PB 1835

Consumer Preferences for Tennessee Beef:

Results of a Consumer Survey

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CENTER FOR PROFITABLE AGRICULTURE
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A UNIVERSITY OF TENNESSEE – FARM BUREAU PARTNERSHIP

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Introduction

The cattle industry is one of agriculture's most significant income generating enterprises in Tennessee. According to the 2012 Census of Agriculture, 32,852 farms had cattle and calves, accounting for more than 48 percent of all Tennessee farms. Sales of cattle and calves reached more than $735.5 million, or 20 percent of all agricultural sales for the state, the most of any single commodity.

In the past 50 years, the state's beef industry has been largely dominated by cow-calf operations with pockets of backgrounding and stocker activities scattered throughout the state. In recent years, an increasing number of Tennessee cattle producers have considered or have begun finishing cattle to harvest weights and adding value through harvesting, processing and marketing beef. Census data confirms more farms are producing value-added products and directly marketing farm products to consumers for human consumption. The value of sales from farm products marketed directly to consumers has also increased significantly.

Producers interested in adding value to cattle and directly marketing meat face many challenges such as developing business and marketing plans and starting and expanding operations. A survey of Tennessee consumers was conducted to gather information to learn about customers interested in purchasing local beef and to understand their tastes and preferences for products, shopping behaviors and willingness to pay for local beef. This publication provides an overview of the survey methods employed and information learned about beef consumption habits, preferences for various beef attributes and willingness to pay for Tennessee beef. More detailed information about the survey and data analysis methods employed can be found in the research report developed through the Agri-Industry and Modeling Analysis Group in the UT Department of Agricultural and Resource Economics.[1]

[1]Jensen, Kim, et. al. "Consumer Preferences for Tennessee Beef." AIM-AG Research Report. May 2014. Available online at **https://tiny.utk.edu/VABeef.**

About the Survey and Respondents

A random sample of landline and wireless phone numbers was drawn from the five largest population centers in the state (Memphis, Nashville, Chattanooga, Knoxville and the Tri-Cities — Kingsport, Johnson City and Bristol). Corresponding counties for these cities were Shelby, Davidson, Williamson, Hamilton, Knox, Sullivan and Washington. From May to August 2013, 1,209 surveys were completed with adults involved in meal planning via telephone. Respondents' residences were located in each of the targeted counties along with 33 additional counties (Figure 1).

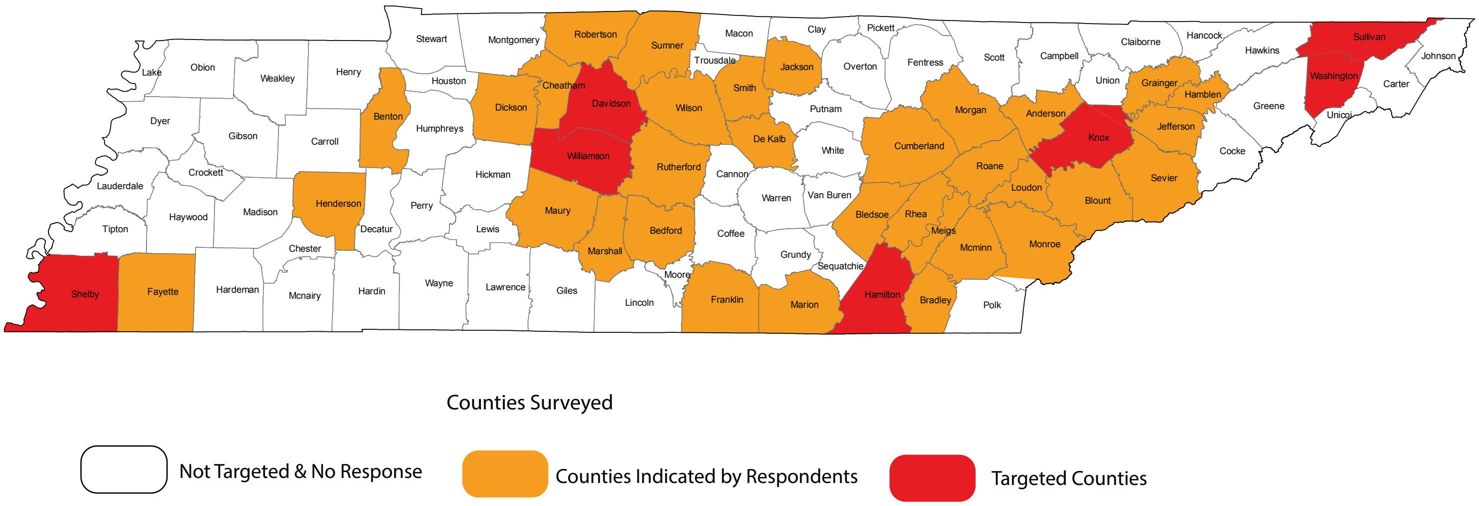

Figure 1. Counties Represented by Survey Respondents

A comparison of several demographic measures between the survey respondents and the state of Tennessee and several key counties in the study are shown in Table 1. The percent of females was higher in the sample than that for the state and the targeted counties. This is expected, however, since the person primarily responsible for household food purchase decisions was asked to complete the survey. The percent of survey participants aged 65 and older was higher in the sample than the state or county percentages; however, persons under age 18 were excluded from completing the survey. The average household size of the respondents is somewhat higher than the state average but is below the Shelby County average. The percent of respondents with a bachelor's degree or higher was greater than the state average or any of the targeted counties. Household income also appeared to be higher among the respondents than the state and county median measures of household income. The median of household income among the respondents was $70,000-$79,999, while the median of households in the state was $44,140.

