



### About the Survey

FooDS tracks consumer preferences and sentiments on the safety, quality, and price of food at home and away from home with particular focus on meat demand. FooDS is a monthly on-line survey with a sample size of at least 1,000 individuals, weighted to match the US population in terms of age, gender, education and region of residence. See the [online technical document](#) for more details.

### OVERALL COMMENTS

The Food Demand Survey (FooDS) started in May 2013 and has been delivered every month for five years. The following information is a summary from the past year (May 2017 to May 2018). The previous years' summaries can be found on the [FooDS web page](#).

### MEAT DEMAND

Table 1: Willingness-to-Pay

Willingness-to-Pay	Steak	Chicken Breast	Hamburger	Pork Chop	Deli Ham	Chicken Wing	Beans and Rice	Pasta
May-16	\$7.12	\$5.16	\$4.31	\$3.79	\$2.13	\$2.18	\$2.00	\$2.93
Jun-16	\$6.18	\$4.80	\$3.84	\$3.30	\$1.84	\$1.91	\$1.95	\$2.06
Jul-16	\$9.05	\$5.31	\$4.52	\$3.93	\$2.45	\$2.43	\$2.17	\$3.22
Aug-16	\$7.91	\$5.28	\$4.53	\$4.02	\$2.41	\$2.78	\$2.14	\$2.52
Sep-16	\$7.91	\$5.43	\$4.51	\$3.90	\$2.47	\$2.38	\$2.49	\$2.94
Oct-16	\$7.80	\$5.79	\$4.74	\$4.15	\$2.29	\$2.57	\$2.37	\$3.34
Nov-16	\$6.77	\$5.07	\$4.21	\$3.81	\$2.10	\$2.07	\$1.49	\$2.18
Dec-16	\$6.59	\$4.93	\$4.22	\$3.50	\$2.06	\$2.01	\$1.62	\$2.89
Jan-17	\$7.55	\$5.32	\$4.55	\$3.79	\$2.48	\$2.56	\$2.59	\$3.54
Feb-17	\$7.02	\$5.23	\$4.30	\$3.72	\$2.36	\$2.26	\$2.03	\$2.93
Mar-17	\$6.89	\$5.45	\$4.62	\$3.57	\$1.75	\$2.34	\$2.10	\$3.11
Apr-17	\$6.21	\$5.03	\$4.26	\$3.27	\$2.04	\$2.04	\$2.18	\$2.81
May-17	\$6.77	\$5.09	\$4.16	\$3.35	\$1.89	\$1.77	\$1.49	\$1.85
Jun-17	\$6.16	\$4.54	\$4.06	\$3.09	\$2.02	\$1.76	\$1.55	\$2.46
Jul-17	\$6.90	\$4.71	\$4.21	\$3.15	\$2.22	\$1.88	\$1.66	\$2.72
Aug-17	\$6.46	\$4.95	\$4.03	\$3.50	\$1.83	\$1.93	\$1.71	\$2.78
Sep-17	\$6.66	\$5.05	\$4.40	\$3.32	\$2.17	\$1.89	\$1.72	\$2.65
Oct-17	\$6.43	\$4.55	\$4.10	\$3.33	\$2.06	\$1.97	\$1.77	\$2.84
Nov-17	\$5.71	\$4.35	\$3.83	\$2.92	\$1.57	\$1.68	\$1.37	\$1.57
Dec-17	\$6.65	\$4.77	\$4.38	\$3.38	\$1.79	\$2.05	\$1.80	\$3.03
Jan-18	\$6.63	\$4.69	\$4.06	\$3.37	\$2.04	\$2.10	\$1.91	\$2.74
Feb-18	\$6.54	\$5.20	\$4.18	\$3.14	\$1.80	\$2.08	\$1.96	\$2.63
Mar-18	\$7.78	\$5.06	\$4.34	\$3.38	\$2.15	\$2.26	\$2.24	\$2.70
Apr-18	\$6.84	\$5.47	\$4.24	\$3.83	\$2.31	\$2.76	\$2.51	\$3.09
May-18	\$7.20	\$4.94	\$4.29	\$3.40	\$2.16	\$1.93	\$2.29	\$2.85

Willingness-to-pay (WTP) for two beef, chicken and pork products, in addition to two non-meat items, was calculated each month since the beginning of FoodS. WTP for each food item over the course of the past two years is shown in the first table. WTP for each product in each month is reported as an index value set relative to May 2013 in Figure 1. For example, the WTP index for chicken breasts in April 2018 was 101.05, meaning WTP in April 2018 was  $(101.05 - 100 = 1.05)$  1.05% higher than in May 2013. Figures 2-4 reveal that WTPs for beef, pork, and chicken have generally been similar this year compared to last and were highest during year two of the FoodS survey.

