



Is it time to ...

Rethink Heifer Development?

Lighter target weights may yield better economic results.

by *Kindra Gordon*

Traditionally, the golden rule in heifer development has been to develop heifers to 60%-65% of their mature weight by the start of the breeding season. But, new research suggests producers should reconsider that recommendation.

From an economic standpoint, developing heifers to 50%-55% of their mature weight may have more merit, says Trey Patterson, formerly a South Dakota State University Extension beef specialist, now with the Padlock Ranch at Ranchester, Wyo.

Patterson has reviewed research on the subject, as well as worked with the Padlock

Ranch crossbred herd in producing replacement females with lighter development weights. Of the concept, he says, "I think we can build a better young cow that will have lower inputs."

Reasons for change

Patterson bases his support for smaller heifer development weights on economics. He points out that for most beef producers, the goal with heifers is to get as many bred as possible — often without much regard for cost.

"Maybe the goal should shift from

maximum to optimum reproduction," Patterson says. "Spending more money to get maximum females bred can actually decrease profits on the ranch."

Instead, Patterson says more cost-effective heifer goals should be to generate necessary replacements, get heifers bred early and minimize calving difficulty. He says research indicates those goals can be met when a heifer is at 50%-55% of her mature weight.

Specifically, data from a three-year study conducted at the University of Nebraska-Lincoln by Rick Funston showed heifer pregnancy rates were not statistically



PHOTO BY SHAUNA ROSE HERMEL

▶ **Left:** Trey Patterson says cost-effective heifer goals should be to generate necessary replacements, get heifers bred early and minimize calving difficulty.

the second calf, which averaged a 91% pregnancy rate.

Is it too small?

For those who argue that 50%-55% of mature weight is just too small for heifers, Patterson says, "Cattle have changed so much since that initial target (60%-65%) was set." As an example, he points out that if the average mature cow weighed 1,200 lb., 65% of that is a 780-lb. heifer. But, more realistically, Patterson says most cows today are more likely 1,400 lb., with 65% of that being a 910-lb. heifer. "That's pretty big, and is it necessary?" Patterson questions.

What about bigger heifers being necessary to initiate puberty and minimize future calving difficulty? Here, Patterson hedges a bit.

He says, "There's no question weight of cattle influences puberty, and age of puberty is also affected somewhat by breed." The studies he has reviewed were conducted with crossbred heifers, so he cautions that heterosis may be a factor.

Patterson says, "There may be more risk — and dystocia — with different biological types. Some breeds may need to be developed larger." But, he adds that dystocia can be managed with proper bull selection.

Other considerations

If you are considering developing heifers to lighter target weights, Patterson says there are some additional factors to evaluate.

There is more risk of lower pregnancy rates with decreasing levels of development. Thus, Patterson says, be sure you have enough animals to generate the necessary replacements.

Because this system will likely produce some open heifers, you need to watch the cattle cycle. Patterson says in some years it can be a paying proposition to sell open heifers in the fall — but, in some years, it may not be profitable.

Don't forget to pay attention to second-calvers. Patterson says economic analysis shows selling open 2-year-olds is not profitable. Thus, additional supplement to achieve improved pregnancy rates may be justified for these young cows.

Smaller heifer development weights may mean smaller cows, but Patterson says that can be a plus. "It means maintenance requirements will be lower," he says.

Reduce heifer costs even more by developing on native range

For producers looking to cut heifer-development costs even more, recent South Dakota research shows heifers can be effectively developed without spending a lot of money on feed.

The study evaluated developing August-weaned heifers on native range vs. November-weaned heifers in a drylot. The heifers were all weaned on grass hay and a wheat middling/soybean hull-based weaning pellet for 30-45 days. August-weaned heifers were turned out onto ample winter range in September and remained on pasture all winter. November-weaned heifers remained in the drylot after weaning and were fed grass hay and a wheat middling-based range pellet.

Both groups of heifers were managed to achieve 65% of mature weight [about 860 pounds (lb.)] at breeding in June. To achieve the desired average daily gain (ADG) for the heifers on range, dried distillers' grains were fed daily in feedbunks. The rate of feeding was initially 2 lb. per head, and gradually increased to 7 lb. per head by February. The rate was decreased in the spring.

All heifers were turned onto summer pasture on May 18 and were exposed to bulls on June 14.

Initial heifer weights were 461 lb. for the early-weaned heifers and 605 lb. for the heifers weaned in November. The weights in May were 859 lb. and 830 lb., respectively, which was not statistically different. Additionally, pregnancy rates were also similar between the two groups (91% for the range-developed heifers and 88% for the drylot heifers).

Of the study, former beef Extension specialist Trey Patterson says, "Native range for heifer development works." He admits that in some years when there is excess snow, it may not work. But, in most years, he says it is an economical alternative.

He points out that in this study, heifers on native range and fed distillers' grains gained about 2 lb. per day in the spring. All total, it cost 53¢ per day to develop heifers on range; whereas, the drylot-developed heifers cost 76¢ per head per day.

Patterson says that at the Padlock Ranch in Ranchester, Wyo., they plan to use the two new concepts — developing heifers to 50%-55% of their target weight for breeding and doing so by developing them on native range. Patterson believes the two strategies will work nicely together and be cost-efficient. He adds that having yearlings on grass offers some management alternatives during drought as well.

different between heifers developed to either 53% or 58% of mature body weight. Average weight between the two groups was 638 pounds (lb.), and pregnancy rates were 88% and 92%, respectively, for each group. Additionally, there were no differences between the two groups in pregnancy rates with their second, third and fourth calves.

In another three-year study, two groups of heifers were developed to 50% and 55% of their mature weight. Again, there were no significant differences in heifer pregnancy rates (87% and 90%, respectively). And, there were no differences in pregnancy with

