Rice
Jul-20	WTP ($/lb)	$16.17	$7.59	$6.38	$5.17	$7.48	$7.71	$8.80	$2.19
Aug-20	WTP ($/lb)	$16.35	$6.98	$5.63	$3.98	$6.99	$7.82	$8.31	$1.36
Sep-20	WTP ($/lb)	$16.01	$6.94	$5.69	$4.71	$7.13	$8.60	$8.29	$1.58
Oct-20	WTP ($/lb)	$16.52	$7.59	$5.81	$4.27	$7.11	$7.51	$7.72	$1.42
Nov-20	WTP ($/lb)	$15.99	$7.29	$5.84	$4.47	$7.24	$7.40	$8.39	$1.27
Dec-20	WTP ($/lb)	$16.10	$7.39	$6.06	$4.75	$6.99	$7.61	$8.47	$1.66

FOOD SERVICE		Ribeye Steak	Beef Ham-burger	Pork Chop	Baby Back Ribs	Chicken Breast	Plant-Based Patty	Shrimp	Salmon
Jul-20	WTP ($/meal)	$25.65	$18.40	$14.41	$17.75	$17.30	$12.52	$17.48	$17.80
Aug-20	WTP ($/meal)	$25.52	$18.96	$13.08	$17.04	$17.86	$12.86	$17.20	$17.97
Sep-20	WTP ($/meal)	$25.19	$18.24	$12.75	$17.56	$16.80	$11.16	$16.86	$17.40
Oct-20	WTP ($/meal)	$22.92	$16.71	$12.63	$15.83	$15.08	$11.83	$16.04	$16.61
Nov-20	WTP ($/meal)	$24.01	$17.32	$12.64	$16.45	$15.81	$12.05	$15.96	$15.68
Dec-20	WTP ($/meal)	$24.73	$17.60	$11.97	$16.89	$15.68	$12.11	$17.28	$16.88

The following figures present WTP estimates as index values relative to July 2020. As an example, the retail WTP index for ribeye steak in October 2020 was 102.17 meaning demand was 2.17% stronger in October than in July. Similarly, the food service WTP index for pork chop meals was 83.06 indicating demand was 16.94% weaker in December than in July. More broadly, both retail and food service beef and pork demand was flat or weaker, depending on product, as 2020 concluded.





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As noted in the previous multi-month report, the number of times a given respondent selects each good can be used as a measure of product demand. This is viable as prices are exogenously set for the choice experiment and are held constant across respondents and time such that changes in product selection rates correspond with demand changes. As an example, differences in the frequency between respondents A and B in picking pork chops in a retail setting cannot be attributed to prices and hence reflect differences in demand. It is useful to first summarize product selection frequency. As shown in the following tables, chicken breast is the most common Retail selection and beef hamburger is the most common Food Service selection.

Summary of Choices, Retail Setting

Item	Mean Number of Times Chosen	Percent of Times Chosen
Ribeye Steak	0.74	8.25%
Ground Beef	1.98	22.02%
Pork Chop	1.21	13.46%
Bacon	0.71	7.88%
Chicken Breast	2.17	24.07%
Plant-Based Patty	0.30	3.28%
Shrimp	0.44	4.89%
Beans and Rice	0.63	7.00%
Would Buy Something Else	0.82	9.16%

Summary of Choices, Food Service Setting

Item	Mean Number of Times Chosen	Percent of Times Chosen
Ribeye Steak	1.24	13.81%
Beef Hamburger	1.97	21.89%
Pork Chop	0.36	4.02%
Baby Back Ribs	0.93	10.36%
Chicken Breast	1.29	14.36%
Plant-Based Patty	0.46	5.07%
Shrimp	1.30	14.45%
Salmon	0.75	8.28%
Would Buy Something Else	0.70	7.74%

While these summary statistics are useful from a simple, aggregate perspective additional analysis is needed to understand determinants of these consumer selections. Here we are interested in the two beef and two pork products presented as available to respondents, separately for the Retail and Food Service channels. The following tables summarize model results.

Characteristics of respondents with stronger ribeye steak, retail demand include being under 55 years of age, being male, having children at home, having household income over $100,000, and residing in Western states.[2] Those placing higher importance on Health or Origin/Traceability also have stronger demand while those placing higher importance on Price have weaker demand.[3] Respondents who had prior day meals including beef hold stronger demand for ribeye steak. There is no strong pattern over the six evaluated months, or day of the week.

Factors Impacting Retail Meat Demand, Regression Models (July - Dec. 2020 MDM Data)

	Ribeye Steak		*Ground Beef*		*Pork Chop*		*Bacon*	
Parameter	Estimate	p-Value	Estimate	p-Value	Estimate	p-Value	Estimate	p-Value
Intercept	**0.434**	**0.048**	**1.932**	**0.001**	**0.951**	**0.001**	**0.801**	**0.001**
Flexitarian	-0.129	0.298	-0.573	0.001	0.033	0.740	-0.180	0.051
Regulalry Consume Animal Products	0.067	0.550	-0.110	0.436	**0.403**	**0.001**	-0.033	0.675
Vegan Vegetarian or Vegetarian	0.250	0.099	**-0.536**	**0.002**	**0.342**	**0.003**	-0.020	0.843
Age, Under 35	**0.458**	**0.001**	0.088	0.372	-0.086	0.218	0.078	0.135
Age, 35 to 55	**0.122**	**0.029**	0.026	0.744	**-0.195**	**0.000**	0.034	0.401
Male	**0.258**	**0.001**	-0.119	0.077	0.014	0.773	-0.002	0.951
Married	0.101	0.057	0.135	0.050	0.081	0.112	-0.022	0.540
Children under Age of 12 in Household	**0.202**	**0.023**	0.027	0.788	-0.028	0.681	**0.137**	**0.009**
College, 4-Year Degree	-0.031	0.630	-0.139	0.063	-0.024	0.640	**-0.121**	**0.002**
Income, Above $100k	**0.164**	**0.027**	**-0.235**	**0.006**	-0.005	0.933	-0.027	0.547
Hispanic, Latino, or Spanish Origin	-0.117	0.193	0.101	0.355	**0.249**	**0.003**	-0.116	0.055
Race, White	-0.050	0.510	-0.113	0.170	-0.076	0.204	0.048	0.303
Political Party Affiliation, Democratic	0.046	0.430	**-0.180**	**0.005**	0.045	0.349	0.026	0.481
Region, Northeast	**-0.196**	**0.029**	**0.250**	**0.012**	0.114	0.112	-0.103	0.054
Region, Midwest	**-0.220**	**0.011**	**0.204**	**0.033**	**0.243**	**0.001**	0.085	0.114
Region, South	-0.147	0.073	**0.236**	**0.006**	0.072	0.206	0.048	0.352
PV, Freshness	-0.010	0.867	**-0.129**	**0.037**	-0.056	0.225	0.022	0.542
PV, Taste	0.039	0.534	-0.133	0.057	-0.090	0.055	**-0.103**	**0.009**
PV, Safety	0.002	0.976	-0.075	0.190	0.040	0.341	-0.059	0.086
PV, Convenience	0.017	0.765	-0.015	0.799	0.002	0.967	0.009	0.783
PV, Nutrition	0.025	0.624	-0.092	0.097	-0.038	0.335	-0.076	0.018
PV, Health	**0.123**	**0.018**	**-0.200**	**0.001**	**-0.119**	**0.003**	**-0.078**	**0.018**
PV, Origin/Traceability	**0.214**	**0.000**	-0.061	0.323	-0.012	0.774	-0.030	0.359
PV, Hormone/Antibiotic-Free	0.036	0.498	**-0.215**	**0.000**	-0.078	0.067	-0.072	0.033
PV, Animal Welfare	0.083	0.123	-0.059	0.326	**-0.079**	**0.048**	-0.046	0.129
PV, Environmental Impact	0.082	0.104	-0.109	0.065	-0.014	0.745	-0.008	0.819
PV, Appearance	0.073	0.167	-0.042	0.473	-0.011	0.806	-0.012	0.737

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Factors Impacting Retail Meat Demand, Regression Models (July - Dec. 2020 MDM Data)