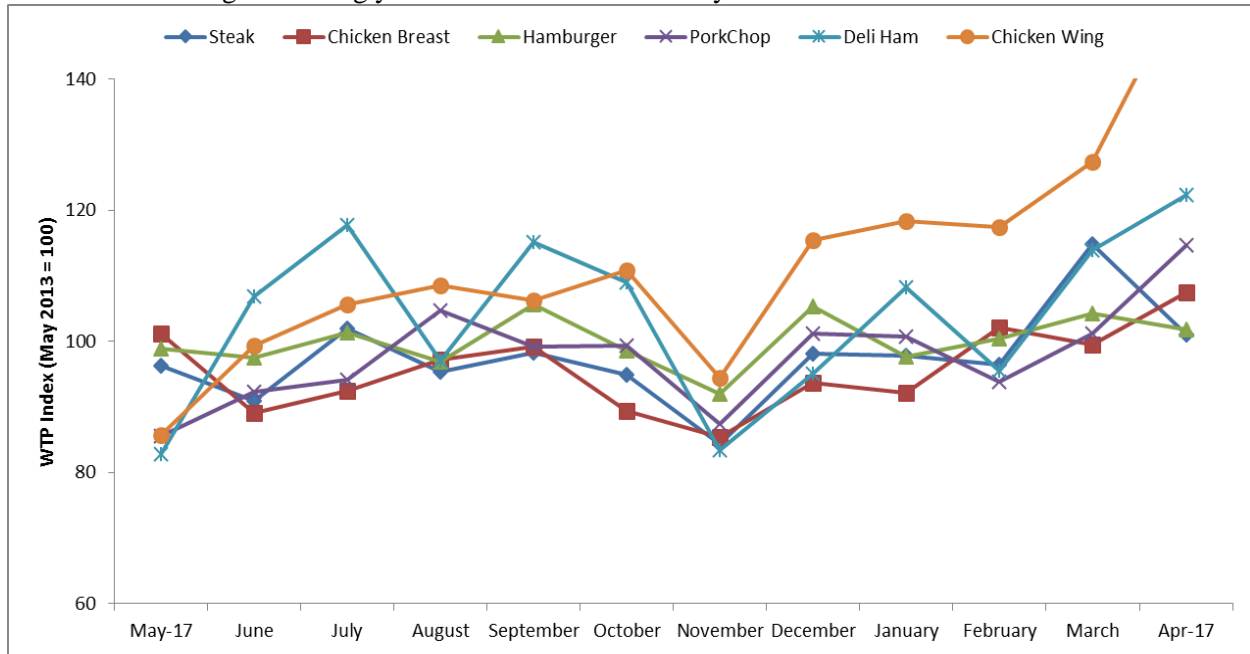


Figure 1: Demand indices for six meat products (May 2013 = 100)

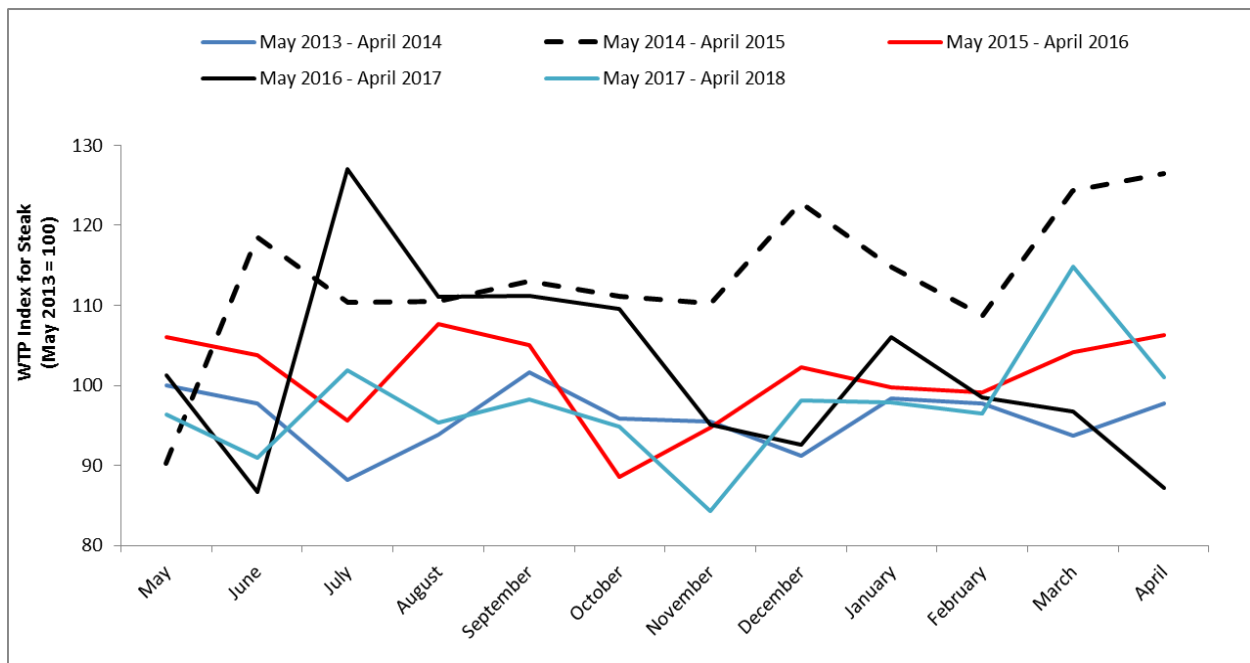


Figure 2: Demand indices for steak over the past five years (May 2013 = 100)

