Beef Day 2020

SOUTH DAKOTA STATE UNIVERSITY

Department of Animal Science

Extension

SDSU Beef 2020 Increases Beef Industry Knowledge for Participants

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Objective

The objective of this study was to evaluate the effectiveness of the SDSU Beef 2020 program on increasing participant knowledge and impacting production practices. Unlike the pork or poultry industries, the US beef industry is not vertically integrated, and as a result the beef supply is managed by producers in a variety of roles. While these producers are knowledgeable about their specific sector, some may not be as familiar with the other aspects of beef production. South Dakota State University hosts an Extension program entitled Beef 2020 with the goal of bridging this knowledge gap.

Study Description

Beef 2020 is a 3-day Extension program targeted to cattle producers, beef purveyors, and allied industry representatives and addresses the management factors that influence beef carcass traits. Beef 2020 provides the opportunity for participants to view market animals live, observe the harvest process, and participate in a hands-on fabrication of a beef carcass. Information gathered from fabrication is used to calculate carcass value. Participants (n = 138) were asked to complete a survey at the conclusion of the program. Session ratings were scored on a scale of 1 (not valuable) to 10 (highly valuable). Prior and post program knowledge was evaluated on a Likert scale of 1 (none) to 10 (highly knowledgeable). Data were compiled from survey responses from 2013 to 2019. Statistical analysis was conducted on participant previous and post industry knowledge using a one tailed t-test and significance was indicated at $\alpha < 0.05$. Mean ratings and standard deviations were reported for all other data.

Take home points

Participation in Beef 2020 improved participant knowledge by 2.3 points (5.4 vs 7.7, $P < 0.0001$). Additionally, 84% of the respondents indicated they will implement strategies presented during the program in their own operations, while another 11% indicated they may implement new strategies. Participants also indicated the program was beneficial (9.5 ± 1.1) and it should be conducted again (9.6 ± 1.2). Beef 2020 effectively improved participant knowledge of the management factors that influence value differences in beef cattle, which resulted in improved marketing opportunities and carcass value for their operations.

Keywords: beef, evaluation, focus group, hands-on, producers

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Abstract

The objective of this study was to evaluate the effectiveness of the South Dakota State University (SDSU) Beef 2020 program on increasing participant knowledge and impacting production practices. Beef 2020 is a 3-day Extension program targeted to cattle producers, beef purveyors, and allied industry representatives and addresses the management factors that influence beef carcass traits. Beef 2020 provides the opportunity for participants to view market animals live, observe the harvest process, and participate in a hands-on fabrication of a beef carcass. Information gathered from fabrication is used to calculate carcass value. Participants (n = 138) were asked to complete a survey at the conclusion of the program. Session ratings were scored on a scale of 1 (not valuable) to 10 (highly valuable). Prior and post program knowledge was evaluated on a Likert scale of 1 (none) to 10 (highly knowledgeable). Data were compiled from survey responses from 2013 to 2019. Participation in Beef 2020 improved participant knowledge by 2.3 points (5.4 vs 7.7, $P < 0.0001$). Additionally, 84% of the respondents indicated they will implement strategies presented during the program in their own operations, while another 11% indicated they may implement new strategies. Participants also indicated the program was beneficial (9.5 ± 1.1) and it should be conducted again (9.6 ± 1.2). Beef 2020 effectively improved participant knowledge of the management factors that influence value differences in beef cattle, which resulted in improved marketing opportunities and carcass value for their operations.

Introduction

Marketing of fed cattle has changed drastically over the last 20 years. In 1996, an estimated 8.1% of cattle were sold through a grid-based marketing system (Schroeder, Ward, Lawrence, & Feuz, 2002). By 2001, this number had increased to 43.5%, and in 2018 it was estimated that over 70% of cattle were marketed using a value-based pricing system such as a grid (Schroeder et al., 2002; USDA, 2018). Changes in marketing methods means that producers' economic returns are more impacted by the quality of their cattle than in the past, increasing the importance of understanding the changing marketplace and changing consumer demands (Bailey, Bastian, Menkhaus, & Glover, 1995). However, very few producers maintain ownership from birth to harvest. While these producers may be knowledgeable about their specific industry segments, they may not be as familiar with other aspects of beef production, or understand that management decisions throughout a beef animal's life can affect carcass traits and consumer acceptability. To help bridge these knowledge gaps, SDSU developed Beef 2020 over two decades ago. This program is targeted to cattle producers, beef purveyors, and allied industry representatives and addresses the pre-harvest management factors that influence beef carcass value through a hands-on workshop.

The objectives of Beef 2020 are to provide representatives of the beef industry with: 1) hands-on learning activities involving live cattle evaluation, carcass fabrication, carcass grading and pricing, and factors that affect palatability to effectively develop an understanding of factors

that create value differences among beef cattle, and 2) feeding management and marketing techniques that may be utilized in the raising and marketing of high value beef cattle.