	Ribeye Steak		*Ground Beef*		*Pork Chop*		*Bacon*	
Parameter	Estimate	p-Value	Estimate	p-Value	Estimate	p-Value	Estimate	p-Value
Grocery Shopping in Household, Solely/ Primarily Responsible	0.155	0.194	**0.376**	**0.003**	0.061	0.507	-0.070	0.410
Grocery Shopping in Household, Typically at least One-Half	0.018	0.885	**0.362**	**0.006**	0.100	0.314	0.029	0.740
Prior Day Meals, Including Beef	**0.204**	**0.001**	**0.349**	**0.001**	-0.007	0.843	0.018	0.554
Prior Day Meals, Including Pork	-0.032	0.475	-0.009	0.862	**0.193**	**0.001**	**0.157**	**0.001**
Prior Day Meals, Including Chicken	0.012	0.772	-0.014	0.775	0.009	0.778	0.004	0.887
Prior Day Meals, Including Fish/Seafood	-0.004	0.933	**-0.238**	**0.001**	-0.080	0.053	**0.129**	**0.002**
Prior Day Meals, Including Alternative Proteins	**-0.128**	**0.007**	**-0.240**	**0.001**	**-0.154**	**0.001**	**-0.068**	**0.012**
Prior Day Meals, Including Other or No Protein	**-0.135**	**0.001**	-0.052	0.263	**-0.151**	**0.001**	-0.033	0.183
August	0.119	0.203	-0.151	0.140	-0.082	0.277	-0.090	0.129
September	0.031	0.746	-0.138	0.218	-0.110	0.156	0.039	0.542
October	0.029	0.749	0.048	0.682	-0.053	0.471	-0.112	0.077
November	0.021	0.819	-0.041	0.710	-0.034	0.674	-0.055	0.343
December	0.028	0.765	-0.023	0.830	-0.081	0.338	-0.042	0.502
Sunday	-0.146	0.142	-0.015	0.895	-0.008	0.919	-0.041	0.549
Tuesday	-0.121	0.325	-0.014	0.918	-0.017	0.850	-0.069	0.374
Wednesday	0.136	0.250	-0.045	0.707	-0.086	0.266	**-0.143**	**0.041**
Thursday	-0.072	0.508	-0.069	0.580	-0.091	0.272	-0.089	0.208
Friday	-0.176	0.085	-0.023	0.862	0.152	0.099	**-0.156**	**0.033**
Saturday	-0.072	0.513	-0.069	0.586	0.065	0.450	**-0.197**	**0.005**
Adjusted R-square	0.099		0.078		0.055		0.058	
Number of Observations	5,819		5,819		5,819		5,819	

Moving to ground beef, retail demand is stronger for individuals who do not self-declare their diet as Vegan, Vegetarian, or Flexitarian, have incomes below $100,000, do not affiliate with the Democratic party, and who reside in the Northeast, Midwest, or South (rather than West). Those placing higher importance on Price, have weaker demand.[4] Individuals with prior day meals including beef hold stronger ground beef demand.

Combined, difference in retail beef demand across categories include steak demand being strongest for higher-income households who place less weight on Price, and ground beef demand being strongest for those more concerned with Price. Differences in the impact of prior day meal patterns indicates ground beef demand may be more sensitive to proteins outside the red-meat sector.

Turning to pork we observe pork chop retail demand to be stronger for respondents who self-declare their diet involves regular consumption of animal products, are not middle aged (between 35 and 55 years old), are of Hispanic, Latino, or Spanish origin, and reside in the Midwest region. Those placing higher importance on Heath or Animal Welfare have weaker demand. Individuals with prior day meals including pork hold stronger pork chop demand.

Examining bacon retail demand reveals stronger demand for consumers with children at home and without a 4-year college degree. Those who place higher importance on Taste, Nutrition, Health, or Hormone/Antibiotic-Free have weaker demand. Individuals with prior day meals including pork hold stronger bacon demand and demand was weaker on Wednesday, Friday, and Saturday than on Monday.

Contrasting retail pork demand patterns reveals different impacts of age, region, education and presence of children.

Transitioning to food service, stronger ribeye steak demand aligns with individuals who self-declare as regular consumers of animal products. Demand is higher for males and households where income exceeds $100,000 or a respondent places higher importance on Origin/Traceability. If beef was included more in prior day meals demand is higher.

Moving to beef hamburger, food service demand is weaker as expected by those declaring Flexitarian diets. Demand is stronger for those under 55 years of age, do not hold a 4-year college degree, and households with income below $100,000. Those placing higher importance on Nutrition have weaker demand. Individuals with prior day meals including beef hold stronger beef hamburger demand.

Factors Impacting Food Servicel Meat Demand, Regression Models (July - Dec. 2020 MDM Data)

	Ribeye Steak		*Beef Hamburger*		*Pork Chop*		*Baby Back Ribs*	
Parameter	Estimate	p-Value	Estimate	p-Value	Estimate	p-Value	Estimate	p-Value
Intercept	**0.954**	**0.001**	**1.677**	**0.001**	**0.341**	**0.001**	**0.942**	**0.001**
Flexitarian	**-0.245**	**0.045**	**-0.533**	**0.004**	0.063	0.312	-0.053	0.556
Regulalry Consume Animal Products	**0.252**	**0.032**	-0.147	0.346	-0.025	0.537	**0.282**	**0.001**
Vegan Vegetarian or Vegetarian	0.138	0.385	-0.361	0.076	**0.255**	**0.000**	-0.080	0.365
Age, Under 35	0.192	0.106	**1.138**	**0.001**	-0.030	0.445	**-0.290**	**0.001**
Age, 35 to 55	0.091	0.327	**0.512**	**0.001**	-0.049	0.063	**-0.166**	**0.006**
Male	**0.238**	**0.001**	-0.028	0.728	0.033	0.227	0.036	0.438
Married	0.104	0.170	-0.111	0.172	0.040	0.100	0.007	0.900
Children under Age of 12 in Household	-0.045	0.669	0.219	0.069	**0.136**	**0.001**	**0.240**	**0.001**
College, 4-Year Degree	-0.141	0.125	**-0.261**	**0.006**	0.046	0.123	0.071	0.185
Income, Above $100k	**0.243**	**0.023**	**-0.262**	**0.015**	0.013	0.703	0.001	0.990
Hispanic, Latino, or Spanish Origin	0.069	0.545	-0.065	0.614	-0.014	0.740	**0.158**	**0.047**
Race, White	-0.058	0.528	0.069	0.489	-0.011	0.734	-0.080	0.158
Political Party Affiliation, Democratic	0.063	0.397	-0.091	0.247	-0.015	0.575	-0.005	0.927
Region, Northeast	-0.033	0.748	-0.113	0.366	**0.103**	**0.028**	0.011	0.883
Region, Midwest	0.056	0.613	-0.002	0.985	0.051	0.204	-0.076	0.295
Region, South	0.094	0.319	-0.133	0.200	0.018	0.580	-0.060	0.355
PV, Freshness	0.103	0.116	-0.009	0.905	**-0.059**	**0.026**	0.033	0.469
PV, Taste	0.089	0.200	-0.063	0.440	**-0.071**	**0.028**	0.068	0.147
PV, Safety	0.071	0.254	0.017	0.815	-0.031	0.214	0.012	0.768
PV, Convenience	0.082	0.222	0.082	0.281	0.000	0.989	0.054	0.211
PV, Nutrition	0.050	0.436	**-0.161**	**0.027**	-0.027	0.255	0.008	0.861
PV, Health	0.070	0.288	-0.063	0.392	-0.046	0.079	0.009	0.813
PV, Origin/Traceability	**0.267**	**0.001**	-0.100	0.177	0.041	0.088	0.043	0.303
PV, Hormone/Antibiotic-Free	0.081	0.187	-0.112	0.103	-0.024	0.344	-0.006	0.894
PV, Animal Welfare	0.053	0.410	-0.043	0.548	-0.028	0.298	0.005	0.912

Factors Impacting Food Servicel Meat Demand, Regression Models (July - Dec. 2020 MDM Data)