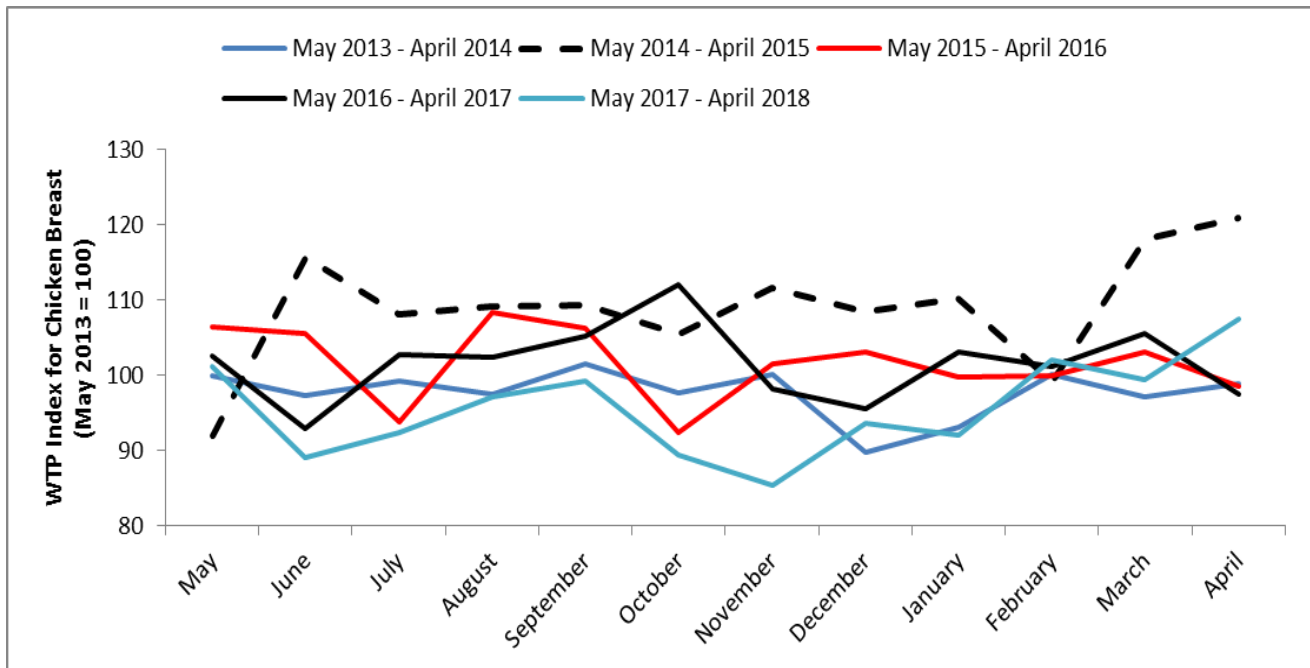


Figure 3: Demand indices for chicken breast over the past five years (May 2013 = 100)

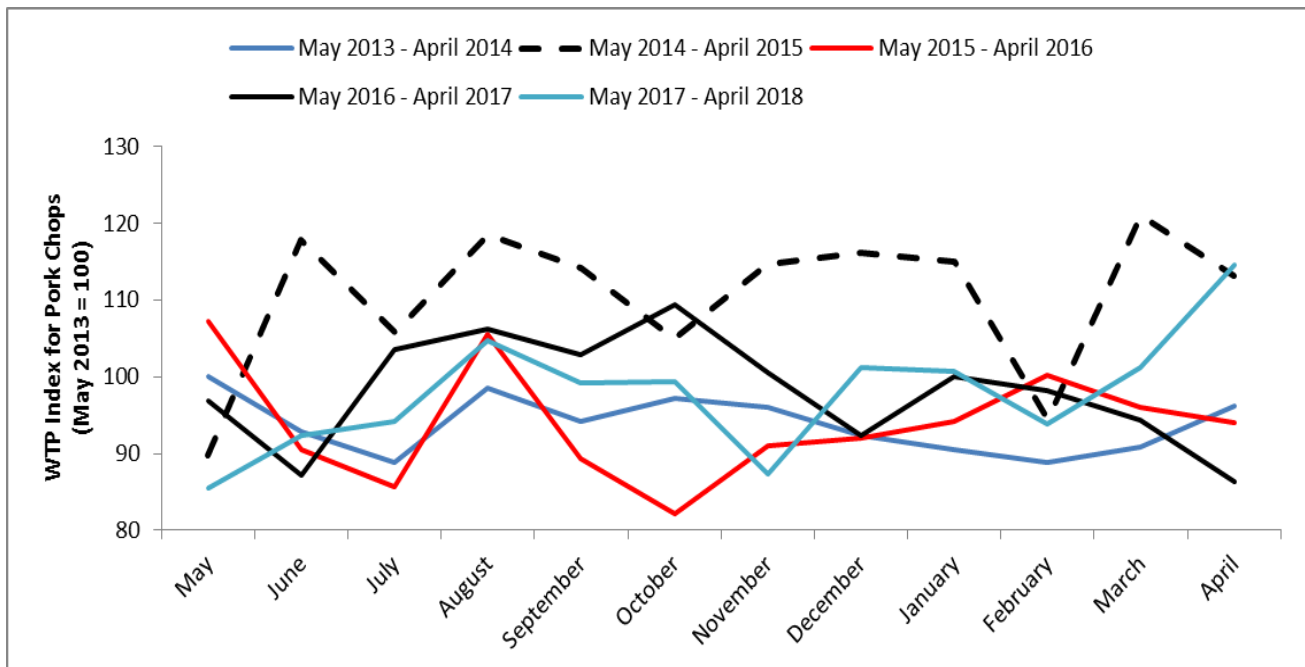


Figure 4: Demand indices for pork chops over the past five years (May 2013 = 100)

**FOOD EXPENDITURES**

Over the past year, expenditures for food eaten at home reached a low of \$91.12/week in Novemebr 2017 and a high of \$98.06/week in May 2018. Consumers reported spending the least on food away from home in November 2017 at \$48.03/week and the highest in May 2018 at \$58.29/week. Consumers continually reported planning to spend less money away from home throughout the course of the survey, although, as table 2 shows, they frequently do not follow through with those plans.

Table 2: Current and predicted food expenditures for at home and away from home food consumption.