Table 1. Demographic Characteristics of the Sample and State/County Comparisons

Characteristic	Sample	State	Shelby	Davidson	Hamilton	Knox	Washington
	Mean						
Female Gender	59.45% (N=1,191)[b]	51.20% (2012)	52.30%	51.6%	51.80%	51.30%	51.10%
Percent Age 65 and Over	31.24% (N=989)	14.20% (2012)	10.8%	10.7%	15.2%	13.70%	16.00%
Household Size (Persons)	2.64 (N=995)	2.51 (2008-2012)	2.66	2.37	2.44	2.32	2.31
Bachelor's Degree or Higher	41.07% (N=991)	23.50% (2008-2012)	28.70%	35.0%	27.80%	34.30%	28.90%
Median Household Income (Category for 2012[a])	$70,000-$79,999 (N=382)	$44,140 (2008-2012)	$46,251	$46,676	$46,544	$47,270	$42,995

[a]Household Income Categories for 2012: 1=Less than $20,000, 2=$20,000 to $29,999, 3=$30,000 to $39,999, 4=$40,000 to $49,999, 5=$50,000 to $59,999, 6=$60,000 to $69,999, 7=$70,000 to $79,999, 8=$80,000 to $89,999, 9=$90,000 to $99,999, 10=$100,000 to $109,999, 11=$110,000 to $119,999, and 12=$120,000 or more. (Source: United States Census Bureau. State & County QuickFacts)

[b]Throughout this document, N represents the number of respondents to a particular question.

The survey contained questions regarding household beef consumption, as well as reasons for not consuming beef, such as vegetarianism, costs, health conditions and other reasons. The respondents were asked to report the number of meals consumed at home in a typical week. If the respondent's household did not consume beef, they were asked a set of opinion and demographic questions. Those who ate beef were asked to report the number of meals per week at which beef was served, where they purchased beef, and about their consumption of ground beef and steak.

If the respondents indicated their household consumed steak, but not ground beef, they were asked a set of questions about steak (Figure 2). If the respondents indicated their household consumed ground beef, but not steak, they were asked a set of questions about ground beef. If they answered that they consumed both steak and ground beef, they were randomly assigned to questions about either steak or ground beef. If respondents ate other cuts of beef but not ground beef or steaks, they were also randomly assigned a set of questions.

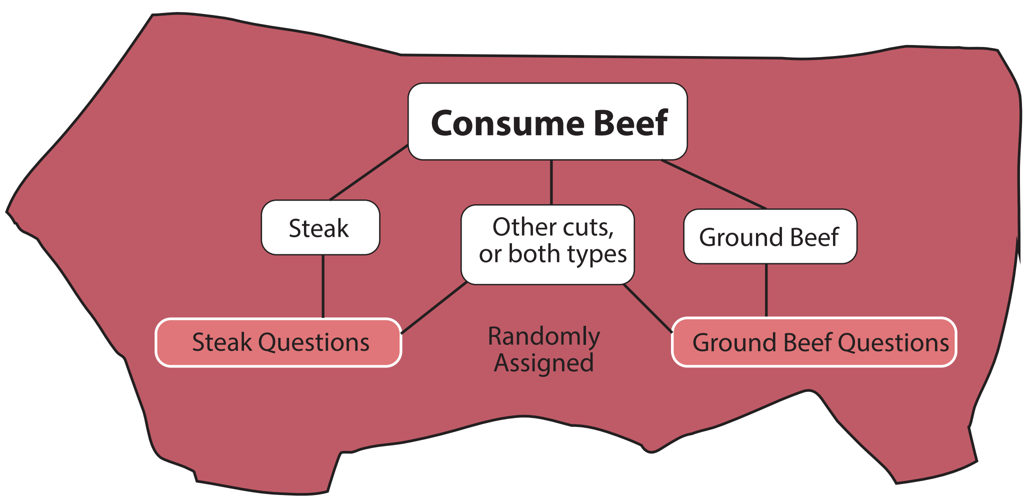

Figure 2. Assignment of Respondents to Steak or Ground Beef Questions

The respondents were then asked to rate the importance of attributes of steak or ground beef that influence their purchase of these products. These attributes included freshness, flavor, tenderness (texture for ground beef), juiciness, color, leanness, price and ease of preparation. In a separate question, participants were asked to rate the importance of animal raising systems or claims including whether the animal was treated humanely, naturally raised, locally produced, grass fed or grain fed.

Prior to answering questions about their steak or ground beef choice, the respondents were read a brief description of Tennessee Beef. For example, the following description was read for respondents answering the set of questions about steak:

> TENNESSEE BEEF means the animals must have been born, raised and finished within the borders of the State of Tennessee. I'm now going to ask you to choose between TWO Choice-grade, 12-ounce, Boneless Ribeye Steaks. Before making your decision, consider your household's budget for food, keeping in mind if you spend more on steak, you'll have less money to spend on other food products.
>
> Both steaks are the same weight and have IDENTICAL freshness, cut, color, marbling, meat texture, fat, tenderness, juiciness and flavor.
>
> A similar description was read for ground beef, except the ground beef was described as 85 percent meat, 15 percent fat, with the options being identical in leanness, freshness, color, meat texture, juiciness and flavor.

Beef Consumption and Sources

A total of 931 respondents, 77 percent, had at least one individual in their household who consumed beef, while 278 resided in households where no one consumed beef (Figure 3). When no one consumed beef in the household, respondents were asked to indicate which factors influenced their decision not to consume beef. Respondents could choose all the factors that applied to them. As shown in Figure 4, the most common factors influencing beef consumption were health concerns (46 percent), vegetarianism (34 percent) and taste (16 percent). Safety concerns and costs were factors influencing beef consumption for 7 percent of respondents.