	Ribeye Steak		*Beef Hamburger*		*Pork Chop*		*Baby Back Ribs*	
Parameter	Estimate	p-Value	Estimate	p-Value	Estimate	p-Value	Estimate	p-Value
PV, Environmental Impact	0.066	0.323	0.019	0.795	0.019	0.462	0.006	0.889
PV, Appearance	**0.192**	**0.004**	0.004	0.954	-0.020	0.480	-0.023	0.591
Prior Day Meals, Including Beef	**0.280**	**0.001**	**0.234**	**0.001**	0.003	0.887	0.019	0.588
Prior Day Meals, Including Pork	0.043	0.446	-0.046	0.476	**0.114**	**0.001**	**0.161**	**0.000**
Prior Day Meals, Including Chicken	-0.071	0.199	0.054	0.355	0.035	0.075	-0.014	0.665
Prior Day Meals, Including Fish/Seafood	-0.019	0.751	**-0.356**	**0.001**	**0.054**	**0.029**	-0.038	0.300
Prior Day Meals, Including Alternative Proteins	-0.175	0.001	**-0.199**	**0.000**	**-0.044**	**0.036**	**-0.081**	**0.006**
Prior Day Meals, Including Other or No Protein	-0.131	0.007	-0.100	0.074	-0.024	0.184	**-0.096**	**0.001**
August	-0.009	0.940	0.141	0.283	**-0.099**	**0.026**	-0.098	0.193
September	0.009	0.943	0.131	0.344	-0.083	0.076	0.016	0.844
October	-0.213	0.064	0.072	0.582	-0.010	0.842	-0.054	0.483
November	-0.126	0.278	0.135	0.310	-0.053	0.259	0.011	0.896
December	-0.013	0.915	0.088	0.506	**-0.106**	**0.040**	-0.033	0.689
Sunday	-0.097	0.419	**0.343**	**0.014**	-0.033	0.516	0.005	0.952
Tuesday	-0.095	0.482	0.249	0.110	-0.029	0.575	-0.073	0.420
Wednesday	-0.054	0.672	**0.401**	**0.006**	-0.008	0.878	-0.096	0.256
Thursday	-0.087	0.513	0.128	0.356	-0.023	0.660	-0.015	0.869
Friday	-0.045	0.742	0.282	0.081	-0.051	0.361	-0.069	0.482
Saturday	0.049	0.713	0.062	0.677	-0.013	0.808	0.024	0.787
Adjusted R-square	0.043		0.090		0.08		0.029	
Number of Observations	5,847		5,847		5,847		5,847	

We observe pork chop food service demand to be stronger for respondents who self-declare their diet Vegan Vegetarian or Vegan. Stronger demand is held by those who have children at home, and live in the Northeast. Demand is weaker if Freshness and Taste are more important. Individuals with prior day meals including pork or fish/seafood hold stronger pork chop demand. Pork chope demand was also weaker in August and December than July.

Examining baby back ribs, food service demand reveals stronger demand for consumers sharing they regularly consume animal products or are Hispanic/Latino. Demand is weaker for those under 55 years of age. Individuals with prior day meals including pork hold stronger baby back ribs demand.

Protein Values Trends

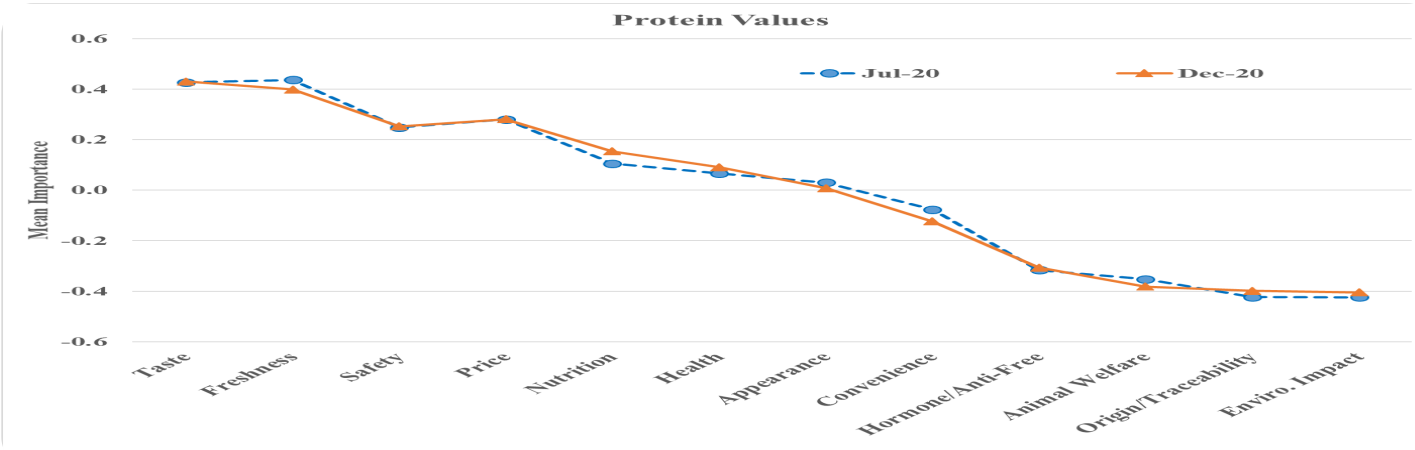
Given a list of 12 protein values, respondents are asked to indicate the four "most important" and four "least important" in importance when purchasing protein items.[5] Relative importance is conveyed by calculating the proportion of times a protein value was selected as "most important" minus the times selected "least important." A higher, positive number implies greater importance in making protein purchasing decisions.

The following table reports average importance scores for each month. Taste, Freshness, Safety, and Price remain top protein values. Hormone/Antibiotic-Free, Animal Welfare, Origin/Traceability, and Environmental Impact regularly rank lower. Beyond ordinal information, these scale values convey relative magnitude insights. For instance, in December, for the average respondent, Price is 3.11 times as important as Health (0.28/0.09 = 3.11) while Convenience is 3.33 times as important as Origin/Traceability and Environmental Impact.

It is also worth noting that these July-December 2020 relative importance patterns are consistent with those found over the 2013-2018 period in the Food Demand Survey (FooDS) project.[6] While framed generally to the broader food category, monthly FooDS reports regularly found Taste, Safety, and Price to be among the most important values for consumers; a finding consistent here during the pandemic.

PROTEIN VALUES	Taste	Freshness	Safety	Price	Nutrition	Health	Appear-ance	Conve-nience	Hormone/ Anti-Free	Animal Welfare	Origin/ Traceability	Enviro. Impact
Jul-20	0.43	0.44	0.25	0.28	0.11	0.07	0.03	-0.08	-0.32	-0.35	-0.42	-0.42
Aug-20	0.43	0.37	0.23	0.24	0.16	0.10	0.03	-0.08	-0.31	-0.36	-0.37	-0.44
Sep-20	0.42	0.40	0.26	0.27	0.17	0.07	0.02	-0.14	-0.26	-0.35	-0.43	-0.42
Oct-20	0.44	0.38	0.26	0.26	0.11	0.05	0.04	-0.08	-0.27	-0.35	-0.42	-0.42
Nov-20	0.41	0.43	0.21	0.22	0.16	0.10	0.04	-0.10	-0.26	-0.34	-0.42	-0.44
Dec-20	0.43	0.40	0.25	0.28	0.15	0.09	0.01	-0.12	-0.31	-0.38	-0.40	-0.40

Comparing December with July 2020, the importance of Nutrition has grown the most. More broadly, the relative importance of these protein values has been rather steady. The following figure compares July and December values.

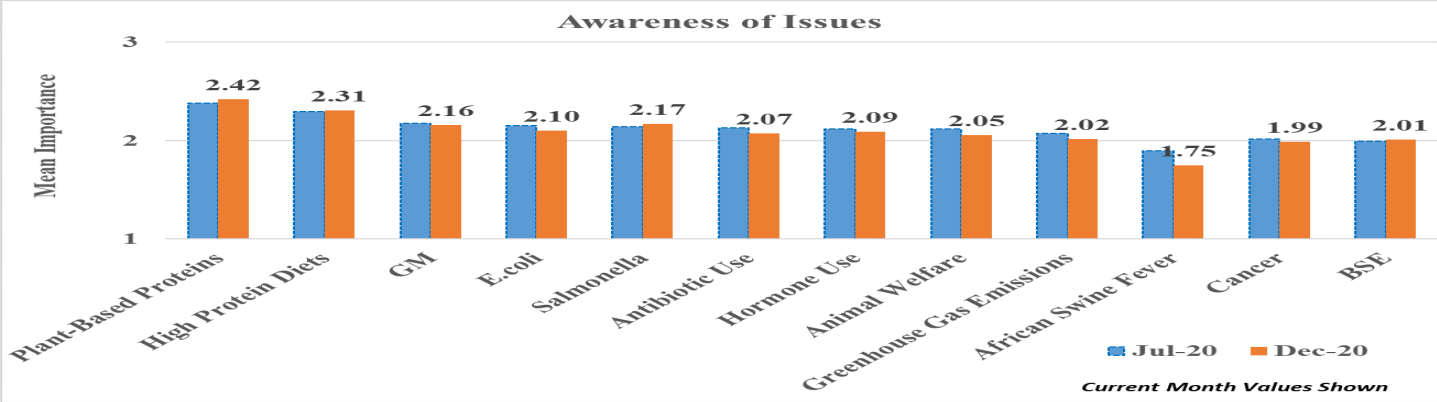


Issue Awareness Trends

A list of 16 topics is presented to respondents who indicate on a 5-point scale (1-Nothing, 2-A Little, 3-A Moderate Amount, 4-Quite a Bit, 5-A Great Deal) how much they have heard or read on each in the past two weeks. The following table reports mean scores for each month. Plant-based Proteins, High Protein Diets, Genetically Modified (GM) foods, E.coli in meat, and Salmonella in meat regularly are the topics most heard or read about.

