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## BeefSD: An Integrated and Intensive Extension Curriculum for Beginning Beef Cattle Producers

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## **BeefSD: An Integrated and Intensive Extension Curriculum for Beginning Beef Cattle Producers**

### **Cover Page Footnote**

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# BeefSD: An Integrated and Intensive Extension Curriculum for Beginning Beef Cattle Producers

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**Abstract.** There is a strong need to increase the opportunities for and success of the next generation of beef cattle producers. South Dakota State University Extension provides a 2-year educational program called “beefSD;” the purpose is to provide producers with a holistic view of the beef industry, an appreciation for utilizing adaptive management to respond to challenges and opportunities, and skills to assess and manage factors that influence overall operation sustainability. The curriculum has four major components: 1) in person workshops, case studies, interactive webinars, and homework 2) out-of-state learning experiences, 3) ranch to rail program, and 4) networking and mentoring.

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## INTRODUCTION

A major challenge to sustaining U.S. farms and ranches is aging agricultural producers. The average age is now 57.5 years, an increase from 50.2 years in 1978 and a continuation of the long-term trend (USDA NASS, 2017a). Continuing to recruit and educate new agricultural producers is critical for replacing aging producers and ensuring that the agricultural industry will have the capacity to meet the demand for food, which is expected to increase to 9.8 billion individuals by 2050 and 11.2 billion by 2100 (UN, 2017). The Food and Agriculture Organization of the United Nations (UN FAO) has outlined challenges to meeting this food demand, including a smaller rural labor force and the ability and knowledge to adopt more efficient and sustainable production methods (FAO, 2009). Moreover, there are additional challenges to overcome to keep producers on the land and food on plates as beginning producers will need to successfully replace aging producers as they retire. Thus, we developed a 2-year Extension curriculum for cohorts of beginning ranchers that provides them tools to make informed management decisions that lead to economic, ecological, and sociological sustainability and in turn contribute to ongoing agricultural production, land stewardship, and rural community viability. This Extension program, “beefSD,” can readily be adapted and applied in other states; we outline our methodology and the curriculum throughout this article and in a logic model (Appendix). It could also be adapted to other commodities and agriculture enterprises. For example, we have recently initiated an AgritourismSD program based on this model that focuses on adding an agritourism enterprise to an operation to increase cash flow.

The primary purpose of beefSD is to provide producers with a holistic view of the beef industry, an appreciation for utilizing adaptive management to respond to challenges and opportunities, and the skills to assess and manage factors that influence the overall sustainability of their operations. The specific objectives are to provide beginning producers with:

1. Knowledge, skills, and experience with production, business, financial, marketing, and human resource management tools, including their use to adaptively manage the overall ranch system.
2. Case studies of alternative beef cattle production systems so beginning ranchers understand potential opportunities and management requirements of alternative strategies.
3. Feedback on post-weaning feeding and carcass performance of their calves.

4. Opportunities to gain firsthand knowledge of the production, business, financial, and marketing aspects of other segments of the beef cattle industry, including the feedlot, packing and processing, wholesale, and retail sectors so beginning ranchers can adjust their management to add value to calves throughout all segments.

## MATERIALS AND METHODS

The first beefSD cohort was initiated in fall 2010 based upon a partnership of South Dakota State University Extension and the South Dakota Farm Bureau Federation (SDFBF). Since its inception with Class 1 (2010–2013), beefSD has thrived and Class 6 started Fall 2022. To date, we have educated 183 participants representing 114 operations. We suggest the following methods for Extension educators to mirror beefSD, based on the continued growth and success of the program over the 10+ years since establishment.

## FUNDING

To date, beefSD has been supported largely by three grants received from the USDA NIFA Beginning Farmer Rancher Development Program (BFRDP). Other funding has been provided by Farm Credit Services, local agricultural banks, USDA North Central Risk Management Education Center, South Dakota Beef Industry Council, and World Wildlife Fund. It costs approximately \$8–10,000 to support one individual through the program (costs vary depending on locale, activities chosen, etc.). Major costs include travel for participants, SDSU personnel, and speakers to attend workshops and trips, partial salary and benefit support for Extension personnel, program evaluation, grant indirect, and project director meetings. We require that participants pay a registration fee of \$1,250 (approximately 15% of the total cost) per individual to ensure they have “skin in the game.”

## TEAM MEMBERS

The beefSD team has evolved with the program. Approximately 4 people can efficiently administer and execute the program. We suggest the following expertise: a range specialist, a meat specialist, a beef cattle specialist, and an economist, with one of these individuals serving as a program coordinator. This allows a core group with expertise to develop and execute the curriculum, adapt where needed, and provide consistent leadership for the participants. We rely on the expertise of other Extension educators and University staff, along with other experts from the beef cattle and allied industries to cover subject matter needs. We also rely on established successful ranchers across South Dakota to serve as case study coaches and mentors. Besides success as a producer, critically important characteristics of a good case study coach is their willingness to openly share their management expertise and serve as a mentor.

## PARTICIPANT RECRUITMENT AND SELECTION

The primary audience is beginning ranchers (defined as those in agriculture production with less than 10 years of management experience). Participants are mostly cow-calf producers, although there have been a few cattle feeders, who are the next generation involved in a family operation as well as some “newcomers” starting out on their own. We advertise the program through news media, social media, agricultural organizations, agricultural lenders, veterinarians, USDA agencies such as Farm Service Agency and Natural Resource Conservation Service, and others that service agriculture producers. We also contact our existing Extension clientele that are beginning ranchers and utilize our beefSD alumni network. We encourage couples to apply together, or two people from the same operation (e.g., siblings or a father and son pair). Potential applicants are directed to a webpage that outlines the program and links to an online application form. The application asks questions intended to assess their need, motivation, and willingness to learn and adapt based on knowledge gained.