	Current weekly at home	Current weekly away from home	Anticipated change in at home in next 2 weeks	Anticipated change away from home in next 2 weeks
May-17	\$95.65	\$49.85	-0.33%	-1.10%
Jun-17	\$96.88	\$51.60	-0.48%	-1.24%
Jul-17	\$94.04	\$49.74	-0.28%	-1.03%
Aug-17	\$94.30	\$50.36	-0.37%	-1.21%
Sep-17	\$92.56	\$50.15	-0.40%	-1.34%
Oct-17	\$92.42	\$51.01	-0.21%	-1.14%
Nov-17	\$91.12	\$48.03	0.61%	-1.40%
Dec-17	\$91.46	\$48.08	0.60%	-0.98%
Jan-18	\$93.95	\$50.00	-0.41%	-1.40%
Feb-18	\$94.12	\$50.85	-0.26%	-0.81%
Mar-18	\$94.13	\$53.47	-0.33%	-1.02%
Apr-18	\$95.13	\$54.65	-0.25%	-1.66%
May-18	\$98.06	\$58.29	-0.12%	-0.41%

Consumers expected to see higher meat prices each month, especially for beef, although the extent of these expectations varied across months. Over the past year, expected meat prices reached a high for beef, chicken, and pork in May 2018. Generally, expectations of price increases have been lower this year than last. Consumers reported that they planned to buy more chicken and beef, but less pork in most months.

Table 3: Future Consumer Expenditures. Values reported are the differences in percent of consumers agreeing and disagreeing (%) with each statement.

	I plan to buy more chicken	I plan to buy more beef	I plan to buy more pork	I plan to eat out more	I expect higher beef prices	I expect higher chicken prices	I expect higher pork prices
May-17	29.15	-1.85	-9.33	-35.51	17.88	5.52	7.00
Jun-17	31.52	-4.96	-15.31	-39.37	18.34	4.10	5.73
Jul-17	28.56	-0.51	-16.05	-34.19	13.64	-1.82	1.08
Aug-17	26.06	-2.29	-12.45	-35.56	14.08	0.33	4.95
Sep-17	33.52	0.65	-8.76	-38.14	24.20	11.71	10.70
Oct-17	33.14	0.68	-11.96	-33.18	21.69	9.26	9.68
Nov-17	26.66	-8.95	-18.52	-40.76	19.55	9.54	5.24
Dec-17	26.51	-2.19	-9.64	-27.42	22.08	8.66	8.58
Jan-18	32.36	-5.87	-11.79	-43.08	16.36	5.16	5.05
Feb-18	35.83	0.00	-6.08	-29.78	19.83	7.26	8.38
Mar-18	34.45	1.69	-8.52	-33.28	19.22	6.92	6.38
Apr-18	37.48	4.66	-3.72	-29.25	26.18	5.84	11.44
May-18	27.94	3.69	-4.51	-15.07	29.27	16.38	14.95

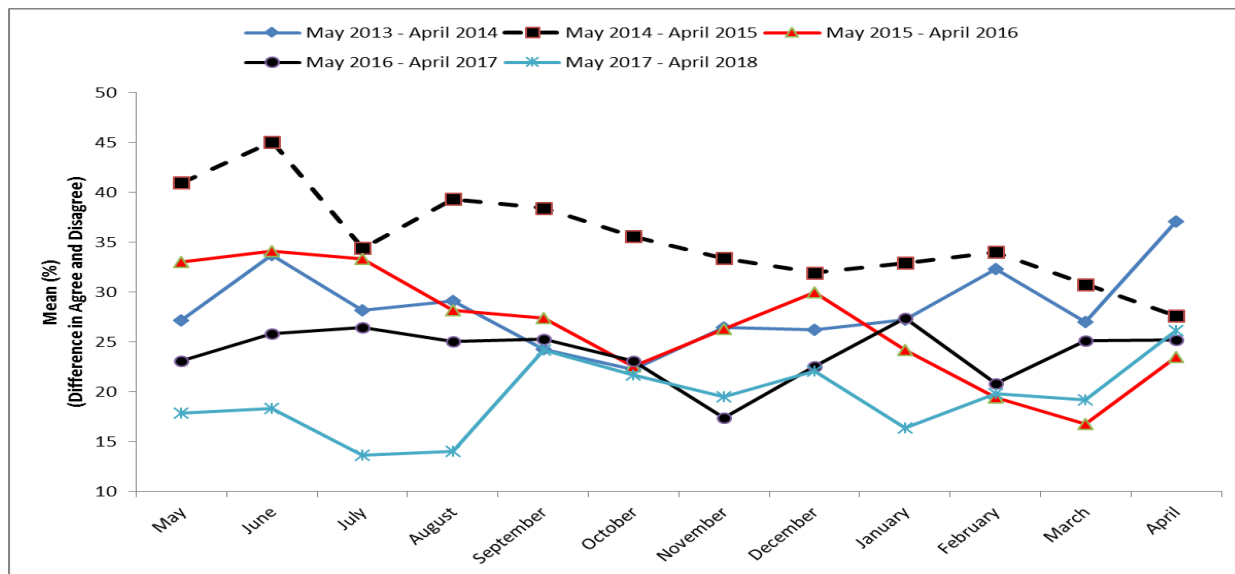


Figure 5: Future Price Expectations for Beef. Difference in percent agree and disagree that beef prices will rise.

**AWARENESS & CONCERN TRACKING**

Awareness and concern for 18 food issues have been tracked over the course of the survey. GMOs, Salmonella, *E. coli*, and hormones have remained the top four issues consumers report hearing most about in the news. As shown in Figure 6, a significant increase in awareness was seen for *E. coli* in November and December 2016 perhaps as a result of the news associated with Chipotle. GMOs, Salmonella, *E. coli*, and hormones also remained as the issues of most concern among consumers in the past year. Figure 6 shows concern for the same food issues. Concern fell in November 2016 and rose in April 2017, as shown in Table 5.