Issue Awareness	Plant-Based Proteins	High Protein Diets	GM	E.coli	Salmonella	Antibiotic Use	Hormone Use	Animal Welfare	Greenhouse Gas Emissions	Cancer	BSE	Bird Flu	Cloned Animals	Battery Cages	Gestation Stalls	African Swine Fever
Jul-20	2.38	2.30	2.17	2.15	2.14	2.13	2.12	2.12	2.07	2.01	1.99	2.01	1.85	1.83	1.79	1.90
Aug-20	2.44	2.33	2.20	2.16	2.22	2.13	2.10	2.12	2.08	2.05	2.00	1.98	1.87	1.82	1.80	1.81
Sep-20	2.46	2.29	2.18	2.10	2.12	2.07	2.05	2.09	2.05	1.93	1.91	1.88	1.80	1.73	1.71	1.79
Oct-20	2.38	2.26	2.20	2.10	2.11	2.08	2.06	2.09	2.04	2.00	1.99	1.95	1.87	1.81	1.79	1.79
Nov-20	2.46	2.40	2.25	2.17	2.20	2.12	2.11	2.15	2.12	2.01	2.02	1.98	1.89	1.83	1.81	1.85
Dec-20	2.42	2.31	2.16	2.10	2.17	2.07	2.09	2.05	2.02	1.99	2.01	1.93	1.84	1.76	1.78	1.75

As shown in the following figure, comparing December with July 2020, most awareness scores have been steady or declined perhaps reflecting ongoing focus on COVID19.

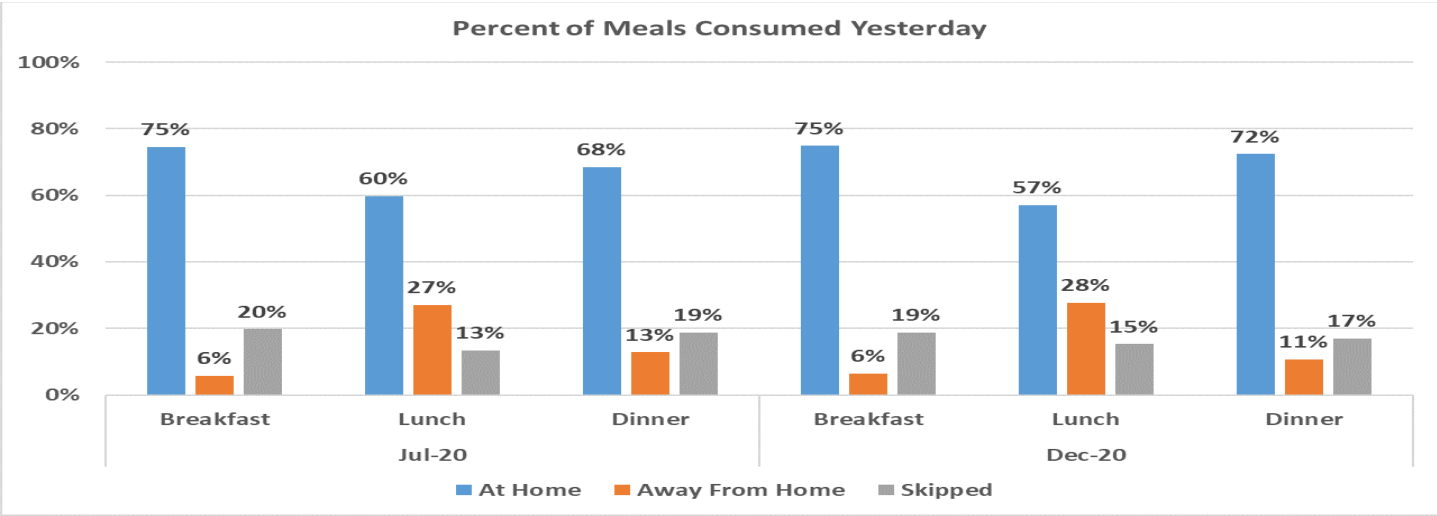


Prior Day Meal Location Trends

The prevalence of at home, away from home, and skipping each of yesterday's three main meals is captured for each respondent. The following table reports mean scores for each month. Overall, meal location held steady between July and December reflecting ongoing adjustments from the COVID19 pandemic.

Meal Location	Breakfast	Lunch	Dinner	Breakfast	Lunch	Dinner	Breakfast	Lunch	Dinner
		At Home			*Away From Home*			*Skipped*	
Jul-20	75%	60%	68%	6%	27%	13%	20%	13%	19%
Aug-20	74%	56%	71%	6%	28%	10%	20%	16%	19%
Sep-20	77%	58%	73%	5%	29%	11%	18%	13%	17%
Oct-20	73%	58%	71%	7%	27%	12%	20%	15%	17%
Nov-20	74%	56%	68%	6%	30%	11%	20%	14%	21%
Dec-20	75%	57%	72%	6%	28%	11%	19%	15%	17%

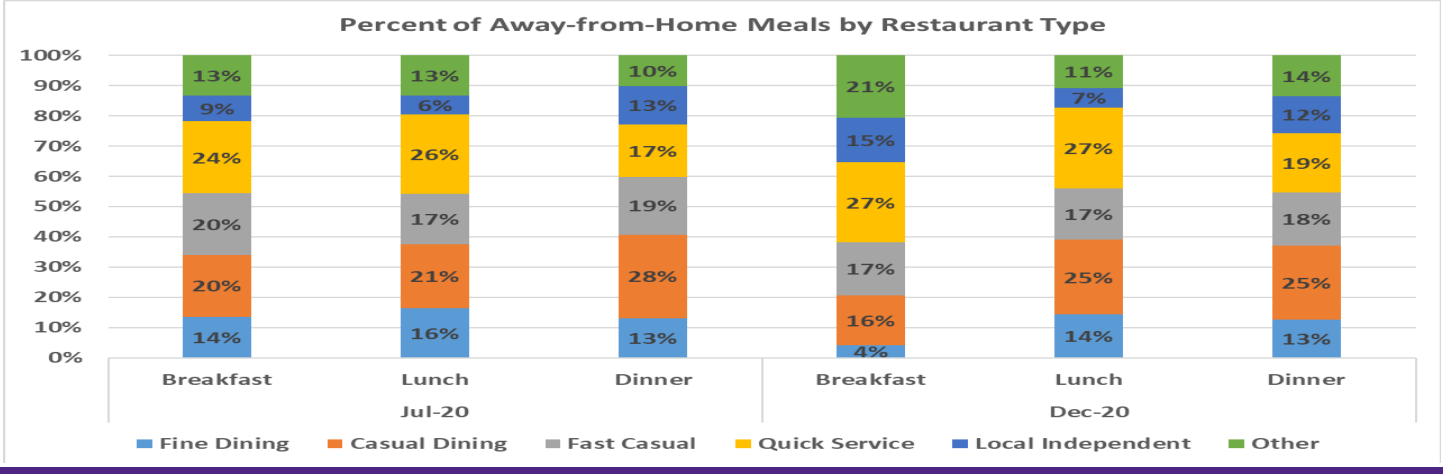
The following figure compares July and December values.



If respondents indicating consuming a meal away from home yesterday, they received a follow-up question to identify the type of restaurant from these six options: Fine Dining Restaurant (such as Ruth's Chris Steak House, The Capital Grille, Morton's Steakhouse, etc.), Casual Dining Restaurant (such as Applebee's, Olive Garden, Outback, etc.), Fast Casual Restaurant (such as Panera, Chipotle, Panda Express, etc.), Quick Service Restaurant (such as McDonald's, Subway, Chick-fil-A, etc.), Local Independent Restaurant (non-chain), and Other. The following table reports the share of visits for each restaurant type, by meal for each month.

Restaurant Type	Fine Dining	Casual Dining	Fast Casual	Quick Service	Local Independent	Other
			Breakfast			
Jul-20	14%	20%	20%	24%	9%	13%
Aug-20	7%	21%	19%	26%	11%	17%
Sep-20	13%	13%	11%	27%	11%	26%
Oct-20	20%	17%	6%	29%	8%	18%
Nov-20	8%	30%	16%	29%	3%	13%
Dec-20	4%	16%	17%	27%	15%	21%
			Lunch			
Jul-20	16%	21%	17%	26%	6%	13%
Aug-20	17%	20%	16%	26%	7%	13%
Sep-20	13%	24%	18%	25%	7%	14%
Oct-20	14%	19%	18%	27%	5%	17%
Nov-20	21%	24%	17%	20%	5%	13%
Dec-20	14%	25%	17%	27%	7%	11%
			Dinner			
Jul-20	13%	28%	19%	17%	13%	10%
Aug-20	14%	25%	11%	23%	15%	12%
Sep-20	15%	23%	14%	26%	9%	13%
Oct-20	15%	24%	19%	23%	9%	10%
Nov-20	15%	23%	18%	18%	14%	12%
Dec-20	13%	25%	18%	19%	12%	14%

To interpret properly and fully, note the December 2020 dinner meal estimate of 25% for Casual Dining Restaurant. Combined with the earlier estimate that 11% of dinner meals were consumed away-from-home implies that over all dinner meals in December, 2.8% (0.11*0.25) occurred at a Casual Dining Restaurant.



