

Systems Approach to Beef Production

Developing a Basic Management Plan



A systems approach to beef cattle production involves many working parts that influence the overall goal of the operation. Although you may think about repairing these parts one piece at a time, you must recognize that, in reality, they work together to drive the total production system. This publication addresses basic strategies for developing a beef cattle operation management plan.

What is the goal and long-term vision?

The quotation “Begin with the end in mind” has widespread application for a beef cattle operation. In order to determine what management decisions need to be made, it is important first to determine the goals of the operation. Remember, you have to know where you want to go before you can decide how to get there.



Collecting soil samples

What resources are needed to achieve these goals? Can you feasibly attain them?

Evaluate your current farm resources and what improvements may need to be made to attain your production goals. Reflect on your goals and determine if it is economically feasible to move forward. Develop a time line for achieving these outcomes, and invest the effort in steps required to achieve them.

When developing a management plan, consider the following systems foundations and decision points.

Soils. A soil analysis provides valuable management information needed for every beef producer. Routinely soil testing pastures and hayfields will provide an estimate of available nutrients in the soil and fertility recommendations. A soil analysis service is available through the Soil, Forage, and Water Testing Laboratory at Auburn University.

Forages and Nutrition. Forages are the foundation for nutrition in the beef cattle herd. Forages are classified as a grass or legume, an annual or a perennial, or a warm-season or cool-season plant. Climatic conditions in Alabama allow us to grow forages for the majority of the year and economically meet the nutrient requirements of our herds. Select forages that are well adapted to the soil and environmental conditions in your area. Understanding forage adaptation, the level of management required, and if these species will meet the nutritional needs of your livestock are important factors when making a beef cattle management plan.



Cow-calf pairs grazing annual ryegrass and crimson clover

Appropriately selecting and managing forages for a given environment ensures that you will have more grazing days per year. Extending the grazing season is important when setting goals for a beef cattle operation because this represents the most economical source of nutrition for livestock. If excess forage is harvested and stored as hay, a forage analysis is needed to determine overall feed value and whether it will meet the nutritional needs of the herd. Consider supplemental feeding only if forage quality is low.

Herd Health. Establishing a local veterinarian-patient relationship is crucial in determining the correct health program for the herd. Depending on the class of animals in the operation (cow-calf, stockers, etc.), the types of vaccination and management programs may vary widely.

Record Keeping. Collecting, using, and maintaining good records are key components of any beef cattle management system. The level of record keeping practiced on the farm can help define the level of success achieved in the operation. Without adequate records, it will be difficult for you to determine if your goals can be achieved efficiently and productively.

Producers should tailor their record keeping systems to meet the specific needs of their operations. If you are not currently collecting records, start with basic information to quantify production efficiency and inventory numbers. Basic cattle production records should include animal identification information and cow and calf performance data.

Conduct an annual inventory of the number of cows, calves, bulls, and replacement heifers in the herd. Estimate cow age, and record the number of cows that wean a live calf. Minimum calf data includes ear tag number, date of birth, sex, color, birth weight,

and weaning weight. From this information, you can calculate pregnancy rate, calving rate, and weaning rate in the herd.

Facilities Management. Well-designed working facilities enhance the flow of processing cattle in the operation. Evaluate the current infrastructure on the farm, and determine where improvements are needed. Understand that working facilities do not have to be elaborate, but they should be practical and safe for the animals and handlers.

Choice of fencing is also important in forage-based beef production systems. The cost and type of materials for fencing is often a site- and producer-specific decision. A storage shed or barn for equipment and hay may also be a worthwhile investment. A building protects expensive investments and increases years of usefulness in the operation. Incorporate this information into the annual systems plan where feasible. Some investments may take years to achieve, and their need should be evaluated annually.

General Production Practices. All cattle producers should incorporate into a systems management plan two basic herd management strategies—a defined calving season and castration. A controlled calving season optimizes the herd nutrition and health program, breeding season, time, and labor. Calving within a 60- to 90-day window is desirable for enhancing efficiency. Castrating calves at a young age (usually around the time newborn calves are tagged) is a desirable management practice. Steer calves are usually preferred over bull calves when sold at livestock markets, and they almost always bring a higher price.

Another general management practice to consider is implanting calves to improve the rate of gain and feed efficiency. Implanting is a low-cost practice that complements other management goals. Implants are small pellets that contain a slow-release growth stimulant that can be inserted with a specialized implant gun into the ear of growing calves. Steers and cull heifers, or animals that will be sold, finished, and processed for consumer markets, may be candidates for implanting. Implanting works best with animals with good genetic potential and a proper nutrition program that effectively promotes weight gain.

Choosing Cattle for Your Environment. The most important decision related to breed selection is choosing a cattle breed that is adapted to your production environment and management system. Traits related to growth, reproduction, maternal ability,

and end product are all important for commercial cow-calf operations. Understand desirable traits of a given breed type, and compare these to your overall production goals. Based on this information, develop a planned crossbreeding program to help meet these needs. A plan helps a producer determine the steps and time line needed to combine the strengths of several breeds into a cross.

Putting It All Together. There are many management considerations in a beef operation. Being profitable in the cattle business requires a production plan and the desire to maximize the return on your investment of time and resources. Most important is to develop a list of realistic goals, items needed to achieve them, time frame, key personnel, and resources.

Additional Resources

Contact your county Extension office with questions related to beef cattle management in Alabama. Use the following online resources for more information.

Alabama Cooperative Extension System
www.aces.edu

Alabama Beef Systems Extension Program
www.alabamabeefsystems.com

Alabama Forage Focus Extension Program
www.alabamaforages.com

USDA Natural Resources Conservation Service
www.nrcs.usda.gov

USDA Farm Service Agency
www.fsa.usda.gov

USDA Weekly Livestock Market Report
<http://www.ams.usda.gov/market-news/feeder-and-replacement-cattle-auctions#Alabama>



Figure 1. Systems management keys



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For more information, contact your county Extension office.

Visit www.aces.edu/directory.

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