Cull breeding animals represents an estimated 20 percent of the gross receipts in a typical cow-calf operation. Many factors influence cull values, but two that producers can use to their advantage are price seasonality and weight/condition. Typically, culls have their lowest market prices during the period from October to December, mainly because most spring calving herds have weaned their calves and most cull cows are sent to market in this time frame. Selling cull cows at a time other than the peak marketing period of October and November will generally result in a higher price per pound. If cull cows can be identified earlier, it is not uncommon for cows of equal weight and body condition to return 10 to 15 percent more income when sold in August or September compared to those marketed in November. Cull cow market prices typically peak in February/March. Delaying marketing until February allows producers to add weight and condition to cull cattle through the fall and early winter to increase profitability. This delayed marketing strategy has challenges as well as opportunities. Feeding cull cows to increase weight and body condition is not always profitable and care must be taken to be realistic in the cost projections when calculating profit opportunities. Adding weight to mature cows can be expensive, especially if relatively expensive stored feedstuffs are being used. Producers either need to provide a very low-cost diet, such as corn stalks with quite a bit of downed corn, stockpiled pastures, or a high energy finishing ration in drylot to achieve the best conversions possible.

In a study conducted at South Dakota State University, cull cows were fed a high energy ration of 76 percent corn, 15 percent corn silage and 9 percent protein supplement. These cows gained 2.8 to 3.1 lbs. per day. This study found that it is possible to achieve decent gains with cull cows. An additional strategy to increase cow live and carcass weight is to use a moderate-potency implant. Research data indicates that gains can be increased by 10 to 15 percent.

The USDA market news service reports on four classes of cull cows (not destined to be herd replacements). The four classes are divided primarily based on fatness (see Chapter 12 for a discussion of body condition scores). The highest conditioned cull cows are reported as "Breakers". They usually are quite fleshy (body condition score ≥ 7) and generally have excellent dressing percentages. The next class is a more moderately conditioned group of cows
(body condition scores of 5 up to 7) called "Boners" or "Boning Utility". Many well-nourished commercial beef cows would be classified as "Boners". The last two grades of cows as reported by the market news service are the "Leans" and "Lights". These cows would be; lower in body condition (1 - 4), expected to have lower dressing percentages (carcass weight/live weight x 100), more susceptible to bruising during transportation, and expected to have more trim loss (loss of marketable carcass weight) than cows in better body condition. “Leans” and “Lights” are nearly always lower in price per pound than “Boners” and “Breakers.”

Producers who sell cull cows should pay close attention to the market news reports about the price differentials of the cows in these four classes. If cows are culled while very thin, short term drylot feeding that results in added weight and an increase in grade can be a profitable option. However, it is critical that a well designed, low cost ration be developed to make this work. Moving cows from the “Leans/Lights” category to “Boner” category can typically be done in 50 to 75 days with excellent feed efficiency. Rarely, however, does it pay to move cows from “Boner” to “Breaker” classification because of the characteristically small price per pound differential and because feed efficiency (gain:feed) tends to decrease significantly as body condition increases (≥ 6). Therefore, it is important to calculate a realistic cost of gain (feed, labor, interest, overhead) and estimate future cull cow price before making the decision to delay marketing of cull cows. If the value of adding weight and increasing market classification is greater than the cost of gain, then additional profit can be realized. If the cows are in good body condition (body condition 5 to 7), or if the cost associated with delayed marketing exceeds the anticipated increase in cow value, delayed marketing may not be justified.

For most producers, culling cows is not an easy task. However, some culling needs to be done each year to maintain optimal herd productivity. Records on each cow’s yearly production are beneficial when making culling decisions. All breeding females should be evaluated at least once per year and weaning is usually a convenient time. At weaning, cows should be vaccinated; pregnancy-tested; and evaluated for structural soundness, body condition, and condition of their teeth. This information will be valuable when determining a culling order. In the event of a drought, it is usually more profitable to cull unproductive cows early, rather than trying to hold them until the drought becomes serious. As the drought progresses, more local cattle come to market and at least locally, prices can decline rapidly.
The most logical cows to cull are the ones that have the least chance of being productive in the long term, and those that are furthest away from being productive. It is always a good practice to cull a cow before the time when she can hardly load in the trailer and brings bottom of the market price. Each operation will have different goals and, therefore, may need to adjust accordingly, but the following list can be used as a guideline for developing a culling order:

- **Disposition.** Disposition should be noted anytime cattle are moved between pastures and worked through the handling facilities. Any animal that is aggressive should be on the culling list.

- **Open females.** All open females should be culled. Annual out of pocket cow cost (2010) is around $450 and total cow cost, including all owned resources, is likely over $800 per cow. This makes it very difficult for an open cow to make up for a year of lost production. In addition, heifers that do not settle during the first breeding season have a higher probability of being a problem breeder later in life. The easiest time for a female to breed is the first breeding season because there is no lactation stress.

- **Structural soundness.** Evaluate the structural soundness of each cow based on her ability to raise a calf. Look for bad feet or toes, a history of prolapse, eye problems and poor udder conformation, including bad quarters and big teats.

- **Age.** Cows are typically most productive between the ages of 4 and 9. As cows move past 10, the probability of arthritis, poor body condition and broken mouths increase. Cows with badly worn, missing or separated teeth will struggle to harvest forage and maintain body condition.

- **Low performance.** Cows that wean light calves because of low milk production or calving late will struggle to reach herd average in the future.

- **Bred cows over 9 years of age.** These cows will likely be culled in the near future and are close to the end of their most productive years. Within this group, cull the thin cows first.

- **Replacement heifers.** Yearling heifers that conceive late in the breeding season will have a hard time returning to estrus and conceiving after they calve and before the end of the next breeding season.
• **Phenotype.** This as an opportunity to make the herd more uniform by culling cows that do not fit because of breed type, size or muscling.

• **Bred cows 3 to 9 years of age.** This group is the “heart” of the herd because they should be most productive. If culling is done with this group, thin cows that conceive late in the breeding season should go first. Three-year old cows and 8 to 9 year old cows should come next.

Marketing into value-added markets requires careful planning and a commitment to the process. Without proper planning, homework, and follow-through in marketing, producing for a value-added market could result in a higher cost of production and lower profitability. For example, producing a value-added product, but selling it into a market where this added value is not appreciated will not be a good return on investment. Success and increased profitability with value-added marketing requires careful study of what the market wants, what the buyers are willing to pay for, what you can produce with the resources available, and a realistic estimate of the cost to produce that product.