

**The Shift in Consumer Perceptions Before and After Extension-Led Beef Cattle Farm
Tours**

Texas Tech University

Makenzie Neves
2500 Broadway Ave.
Lubbock, TX 79424
(209) 202-1997
mneves@ttu.edu

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Introduction/Need for Research

Consumers are interested in learning where their food comes from but with less than two percent of the population (USDA, 2012) having direct involvement in agriculture that knowledge can be difficult to attain. Many consumers turn to traditional media, the Internet, or social media to gain that knowledge. “While portrayals of agriculture in entertainment media may not actually create negative perceptions of agriculture, they may serve as significant reinforcement for existing negative stereotypes, and perceptions,” (Lundy et al., 2007, p. 65). Social media has been effective and beneficial as an advocacy tool for agriculture (Graybill-Leonard et al., 2011) and to address misconceptions. However, research about online education shows that people would rather have discussions about complicated topics in person (Kemp & Grieve, 2014). That is where transparent in-person discussions and farm tours are beneficial. However, very little academic research has been conducted on how farm tours can shift consumer perceptions.

Theoretical Framework

The basis of the Elaboration Likelihood Model is the existence of two routes for information processing or persuasion- central and peripheral. The model is a theory about attitudinal change (Petty & Cacioppo, 1981). The peripheral route is utilized when the recipient has little interest in the topic or less ability to process the information. In the peripheral route, recipients are more likely to rely on heuristics, mental shortcuts, to reach a decision, (Petty & Cacioppo, 1981). The central route is utilized when the recipient is motivated and able to think about the information presented. Central processing commonly results in an impression being made and an attitude shift, (Petty & Cacioppo, 1986). In this study, the use of the central route would be the preferred method of processing since it requires more thought and typically results in an attitude change (Petty & Cacioppo, 1981). The deciding factors of which processing route are used, central or peripheral, are motivation and ability. This study found that the ability to process the information was lacking because of a lack of prior knowledge. This provides an argument that increasing agricultural literacy among consumers is an effective way to address misconceptions about the agricultural industry.

Methodology

The purpose of this quantitative study was to determine the effectiveness of farm tours as a means of creating a more positive perception surrounding agriculture, specifically beef cattle operations, in the minds of consumers. The research objective was to determine if the participants’ pre-program and post-program perceptions of beef cattle farming changed following the farm tour. The sample consisted of nine volunteers who chose to participate in the University of Arkansas Extension Service “Moms on the Farm Tour.” This study addressed perception, knowledge, and trust through a one group, identical pre-test and post-test design. It was derived from a questionnaire based on a similar study (Stebner et al., 2015) and questions were modified to fit. A Likert scale was used for the first eight questions on the survey. The first three items focused on the self-perceived knowledge the participant held about agriculture, beef production and the pasture to plate process. The fourth item was about their perception of the beef cattle industry in [state]. The fifth and sixth items pertained to food labeling in regard to health and safety. The final two items in that section pertained to their trust in America’s food

supply and beef cattle farmers. Following the scaled section were two short answer questions asking the participants where they go for information about beef cattle production and meat and what three words come to mind when thinking of farming. The final section of the questionnaire collected demographics. The instruments were numbered one through nine and were distributed simultaneously in paper format. The pre-program and post-program questionnaire with matching numbers were distributed to the same participants. The pre-program survey was answered and collected prior to the farm tour and the post-program survey was taken and collected immediately following the farm tour.

Median item-level pre-program and post-program scores, ranges, and skewness were compared. For the first objective regarding the influence that the tour had on the eight pre- program and post-program Likert-scaled items will be determined. The non-parametric Wilcoxon Rank Sum test was determined to be the most prudent statistical test to use in order to detect significant differences. The change will be determined and any change toward a positive perception of agriculture will be interpreted as a success.

Results

The range provided the difference in the largest data set and the smallest data set, which represented agreement or lack thereof throughout participants. Both “I have a positive perception of the beef industry in [state]” and “I am knowledgeable about beef production” had the greatest differences with a range of four for the pre-program and one for the post-program and negative skew. “I have a positive perception of the beef industry in Arkansas” had a pre-program skew of -1.92 and a post- program skew of -.27. “I am knowledgeable about beef production” had a pre-program skew of -.13 and a post-program skew of -.27. Two items showed little change pre- and post-program. “The food I buy is healthy, regardless of label” the median for pre- and post-program was 4, with a range for pre-program of 3, and post-program of 4. “The food I buy is safe, regardless of label” had a range of 4 for both the pre-program and the post-program, with no skew pre-program and -.95 skew post-program. The pre-program and post-program scores were also analyzed with a Wilcoxon Signed-Rank test to determine if a significant difference existed. The question with the largest change was “I am knowledgeable about beef cattle production” with a $z = 2.55$, $p = < .05$, and a large effect size ($r = .850$). This shows an increase in agricultural literacy following the program. Questions regarding labeling of food and overall trust in American farmers had no statistically significant change following the tour.

Conclusions

This study determined that first-hand experience, in the form of a farm tour, had a positive effect on shifting the perceptions of the participants. All questions that were discussed in the program improved perceptions of participants. Perceptions post-program demonstrate the knowledge gap that exists shown by surprise and revelation of misunderstanding and misconceptions prior to the tour. The findings suggest the program had a positive and powerful impact on participants’ perceptions of agriculture and especially the beef industry.

Implications/recommendations/impact on profession

The findings of this study show the benefit of farm tours in shifting participants’ perceptions of beef cattle operations. It is recommended that data about farm tour effectiveness be collected when farm tours are conducted. This feedback can guide future programs and provide

information about what consumers want to learn about most. This study looked specifically at beef cattle operations, a study focused on agriculture in general or other specific commodities would be beneficial in determining if findings are similar across the industry. This study only observed an immediate shift in perception and attitudes. It would be beneficial to re-administer the instrument to participants at varying later dates (six months, a year, five years) to determine if perceptions and attitudes changed long term.

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