Assessing Management, Resources, and Marketing

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Goal setting is an important exercise for many areas of beef production, especially for the breeding program. These goals may be related to reproductive success, calf performance, income, cost containment, or several other targeted areas. Breeding decisions will impact each of these goals. For example, the breeding management practice that has the greatest impact on reproduction is crossbreeding; whereas selection is the best management practice for improving carcass quality. Goals that can be addressed directly through selection are typically called breeding objectives. Breeding objectives should be set to help you meet your overall farm/ranch goals. An example of a breeding objective might be to minimize calving difficulty. Breeding objectives are long-term goals; remember, changes to your herd's genetics generally take time.

Herd Assessment

Once goals have been established, a target has been set; hence, to reach that target, it is important to determine the performance and potential of your current herd. It is very important to have complete and accurate data related to both sources of revenue and cost to determine the production potential of a herd. Data analysis may determine if a herd is performing appropriately for the present level of management or if subtle or drastic genetic changes are in order to meet goals.

Determine Breed Makeup

The first step in assessing a commercial herd is to determine its breed makeup. This will help determine if changes relative to the breeding system (e.g., crossbreeding) are needed. Commercial cattlemen that have cows in the herd that are greater than 75% of one breed should consider changes to the breeding program to take better advantage of crossbreeding. Further detailed discussion will follow in the crossbreeding section.

Determine Production Level

The next step is to determine the production level of your herd. Accurate and complete records are the only method of determining the production status of a cow herd. Records allow the assessment of the date of calving for reproductive performance (including calving distribution), calving ease score, udder and teat scores, calf vigor, sickness, growth performance, cow weight and condition at weaning, and any other characteristics of importance. Herd data analyzed and summarized can become information needed to make proper management decisions. Without records, the ability of cattle producers to make best management decisions is drastically limited.

Determine Mature Weight of the Cows

Genetic trends for mature cow weight have been increasing for many beef breeds (Figures 1 and 2). Many beef producers have done an excellent job of moderating frame size, but this moderation has not been reflected in the mature weight. It is important to remember that cow maintenance requirements are based on cow weight, not frame size. Heavier cows require more nutrition to meet their maintenance requirements.

For most commercial cattlemen, cow maintenance costs are the major production cost for the cowherd. Heavier cattle require more nutrients just to maintain their current condition while conducting normal daily activities (grazing, walking to water, ruminating, breathing, etc.). It is critical to evaluate your cost/return balance in your management system. For example, if larger feeder calves are desired and replacement heifers are retained, it may result in larger mature cows that will increase feed costs, or if feed resources are not increased, the herd's reproductive performance will suffer. This situation is difficult to overcome because there is

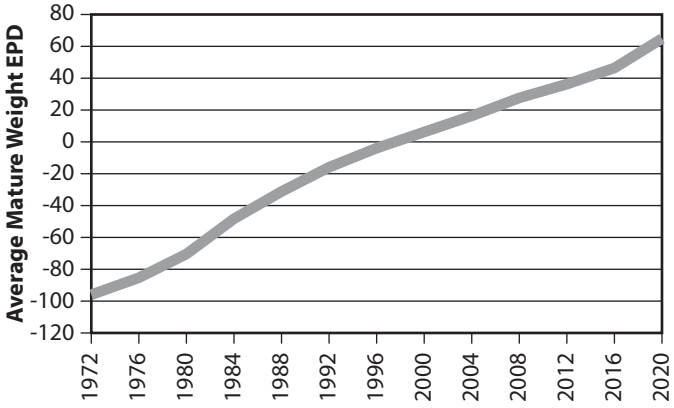

Figure 1. American Angus Association genetic trends for mature weight.