The figure above compares July and December values. This marks the increase in share by the Quick Service and decline in the Fine Dining group.

If respondents indicate consuming a meal at home yesterday, they received a follow-up question to identify the source where the protein was purchased.[7] The 11 options presented are: Grocery Store (such as Kroger, Safeway, etc.), Ordered Online & Picked Up from Local Grocery Store, Ordered Online from Local Grocery Store and Delivered to Your Home, Mass Merchandiser (such as Wal-Mart, Target, etc.), Club Store (such as Costco, Sam's Club, etc.), Order Online from Online Service (such as Amazon, Peapod, Fresh Direct, etc.), Farmer's Market, Butcher Shop or Meat Market, Natural Foods Store (such as Whole Foods, Sprouts, etc.), Meal Kits (such as Blue Apron, Hello Fresh, etc.) , and Other. The following table reports the share for each source, by meal for each month. The subsequent figure compares July and December values.

The Grocery Store group (considering in-store, online, and deliver modes collectively) remained the leading source of protein for at-home meals. The Mass Merchandiser group's share generally increased since July and the Club Store group declined fairly consistently since July. While widely discussed in the general media, the combined sourcing of protein from Farmer's Markets, Butcher Shops or Meat Markets, and Natural Foods Stores was 6% or less in each month.

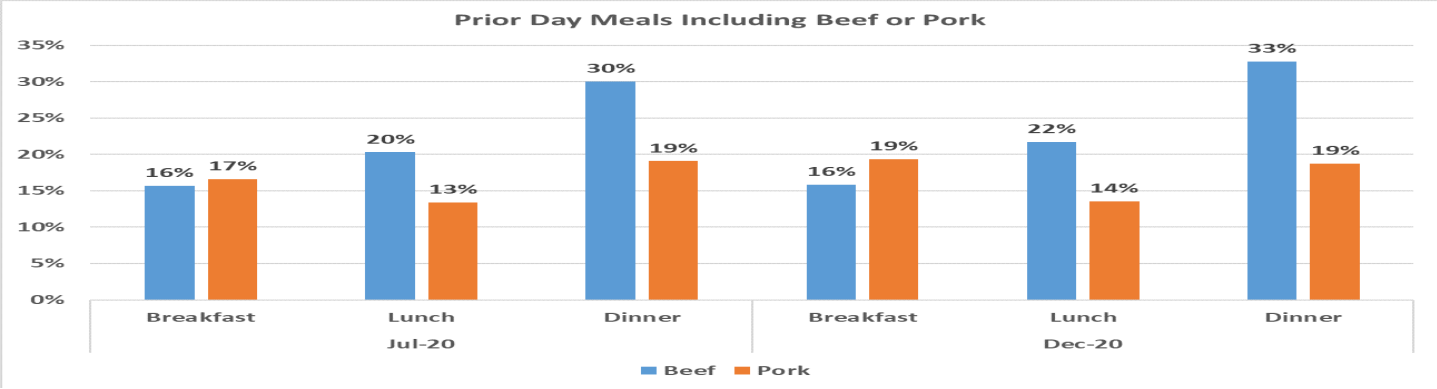
Protein Source, At-Home Meal	Grocery Store (such as Kroger, Safeway, etc.)	Ordered Online & Picked Up from Local Grocery Store	Ordered Online from Local Grocery Store and Delivered	Mass Merchandiser (such as Wal-Mart, Target, etc.)	Club Store (such as Costco, Sam's Club, etc.)	Order Online from Online Service (such as Amazon, Peapod, Fresh Direct, etc.)	Farmer's Market	Butcher Shop or Meat Market	Natural Foods Store (such as Whole Foods, Sprouts, etc.)	Meal Kits (such as Blue Apron, Hello Fresh, etc.)	Other
Breakfast											
Jul-20	51%	6%	7%	19%	10%	2%	1%	0%	2%	0%	2%
Aug-20	49%	7%	6%	22%	5%	4%	2%	1%	2%	1%	3%
Sep-20	50%	7%	4%	25%	5%	3%	1%	1%	2%	1%	2%
Oct-20	51%	5%	6%	21%	5%	2%	2%	1%	3%	0%	3%
Nov-20	51%	5%	5%	24%	5%	3%	1%	0%	3%	0%	2%
Dec-20	52%	7%	5%	20%	6%	3%	1%	1%	2%	0%	3%
Lunch											
Jul-20	55%	4%	3%	17%	9%	1%	1%	1%	2%	1%	6%
Aug-20	54%	4%	5%	19%	7%	2%	1%	1%	2%	0%	6%
Sep-20	57%	2%	4%	21%	5%	2%	1%	1%	1%	0%	4%
Oct-20	56%	6%	2%	18%	5%	2%	0%	1%	2%	0%	6%
Nov-20	50%	4%	3%	22%	7%	3%	1%	2%	2%	0%	6%
Dec-20	59%	4%	2%	17%	6%	2%	0%	1%	2%	0%	7%
Dinner											
Jul-20	58%	3%	4%	16%	8%	1%	0%	1%	2%	1%	6%
Aug-20	55%	4%	3%	16%	6%	2%	0%	2%	2%	0%	10%
Sep-20	59%	3%	3%	17%	6%	2%	1%	1%	2%	0%	6%
Oct-20	58%	2%	2%	18%	7%	1%	1%	2%	2%	1%	7%
Nov-20	53%	3%	2%	21%	6%	2%	0%	1%	2%	0%	9%
Dec-20	55%	4%	2%	19%	6%	1%	1%	1%	2%	0%	8%

Protein Consumption Frequency Trends

The rate beef and pork are included in prior day meals, separately for breakfast, lunch, and dinner, is captured for each respondent. The following table reports mean prevalence for each month. Both beef and pork remain steady as common center-of-plate items in each meal.

Beef & Pork Inclusion	Breakfast	Lunch	Dinner	Breakfast	Lunch	Dinner
		Beef			*Pork*	
Jul-20	16%	20%	30%	17%	13%	19%
Aug-20	18%	19%	31%	16%	11%	22%
Sep-20	15%	21%	33%	19%	12%	20%
Oct-20	17%	21%	32%	16%	12%	21%
Nov-20	18%	21%	30%	18%	12%	22%
Dec-20	16%	22%	33%	19%	14%	19%

The following figure compares July and December values.

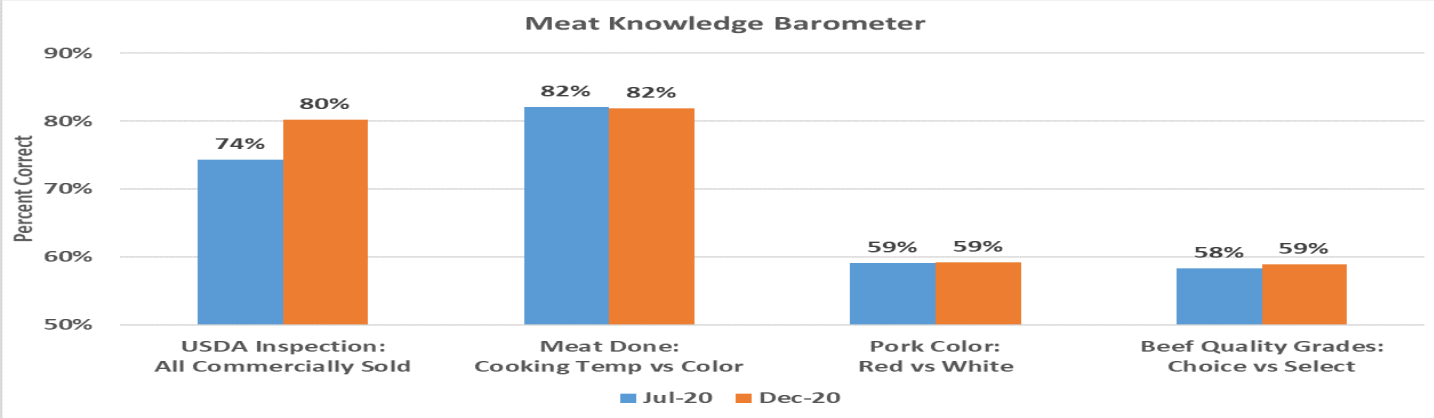


Meat Knowledge Trends

Four measures of meat knowledge are included in each month's survey. The following table reports mean prevalence of correct responses to these True/False questions. Knowlege of USDA Inspection has grown. No clear trend is apparent currently regarding assessing when meat is done, pork color, or beef quality grades.