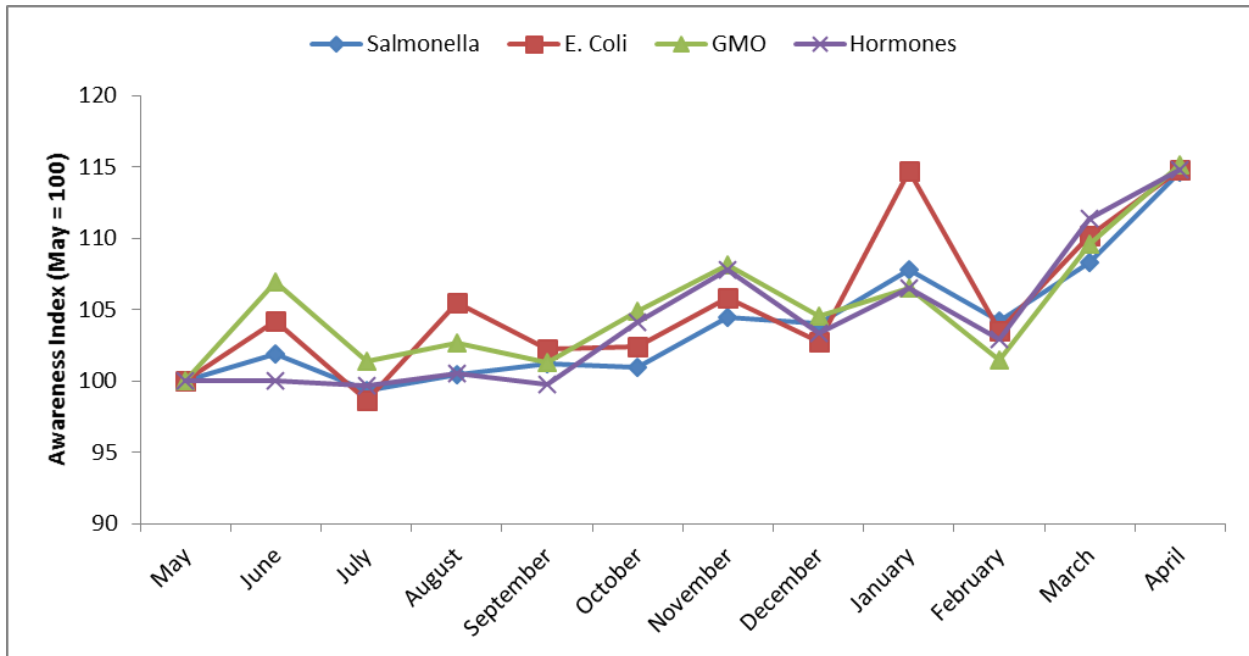


Figure 6: Awareness of four issues in the news (May 2017 = 100)

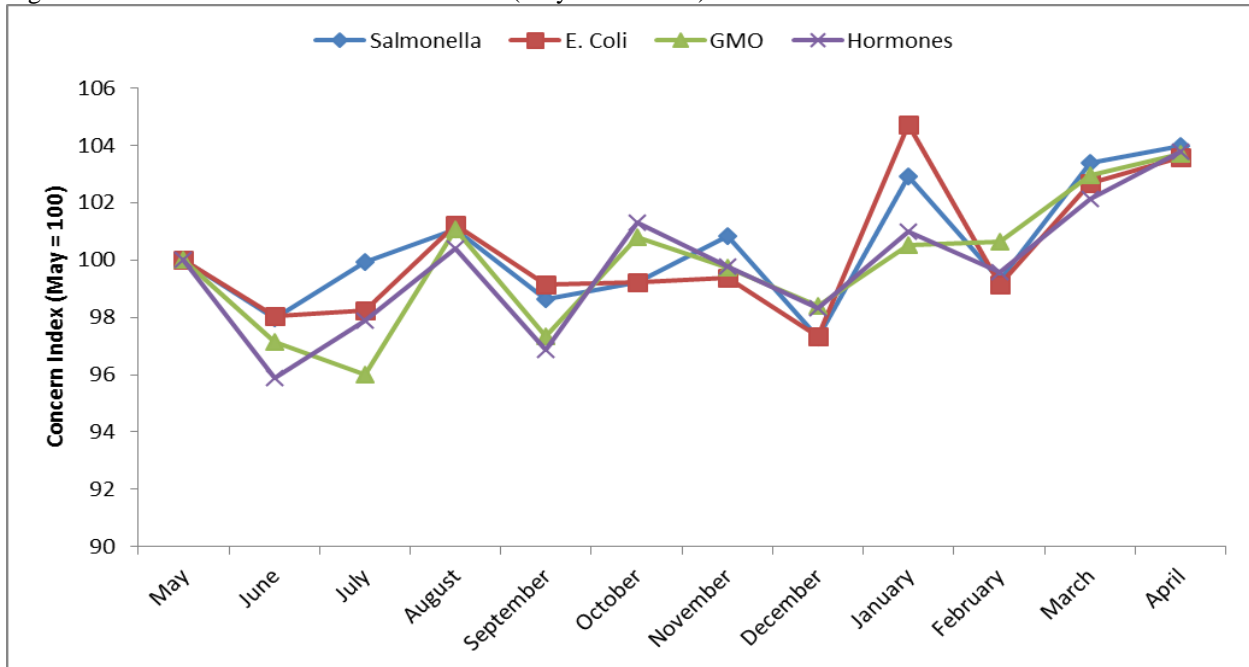


Figure 7: Concern for four issues in the news (May 2017 = 100)

Table 4: Awareness of food issues. Reported values are the mean response to the question “Overall, how much have you heard or read about each of the following topics in the past two weeks”, where 1 = nothing, 3= a moderate amount, and 5 = a great deal.