Experimental Procedures

The SDSU Beef 2020 program consists of a combination of in-class presentations, hands-on activities, and demonstrations. Content of the program changes slightly from year to year, but always contains several components including: live cattle evaluation, carcass fabrication and calculating carcass value, presentations, carcass grading and pricing, a harvest and meat safety demonstration, and a taste panel.

Participants are provided with an evaluation form at the beginning of Beef 2020. The first section of the evaluation asks participants to rate each portion of the program according to its value to them or their operation on a scale of 1 = not valuable to 10 = highly valuable. The second section asks participants to rate their knowledge of carcass traits, carcass value, and management factors that influence those traits prior to and after attending Beef 2020 on a scale of 1 = extremely limited to 10 = extremely knowledgeable. The final section consists of open-ended questions for gathering information about potential changes participants might make in their operation based on their attendance, if participants would recommend the program to others, what other topics participants would suggest, and for soliciting general comments.

After the 2018 Beef 2020 program was conducted, the planning committee decided to utilize a focus group to closely assess the program and determine if objectives were being met. Focus groups are effective at identifying needs that other assessments, such as post-program evaluations, may miss (Gamon, 1992). Thirteen participants that completed the program in 2017 or 2018 were chosen to contribute to a focus group. The participants were divided into three approximately equal sized groups. Four moderators that did not participate in the 2017 or 2018 Beef 2020 programs were chosen to moderate because focus groups are more effective when the moderator is not familiar to participants (Gamon, 1992). Moderators were provided with two questions on one of four specific sections of Beef 2020 including: 1) presentations, 2) fabrication, 3) grading and pricing, or 4) live cattle evaluation. Moderators recorded responses to each question to be used in the second portion of the focus group. Each group was with each moderator for a total of 10 minutes to ensure the discussions stayed on topic and so the focus group would stay under the two-hour recommendation (Gamon, 1992). The moderators then reviewed the responses to look for trends among groups and addressed the whole group to ask for any other points of clarification or additions to the responses after participants were able to view the points made by other groups. The focus group ended with an open discussion to allow participants to answer more general program questions and to provide any other insight about the program. After the focus group was concluded, results were compiled and a set of recommendations for the 2019 Beef 2020 program was established. A paired T-test was used to evaluate the before and after program knowledge values from the post-program evaluation. Statistical analysis was conducted using SAS version 9.4. Significance was indicated at $P < 0.05$.

Results and Discussion

Evaluations were compiled from 2013 to 2019 (N = 138). Due to the changes made as a result of the focus group in 2018, changes in value scores from 2018 to 2019 are of interest. Therefore, results are reported as an overall average from 2013 to 2017, as well as specific year averages for 2018 and 2019. Session value scores are shown in Figure 1. From 2013 to 2017, average session value scores ranged from 8.1 (Marketing Slaughter Cattle Presentation) to 9.0 (Carcass Fabrication Activity). The fabrication session score increased from 8.3 in 2017 to 8.6 in 2019. The marketing session score increased from 7.6 in 2018 to 8.5 in 2019. The participants in the 2019 program seemed extremely interested in the marketing session and how following their own calves through to slaughter can impact their bottom line. Five participants specifically indicated on the evaluation that they will enroll in the SDSU Calf Value Discovery Program in 2019. Another 7 participants indicated the most important information they took from the 2019 program was knowledge about marketing grids and the marketing of slaughter cattle. Thus, the increase in session score is not surprising as it appears the group of participants in the 2019 program were interested in this information. These data support the results from a statewide needs assessment conducted by Iowa State University from which the researchers concluded that increased education efforts on risk management and price discovery would be necessary for cattle producers to position themselves to ensure a profit each year (Gunn & Loy, 2015). Value scores for the harvest and meat safety demonstration decreased from 8.8 in 2018 to 8.1 in 2019. Carcass grading session scores increased from 8.6 in 2018 to 8.8 in 2019. The 2013 to 2017 average score for the live cattle evaluation portion was 8.3, in 2019, the score increased to 9.0. Overall, the value scores for all of the sessions ranked above 8 on a scale of 1 to 10 indicating a relatively large value to participants' operations and would warrant continued consideration in future programs.

Knowledge of carcass traits, carcass value, and management factors that influence carcass traits increased from before to after participation in the Beef 2020 program (5.18 vs 7.67 ± 0.16; $P < 0.0001$; Figure 2) for all participants from 2013 to 2019. When asked if they would recommend Beef 2020 to other beef producers or industry professionals, 99% of all respondents said yes. The completion of the 2018 focus group resulted in the following recommendations for the 2019 Beef 2020 program: 1) continue the Beef 2020 program in 2019, 2) rearrange the schedule to allow for a grading lecture to precede the live cattle evaluation exercise 3) split the fabrication session into two parts, 4) increase the focus on retaining ownership of cattle through the entire marketing chain, 5) include more material on beef labeling and marketing, 6) include more perspectives from industry.

