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The “Functional” Cow Primer

Review the basics of good and bad cows.

Story by

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It’s never too late to brush up on the basics — even if you’ve been in the beef business for years.

University of Illinois (U of I) beef specialists at the Beef Cow Efficiency Conference earlier this year provided cow-calf producers with a primer on the “functional” cow.

“When you realize the cost of production and the cost of female replacements, you place a greater emphasis on cow function,” says Dave Seibert, U of I Extension animal systems educator. “A functional cow is a cow that does not cost extra time and labor, works for you instead of you for her, is problem-free, and returns a profit.”

Greater inconvenience. Seibert says anyone who has spent time running a group of crazy cows through a palpation chute or has attempted to coax a newborn calf to nurse its balloon-teated mother can indeed associate with inconvenience.

Safety risk. No one relishes the thought of risking injury from unruly animals.

“The end result of these problems is increased costs and lower production, and that results in

reduced net profit,” Seibert says. “The ideal situation is to make improvement in these factors without adding investment.”

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... to functional
The National Animal Health Monitoring System (NAHMS) finds that functional traits account for more than two-thirds of the reasons animals are culled from a herd. To make your dysfunctional cow herd functional,

Seibert advises producers focus on the following traits:

Structural soundness. A cow must be structurally sound to remain productive for many years. She must be able to move freely and cover many acres of pasture. She must also be able to hold a bull during mating, carry the fetus to term and graze large areas to provide nutrients and nurture a calf to weaning. Cows should have correct feet and leg structure and bone angulation.

Udder and teat soundness. The best time to evaluate the udder is immediately after calving, when problems are likely to create difficulty. Sound udders can help preserve longevity by reducing injury and mastitis, as well as enhancing calf performance by maintaining milk flow and colostrum intake by calves that can’t nurse oversized teats. Most udder

The optimum beef cow

Doug Parrett, University of Illinois Extension beef cattle specialist, says no one optimum cow exists for all operations or situations due to the variation in production environments and production and marketing systems. But, Parrett says, cows can be selected to produce the best offspring for your targeted market, using the following guidelines:

- Biological efficiency does not necessarily lead to economic efficiency.
- Purebred breeders have expected progeny difference (EPD) values to enhance selection for optimum cows.
- Optimum can be defined as “most favorable” or “having the most advantages.” A different cow can be most favorable depending on your inputs and market targets.
- Feed costs are the most important factor affecting profitability.
- As cows become bigger and produce more milk, they require more feed for maintenance and fertility. An intermediate size and milk production will be economically optimum.
- More size and growth is favorable in feedlots for gain efficiency. More size increases maintenance cow cost, calving ease scores and market weights.

and teat traits are moderately heritable.

Frame score. Cattle size has been a driving force in cattle selection for 50 years. Seibert calls it “a powerful descriptive tool” when used to describe animals, and a way to define acceptable frame windows for activities like performance-tested bull sales.

Disposition and temperament. These measure an animal’s reaction toward unfamiliar situations, humans and management intervention. They also reflect the ease with which animals respond to handling. Animals with bad dispositions can cause safety issues and do not perform as well as calmer animals. Disposition and temperament are highly heritable and affect economic traits, including a delay in the onset of estrus, decreased milk production, less time at the feedbunk, poorer health status, reduced average daily gain (ADG) and decreased meat quality.

Fleshing ability. This is a measure of body fat that describes a cow’s adaptability. Fleshing ability affects longevity and is measured by an animal’s body condition score (BCS).

Fertility or age at puberty. Good fertility is found in such examples as Angus Pathfinder females. They experience early puberty, breed as first-calf heifers and calve early with regularity. Their offspring have above-average performance.

Calving ease and mothering ability. These traits are found in a female that calves with ease, promptly gets up and cleans the calf, and nourishes and protects the calf with colostrum. The cow provides sufficient milk through weaning and rebreeds early.

Other issues. Plan to cull cows with disease, nutrition issues and other problems that can represent significant economic loss. In addition, cows that adapt to their physical environment generally have a longer, more productive life.

“A productive life is an essential quality, and certainly an economically important trait, in cattle breeding,” Seibert says. “The longer animals remain productive in a herd, the fewer replacements that will be needed. Identifying prolific longtime producers through pedigrees and lifetime production records can enhance accuracy of selection for longevity. Animals that are structurally correct and productive remain in the herd longer and have the chance to have a larger number of offspring saved for replacements.”



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