

# Deciding When *and* What *to* Cull

*Planning your strategy can lead to profit.*

Story by **ED HAAG**

"It makes sense to cull heavier when prices are really high, and then rebuild your herd by purchasing replacements when prices are depressed," says Rod Jones, Kansas State University Extension livestock economist.

In a time when beef prices are hovering at near-record highs and many cow-calf operators are trying to increase their herd numbers after years of drought forced them to downsize, the question of when and which cows to cull holds a particular relevance in today's production environment.

"Between 2000 and 2004 we were in some pretty serious drought in the western part of the state, and we did see a lot of culling then," Jones says. "Now, ranchers in areas that are blessed with abundant moisture and adequate forage supplies are trying to get as many calves out of their cows as they possibly can in order to respond to this extended period of good prices."

He adds that for some, building their herds up now might make good economic sense, but studies indicate the opposite is true. "We have research that indicates that on the long term it makes sense to cull heavier when prices are really high, and then rebuild your herd by purchasing replacements when prices are depressed," Jones says.

In addition to long-term considerations, individuals who choose to cull their animals must consider seasonal variations in prices. Historically, cull cattle prices are at their lowest from October through November, when the largest number of animals hits the market. "Most producers preg-check September through October and cull their cows after that so they don't have to winter their open animals," Jones says. "We can easily see a 20% change, on average, from the seasonal low to the seasonal high."

He notes that the highest prices for culls are in the spring, with the market flattening out through the summer.

## Have a plan

"Deciding which cattle to send to the sale barn can have a major impact

on the economics of an operation," says Jeremy Powell, University of Arkansas Extension veterinarian. He adds that he cannot overstate the importance of making well-informed decisions based on current circumstances, long-term planning and up-to-date information on all cows in the herd.

He cites, as an example of current circumstances, the drought conditions manifested in parts of his state and how those conditions will affect a calf producer's culling decisions. "With limited forage resources, beef producers can't afford to carry animals that won't produce," Powell says. "Some hard questions have to be asked."

As Jones mentioned, longer-term decisions might involve building up a herd to accommodate improved pasture productivity or in response to newly acquired grass leases. Powell adds that although cattle prices should play a role in any culling decision, other factors should be considered, such as an operation's carrying capacity, cost to winter potential culls vs. selling them in the fall when prices are low, and, of course, the performance of individual cows.

## Complete records, smart decisions

For Powell, one of the most important culling tools available is a comprehensive set of records that allows a beef producer to evaluate an animal's performance using several criteria. Without such data, it is extremely difficult, if not impossible, to assess a cow's performance in certain areas when dealing with a large herd. "For example, if you are trying to cull based on calving difficulty, and you don't have the necessary records, how are you going to tell, in the fall, which one had problems in the spring?" he asks.

Each operation is different, Powell says, so it is necessary to decide what production and financial information is useful and practical to collect. Once that is determined, it is equally important to follow through by collecting the data in a timely manner and in a form that can be used later.



Research indicates that reproductive performance starts declining after 10 years and drops even more dramatically after 12. [PHOTO BY BROOKE BYRDI]

Powell says the process of maintaining an individual set of records on each animal in the herd should begin by tagging and tattooing calves at birth, matching them with their dams, and recording their birth date and sex, as well as other pertinent data such as the dam's identification (ID), sire's ID, the calf's birth weight, calving ease score, and health records for the cow and calf. Later, the weaning weight and weaning date can be added.

Breeding records on cows and heifers should tell whether they have been exposed to natural service or artificially inseminated (AIed). Data on naturally serviced animals should include bull ID, female ID and the breeding season, while the data on AIed animals should also specify the date of insemination.

## Some priorities for culling

Powell and Jones both agree that culling priorities will vary depending on the state of the herd and the goals of the producer. Some of the more common goals are increased production, higher weaning weights, shorter calving season, greater herd uniformity, better feed conversion and eliminating inferior genetic traits from the herd.

While these goals will influence a beef producer's ultimate culling decisions, here are some general criteria that should be considered.

## Open to loss

Probably the single most important reason for culling an

animal is its failure to breed back, Jones says. "That animal is a direct drain on your bottom line. It has to go."

Some exceptions might be made for high-value animals, but, in general, the cost of carrying a nonproductive cow is just too high. This is particularly true when resources are limited and the open cow is consuming feed that would be better redirected to a productive animal.

While little can be done about cows that don't breed back, Jones sees a real financial advantage in determining pregnancy as soon as possible. "Because cull animal prices are at their lowest in October, November and December, it makes sense to get your cows to market before that price drop," he says, adding that those who have the resources to preg-check in August should receive more for their culls than those who wait until later.

He notes that an important component to the early identification of open cows is observation. This includes watching for cows that return to standing heat after breeding or AI.