Meat Knowledge	USDA Inspection: All Commercially Sold	Meat Done: Cooking Temp vs. Color	Pork Color: Red vs. White	Beef Quality Grades: Choice vs. Select
Jul-20	75%	82%	40%	41%
Aug-20	75%	80%	42%	39%
Sep-20	77%	84%	41%	41%
Oct-20	76%	83%	44%	38%
Nov-20	79%	82%	43%	38%
Dec-20	81%	82%	40%	40%

The following figure compares July and December values.

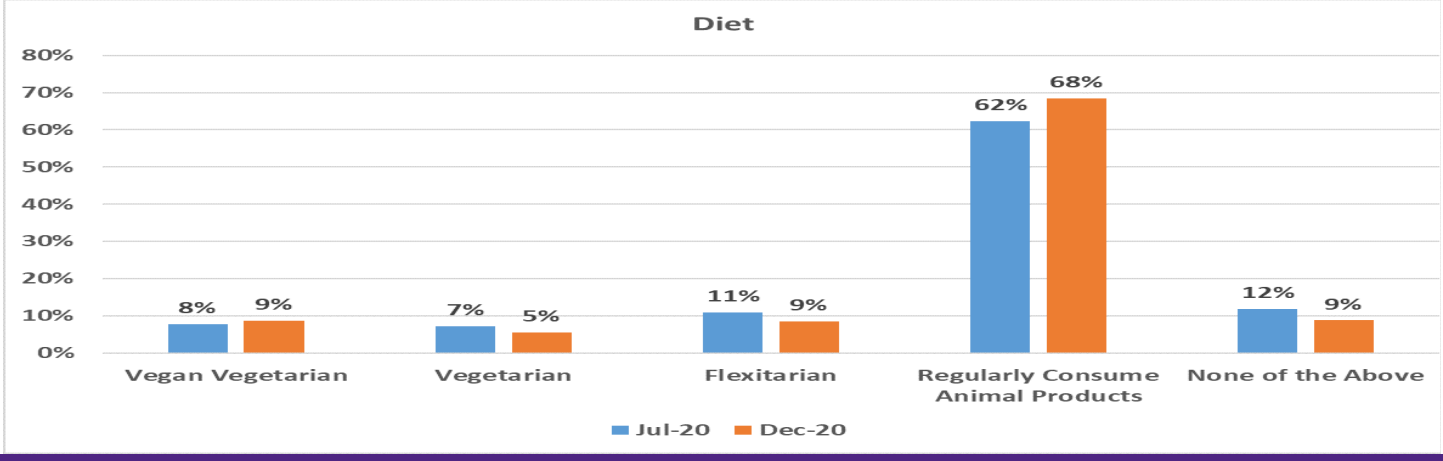


Personal Diet Trends

Each respondent answers a multiple-choice question allowing self-identification of personal diets. Presented options are Vegan Vegetarian (do not eat meat, fish, dairy, eggs, honey or any food derived from animals), Vegetarian (do not eat meat or fish, but do eat dairy and eggs), Flexitarian/Semi-Vegetarian (mostly follow a vegetarian diet, but occasionally eat meat or fish), Regularly consume meat, fish/seafood, or products derived from animals, and None of the above. The following table reports mean prevalence of each diet; each month more consumers indicated being regular meat consumers than in July.

Diet	*Vegan Vegetarian*	*Vegetarian*	*Flexitarian*	*Regularly Consume Animal Products*	*None of the Above*
Jul-20	8%	7%	11%	62%	12%
Aug-20	9%	6%	9%	65%	10%
Sep-20	6%	6%	9%	70%	9%
Oct-20	8%	5%	11%	67%	10%
Nov-20	9%	6%	10%	67%	8%
Dec-20	9%	5%	9%	68%	9%

The following figure compares July and December values.



Ad Hoc Questioning Insights

Each month, a unique set of ad hoc questions is included. Consistent with ongoing COVID19 developments, to-date these ad hoc questions have mainly focused on evolving pandemic-oriented issues. The specific wording of each ad hoc question is available in the full survey instruments posted online.

Below is a list by month of these questions with response frequencies included in parentheses.[8] Given the multitude of questions here, readers are encouraged to draw top-line conclusions from base frequencies that are reported.

At times, questions are intentionally repeated from prior months and in other instances questions are only asked in one month. In cases where different versions were randomly assigned, key words (e.g. food, beef, or pork) or values (e.g. 15% or 30%) varied over treatments to reveal differences in responses.

July

Have you, or someone in your family obtained the coronavirus?

Yes (11.37%)

No (88.63%)

Is your state of residence currently under a 'stay-at-home' order (in response to the coronavirus)?

Yes (37.48%)

No (57.58%)

I do not know (4.93%)

As a result of the coronavirus pandemic, did you or someone in your family experience a change in employment status (laid off, furloughed, reduced hours, fired, etc.)?

Yes (38.22%)

No (61.78%)

How would you describe the amount of meat your household currently has on-hand at home (e.g. in refrigerator or freezer)?

More meat on-hand than normal (21.43%)

Same amount as normal (65.29%)

Less meat on-hand than normal (13.28%)

Thinking of the last time you were buying food for at-home consumption, which of the following best describes the set of meat options available?

The volume and type of meat options available seemed normal and consistent with the past (66.52%)

The volume and type of meat options available did not seem normal and consistent with the past(33.48%)

Those selecting "did not seem normal" received a corresponding follow-up question: Please indicate which of the following would describe your observation (check all that apply):

- o Lower overall volume of beef available (22.49%)
- o Lower overall volume of pork available (14.90%)
- o Lower overall volume of chicken available (16.33%)
- o Different variety of beef cuts/products available (7.96%)
- o Different variety of pork cuts/products available (2.49%)
- o Different variety of chicken cuts/products available (3.15%)
- o Other (2.03%)

To assess possible changes in consumer behavior due to the pandemic respondents were randomly allocated to receive one of three multiple choice questions:

Please indicate which of the following changes you have made due to the coronavirus pandemic (please check all that apply):

Increased purchase of food products that have been handled less (e.g. purchasing contact-free, touch-less, etc. products) (7.54%)

Increased volume of food on-hand (e.g. increased home pantry, refrigerator, or freezer supplies) (12.37%)

Increased purchase of food products that are locally-sourced (5.50%)

Increased purchase of larger food packages that were handled less before my purchase, yet require more at-home preparation before use (7.60%)

Purchase food items or packages I normally would not buy (9.77%)

Increased cleaning and sanitation of purchased food products and packages (11.42%)

Please indicate which of the following changes you have made due to the coronavirus pandemic (please check all that apply):

Increased purchase of beef products that have been handled less (e.g. purchasing contact-free, touch-less, etc. products) (4.96%)

Increased volume of beef on-hand (e.g. increased home pantry, refrigerator, or freezer supplies) (7.85%)

Increased purchase of beef products that are locally-sourced (5.00%)

Increased purchase of larger beef packages that were handled less before my purchase, yet require more at-home preparation before use (5.50%)

Purchase beef items or packages I normally would not buy (8.13%)

Increased cleaning and sanitation of purchased beef products and packages (9.05%)

Please indicate which of the following changes you have made due to the coronavirus pandemic (please check all that apply):

Increased purchase of pork products that have been handled less (e.g. purchasing contact-free, touch-less, etc. products) (4.80%)

Increased volume of pork on-hand (e.g. increased home pantry, refrigerator, or freezer supplies) (6.54%)

Increased purchase of pork products that are locally-sourced (4.94%)

Increased purchase of larger pork packages that were handled less before my purchase, yet require more at-home preparation before use (4.75%)

Purchase pork items or packages I normally would not buy (8.45%)

Increased cleaning and sanitation of purchased pork products and packages (7.92%)

To assess possible impact of larger retail items being offered to consumers given production disruptions respondents were randomly allocated to receive one of four multiple choice questions:

Suppose tomorrow you are shopping for your favorite beef product to be consumed at-home. This beef product is available in two different package formats and prices. For instance, either individual steak cuts OR a larger product from which you cut individual steaks could be purchased. What beef package would you select?

Product is packaged as individual-serving size, involves minimal at-home pre-cooking effort, and sells for full retail price. (50.86%)

Product is packaged containing multiple servings, requires additional at-home pre-cooking effort, and sells for 15% less than full retail price. (49.14%)

Suppose tomorrow you are shopping for your favorite beef product to be consumed at-home. This beef product is available in two different package formats and prices. For instance, either individual steak cuts OR a larger product from which you cut individual steaks could be purchased. What beef package would you select?