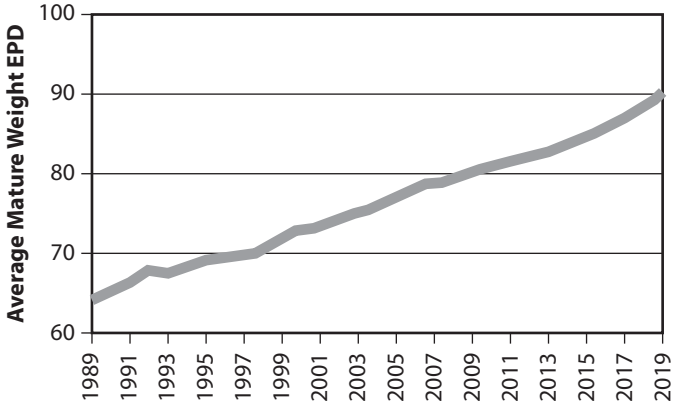

Figure 2. American Hereford Association genetic trends for mature weight.

a moderately high positive genetic correlation between early growth traits (e.g., weaning weight and yearling weight) and mature size. Therefore, it can be difficult to find a sire that has genetic potential for high early growth but moderate to lower mature size.

Management Assessment

Management is another component of an operation that should be assessed. In order to properly determine the genetic makeup of cattle that is needed, it is important to know what resources will be provided and how they impact the performance of the herd. When assessing management, the primary areas of concern are labor, feed availability and quality, and unique environmental conditions (e.g., altitude, extreme heat, etc.).

Labor

Even on a family-owned and -operated farm or ranch, labor is a consideration when developing a breeding program. Manpower spent per animal, particularly during calving season, will need to be determined. In other words, is labor available over the course of the day to provide assistance when needed, or is labor limited or available on a part-time basis? Knowing this information is necessary to develop a sound breeding program. As an example, a full-time farmer/rancher who observes the cattle multiple times in a day may not have the same limitations for calving ease as the part-time farmer/rancher who rarely sees the cattle. Full-time farmers/ranchers usually have more available time to harvest stored feeds at the appropriate time, resulting in better quality (hay, silage, etc.), and have an increased ability to get those resources to the cattle in times of need.

Another labor consideration is the physical capability of the labor. Physical limitations (age, health, handicap, etc.) will require breeding considerations for traits such as calving ease and disposition. Labor availability and capability are important components when developing your breeding program. Additionally, there is a cost that should be considered for all labor, including your own.

Effect of Performance Level and Nutrition Availability

The availability and quality of nutrition are extremely important when determining your breeding program. Cattle will perform as a response to their nutritional plane. Research has shown that under limited nutritional conditions, smaller, less productive cattle are more efficient at converting the available resources into pounds of salable product. Their calves typically weigh less, but they tend to have a greater reproductive rate, which improves the production of the herd. Under ideal nutrition, there were very little efficiency differences between high- and moderately performing cattle. In an environment that provides an abundance of nutrition, the larger, high-performing cattle were the most efficient at producing pounds of salable product (weaned calves) when compared to low producing cattle. Based on this information, operations that provide exceptional nutrition should consider more productive types of cattle; however, operations with poor nutrition, either in availability or quality, should consider less-productive cattle (smaller and/or less milking ability). Quantity and quality of feed resources will be a factor in many management decisions, including breeding management.

Feed Quality

Cattle are raised in every part of the United States, and conditions vary drastically. The nutritional resources that are available to cattle are also going to be considerably different, depending on location and individual management practices. Three basic nutritional categories need to be assessed: the forage base, stored feeds, and purchased feeds.

Forage Base

The forage base assessment deals with determining the quality, quantity, and seasonality of forages that are available, including grass type, availability of legumes, and grazing system options (continuous, rotational, etc.). It will also include the availability of crop residues and other regional grazing practices. Because of increased production costs, intensive forage management must sustain a greater level of cattle productivity.

Stored Feeds

The best way to determine the quality of stored feeds is through lab analysis. The major factors that are going to affect that analysis will be species composition, maturity at harvest, harvesting conditions, and storage conditions. Species composition is typically influenced a great deal by the region (subtropical, high desert, fescue belt, etc.), as well as some aspects of harvesting and storage. Arid regions can typically harvest hay under better conditions than areas with large amounts of rainfall and humidity. In many regions, the window of opportunity for cutting, drying, baling, and removal is too short to avoid some exposure to rain, which affects quality. Those windows of opportunity can also dictate the maturity at harvest.