	May 2016	June 2016	July 2016	August 2016	September 2016	October 2016	November 2016	December 2016	January 2017	February 2017	March 2017	April 2017	May 2018
Salmonella	2.07	2.11	2.06	2.08	2.10	2.09	2.17	2.16	2.23	2.16	2.24	2.38	2.54
E. Coli	2.06	2.14	2.03	2.17	2.10	2.11	2.18	2.11	2.36	2.13	2.27	2.36	2.88
GMO	2.09	2.24	2.12	2.15	2.12	2.19	2.26	2.19	2.23	2.12	2.29	2.41	2.37
Hormones	1.99	1.99	1.99	2.00	1.99	2.07	2.15	2.06	2.12	2.05	2.22	2.29	2.24
Farm Animal Welfare	2.00	1.96	1.99	1.97	1.99	2.04	2.11	2.08	2.11	2.04	2.16	2.28	2.20
Antibiotics	2.03	1.97	1.99	2.04	1.98	2.09	2.12	2.03	2.11	2.00	2.18	2.24	2.24
Bird Flu	1.78	1.79	1.80	1.80	1.82	1.86	1.88	1.88	1.89	1.87	1.93	2.06	2.09
Swine Flu	1.78	1.80	1.81	1.84	1.86	1.86	1.91	1.89	1.96	1.93	2.01	2.09	2.10
Mad cow	1.77	1.75	1.79	1.82	1.87	1.83	1.92	1.88	1.91	1.83	1.97	2.07	2.07
Pink Slime	1.70	1.73	1.73	1.75	1.74	1.76	1.80	1.75	1.78	1.70	1.85	1.87	2.04
Cloning	1.69	1.60	1.63	1.72	1.68	1.72	1.76	1.70	1.78	1.72	1.84	1.92	1.98
LFTB	1.69	1.64	1.65	1.73	1.76	1.71	1.80	1.73	1.76	1.75	1.85	1.99	2.00
Gestation Crates	1.57	1.42	1.51	1.54	1.55	1.56	1.59	1.59	1.65	1.64	1.66	1.78	1.89
Battery Cages	1.58	1.49	1.51	1.55	1.55	1.62	1.58	1.61	1.66	1.64	1.71	1.77	1.89
BSE	1.46	1.37	1.46	1.50	1.53	1.51	1.54	1.51	1.57	1.53	1.60	1.70	1.80
Greenhouse Gas	1.77	1.84	1.83	1.85	1.80	1.89	1.95	1.88	1.92	1.87	2.01	2.08	2.09
Cancer and Meat Consumption	1.85	1.82	1.80	1.90	1.90	1.90	2.00	1.95	1.96	1.85	2.03	2.17	2.19

Table 5: Concern for food issues. Reported values are the mean response to the question “How concerned are you that the following pose a health hazard in the food that you eat in the next two weeks”, where 1 = very unconcerned, 3= neither concerned nor unconcerned, and 5 = very concerned.

	May 2016	June 2016	July 2016	August 2016	September 2016	October 2016	November 2016	December 2016	January 2017	February 2017	March 2017	April 2017	May 2018
Salmonella	3.34	3.27	3.34	3.38	3.30	3.32	3.37	3.25	3.44	3.32	3.46	3.47	3.42
E. Coli	3.34	3.28	3.28	3.38	3.31	3.32	3.32	3.25	3.50	3.31	3.43	3.46	3.51
GMO	3.16	3.07	3.04	3.20	3.08	3.19	3.15	3.11	3.18	3.18	3.26	3.28	3.22
Hormones	3.27	3.14	3.20	3.28	3.17	3.31	3.26	3.22	3.30	3.26	3.34	3.39	3.24
Farm Animal Welfare	3.26	3.16	3.20	3.25	3.20	3.35	3.27	3.23	3.31	3.26	3.34	3.37	3.30
Antibiotics	3.29	3.14	3.17	3.26	3.15	3.29	3.27	3.19	3.32	3.22	3.31	3.36	3.31
Bird Flu	2.95	2.82	2.95	2.94	2.92	2.93	2.97	2.93	3.03	2.94	3.08	3.11	3.03
Swine Flu	2.96	2.84	2.97	2.94	2.97	3.00	3.00	2.96	3.05	2.96	3.11	3.13	2.99
Mad cow	3.00	2.86	2.97	2.95	2.98	2.98	2.96	2.95	3.03	2.96	3.07	3.13	3.05
Pink Slime	2.99	2.87	2.92	3.00	2.96	3.01	2.98	2.97	3.00	2.95	3.11	3.07	3.05
Cloning	2.97	2.85	2.91	2.98	2.95	3.02	2.98	2.94	3.05	2.99	3.08	3.10	3.07
LFTB	2.85	2.66	2.77	2.79	2.79	2.79	2.81	2.84	2.88	2.82	2.93	2.95	2.93
Gestation Crates	2.85	2.72	2.83	2.84	2.84	2.89	2.89	2.86	2.96	2.87	2.97	2.98	2.95
Battery Cages	2.87	2.75	2.85	2.84	2.83	2.88	2.85	2.85	2.97	2.92	2.99	2.96	2.96
BSE	2.83	2.67	2.75	2.76	2.73	2.84	2.80	2.79	2.85	2.79	2.89	2.90	2.86
Greenhouse Gas	2.86	2.77	2.87	2.92	2.86	2.95	2.96	2.90	2.93	2.91	2.98	3.07	3.03
Cancer and Meat Consumption	3.09	3.00	3.08	3.13	3.10	3.12	3.17	3.13	3.19	3.08	3.26	3.29	3.16



**GENERAL FOOD VALUES**

Taste, safety, price, and nutrition have remained consumer’s top four most important values throughout the course of the FoodS survey, while environment, fairness, and novelty have remained the values of least importance. Consumers reported that finding affordable foods to fit with-in their budget was their main challenge each month. Consumers reported that finding foods their children will eat was their least difficult challenge each month. The challenge of losing weight saw the largest increase in March.

Table 6: Consumer Values. Respondents were asked to choose their four “most important” and four “least important” food-related values. A scale of importance was created by calculating the proportion of times a food value appeared most important minus the times it appeared least important. A higher number implies a greater importance to the consumer.