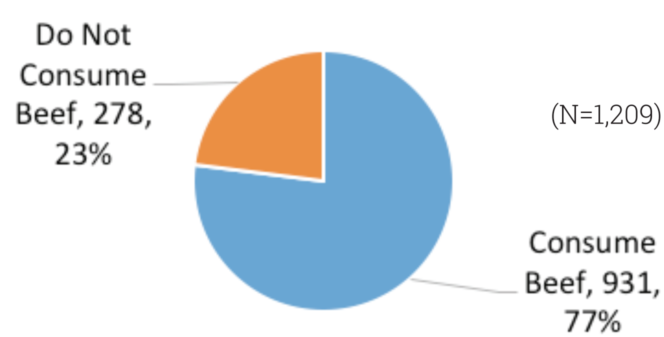

Figure 3. Percent of Households Consuming vs Not Consuming Beef

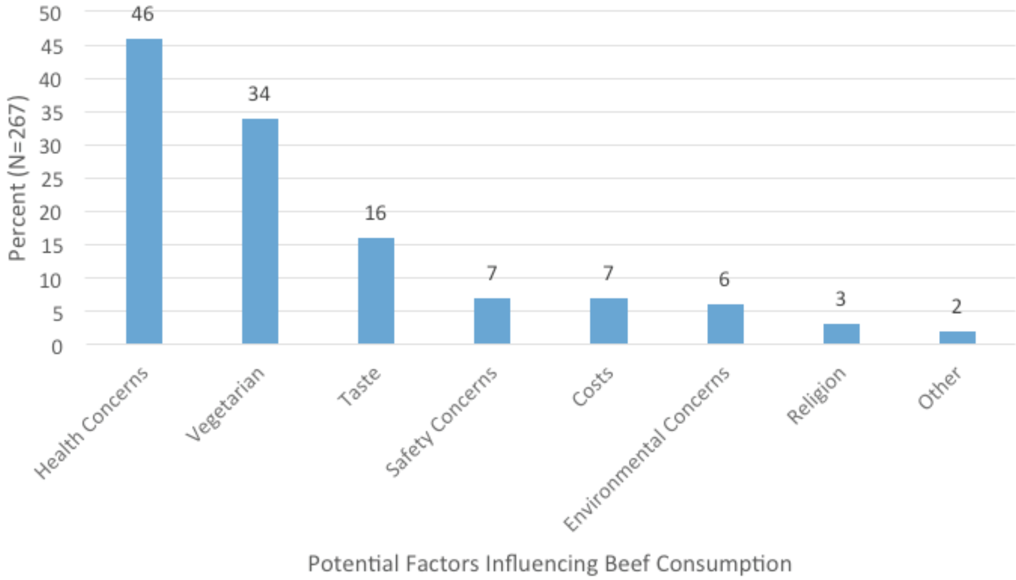

Figure 4. Percent of Households in Which Residents are Not Consuming Beef Influenced by Select Factors

Of 999 respondents to the question regarding meals prepared at home, the greatest percentage prepared 14 to 16 meals at home in a typical week (24.02 percent). Sixteen percent of households prepared five to seven meals per week. Two to four meals and 20 or more meals were prepared at home by 13 percent of households each. Twelve percent of households prepared eight to 10 meals at home.

Beef-consuming households were asked about the number of home prepared meals in a typical week at which beef was served (Table 2). Among these households, the most commonly cited frequency was two to three meals (31 percent), followed by no meals (26 percent), then one (14 percent) and four to five (14 percent).

Table 2. Number of Meals Prepared at Home with Beef Served in a Typical Week Among Beef-Consuming Households

Meals Per Week with Beef	Percent (N=887)
0	25
1	14
2 to 3	31
4 to 5	14
6 to 7	8
8 to 9	3
10 or more	5

Beef-consuming households were asked where they had purchased beef in past year. The most commonly cited source was a grocery store, followed by a big box store (e.g., Walmart, Target), warehouse store (e.g., Sam's Club or Costco), gourmet or organic market (e.g., Fresh Market, Whole Foods), and then butcher shops. Only about 6 percent of respondents reported purchasing beef from farmers markets, and just over 5 percent purchased directly from farmers in the past year. When asked about where they usually purchase beef, grocery stores was the most commonly noted option, followed by big box stores, and warehouse stores (Figure 5).

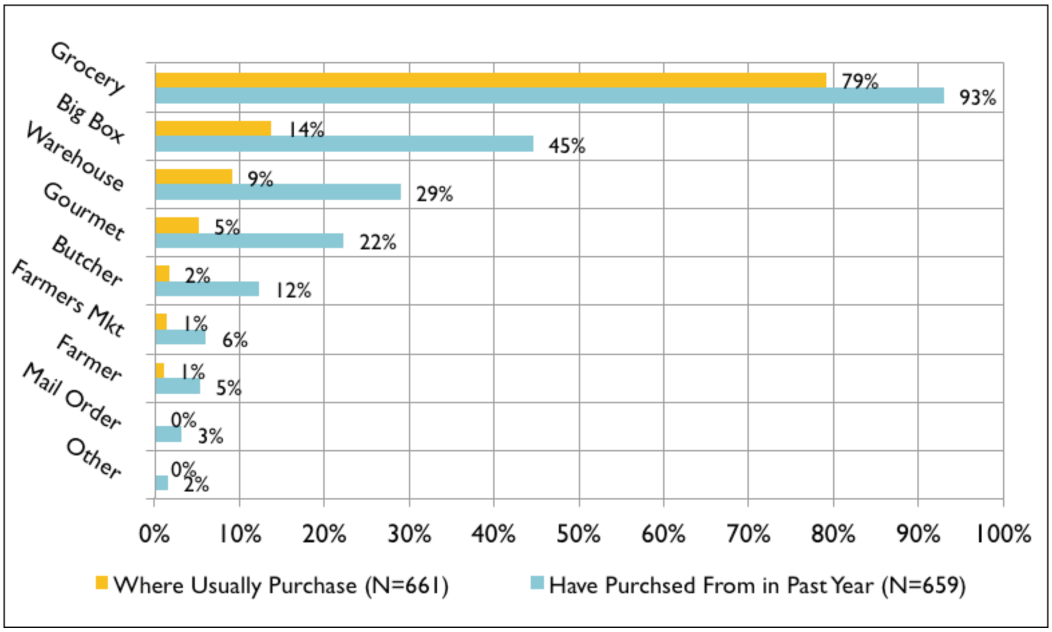

Figure 5. Types of Vendors Used to Purchase Beef in the Past Year

Of the 33 respondents who had bought beef directly from a farmer in the last year, 58 percent bought bulk beef (a side, quarter, half or whole animal), this was followed by "other" (24 percent) and then individual cuts (18 percent).

