PERFORM in the Top Third

Producers can maximize profitability in their herds by capitalizing on their environment.

*by **Laura Handke***

Matching a cow herd's genetic potential to the resources an operation has at hand is the best way to find efficiency and to improve profitability, according to Oklahoma State University Professor and Extension Beef Cattle Specialist David Lalman, Ph.D.

At the recent four-state KOMA Beef Conference, Lalman shared his insights with Kansas, Oklahoma, Missouri and Arkansas producers on the importance of matching cows with their environment and forage resources. He also emphasized the importance of evaluating animals based on cost per pound of calf produced — including cow maintenance — rather than average weaning weight.

"In general, cow carcass weights are beginning to plateau, and that's a good thing," he says. "This suggests that producers are making good use of mature cow weight expected progeny differences (EPDs) and are using them to control mature cow size ... therefore controlling cow costs.

"Every producer needs to monitor their herd records to determine if average weaning weight and perhaps more importantly, weaning rate, are improving over time," he continues. "If weaning weights aren't increasing, what else can minimize cost and improve profitability?"

Lalman poses a "job description" and an "annual performance review" against which cows should be measured to determine if they are a good match to their environment and production system. He notes a cow should:

1) Wean a calf every 365 days
2) Wean a calf every year for 10 consecutive years
3) Be problem free and should not require extra handling or treatment for medical problems or diseases
4) Require minimal protein or energy supplementation
5) Utilize all of her country — travel and forage where the grass, weeds and brush have not been grazed
6) Get fat in the good years and maintain reasonable body condition in the tough years
7) Produce a calf with the capacity to gain on grass, convert in the 5s, gain 4 pounds a day and never need treatment — calves should convert to a finished product with the potential to build a ranch's reputation

Finding the bottom line

Lalman presented data from the Kansas Farm Management Association evaluating 79 commercial cow-calf operations which showed the top one-third of those operations averaged $415 more net return per cow than the bottom one-third. Of the $415, about 30 percent of the difference could be attributed to output: weaning weight, calf prices, weaning rate and cull cow income. The remaining 70 percent was found in operational production costs — the top one-third of operations figured out how to get more out of less.

By applying many of the principles Lalman outlines, Alex Mih, who owns and operates MM Ranch Polled Herefords along with his wife, Alison, and his mother, Mariam, says gaining a

better understanding of overlooked economic issues in the beef industry has helped make their operation more profitable.

The Chanute, Kan., based Hereford operation began in the 1960s and has grown to calve around 1,200 cows, split into fall and spring calving seasons.

"We are in a transition area of southeast Kansas," Mih says. "West of us is all native grass and east of us is all fescue — we have both, so we try to take advantage of both types of forage. That is one of the reasons we have a fall-calving cow herd. We do a lot of fescue stockpiling for the fall and find that our fall-born calves can do well on that. It also spreads out our calving work into two different seasons."

Utilizing resources and evaluating operations is critical in minimizing inputs.

"In our cow selection criteria, we emphasize fertility, disposition, udder quality, marbling and moderate mature cow size," Mih says. "In the mid-2000s we realized our cull cows were weighing between 1,400 and 1,600 pounds, and we knew we were headed in the wrong direction."

Current research shows the average U.S. mature cow weight is more than 1,400 pounds. Today, the cows in Mih's herd average 1,200 pounds.

"Learning from Dr. Lalman and Dr. [Kris] Ringwall, we realized cow maintenance costs go up to a point where it isn't covered by a larger calf. For every 100 pounds of increase [above 1,200 pounds], research shows the increase in calf weight was only about 6 pounds. So, you aren't gaining much, except in having a much, much greater nutritional need for the cow," Mih explains.

In addition to the ratio of pounds of cow to pounds of beef weaned, Lalman also asked producers to think about other production variables directly influencing their bottom line such as milk production, fertility, feed efficiency and the longevity of cows in the herd.

Valuing added milk pounds

One of the most influential factors contributing to a calf's weaning weight is the quantity of its dam's milk production. If a cow does not produce enough milk, a calf will fail to reach its genetic potential; too much milk production, however, will increase a cow's maintenance requirements and, many times, financially negate the calf's nominal weight gain. Lalman advocates finding the ratio of milk production to weaning weight best matching the resources an operation has at its disposal, noting research shows it takes an average of 42 pounds of additional milk production to achieve only one additional pound of calf weaning weight.