Product is packaged as individual-serving size, involves minimal at-home pre-cooking effort, and sells for full retail price. (48.48%)

Product is packaged containing multiple servings, requires additional at-home pre-cooking effort, and sells for 30% less than full retail price. (51.52%)

Suppose tomorrow you are shopping for your favorite pork product to be consumed at-home. This pork product is available in two different package formats and prices. For instance, either individual pork chops OR a larger product from which you cut individual pork chops could be purchased. What pork package would you select?

Product is packaged as individual-serving size, involves minimal at-home pre-cooking effort, and sells for full retail price. (53.63%)

Product is packaged containing multiple servings, requires additional at-home pre-cooking effort, and sells for 15% less than full retail price. (46.37%)

Suppose tomorrow you are shopping for your favorite pork product to be consumed at-home. This pork product is available in two different package formats and prices. For instance, either individual pork chops OR a larger product from which you cut individual pork chops could be purchased. What pork package would you select?

Product is packaged as individual-serving size, involves minimal at-home pre-cooking effort, and sells for full retail price. (46.73%)

Product is packaged containing multiple servings, requires additional at-home pre-cooking effort, and sells for 30% less than full retail price. (53.27%)

August

Have you, or someone in your family obtained the coronavirus?

Yes (13.65%)

No (86.35%)

Is your state of residence currently under a 'stay-at-home' order (in response to the coronavirus)?

Yes (38.49%)

No (56.26%)

I do not know (5.25%)

As a result of the coronavirus pandemic, did you or someone in your family experience a change in employment status (laid off, furloughed, reduced hours, fired, etc.)?

Yes (38.35%)

No (61.65%)

How would you describe the amount of meat your household currently has on-hand at home (e.g. in refrigerator or freezer)?

More meat on-hand than normal (22.48%)

Same amount as normal (66.44%)

Less meat on-hand than normal (11.09%)

Thinking of the last time you were buying food for at-home consumption, which of the following best describes the set of meat options available?

The volume and type of meat options available seemed normal and consistent with the past (66.80%)

The volume and type of meat options available did not seem normal and consistent with the past(33.20%)

Those selecting "did not seem normal" received a corresponding follow-up question: Please indicate which of the following would describe your observation (check all that apply):

- o Lower overall volume of beef available (19.59%)
- o Lower overall volume of pork available (13.04%)
- o Lower overall volume of chicken available (13.92%)
- o Different variety of beef cuts/products available (9.44%)
- o Different variety of pork cuts/products available (2.75%)
- o Different variety of chicken cuts/products available (3.80%)
- o Other (3.04%)

The Coronavirus Aid, Relief, and Economic Security (CARES) Act was passed by Congress and signed into law by President Trump. How large was the cash payment your household received?

- o $0 / No cash payment was received (15.37%)
- o $1 - $500 (5.72%)
- o $501 - $1,000 (7.55%)
- o $1,001 - $1,500 (33.97%)
- o $1,501 - $2,000 (4.41%)
- o $2,001 - $2,500 (19.02%)
- o $2,501 - $3,000 (3.08%)
- o $3,001 - $3,500 (2.03%)
- o $3,501 - $4,000 (2.50%)
- o $4,001 - $4,500 (1.36%)
- o $4,501 - $5,000 (11.43%)
- o $5,001 - $5,500 (0.63%)
- o $5,501 - $6,000 (0.75%)
- o Over $6,000 (2.17%)

You indicated receiving a CARES Act payment. What month did you receive those funds?

- o January (2.82%)
- o February (2.42%)
- o March (8.71%)
- o April (32.17%)
- o May (28.41%)
- o June (16.39%)
- o July (4.26%)
- o August (1.23%)
- o Not yet; I am expecting funds but have not received them at this time (3.60%)

Those selecting they received a CARES Act payment were randomly allocated to receive one of two questions:

You indicated receiving a CARES Act payment. What best describes the impact of receiving this payment?

- o I spent more on food than I would have without the CARES Act payment (29.37%)
- o The amount I spent on food was not impacted by my receiving the CARES Act payment (62.83%)
- o I spent less on food than I would have without the CARES Act payment (7.80%)

You indicated receiving a CARES Act payment. What best describes the impact of receiving this payment?

- o I spent more on meat than I would have without the CARES Act payment (23.21%)
- o The amount I spent on meat was not impacted by my receiving the CARES Act payment (69.07%)
- o I spent less on meat than I would have without the CARES Act payment (7.72%)

Those selecting they did not receive a CARES Act payment received this follow-up question:
You indicated not receiving a CARES Act payment. What best describes your situation?

- o I still expect to receive a CARES Act payment (20.93%)
- o I do not expect to receive a CARES Act payment (79.07%)

September

Have you, or someone in your family obtained the coronavirus?

Yes (10.97%)
No (89.03%)

Is your state of residence currently under a 'stay-at-home' order (in response to the coronavirus)?

Yes (29.68%)
No (65.69%)
I do not know (4.63%)

As a result of the coronavirus pandemic, did you or someone in your family experience a change in employment status (laid off, furloughed, reduced hours, fired, etc.)?

Yes (29.39%)

No (70.61%)

How would you describe the amount of meat your household currently has on-hand at home (e.g. in refrigerator or freezer)?

More meat on-hand than normal (19.58%)

Same amount as normal (69.36%)

Less meat on-hand than normal (11.06%)

Thinking of the last time you were buying food for at-home consumption, which of the following best describes the set of meat options available?

The volume and type of meat options available seemed normal and consistent with the past (72.31%)

The volume and type of meat options available did not seem normal and consistent with the past(27.69%)

Those selecting "did not seem normal" received a corresponding follow-up question: Please indicate which of the following would describe your observation (check all that apply):

- Lower overall volume of beef available (18.52%)
- Lower overall volume of pork available (11.64%)
- Lower overall volume of chicken available (12.50%)
- Different variety of beef cuts/products available (6.83%)
- Different variety of pork cuts/products available (2.13%)
- Different variety of chicken cuts/products available (2.67%)
- Other (1.99%)

There is significant interest around the development of an available coronavirus vaccine. What best describes your expectations regarding when a vaccine will be available to you?

- September 2020 (3.27%)
- October 2020 (3.25%)
- November 2020 (7.71%)
- December 2020 (11.22%)
- January 2021 (18.02%)
- February 2021 (10.07%)
- March 2021 (10.33%)
- April 2021 (7.13%)

- o May 2021 (4.36%)
- o June 2021 (4.66%)
- o July-December 2021 (9.48%)
- o 2022 or Later (3.52%)
- o Never, I do not believe a vaccine will be developed and available to me (6.98%)

If you had a vaccine available, what best describes the changes you would likely make regarding meals, dining-in at restaurants (eating on-site)?

- o immediately have more dine-in meals at restaurants (18.16%)
- o slowly begin to have some more dine-in meals at restaurants (49.10%)
- o would not change the number of dine-in meals at restaurants (32.74%)

October

Have you, or someone in your family obtained the coronavirus?

Yes (11.16%)
No (88.84%)

As a result of the coronavirus pandemic, did you or someone in your family experience a change in employment status (laid off, furloughed, reduced hours, fired, etc.)?

Yes (29.87%)
No (70.13%)

How would you describe the amount of meat your household currently has on-hand at home (e.g. in refrigerator or freezer)?

More meat on-hand than normal (18.12%)
Same amount as normal (70.45%)
Less meat on-hand than normal (11.43%)

Thinking of the last time you were buying food for at-home consumption, which of the following best describes the set of meat options available?

The volume and type of meat options available seemed normal and consistent with the past (71.20%)
The volume and type of meat options available did not seem normal and consistent with the past(28.80%)

Those selecting "did not seem normal" received a corresponding follow-up question: Please indicate which of the following would describe your observation (check all that apply):

- o Lower overall volume of beef available (15.76%)
- o Lower overall volume of pork available (10.74%)
- o Lower overall volume of chicken available (12.98%)
- o Different variety of beef cuts/products available (8.58%)
- o Different variety of pork cuts/products available (2.79%)
- o Different variety of chicken cuts/products available (2.55%)
- o Other (2.06%)

There is significant interest around the development of an available coronavirus vaccine. What best describes your expectations regarding when a vaccine will be available to you?

