

Beef nutritional content...how important is it for consumers to have the correct information?

S. Flowers¹, B. R. McFadden², C. Carr¹, and R. G. Mateescu¹

¹Department of Animal Sciences and ²Department of Food and Resource Economics, University of Florida, Gainesville, FL, USA

Introduction

Nutritional value is a driving factor of consumers' purchasing decisions of food products.

Beef is a nutrient rich foodstuff excelling in protein, vitamins, and minerals. There has been growing controversy revolving the fat content of beef and its healthfulness in the diet.

Although much of the fatty acid content in beef is considered "healthy fats," many consumers are confused about the different classifications of fatty acids.

Objectives

The objective of this study is to determine:

- How much consumers generally understand about nutritional value of beef
- How much consumers' knowledge of nutritional value of beef improves as information regarding the topic is provided
- The importance of nutritional content of beef to consumers purchasing decisions
- Consumers' willingness-to-pay for beef of improved nutritional value

Materials and Methods

A national survey was administered online to over 1,000 respondents.

The study began with a set of seven questions and each question asked the respondent to choose between two strip steaks that varied by polyunsaturated and saturated fatty acid levels, iron content, and price (**Figure 1**).

Following the seven choice questions, respondents were asked to categorize "Trans Fat," "Saturated Fat," "Monounsaturated Fat," and "Polyunsaturated Fat," as either "Healthy Fats" or "Unhealthy Fats."

After completing the initial set of questions, respondents were given information explaining the fatty acid classifications (**Figure 2**). No information was provided regarding iron, as it is widely understood that iron is an essential nutrient in a healthy diet.

After receiving the educational component, respondents were re-asked the seven steak choice questions and the fat-categorization question.

Figure 1: Example of a question included in the national survey designed to measure the willingness-to-pay for increased nutritional value of beef.

Shown below are two steaks. Imagine you were really shopping in the grocery store and had to pay the price associated with one of the steaks below. Which steak would you choose?

<p>Polyunsaturated Fat: 50% more than a typical steak Saturated Fat: 10% less than a typical steak Iron: 70% more than a typical steak Price: \$13 per pound</p> 	<p>Polyunsaturated Fat: 100% more than a typical steak Saturated Fat: 20% less than a typical steak Iron: 35% more than a typical steak Price: \$16 per pound</p> 	<p>I would not choose either option</p> <input type="radio"/>
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Figure 2: Educational component provided during the survey explaining the fatty acid classification.

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What are the different types of fat, and which are healthy?

There are four main types of fat:

1. Monounsaturated fat	} HEALTHY fats
2. Polyunsaturated fat	
3. Saturated fat	} UNHEALTHY fats
4. Trans fat	

The goal is to try to choose more of the healthier fats, eat fewer unhealthy fats, and stay within your fat gram goal.

Table 1: Percentage of respondents categorizing different classes of fatty acids correctly into healthy or unhealthy, before and after reading the educational excerpt.

Fatty acid class	Percentage of participants categorizing correctly	
	Before	After
Monounsaturated	66.40%	94.32%
Polyunsaturated	69.05%	93.54%
Saturated	79.14%	91.67%
Trans	79.24%	94.42%

Results

The results from the survey confirmed that many consumers are confused about the differences in beef nutritional value, specifically fatty acid content. As observed from the data in **Table 1**, a favorable shift in correctly categorizing the various fatty acid classifications occurs for every classification once the participants were provided the educational excerpt.

These results show the general knowledge consumers have about beef nutritional value, and the increase in understanding once consumers' are provided information regarding the topic.

Conclusions

These results provide insight for promotion and innovative marketing opportunities in the beef industry.

The beef industry does an excellent job promoting the high protein content and essential nutrients within beef. There has even been lots of work to promote the recent years of findings regarding beneficial fats in beef. Despite this, there is plenty of work to be done since consumers are still overcoming the confusion from past propaganda of beef nutritional content, specific to fat.

According to the USDA National Nutrient Database for Standard Reference, nearly 50% of the fat content of beef is monounsaturated fatty acids, or healthy fats. Beyond this, research surrounding this study at the University of Florida shows there is variation among cattle for polyunsaturated and saturated fatty acids.

This provides opportunity to identify cattle with a favorable fatty acid composition and market such product to the increasing population of health-conscious consumers.

References

US Department of Agriculture, Agricultural Research Service, Nutrient Data Laboratory. USDA National Nutrient Database for Standard Reference, Release 28 (Slightly revised). Version Current: May 2016. Internet: <http://www.ars.usda.gov/ba/bhnrc/ndl>

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