"Based on the results of eight different studies, we know more milk yield in cows does generally result in more calf weaning weight," Lalman says.

PHOTOS COURTESY OF ALEX MIH

Finding the best balance of milk production to weaning weight is one important component in discovering maximum profitability in a cow herd.

"However, in many situations, the efficiency of extra milk to extra calf weight gain is not very good. This is because calves consume more forage as they grow. During the last half of the lactation period, the less milk the dam produces, the more forage the calf consumes. Therefore, if forage quality is reasonably high, then high milk yield in the dam results in replacing forage with milk. And forage is generally a less expensive nutrient source than milk."

To determine the economic efficiency of increasing milk yield for the purpose of improving ranch profitability, a critical question is: How much cow feed is required to get another pound of milk production?

It takes about 2 pounds of a 70 percent total digestible nutrient (TDN) diet to achieve one more pound of milk production. This diet represents high quality forage, similar to lush spring growth. For example, it takes 42 pounds of milk (on average) to gain an additional pound of weaning weight and about 2 pounds of high-quality feed to achieve one more pound of milk production: 42 pounds milk × 2 pounds feed = 84 pounds total feed. Therefore, an additional pound of calf

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Moderation in the cow herd can maximize profits by decreasing input cost.

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weaning weight requires the cow to consume about 84 pounds more high-quality feed.

"In many cases, modest negative selection pressure on milk production would better fit cows to their forage resources," Lalman says.

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>
> — David Lalman

Increasing fertility

Among the many commonalities between seedstock and commercial operations, a live calf to market is the difference between profits realized and profits lost. The annual maintenance cost of a cow remain the same whether she produces a calf or not, and while 100 percent calf-crops from breeding through gestation are difficult to achieve, research has shown producers can use heifer selection to help hedge fertility issues within a herd.

"We always try to select heifers that were calved in the first one-third of the calving season — the earlier in the season, the better," Mih says. "Cattle from that early group of calves have inherent fertility advantage we want to put back into the herd."

Like many producers, Mih also selects replacement heifers based on a balanced criterion of growth by assessing birth weight, weaning weight and yearling weight. Adhering to a strict 60-day calving season in both fall and spring herds, all heifers are bred to calve at 2 years old. Heifers that do not settle in the first 60 days of breeding are removed from the herd and fed out.

Lalman applauds such rigorous strategies, noting, "If you buy females from cows that produce calves every 365 days and select bulls out of reproductively successful cows, you have a better chance of creating a fertile cow herd."

Converting data to beef

Seeing the value in capturing feed efficiency data, MM Ranch partnered with Green Springs Bull Test, Nevada, Mo., in 2007 to purchase a GrowSafe® system. Since then, every head of cattle retained in the MM herd has been individually tested for residual feed intake (RFI) and ultrasounded for carcass measurements.

"We try to only use bulls that are feed efficiency tested, but it is hard to find them, so we usually use 50 percent home-raised bulls and 50 percent outside bulls," Mih notes. "We also [feed efficiency] test all of our heifers."

Moderately framed MM bulls and heifers are sold across the Midwest and into Texas, providing genetics that add value to a herd with the potential of reducing feed costs. "We sell bulls and heifers mostly to commercial operations, and there always seems to be a good demand for them ... especially quality females," Mih says.

Replacements are not the only source of herd-improving performance data collected. Mih receives individual carcass data on the 450 head retained through finishing, an avenue MM Ranch pursued because of the genetic and input reduction advantages the feed efficiency and carcass data provide. Identifying feed-efficient cattle is one of the ways MM Ranch works to lower input costs, as feed-efficient cattle should have an effect on the bottom line.

The results from the carcass-tested calves also factor into Mih's selection decisions. "What the carcass data results give us is a lot of information on where our cow herd is and which bulls are producing calves with economically relevant traits," he says.

At the end of the day, creating a better match between cows and the environment, while improving post-weaning traits, requires a long-term commitment. To see both economic and genetic gain, producers will have to challenge their cows to reach their genetic potential in their environment. Lalman suggests matching cows to forage and notes that for many herds, modest negative pressure on milk production would improve the match to forage resources.

There are many tools to minimize cow costs while making progress in post-weaning efficiency and carcass traits — producers do not have to choose one over another. "Producers today have more tools than they did 30 years ago, and we are seeing the progress of those tools in the phenotype of cattle," he says. HW