	Taste	Safety	Price	Nutrition	Appearance	Animal Welfare	Natural-ness	Origin	Environment	Convenience	Fairness	Novelty
May 2017	0.69	0.54	0.47	0.39	0.09	-0.14	-0.16	-0.36	-0.35	-0.20	-0.32	-0.66
June 2017	0.69	0.57	0.50	0.42	0.01	-0.13	-0.16	-0.41	-0.30	-0.19	-0.31	-0.69
July 2017	0.70	0.53	0.49	0.42	0.03	-0.12	-0.16	-0.35	-0.31	-0.23	-0.31	-0.69
August 2017	0.69	0.54	0.53	0.39	0.04	-0.17	-0.12	-0.41	-0.31	-0.20	-0.34	-0.64
September 2017	0.64	0.52	0.53	0.33	0.03	-0.11	-0.15	-0.36	-0.30	-0.18	-0.28	-0.67
October 2017	0.67	0.51	0.51	0.38	-0.02	-0.11	-0.20	-0.35	-0.26	-0.16	-0.30	-0.68
November 2017	0.66	0.50	0.46	0.39	0.07	-0.16	-0.11	-0.34	-0.33	-0.21	-0.29	-0.65
December 2017	0.66	0.52	0.50	0.36	-0.01	-0.11	-0.15	-0.35	-0.28	-0.18	-0.28	-0.69
January 2018	0.65	0.54	0.49	0.40	0.09	-0.19	-0.14	-0.34	-0.30	-0.20	-0.36	-0.64
February 2018	0.67	0.54	0.46	0.42	0.02	-0.16	-0.13	-0.30	-0.31	-0.23	-0.34	-0.65
March 2018	0.65	0.54	0.38	0.40	-0.02	-0.13	-0.12	-0.31	-0.29	-0.18	-0.27	-0.66
April 2018	0.64	0.54	0.49	0.29	0.01	-0.11	-0.18	-0.28	-0.27	-0.26	-0.25	-0.63
May 2018	0.62	0.50	0.37	0.38	0.07	-0.11	-0.10	-0.33	-0.27	-0.18	-0.32	-0.64

Table 7: Consumer Challenges. Food-related challenges were ranked on a scaled from 1 – 7, where 7 = most challenging and 1 = least challenging; reported values are the mean ranks.

	Finding affordable foods	Avoiding certain nutrients or ingredients	Avoiding pesticides, added hormones, antibiotics	Losing weight	Finding convenient alternatives	Finding time to cook at home	Finding foods my children will eat
May-17	4.82	4.31	4.18	4.02	4.04	3.95	2.67
Jun-17	5.07	4.28	3.99	4.09	4.21	3.97	2.39
Jul-17	5.02	4.16	3.97	4.18	4.17	3.91	2.60
Aug-17	4.83	4.27	3.96	4.15	4.22	3.94	2.63
Sep-17	4.96	4.19	3.86	4.16	4.11	4.09	2.63
Oct-17	5.01	4.24	3.97	3.94	4.26	3.90	2.67
Nov-17	4.98	4.32	4.09	3.95	3.96	3.96	2.74
Dec-17	4.80	4.22	3.93	4.16	4.10	4.00	2.80
Jan-18	4.71	4.27	3.90	4.30	4.12	3.95	2.75
Feb-18	4.95	4.32	4.06	3.99	4.12	3.87	2.69
Mar-18	4.60	4.44	4.11	4.27	4.03	3.81	2.73
Apr-18	4.91	4.29	3.97	4.02	4.04	3.97	2.80
May-18	4.89	4.25	4.19	3.85	4.05	3.99	2.78

**OTHER CONSUMER CHARACTERISTICS**

Each month, the percent of respondents who reported being on food stamps, being vegetarian or vegans, or have had food poisoning was calculated and is reported in Figure 8. March 2018 had the highest frequency of food-stamp participants. February 2018 saw the largest percent of people who reported being vegetarian or vegan at 6.7%. Reported food poisoning was highest in March 2018 at 10.1%.