A recently introduced product, the ELISA used to evaluate bovine blood samples for pregnancy, could also shorten the window between breeding and identifying open cows. While rectal palpation, the most common method for determining pregnancy, is recommended no earlier than 60 days after breeding, the new blood

**Table 1: Proportion of cows culled by age and reason for culling**

Reason for culling	Age in years									
	2	3	4	5	6	7	8	9	10	
Died or missing, %	1.6	1.8	1.0	1.9	1.1	0.4	1.4	0.0	0.0	
Bad udder, %	0.0	0.1	0.0	0.3	0.2	0.0	1.4	5.6	6.7	
Lumpy jaw, %	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
Cancer eye, %	0.0	0.1	0.1	0.6	1.6	1.3	0.0	5.6	13.3	
Prolapse, %	0.3	0.2	0.0	0.1	0.2	0.0	0.7	0.0	0.0	
Bad feet, %	0.0	0.0	0.1	0.0	0.2	0.4	0.0	0.0	0.0	
Other injury or illness, %	0.1	0.2	0.2	0.1	0.4	0.0	0.7	0.0	0.0	
Management decision criteria, %	17.2	16.9	11.7	14.6	14.6	19.4	23.0	50.7	53.3	
Total culled, %	19.3	19.5	13.2	17.6	18.5	21.5	27.3	62.0	73.3	
No. of cows	2,487	1,623	1,000	698	438	237	139	71	15	

**Source:** Greer et al. (1980). This table outlines the results of a study on why cows were culled at the Livestock and Range Research Station, Miles City, Mont.

test can yield accurate results within 30 days of breeding.

Pregnancy status can also be determined with ultrasound technology. Ultrasound offers more accurate fetal age determination than palpation and can incorporate fetal sexing under certain conditions. On the downside, it can be logistically difficult to arrange and is more expensive than rectal palpation or the new blood tests.

#### Will she make it?

Jones lists an animal's condition as the next most important economic reason to cull. "We are talking about a cow in very poor condition that might be bred, but there is a question of whether or not she will get her next calf raised," he says, adding that this could involve a variety of factors ranging from age to chronic disease.

Powell notes that it is important for beef producers to keep good records on the condition of their cows, periodically updating them when possible. That way, cows that show a decline in their health can be identified, diagnosed, treated or culled.

As for aging animals, research data support the view that reproductive performance starts declining after 10 years and drops even more dramatically after 12.

Mature animals are also more likely to suffer from health problems that will affect the quality and weaning weight of their calves, Powell says. Studies show that as animals age, the likelihood increases that they will have blind udder quarters — a phenomenon usually caused by chronic mastitis.

Older cows are also more likely to develop cancer eye and the advanced symptoms of Johne's disease — two occurrences that could severely hamper an animal's salvage value.

Powell admits that even with the known risks of retaining mature animals in the herd, today's high beef prices and corresponding replacement heifer prices are forcing cow-calf operators to keep their cows longer than they would when cattle prices were lower.

He recommends paying close attention, in particular, to the overall condition of those animals and cull them if their condition starts to deteriorate. "As long as teeth, udders, feet and legs are sound, many older cows are still able to

perform well," he says, adding that it is important to maintain up-to-date, specific records on each animal's condition so any changes can be identified and dealt with immediately.

#### Culling for performance

Jones believes that if there is a single culling criteria that will affect future profitability, it is genetically influenced performance, but because its effect isn't necessarily immediate, it is often overlooked. This is particularly true as it applies to genetically compromised late and difficult calvers. "There is a growing value to bringing uniform calves to the market," he says. "Chronic late-calvers compromise that."

Late-calvers can also affect labor costs and scheduling. The same can be said for difficult calvers, but with them there is an added factor. "You are running a real risk of not getting to the cow on time when it has a problem," Jones says. "Or, there is always the risk of losing the calf or injuring the mother when you are doing the pulling."

Both Jones and Powell agree another important culling criteria related to genetics is disposition. Cattle with unacceptable dispositions are dangerous, and culling them reduces the risk of injury to both cattle and people. Powell points out that research conducted at Colorado State University also shows these animals are less profitable. Calves with disagreeable dispositions do not gain as well as calmer calves, and excitable cattle are more likely to produce dark cutter carcasses, which are subject to severe discounts.

A profitability standard can be applied to culling cows that exhibit poor milking performance over several calving seasons. Powell points out that a University of Arkansas Cow Herd Performance Testing Program revealed that most cows ranking in the bottom one-third of the herd for calf 205-day adjusted weaning weights consistently ranked in the bottom one-third of the herd during a period of several years, regardless of the cow's age.

He adds that other performance-related culling criteria that can affect a beef producer's bottom line are frame size, muscling, conformation and structure, breed composition, and coat color.