More than 91 percent of beef-consuming households had consumed ground beef in the past month. Nearly 72 percent had consumed steak, while 63 percent had consumed other cuts of beef such as roasts or ribs.

For households that reportedly consumed steak at least once in the past month, steak was prepared at home once or less in a typical week by about 81 percent of households (Figure 6). Seventeen percent of these households prepared steak two to three times in a typical week. Among households in which ground beef had been consumed at least once in the past month, about 42 percent served it once per week or less, and nearly 44 percent served it two or three times per week. As might be expected, ground beef was served more frequently than steak.

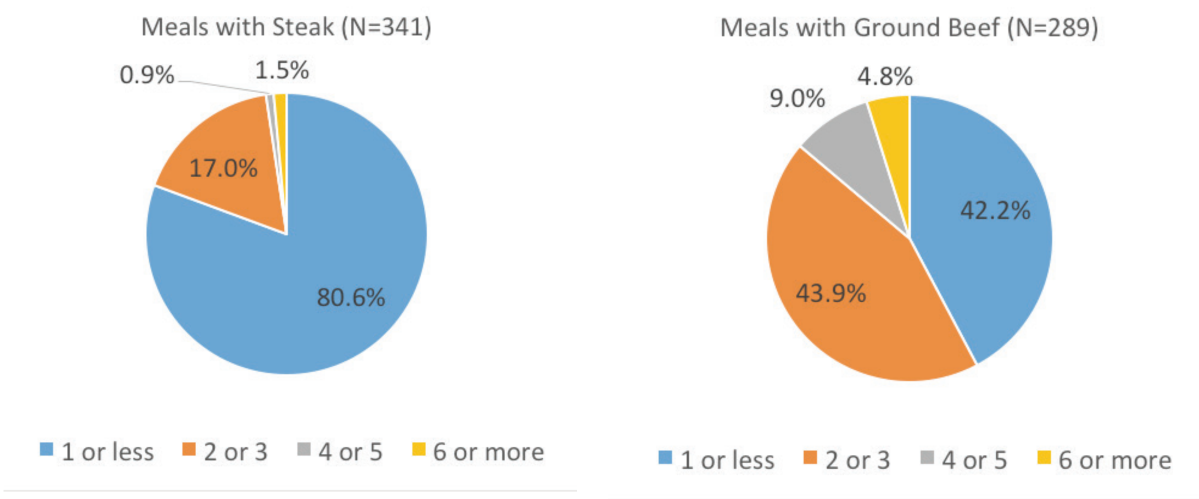

Figure 6. Number of Meals Prepared at Home Where Steak or Ground Beef is Served in a Typical Week Among Households Consuming that Type of Beef in the Past Month

Importance of Attributes

Respondents who indicated steak and ground beef were consumed in their households were asked to rate attributes on a scale of 1=Not Important, 2=Somewhat Important or 3=Very Important. On average, all attributes were rated somewhat important. As can be seen in Table 3, for steak, freshness and flavor received the highest ratings of importance, while tenderness followed. Juiciness and color were ranked next in importance, followed by leanness and price, and then ease of preparation. For ground beef, freshness was ranked as most important, followed by flavor and color, then leanness. Juiciness, price and texture were ranked next in importance, followed by ease of preparation.

Table 3. Comparisons of Mean Importance Ratings for Steak and Ground Beef Attributes*,**

Steak (N=326)			Ground Beef (N=270)		
Attribute	Mean Rating		Attribute	Mean Rating	
Freshness	2.92	a	Freshness	2.91	
Flavor	2.90	a	Flavor	2.84	a
Tenderness/Texture	2.79		Color	2.77	a
Juiciness	2.71	b	Leanness	2.60	
Color	2.71	b	Juiciness	2.48	b
Leanness	2.46	c	Price	2.45	b
Price	2.46	c	Tenderness/Texture	2.43	b
Ease of Preparation	2.16		Ease of Preparation	2.29	

*Mean Importance Rating (Scale of 1=Not Important, 2=Somewhat Important, 3=Very Important)
**Means with like letters are not statistically different from each other in that column at the 95 percent confidence level based on means comparison testing with t-tests.

Respondents were asked to rate the importance of having characteristics identified on a product label when purchasing steak or ground beef. The same scale of 1=Not Important, 2=Somewhat Important and 3= Very Important was used. Results in Table 4 show that humane treatment was ranked as most important for steak and ground beef, followed by natural, and then local. Grass and grain fed statistically had the same importance ratings and were rated as least important among the attributes examined for steak and ground beef.

Table 4. Comparisons of Mean Importance Ratings for Steak and Ground Beef Labels*,**

Steak (N=307)			Ground Beef (N=266)		
Attribute	Mean Rating		Attribute	Mean Rating	
Humane	2.49		Humane	2.47	
Natural	2.35		Natural	2.35	
Local	2.12		Local	2.05	
Grass Fed	1.96	a	Grass Fed	1.91	a
Grain Fed	1.94	a	Grain Fed	1.85	a

*Mean Importance Rating (Scale of 1=Not Important, 2=Somewhat Important, 3=Very Important)
**Means with like letters are not statistically different from each other in that column at the 95 percent confidence level based on means comparison testing with t-tests.