We allow 6–8 weeks from the announcement of a new class to closing the application window. Our team then selects applicants to interview. After interviews, we make a final selection of class participants, who are then notified and asked to confirm participation. Class sizes have ranged from 14 to 45 individuals—we have found success with approximately 20–25 individuals; this allows for bonding between participants and instructors, as well as ease of instruction and discussions. The notification occurs at least one month before the kickoff meeting.

# BeefSD: A Program for Beef Producers

## CURRICULUM COMPONENTS

The curriculum has four major components: 1) in person workshops, case studies, interactive webinars, and homework 2) out-of-state learning experiences, 3) ranch to rail program, and 4) networking and mentoring. These components are organized to provide an integrated curriculum that builds on itself as the program progresses to synergistically yield greater value than individual components by themselves. We describe each component below and a draft timeline is included in the Appendix.

### 1. IN-PERSON WORKSHOPS, CASE STUDIES, INTERACTIVE WEBINARS, AND HOMEWORK

Workshops are typically two days long. A key element of the overall program is case studies of successful, established beef cattle operations with differing production goals. Three or four case studies have been integrated into some of the workshops. Case study enterprises have varied across classes; three case studies used in the most recent class focused on seedstock, retained ownership through slaughter, and adaptive management. Workshop locations are chosen to be near each case study. The case study workshops include a tour of the producer's operation on day 1 of the workshop, with an in-depth question-and-answer session with the producer on day 2. This provides participants with time overnight to digest information they've learned and develop questions to ask. Instructive content that fills the remainder of these integrated workshops is designed to support the case study topic.

Five additional in-person, two-day workshops are subject matter specific, including marketing (commodity marketing, risk management, marketing plans, cattle market drivers and outlooks); carcass and meats (live cattle and carcass evaluation, management factors that affect carcass quality and yield, carcass fabrication, and grid-based marketing to add value); estate planning (estate plan strategies, generational transition, retirement financial planning); grazing management (range ecology, ranch planning and inventory, forage allocation, grazing methods, grazing livestock nutrition); and conservation (relationships with government and non-government organizations to improve livestock resources and other ecosystem goods and services such as wildlife habitat, riparian restoration, multispecies grazing, and carbon credits).

Webinars are provided in months that in-person activities are not conducted. Webinars provide another "touch point" with the participants to maintain contact and foster additional networking. Webinar topics include subject matter that the participants self-identify, content to augment workshops, timely topics based on beef cattle industry news or events, or to prepare participants for upcoming in-person activities. Like the webinars, we assign participants homework to complete between or in preparation for our in-person workshops and case studies. Homework ranges from goal setting to developing a drought plan to working on a balance sheet. It serves as another avenue to maintain connection with the participants and keeps them engaged in learning.

### 2. OUT-OF-STATE LEARNING EXPERIENCES

Travel-study trips expose participants to a broader perspective of the entire U.S. beef cattle industry than they are generally exposed to through their operation. We conduct two out-of-state learning experiences. One trip focuses on postweaning cattle segments, particularly large commercial feed yards and a packing plant, along with other beef industry providers such as bull testing and semen collection services. This trip helps participants understand how large the beef cattle industry is, how their cattle fit within it, and how to adjust their management to better market their cattle. The focus of the second trip is from boxed beef leaving the packing plant to beef on consumer plates. Participants tour a wide variety of wholesale and retail beef product marketing channels such as alternative grocery stores (e.g., Whole Foods, Trader Joe's), food co-ops, farmers markets, specialty butcher shops, and a white tablecloth restaurant—the idea is to expose participants to alternative product (e.g., grass-fed, natural, organic) marketing opportunities, and consumer touchpoints. It gives participants an appreciation for potential product differentiation to add value through alternative markets.

### 3. RANCH TO RAIL PROGRAM

The Ranch to Rail (R2R) program (TAMU, 2000; USU, 2000) is included in the beefSD curriculum because most South Dakota cow/calf producers market weaned calves as their end product through a local auction market. Consequently, they have minimal knowledge of the remaining production stages necessary to produce meat products and no knowledge of how their calves perform post-weaning. Participants are given the option of placing calves into R2R where calves are delivered to a feedlot and finished. Participants receive feeding performance (average daily gain, feed conversion efficiency, etc.), economic data (cost of gain, net income, etc.), and carcass data (carcass

weight, quality, and yield grade, etc.) on each animal. This data facilitates discussion with participants about the potential for adding value with retained ownership, as well as the influence that their management decisions can have on feeding performance, carcass characteristics, and market value.

#### 4. NETWORKING AND MENTORING

Relationship development is critical to the success of the program. Participants network with the team as well as each other and the case study coaches, who also provide mentoring. We encourage participants to reach out to case study coaches and experts who participate in the program. We also offer ranch visits for each participant, which allows our team to better understand an individual operation's needs in a more informal setting. We also encourage the participants to form individualized management teams comprised of key people that support their enterprise (e.g., banker, accountant, veterinarian, nutritional consultant). Relationship development has led to strong, trust-based relationships between our team and alumni of all classes.

### EVALUATION

Evaluation has been a continuous process. We engage a third-party consultant to evaluate ongoing progress towards desired outcomes. Online survey instruments are administered at the midpoint and end of each class to determine progress toward short- and medium-term outcomes and to adjust content and delivery to fulfill participant needs. We also periodically conduct an alumni survey to assess long-term impacts.

### CONCLUSIONS

The beefSD program provides beginning beef cattle producers with a holistic view of the beef industry and the management skills needed to increase their operation's sustainability. The program is widely applicable and could be adopted in other states or for other agriculture enterprises by following the program components outlined above.

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