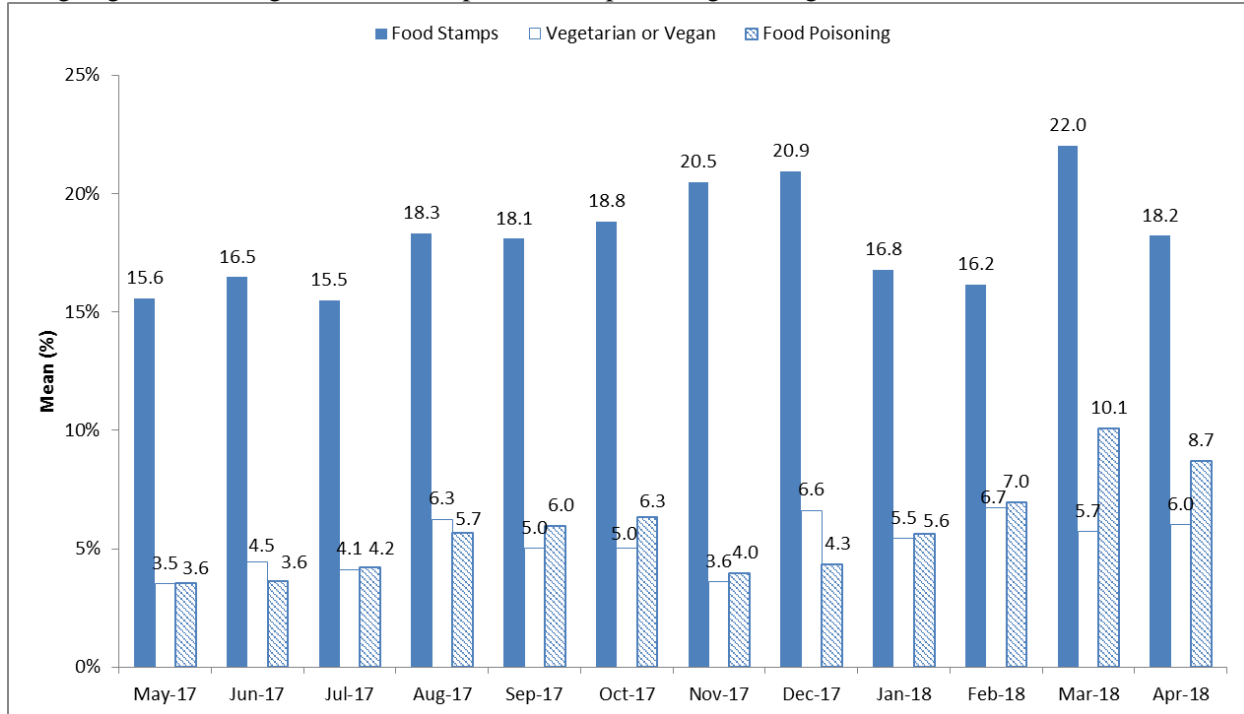


Figure 8: General consumer information covering food stamps, vegetarian or vegan preferences, or food poisoning. Calculated as a mean of the population (%)

**AD HOC QUESTIONS**

Each month three to five ad hoc questions were added to the survey. The following is a list of questions and topics that were covered.

- Consumer preferences towards taste, color, and packaging of ground beef
- Consumer beliefs about mandatory safety regulation and food-borne illnesses
- Consumer knowledge of shelled and unshelled nuts
- Consumer knowledge of chocolate milk and soy milk production
- Consumer definitions of gluten sensitivity
- Gluten sensitivity amongst consumers and political affiliation
- Elementary students and the amount of time allowed for lunch at school
- Consumer perceptions towards defining sustainability
- Consumer attitudes towards animal farming and animal free food
- Gardening and consumer’s participation in growing their own food
- Consumer beliefs about farm animals given added growth hormones
- Consumer WTP for meat with no added hormones
- Consumer preferences for insects and food made with cricket flour
- Consumer beliefs about food associated with the state they live

**State Food Question**

Beginning in September 2017 through May 2018, participants were asked: “Many people believe their state is associated with a particular type of food. In the space below, please list one or more foods that you believe is most associated with the state in which you currently reside.”

Over 9,000 responses were collected in the nine month period. Many of the responses reflected the agriculture unique to the state and are rather predictable. For instance, many Oklahomans listed "beef". Instead of reporting the most frequently given responses, we focused on responses that are unique and surprising. It is not surprising that many Oklahomans listed "beef" but that they also listed "Indian tacos" was unexpected, as we did not know what it was. Below is a listing of each state and the food item reflecting that state which we believe is the most interesting. A warning: some of the food items had only a few responses. For example, although Indian tacos was only mentioned for Oklahoma respondents, there were still only 2 out of 37 respondents who mentioned it.

Table7: State Food Question. Respondents were asked to list the food most associated with their state.

Alabama	Hushpuppies	The most frequently listed items were BBQ and chicken	
Alaska	No responses		
Arizona	Rattlesnake	Fry bread	
Arkansas	Frog legs		
California	Radicchio	Marijuana	The most frequently listed item was avocados
Colorado	Elk	Lamb	
Connecticut	Mushrooms	Tobacco	
Delaware	Maple syrup	Scrapple	
District of Columbia	Scrapple	Falafel	
Florida	Alligator	Dolphin	The most frequently listed items were oranges and citrus
Georgia	Broccoli	The most frequently listed item was peaches	
Hawaii	No interesting responses. Respondents only listed chicken, nuts, and peaches		
Idaho	Elk	Huckleberries	The most frequently listed item was citrus
Illinois	Giardiniera	Saganaki	The most frequently listed item was corn
Indiana	Snap beans		
Iowa	No interesting responses		
Kansas	Sunflower seeds		
Kentucky	Ale 8 (soft drink)	Bourbon	Whiskey
Louisiana	Meat pies	Alligator	Mud bugs (crayfish)
Maine	Deer	Broccoli	
Maryland	Blue crabs	The most frequently listed item was crabs	
Massachusetts	Flutternutter	Banana peppers	
Michigan	Pasties	The most frequently listed item was cherries	
Minnesota	Lutefisk	Hot dish	
Mississippi	Drunk chicken	Hog mog	
Missouri	Indian tacos	Fried ravioli	
Montana	Deer		
Nebraska	Dry, edible beans		
Nevada	Cactus	Locust	Rattlesnake
New Hampshire	Maple syrup		
New Jersey	Pork roll	Spam	The most frequently listed item was tomatoes

New Mexico	Hatch chile		
New York	Cauliflower	Lox	Ox tail
North Carolina	Buffalo meat	Liver pudding	Liver mush
North Dakota	Bison		
Ohio	Kielbasa	Rhubarb	
Oklahoma	Indian tacos		
Oregon	Filberts		
Pennsylvania	Whoopie pies	Shoo fly pie	The most frequently listed items were dairy and corn
Rhode Island	Quahogs		
South Carolina	Low country boil		
South Dakota	No interesting responses		
Tennessee	Tobacco	Millet	
Texas	Barbacoa	Armadillo eggs	The most frequently listed item was Texas
Utah	Funeral potatoes	Fry sauce	
Vermont	Zucchini		
Virginia	Mint julip	Kafilka fish	
Washington	No interesting responses, but the most frequently listed item by far was apples		
West Virginia	Ramps		
Wisconsin	Cranberries, with the most frequently listed item by far being cheese		
Wyoming	Sheep		