- o September 2020 (3.00%)
- o October 2020 (3.35%)
- o November 2020 (4.41%)
- o December 2020 (8.73%)
- o January 2021 (14.23%)
- o February 2021 (8.60%)
- o March 2021 (11.54%)
- o April 2021 (7.98%)
- o May 2021 (5.46%)
- o June 2021 (7.15%)
- o July-December 2021 (10.85%)
- o 2022 or Later (5.84%)
- o Never, I do not believe a vaccine will be developed and available to me (8.86%)

If you had a vaccine available, what best describes the changes you would likely make regarding meals, dining-in at restaurants (eating on-site)?

- o immediately have more dine-in meals at restaurants (18.91%)
- o slowly begin to have some more dine-in meals at restaurants (45.05%)
- o would not change the number of dine-in meals at restaurants (36.04%)

November

Have you, or someone in your family obtained the coronavirus?

Yes (15.41%)

No (84.59%)

As a result of the coronavirus pandemic, did you or someone in your family experience a change in employment status (laid off, furloughed, reduced hours, fired, etc.)?

Yes (30.56%)

No (69.44%)

How would you describe the amount of meat your household currently has on-hand at home (e.g. in refrigerator or freezer)?

More meat on-hand than normal (23.30%)

Same amount as normal (65.42%)

Less meat on-hand than normal (11.28%)

Thinking of the last time you were buying food for at-home consumption, which of the following best describes the set of meat options available?

The volume and type of meat options available seemed normal and consistent with the past (74.54%)

The volume and type of meat options available did not seem normal and consistent with the past(25.46%)

Those selecting "did not seem normal" received a corresponding follow-up question: Please indicate which of the following would describe your observation (check all that apply):

- Lower overall volume of beef available (15.32%)
- Lower overall volume of pork available (9.40%)
- Lower overall volume of chicken available (10.11%)
- Different variety of beef cuts/products available (6.45%)
- Different variety of pork cuts/products available (2.48%)
- Different variety of chicken cuts/products available (3.13%)
- Other (1.35%)

There is significant interest around the development of an available coronavirus vaccine. What best describes your expectations regarding when a vaccine will be available to you?

- o September 2020 (3.17%)
- o October 2020 (2.47%)
- o November 2020 (4.26%)
- o December 2020 (9.29%)
- o January 2021 (15.22%)
- o February 2021 (9.26%)
- o March 2021 (12.56%)
- o April 2021 (11.23%)
- o May 2021 (5.92%)
- o June 2021 (5.41%)
- o July-December 2021 (9.97%)
- o 2022 or Later (4.44%)
- o Never, I do not believe a vaccine will be developed and available to me (6.80%)

If you had a vaccine available, what best describes the changes you would likely make regarding meals, dining-in at restaurants (eating on-site)?

- o immediately have more dine-in meals at restaurants (20.03%)
- o slowly begin to have some more dine-in meals at restaurants (43.75%)
- o would not change the number of dine-in meals at restaurants (36.22%)

Thinking about the multiple holidays during the November to January period, what best describes your current plans?

- o I expect to spend more time than normal with family and friends (18.31%)
- o I expect to spend about the same time as normal with family and friends (44.91%)
- o I expect to spend less time than normal with family and friends (36.78%)

What best describes the amount you expect to spend on meat for holiday celebrations during the November to January period?

- o I expect to spend more money than normal (22.18%)
- o I expect to spend about the same amount of money as normal (54.75%)
- o I expect to spend less money than normal (23.07%)

December

Have you, or someone in your family obtained the coronavirus?

Yes (18.47%)

No (81.53%)

As a result of the coronavirus pandemic, did you or someone in your family experience a change in employment status (laid off, furloughed, reduced hours, fired, etc.)?

Yes (32.93%)

No (67.07%)

How would you describe the amount of meat your household currently has on-hand at home (e.g. in refrigerator or freezer)?

More meat on-hand than normal (20.10%)

Same amount as normal (65.88%)

Less meat on-hand than normal (14.02%)

Thinking of the last time you were buying food for at-home consumption, which of the following best describes the set of meat options available?

The volume and type of meat options available seemed normal and consistent with the past (72.74%)

The volume and type of meat options available did not seem normal and consistent with the past(27.26%)

Those selecting "did not seem normal" received a corresponding follow-up question: Please indicate which of the following would describe your observation (check all that apply):

- Lower overall volume of beef available (16.04%)
- Lower overall volume of pork available (10.89%)
- Lower overall volume of chicken available (11.50%)
- Different variety of beef cuts/products available (5.48%)
- Different variety of pork cuts/products available (2.21%)
- Different variety of chicken cuts/products available (2.09%)
- Other (2.22%)

There is significant interest around the development of an available coronavirus vaccine. What best describes your expectations regarding when a vaccine will be available to you?

- o September 2020 (4.03%)
- o October 2020 (3.67%)
- o November 2020 (2.13%)
- o December 2020 (8.42%)
- o January 2021 (15.49%)
- o February 2021 (12.06%)
- o March 2021 (14.38%)
- o April 2021 (10.39%)
- o May 2021 (7.04%)
- o June 2021 (8.36%)
- o July-December 2021 (7.27%)
- o 2022 or Later (2.17%)
- o Never, I do not believe a vaccine will be developed and available to me (4.60%)

If you had a vaccine available, what best describes the changes you would likely make regarding meals, dining-in at restaurants (eating on-site)?

- o immediately have more dine-in meals at restaurants (19.95%)
- o slowly begin to have some more dine-in meals at restaurants (42.66%)
- o would not change the number of dine-in meals at restaurants (37.39%)

Thinking about the multiple holidays during the November to January period, what best describes your current plans?

- o I expect to spend more time than normal with family and friends (17.59%)
- o I expect to spend about the same time as normal with family and friends (39.93%)
- o I expect to spend less time than normal with family and friends (42.48%)

What best describes the amount you expect to spend on meat for holiday celebrations during the November to January period?

- o I expect to spend more money than normal (18.16%)
- o I expect to spend about the same amount of money as normal (57.46%)
- o I expect to spend less money than normal (24.39%)

Endnotes

1) MDM project details including survey instruments and individual monthly reports are available here: https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data

2) Meat demand determinants modeling results are summarized here to immediately follow from the previously presented information on choice experiment based mean willingness-to-pay and respondent selection frequency. Regression results should be interpreted relative to omitted, base case characteristics. For instance, the impact of age is interpreted relative to the base group which is respondents over 55 years of age. Protein values (PV) are effects coded (+1 if selected to be in the most important group, -1 if in the least important group, and 0 if not selected implying moderate importance) with Price being omitted.

3) The 12 Protein Values examined each month are summarized in the next section of this report.

4) The impact of Price importance is implied by the negative sum of parameter estimates on the other 11 Protein Values.

5) Note also that in a December 2019 pre-launch, trial run of the Meat Demand Monitor base survey instrument, one-half or respondents were asked to reveal "protein" values as shown here and the other one-half were presented "meat" values. The cardinal and ordinal conclusions were the same, supporting use of "protein" as utilized since full project launch in February 2020.

6) Additional details on the now concluded FooDS project are available here: http://www.agecon.okstate.edu/agecon_research.asp

7) This follow-up is omitted for respondents indicating "Other or No Protein" was consumed.

8) Note presented frequencies reflect respondent weights derived over the entire study period of February-June. Accordingly, small differences may appear from values reported in individual, base month reports where respondent weights for a given month are used.

Additional MDM Project details including survey questions, past report releases, and a description of methods are available online at: https://www.agmanager.info/livestock-meat/meat-demand/monthly-meat-demand-monitor-survey-data

The MDM Project is funded in-part by the beef checkoff and the pork checkoff.

Funded in part by the Beef Checkoff.

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2)We thank Elevation Economics, LLC for valuable assistance in generating this report.

3) This full report is available here: https://www.beefboard.org/wp-content/uploads/2019/06/Assessing-Beef-Demand-Determinants_FullReport.pdf

4) Meat demand determinants modeling results are summarized here to immediately follow from the previously presented information on choice experiment based mean willingness-to-pay and respondent selection frequency. Regression results should be interpreted relative to omitted, base case characteristics. For instance, the impact of age is interpreted relative to the base group which is respondents over 55 years of age. Protein values (PV) are effects coded (as+1 if selected to be in the most important group, -1 if in the least important group, and 0 if not selected implying moderate importance) with Price being omitted.

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9) This follow-up is omitted for respondents indicating "Other or No Protein" was consumed.

10) Here separate probit models are used to quantify the effects of included independent variables on the probability of a respondent selecting a given diet. A deeper assessment could quantify marginal effects; here a focused story on directional impacts of statistically significant factors (using 0.05 significance level) is provided; the larger the coefficient the higher the chance the individual with the given characteristic falls into the category in question.

11) Note presented frequencies reflect respondent weights derived over the entire study period of February-June. Accordingly, small differences may appear from values reported in individual, base month reports where respondent weights for a given month are used.

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