Choosing Tennessee Beef

Respondents whose household members had consumed steak in the past month were asked whether they would choose a "base" ribeye at a price of $9.25 per pound or a Tennessee Beef ribeye at four price points ranging from $9.25 to $16.19 per pound. A total of 327 respondents answered the steak choice questions. The base ribeye was chosen by 179 respondents, and 133 stated they would choose the Tennessee Beef ribeye, while 15 chose neither. The percentages among those who chose the steak labeled Tennessee Beef at each of the four price points is shown in Figure 7. At $9.25 per pound for the Tennessee-labeled ribeye steak, 87 percent of those offered that price chose the Tennessee-labeled ribeye steak instead of the base ribeye. Thus, when offered a steak labeled Tennessee Beef and a base steak at the same price, consumers chose the Tennessee-labeled steak 87 percent of the time. At $11.56 per pound, 34 percent chose the Tennessee Beef instead of the base steak. As the price offered increased to $13.88 per pound, the percent that chose the Tennessee Beef declined to 31 percent, and at $16.19 per pound, dropped to 17 percent.

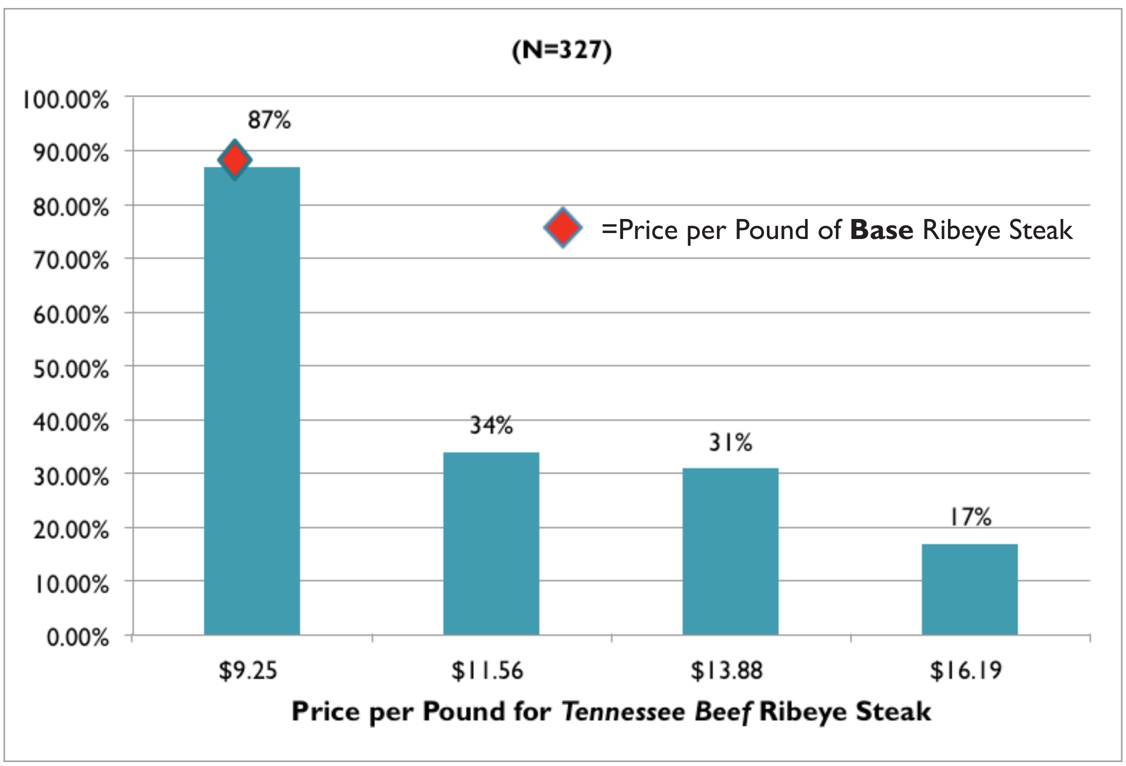

Figure 7. Percent Choosing Tennessee Beef Ribeye Steak Instead of a "Base" Ribeye at Four Price Points

Among those stating they would choose neither product, common responses were the products were too expensive or priced too high, location where raised was not important, filet mignon steaks were the only type purchased, and Angus or better is preferred. Other reasons indicated by respondents included they always buy on sale, the product would need to be antibiotic free, they only eat kosher beef, they raise their own cattle, they would need to look at products and that the products are the same.