Implications

The overwhelmingly positive responses from participants over the last eight Beef 2020 programs suggests that Beef 2020 increases participant knowledge about beef carcass traits, carcass value, and management factors that influence those traits, and should be offered in future years to allow other beef producers or industry professionals to participate in the program. Additionally, the use of a focus group was an effective way to assess program effectiveness, strengths, and weaknesses, as we were able to modify the program to fit the needs and learning goals of the participants.

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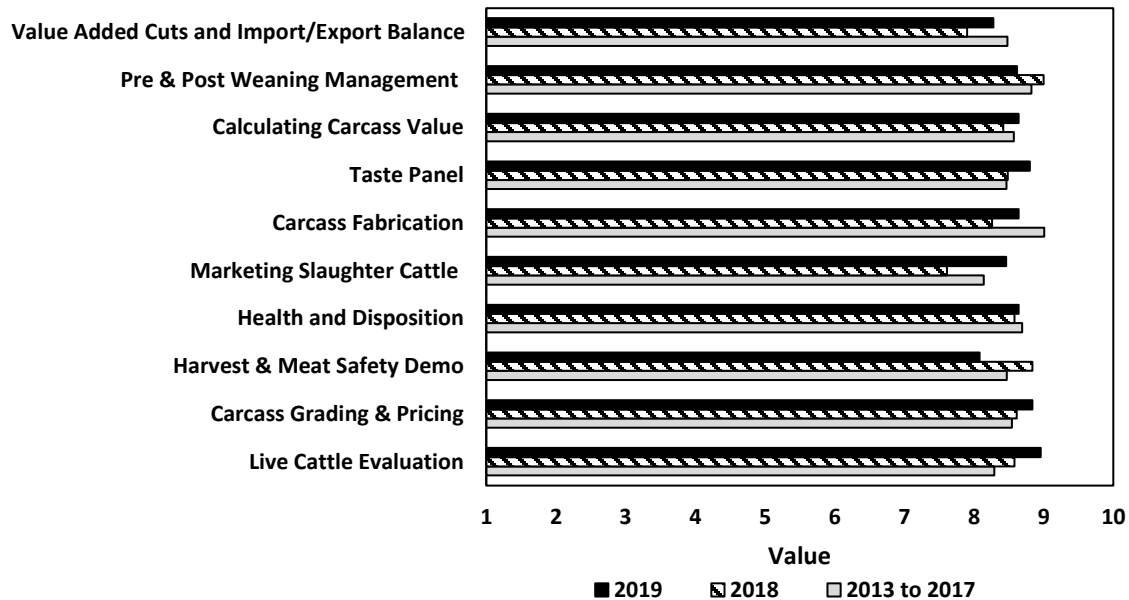
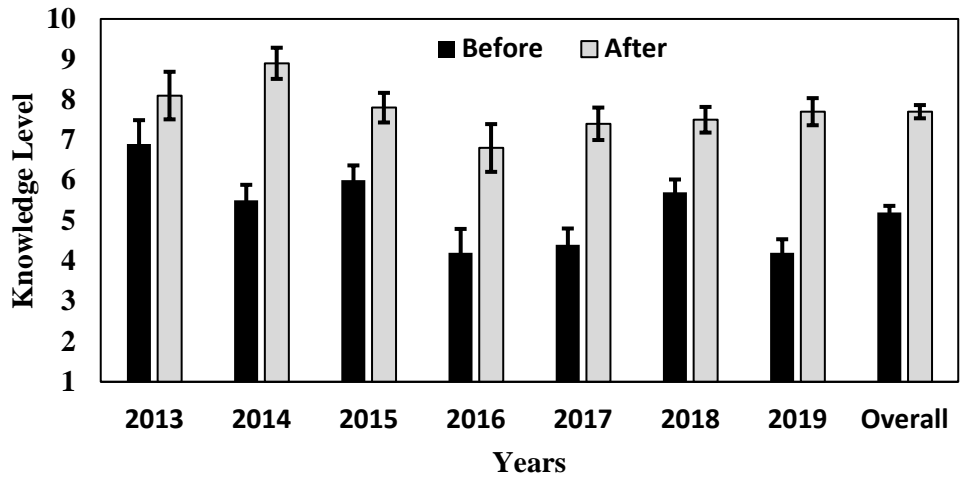**Figure 1.** Average Session Value Scores from University Beef 2020 Programs 2013 to 2019

Figure 2. Beef Industry Knowledge Ratings Before and After Participation in University Beef 2020