Purchased Feeds

The assessment of purchased feeds should be based on the availability of economical feedstuffs and is reflected in feed tag information. The decision to purchase feeds is dictated by the deficiencies between the herd requirements and the availability of feed grown by the cattle operation. Regional situations will make certain economical feedstuffs readily available to cattle producers. The decision to purchase feed should always be based on the economic return. In other words, be certain that the cost of purchasing the feed will be offset by generated income.

Marketing Opportunities

The production of beef can be segmented so that multiple ownership of the cattle can happen before it reaches the end consumer. This type of system allows many opportunities for cattlemen, depending on the amount of financial risk and responsibility they are willing to take. The time of marketing (weaning, pre-conditioned, yearling, finished) and the pricing systems should be seriously considered when developing breeding programs.

The most common opportunities to market cattle intended for meat production are:

Weaned calves sold at auction or by video. The only production information that is available to potential buyers is made available by the seller through the auction center's personnel.

Calves sold off the farm at weaning. Buyer has direct contact with producer and should be more aware of performance information to varying degrees, breed type, and management information.

Calves sold either at auction or off the farm after a preconditioning period. This marketing system is only profitable to the seller if the buyer is aware of the preconditioning. Therefore, if sold at auction, it is necessary for the preconditioning information to be provided to potential buyers to obtain price premium to offset the increased costs.

Yearlings sold after a backgrounding/stocker program through an auction or off the farm. Buyers generally have little knowledge of the cattle if the cattle have had a previous point of commerce, but yearlings tend to have better health as feeders compared to calves because of advanced age.

Retained ownership through the finishing period. Fed cattle have the following marketing options:

- **Sell live as commodity cattle.** Cattle are priced by the average value of cattle compared to other cattle marketed at the same time.
- **Sell the meat.** Available options are:
  - *Grade and yield.* Carcasses are valued according to Quality Grade, Yield Grade, and dressing percentage.
  - *Value-based market through a grid or formula.* A precise marketing system that pays premiums for certain carcass traits. Some grids are better suited for high-quality grade cattle, while others are better suited for greater lean meat yield. Most grids pay premiums for cattle that fit specific breed-centric programs such as Certified Angus Beef or Certified Hereford Beef.
  - *Formula marketing.* Cattle that are marketed during the finishing period with a specific future date and delivery point.
  - *Freezer Beef.* Local marketing option where the purchase is agreed to on a live basis and delivered to a processor. Processing is custom to the purchaser.
  - *Direct Marketing.* Local marketing option where processing is done at a USDA inspected processor and beef can be sold directly to consumer (restaurant, retail, farmers market, etc.).

The best marketing system for an operation is difficult to determine if information about the production potential of the cattle is limited or nonexistent. Depending on resources and production potentials, differences in marketing options will determine profits. Situations that may cause re-evaluation of cattle marketing plans would be drought or other restrictions to grazing management, market and/or futures prices, alternative feed availability, facilities, ability to manage risk, or others. Although it is important to set goals and have targets, it is also important to be flexible if opportunities or adversities develop.

Summary

Evaluating the resources and opportunities of cattle operations is the first step necessary in selecting breeding stock. Once marketing goals are in place and the capacity and level of production of an operation are established, then a breeding program can be developed that aims to meet specific breeding objectives. The breeding program of seedstock producers should be to provide customers with cattle that fit their operations and production goals. Marketing highly productive (growth and milk) bulls in an area with limited resources may compromise future production. Commercial producers should consider a crossbreeding system to take advantage of heterosis and breed complementarity. After breed selection, cattle producers should then select bulls that match their resources, management, and market opportunities. Targeted selection is a must for efficient production of beef.