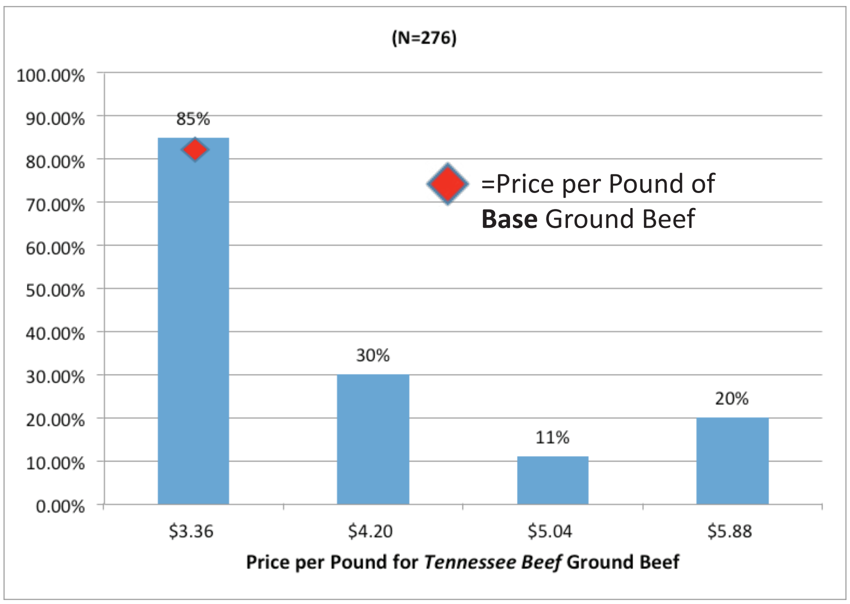

Figure 8. Percent Choosing Tennessee Beef Ground Beef

Respondents whose household members had consumed ground beef in the past month were asked whether they would choose a "base" 85/15 ground beef at $3.36 per pound or a Tennessee Beef 85/15 ground beef at four price points from $3.36 to $5.88 per pound. A total of 276 answered the ground beef choice question, with 165 choosing the base product, 98 the Tennessee product, and 13 indicating they would choose neither the base or Tennessee Beef product. When compared across price points, the percentages of those who chose the ground beef labeled Tennessee Beef are shown in Figure 8. About 85 percent of those offered the Tennessee-labeled ground beef at $3.36 per pound chose the Tennessee Beef instead of the base ground beef. In other words, when the price was the same for the base ground beef and the ground beef labeled Tennessee Beef, consumers chose the Tennessee-labeled ground beef 85 percent of the time. At $4.20 per pound, more than 30 percent chose the Tennessee Beef instead of the base ground beef. At $5.04 per pound, approximately 11 percent chose the Tennessee Beef, and at $5.88 per pound, 20 percent chose it over the base ground beef.

In cases when respondents indicated they would not choose either the base or Tennessee ground beef, common reasons given included both products are too expensive, the fat content, they are not a label reader, they grow their own beef, or they purchase beef from someone they know. Other reasons given by respondents were they only shop at a certain store, they only purchase grass-fed beef, they only purchase kosher beef, or they just buy whatever is available.

Researchers used logit statistical models to estimate the overall willingness to pay for Tennessee Beef. The model results[2] indicate the probability of a respondent choosing Tennessee Beef declines as the price increases, which is expected. On average, respondents were willing to pay $12.21 per pound for steak labeled Tennessee Beef, which is an additional $2.96 per pound above a base price of $9.25 per pound. For ground beef, the estimated willingness to pay for Tennessee Beef was $4.03 per pound compared with the base price of $3.36 for an average estimated premium of $0.70 per pound.

Following the decision choice between the Tennessee Beef and the base product, respondents were asked why they selected the Tennessee product. The potential reasons influencing the selection of Tennessee Beef are summarized for steak, ground beef and overall (steak and ground beef combined) in Table 5. The reason with the highest overall rating of influence was purchasing Tennessee Beef makes the respondents feel like they are supporting farmers in the state. This reason was followed by consumers feeling they are supporting the state's economy, and the product is perceived as being fresher and better for the environment. The differences in the average ratings across steak and ground beef were compared. The ratings in Table 5 suggest ground beef consumers were more influenced in their decision to select the Tennessee product due to their belief that the product is safer and higher quality compared to the steak consumers.

[2]Read more about the models used in the research report: Jensen, Kim, et. al. "Consumer Preferences for Tennessee Beef." AIM-AG Research Report. May 2014. Available online at https://tiny.utk.edu/VABeef.

Table 5. Potential Reasons for Selecting Tennessee Beef (Overall, Steak and Ground Beef)			
	Mean Influence Rating 1=no influence, 2=some influence, 3= great influence		
	Overall (Steak and Ground Beef)	**Steak**	**Ground Beef**
Potential Reasons for Selecting TENNESSEE BEEF	(N=199)	(N=114)	(N=85)
Purchasing Tennessee Beef makes me feel like I am supporting farmers in my state.	2.78	2.80	2.76
Purchasing Tennessee Beef makes me feel like I am supporting the state's economy.	2.75	2.74	2.76
Tennessee Beef is likely fresher than out-of-state beef	2.59	2.55	2.64
Tennessee Beef has to be transported shorter distances, so it is better for the environment	2.45	2.42	2.49
I know more about where Tennessee Beef comes from, so I feel it is safer	2.38	2.27	2.53*
Knowing how the beef was produced	2.37	2.33	2.41
Tennessee Beef is likely higher quality than out-of-state	2.29	2.20	2.40*
Price of Tennessee Beef compared with other	2.18	2.11	2.27
Knowing the farmer who produces the beef	2.03	2.00	2.06
The experience purchasing directly from the farmer	2.02	2.02	2.01
Being able to visit the farm where the beef was produced	1.88	1.83	1.95

* Statistically different between Steak and Ground Beef at 90% confidence level or higher.

Table 6. Types of Vendors From Which Respondents Would Purchase Tennessee Beef

Vendor Type	**Overall** (Steak and Ground Beef)	Steak	Ground Beef
	(N=211)	(N=119)	(N=92)
	Percent		
Grocery Store	94.3	93.3	95.7
Big Box Retailer	54.5	57.1	51.1
Farmer Direct	47.4	51.3	42.4
Gourmet Stores	44.6	44.5	44.6
Butcher	43.6	44.5	42.4
Warehouse Retailer	41.7	45.4	37.0
Farmers Markets	36.5	37.8	34.8
Internet	6.6	7.6	5.4

The most common vendor where respondents would anticipate purchasing Tennessee Beef is grocery stores, followed by big box stores, farmer direct, gourmet stores, butchers and warehouse stores as shown in Table 6. The percentages for each type of vendor were similar across ground beef and steak. Somewhat higher percentages of steak question respondents anticipated purchasing Tennessee Beef at warehouse retailers and directly from the farmer than for those responding to the ground beef questions. However, no statistically significant association between meat type and vendor choice was found.

More than 40 percent of 221 respondents had no preference among packaging types. Vacuum packaging was preferred by 28 percent of overall respondents. Thirty percent of 125 respondents to steak questions preferred vacuum packaging, while 24 percent of 96 respondents to the ground beef questions cited this preference. Design note – perhaps pictures of different packaging types (vacuum, shrink wrap, butcher paper) or some graphic with these stats may be helpful to draw attention to this information.

