



# Create Positive Momentum

Keys to increase the odds of having successful breeding and calving seasons.

by Taylor Edwards, intern

**C**reating positive momentum within a cow herd's reproductive performance is important when analyzing herd success and helps producers make decisions that improve their bottom line. Bob Larson, veterinarian with the Beef Cattle Institute (BCI) at Kansas State University (K-State), is a fan of building positive momentum.

"Really good reproductive success this year helps ensure good reproductive success

next year," Larson says in the Angus University webinar "Keys to Reproductive Success: Female Edition."

## Gaining momentum

There are keys to increasing the odds of having successful breeding and calving seasons. Larson says the first is looking at the goals of your operation and deciding what reproductive efficiency looks like.

After evaluating your goals, he suggests

looking at the constraints that could pose a challenge to the operation.

There are many difficulties all producers face. For example, postcalving infertility lasts an average of 55-65 days for mature cows in good body condition, and longer if the animal is in poor body condition. Larson says the average postpartum interval means roughly half the cows in good body condition will not resume fertile cycles by 55-65 days after calving.



PHOTOS BY SHAUNA HERMEL

Postcalving infertility lasts an average of 80-100 days for first-calf heifers in good body condition, and it takes 100-140 days for 90% of first-calf heifers to resume fertile cycles.

“When I think about a group of cows, my goal is for a number that would predict when 90% of the cows are going to resume fertile cycles. You can add about 20 days to whatever the herd average is to capture 90% of the cows,” says Larson. “For many herds, about a 75- to 85-day period of infertility is what I expect.”

Heifers come with their own set of constraints, he says. Postcalving infertility lasts an average of 80-100 days for first-calf

heifers in good body condition, and it takes 100-140 days for 90% of first-calf heifers to resume fertile cycles.

“If you start doing some math and you remember that the year is 365 days long, and pregnancy lasts 283 days, there’s about an 80-day gap in between those two,” says Larson. “My period of infertility for heifers is bumping up and is passing that length of time that I had to get them rebred.”

He says this makes it difficult to keep positive momentum, because this could either set producers back further or maintain a good scenario if there was proper planning from the start.

To ease the effects of when things go awry, consider front-end loading your herd, Larson advises. By that, he says, he means to time your calving season so heifers calve ahead of cows. Herds that do are more resilient when “bad things” happen, says Larson.

The average age at puberty for beef heifers is 11.5 to 14 months, he says. Working with a veterinarian is important to gauge



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whether your heifers will be ready during this time for breeding to meet goals.

“My expectation is that 90% of beef heifers in many cohorts of crossbred beef heifers reach puberty by 13 months of age,” says Larson.

Some herds will have earlier puberty and others later, he says, but genetics and nutrition combine to influence age at puberty. If heifers are born earlier in the calving season, they are more likely to reach puberty early enough to breed ahead of mature cows.

## Weights and measures

The next question Larson likes to ask is how much will these heifers need to weigh, and what is the appropriate target weight for breeding?

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## Three-point scale to assess heifer readiness for breeding

### Ready

**BCS:** greater than 5



**Weight:** 55%-60% of her mature weight

**Reproductive tract:** has a CL present, and/or follicles that are 10 mm or greater with good uterine tone.

**Pelvic area:** greater than 130 sq. cm normal pelvic shape

### Intermediate

**BCS:** greater than 5



**Weight:** 50%-60% of her mature weight

**Repro tract:** does not have to be cycling, but needs palpable ovarian structures and slight to good uterine tone

**Pelvic area:** greater than 130 sq. cm and normal pelvic shape

### Problem

**BCS:** less than 5



**Weight:** less than 50% of her expected mature body weight

**Repro tract:** immature uterus with no palpable follicles and/or follicles less than 8 mm. She could also be a freemartin or currently pregnant.

**Pelvic area:** less than 130 sq. cm or abnormal pelvic shape

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— **Bob Larson**

target weight. In other words, we need to know the target weight to determine average daily gain from weaning to breeding.

“Rather than relying on these percentages of mature weight, what I’d really like to do is have the records for a herd over several years,” says Larson. “That gives me a nice exact target versus just a percentage of their mature weight.”

This is another time to evaluate herd goals. Larson says if you want nearly all heifers to reach puberty, set a high target weight. If you only want early-maturing heifers to reach puberty, set a low target weight to put selection pressure on those heifers so you can select those reaching puberty at a younger age and lighter weight.

Larson does warn people that putting selection pressure on heifers so fewer of them reach puberty earlier means you will not have as good a breed-up, but you will have pregnant heifers that reached puberty at a lighter weight. Before breeding heifers, they should all undergo an evaluation of heifer breeding soundness.

### Handy three-point scale

“As a veterinarian, I like to use this

three-point scale where I classify heifers as either ready, intermediate or a problem,” says Larson.

With this scale, to be considered ready, a heifer will be a body condition score (BCS) greater than 5 (on a 9-point scale) and weighing 55%-60% of her mature weight. She is cycling and has a corpus luteum (CL) present, and/or follicles that are 10 millimeters (mm) or greater with good uterine tone.

Her pelvic area should be greater than 130 square centimeters (sq. cm), and she should have a normal pelvic shape. These heifers are ready for the breeding pool regardless of when breeding season starts.

An intermediate heifer will have a BCS greater than 5 and weigh 50%-60% of her mature weight, says Larson. She does not have to be cycling, but needs palpable ovarian structures and slight to good uterine tone.

Her pelvic area should be greater than 130 sq. cm and she should have normal pelvic shape. Depending on the goal of the producer and the time of evaluation, an intermediate heifer can be placed in the herd, reevaluated, managed as a stocker calf or put in an artificial insemination (AI)

program, though expect poor success to AI.

Larson describes a problem heifer as one with a BCS less than 5 or weight less than 50% of her expected mature body weight. She has an immature uterus with no palpable follicles and/or follicles less than 8 mm. She could also be a freemartin or currently pregnant. Her pelvic area is less than 130 sq. cm or she has abnormal pelvic shape. You can manage problem heifers or sell them as feeder heifers.

To avoid killing momentum, Larson says, do not let cattle calve in poor body condition or use bulls that fail to successfully breed cows in heat. Be aware of disease that ends pregnancy in addition to avoiding using problem heifers.

By following these recommendations from Larson, cattlemen should be better equipped to manage first-calf heifers while making management decisions that improve breeding and calving decisions, ultimately putting more money in their pockets.

To listen to the entire Angus University webinar, visit <https://www.angus.org/university/webinars>. **ABB**

Editor’s note: Taylor Edwards is the 2023 *Angus Beef Bulletin* intern.