Respondents had a strong preference for fresh meats as more than 90 percent would purchase Tennessee Beef in that form (Table 7). Approximately 60 percent were willing to purchase the product in frozen form. Other choices given to respondents, fresh-frozen then thawed and cooked would be purchased by 30 percent or less of respondents.

Table 7. Product Forms Would Purchase for Tennessee Beef

Product Form	Percent Who Would Purchase		
	Overall (N=197)	Steak (N=111)	Ground Beef (N=86)
Fresh	91.0	96.4	97.7
Frozen	64.0	59.5	69.8
Fresh-frozen Then Thawed	30.5	31.5	29.1
Cooked	25.9	24.3	27.9

Respondents who did not select a Tennessee Beef product were asked to indicate the reasons why they did not select the product. The most commonly cited reasons (Figure 9) were 1) they could afford to pay a higher price but were not willing to pay more and 2) they could not afford to pay more for Tennessee Beef. Just less than a quarter of respondents indicated they preferred corn-fed beef over "beef that has been grazed" as the reason they would not choose a Tennessee Beef product.[3] Only about 15 percent did not believe that Tennessee Beef would be better quality. Less than 10 percent trusted beef more from the major

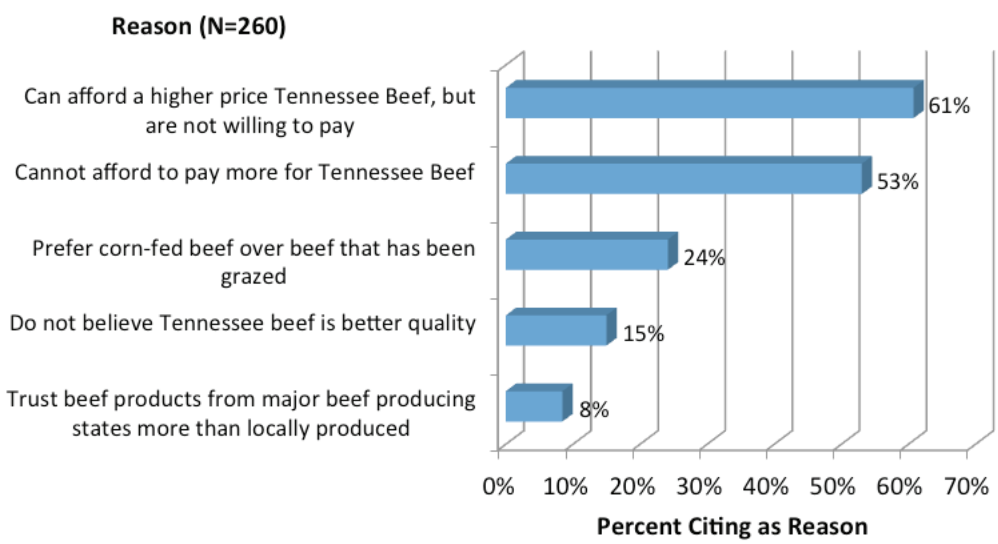

Figure 9. Percent of Respondents Citing Reasons Why They Did Not Select Tennessee Beef

All respondents, whether from beef-consuming households or not, were asked about the importance of keeping food prices low compared with other priorities (Table 8). These other priorities included protecting the environment; ensuring humane treatment of animals used in food production; ensuring that farmers receive a fair income; providing safe, healthy, and nutritious food choices; and supporting the local economy. All priorities except protecting the environment were ranked higher in importance than price. Providing a safe, healthy and nutritious set of food choices received the highest ranking compared with keeping food prices low. Beef consuming households held similar views to all respondents. However, those choosing the Tennessee Beef products tended to have higher rankings for each of the priorities than all respondents. This suggests that consumers who will choose Tennessee Beef are somewhat more influenced by environmental issues, humane treatment of animals, farmers receiving a fair income, a safe food supply and supporting the local economy.

[3]The way the question was posed may have implied that all Tennessee Beef is grass fed; however, it should be noted Tennessee Beef may be from livestock fed corn or other grains or grass and forage fed.

The demographic characteristics of the all respondents, respondents of beef-consuming households, and respondents who chose Tennessee Beef are shown in Table 9. About 59 percent of the respondents were female. The average age in years was 53.8 years, while the average age of those choosing Tennessee Beef was 51.9 years. About three-quarters of the respondents considered themselves to be the primary food shoppers for their household. Approximately 37 percent considered themselves to have a farm-related background. For those respondents who chose Tennessee Beef, this percentage increases to over 44 percent. About 28 percent of respondents had children under 18 in the household. The average level of education was between "some college" and a "college graduate." The education level for all respondents, those from beef-consuming households, and those who chose Tennessee Beef were virtually identical. On average, people considered themselves as living between small town and suburbs. Those who selected Tennessee Beef considered themselves as living in a somewhat more rural area than respondents overall.

Table 8. Importance of Low Food Prices Relative to Other Priorities

Priority	Ranking 1=food prices more important, 2=about same, 3=other priority more important		
Keeping Food Prices Low is More Important Than	**All Respondents (N=1,017)**	**Beef-Consuming Households (N=810)**	**Respondents Choosing Tennessee Beef (N=230)**
Providing safe, healthy and nutritious food choices	2.4	2.4	2.5
Ensuring humane treatment of animals used in food production	2.3	2.3	2.4
Ensuring that farmers receive a fair income	2.2	2.2	2.4
Supporting the local economy	2.1	2.1	2.3
Protecting the environment	2.0	2.0	2.1

Table 9. Demographic Characteristics of All Respondents, Beef-Consuming Respondents, and Respondents Choosing Tennessee Beef			
Characteristic	All Respondents	Beef-Consuming Respondents	Respondents Choosing Tennessee Beef
	Percent or Mean		
Female Gender	59.0% (N=1,191)	57.7% (N=924)	58.4% (N=245)
Age in Years	53.8 (N=989)	54.2 (N=815)	51.9 (N=236)
Household Size	2.6 (N=995)	2.7 (N=821)	2.9 (N=235)
Primary Food Shopper	74.9% (N=1012)	75.5% (N=838)	76.0% (N=237)
Farm Background	37.2% (N=1,011)	39.0% (N=837)	44.3% (N=237)
Children Younger than 18 Reside in Household	27.8% (N=980)	28.8% (N=818)	33.8% (N=237)
Education Level (1=Less than HS, ..., 5=Postgraduate)	3.2 (N=991)	3.2 (N=824)	3.2 (N=235)
Household Income Category for 2012[a]	6.4 (N=382)	6.3 (N=342)	7.3 (N=111)
Urbanization of Residence (1=rural, ... 4=urban)	2.8 (N=952)	2.7 (N=797)	2.7 (N=228)

[a] Household Income for 2012-1=Less than $20,000, 2=$20,000 to $29,999, 3=$30,000 to $39,999, 4=$40,000 to $49,999, 5=$50,000 to $59,999, 6=$60,000 to $69,999, 7=$70,000 to $79,999, 8=$80,000 to $89,999, 9=$90,000 to $99,999, 10=$100,000 to $109,999, 11=$110,000 to $119,999, and 12=$120,000 or more.

Table 10 shows the percentages choosing either steak or ground beef labeled Tennessee Beef across several demographics, including gender, farm background, college education, age 50 or older, and rural residence. Chi-square tests of association revealed a significant positive association between farm background and willingness to purchase ground beef labeled Tennessee Beef. When the reasons for not choosing the ground beef labeled Tennessee Beef were compared across rural residence, urban residents were more likely to cite that they prefer corn-fed beef and to say that they could afford the local product but were not willing to pay any more for it. Being 65 or older had a negative association with willingness to purchase steak labeled Tennessee Beef. One reason may be that these consumers are more used to a product from the major producing states. Indeed, a test of association revealed a positive association between being 65 or older and not choosing the steak labeled Tennessee Beef for the reason they trusted steaks from the major producing states more than a local product.

Table 10. Choice of Tennessee Beef Across Selected Demographics

Demographics	Percent with Demographic Choosing Tennessee Beef			
	Steak		Ground Beef	
	No	Yes	No	Yes
Female (N1=336, N2=276)[a]	42.04	39.05	31.78	37.87
Farm Background (N=312, N=269)	37.10	46.03	31.82	43.01*
College Education (N1=311, N2=267)	42.24	38.67	36.65	33.96
Age 65 or Older (N1=307, N2=264)	45.13	32.10**	34.92	38.67
Rural Residence (N1=327, N2=276)	40.09	41.90	33.52	39.36
2012 Household Income at Least $60,000 (N1=149, N2=118)	38.10	40.19	36.59	37.66

[a] N1 is the number of observations used in the steak calculations, N2 is the number of observations used in the ground beef calculations. * indicates significant at the 90% confidence level, ** indicates significant at the 95% confidence level

Regional geographic differences existed for percentages of respondents who consume beef and who would choose a steak or ground beef labeled Tennessee Beef (Table 11). For example, while in the Memphis region about 33.33 percent would choose the steak labeled Tennessee Beef, in Nashville and Tri-Cities, over 40 percent would choose the same. While Nashville had the lowest percent selecting ground beef labeled Tennessee Beef at just over 29 percent, Tri-Cities had over 40 percent selecting the same.

Table 11. Percent of Respondents Choosing Steak and Ground Beef Labeled Tennessee Beef by Geographic Region

Region	Percent Choosing Tennessee	
	Steak	Ground Beef
Memphis (N1=66, N2=50)[a]	33.33	38.00
Nashville (N1=62, N2=57)	48.39	29.82
Chattanooga (N1=48, N2=44)	35.42	34.09
Knoxville (N1=82, N2=63)	39.02	38.10
Tri-Cities (N1=29, N2=33)	48.28	48.48
2012 Household Income at Least $60,000 (N1=149, N2=118)	38.10	36.59

[a] N1 is the number of observations used in the steak calculations, N2 is the number of observations used in the ground beef calculations.

Examining reasons why respondents did not select Tennessee Beef (from Figure 9), it appears that those from the Memphis and Chattanooga areas were more likely to trust beef from the major producing states, while those from Knoxville were less likely to trust beef from the major producing states. Nashville respondents were less likely to state preference for corn fed beef as a reason not to buy. Respondents from the Tri-Cities were less likely to believe that Tennessee Beef was not of better quality, however Tri-Cities residents were more likely to state they either could afford to pay more but were not willing to do so or that they were not able to afford paying more for Tennessee Beef.

Conclusions and Recommendations

The results from this study suggest that consumers in the metropolitan areas of Tennessee are willing to pay a premium for ribeye steaks and ground beef labeled as Tennessee Beef. Respondents would pay an estimated $2.96 premium for a Tennessee-labeled ribeye steak above a base price of $9.25 per pound for a base steak. Respondents would pay an estimated $0.70 per pound premium for ground beef labeled Tennessee Beef above a base price of $3.36. Purchasing Tennessee Beef gives the potential buyers a sense of supporting their state's farmers and economy. Respondents who selected Tennessee Beef also viewed it as fresher and safer beef produced in other states. Respondents expressed a preference for a fresh product over a frozen product. Those choosing a Tennessee Beef product tended to be younger in age and have some farm background and higher incomes than the overall set of respondents. Comparison of percentages choosing the steak or ground beef labeled Tennessee Beef across demographics showed that those with a farm background or rural residence were more likely to choose a Tennessee Beef ground beef product over the base product. In addition, there appear to be some differences across regions in willingness to select a Tennessee Beef product, suggesting demand may be higher for local beef in some areas than in others. Because freshness, safety, support of local farms, and support of local economies appear to be important to the respondents in making their product selections, marketing programs to promote Tennessee labeled products may benefit from emphasizing these product qualities.

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