



With 70% of input cost used for feed alone, it is crucial producers look seriously at nutrition.

The Nutrition Reproduction Connection



Nutrition plays a major role in a cows' reproductive efficiency.

How to most effectively manage nutrition for reproductive performance.

by *Kayla M. Wilkins*

Improving quality while increasing profits is on the mind for today's cattlemen. With 70% of input cost going toward feed, it is clear manipulating nutrition and utilizing the most effective way to do so while increasing profits is crucial.

"You have to keep in mind that for a cow to calve once a year every year, she has to become pregnant within about 80 to 90 days after she gives birth," says Cliff Lamb, Ph.D., University of Florida, at National Cattlemen's Beef Association Cattlemen's College. "The only way for us to do that is to make sure the nutrition, reproduction interaction is taken care of."

In order to achieve this goal, Lamb stresses the importance of shortening the time after a cow calves to when she resumes her estrus cycle, or postpartum anestrus.

An in-depth look at body condition scores

Lamb says there are many factors that can affect postpartum anestrus, but among those, nutritional management is a front-runner. He explains maintaining a moderate body condition score (BCS) in cows and heifers is crucial to achieving a high pregnancy percentage in a herd.

Body condition is scored from 1 to 9, 1 being emaciated and 9 being obese. He says many producers restrict focus to absolute body condition and don't monitor changes, an approach which can lead to mismanagement.

"Absolute body condition at a single point in time is somewhat meaningless to me," he explains, "and I think change in body condition score probably has a bigger impact on fertility than absolute body condition score."

He explains when cows have a BCS of 4 or less at calving and experience higher postpartum energy levels, they also experience higher pregnancy rates. However, if the same cow receives only enough energy to maintain, she will ultimately undergo lower pregnancy rates. He notes

managing body condition in a herd influences future progeny in the operation greatly.

“Don’t get your heifers too thin developing them, but definitely don’t get them too fat either because you start to reduce the ability for those heifers to become pregnant,” he explains, “and on both extremes you are going to run into problems.”

He says implementing an effective nutrition program can aid greatly in maximizing herd efficiency.

The importance of nutrition

“Nutritional management is extremely important so we can get cows to cycle very quickly after birth, on that top line,” he says. “If they don’t get the nutritional message that they are in good nutritional shape, you’re going to be stuck in the bottom cow where she has multiple estrus cycles in which she does not undergo an ovulation.”

Lamb explains nutrition is directly associated with pregnancy rates and the profitability of an operation.

“We spend a lot of time worrying about the latest genetic tool to select our cows,” he says. “We spend a lot of time worrying about EPDs (expected progeny differences), but how often do we sit in our herd and say what are we going to do to ensure we get the most cows bred as early as we can in the breeding season, so managing for pregnancy is extremely important.”

In a study done by Lamb and his team, cows of a moderate BCS were divided into groups. One group was maintained at a moderate BCS while the other was pushed to a BCS 7. Then both groups were put on an energy restriction until they stopped cycling. Both groups stopped cycling at a BCS 3, and it was no surprise the cows that started at a BCS 7 took longer to quit cycling.

The second half of the experiment increased energy provided until they reached a BCS that prompted them to resume cycling. The original moderate heifers resumed cycling once they reached a moderate BCS, but in contrast, the BCS 7 heifers did not cycle until reaching a BCS 6. Because of nutritional memory, these cows were more comfortable being fatter and could not cycle until they reached that threshold, thus, increasing input cost on those heifers and decreasing profit margin.

“If you are going to manipulate body condition scores or weight in those cows the best time to do that is right after weaning, during that period of time when the cow can put on body condition extremely well and then maintain her through the rest of gestation.”

— Cliff Lamb

Lamb says because of this behavior, it is vital to maintain heifers at a moderate BCS. He says having pressure on pregnancy and utilizing a balanced diet is the avenue to achieve this.

Manage nutrition for reproductive performance

Lamb says managing a herd with more emphasis on pregnancy will aid in turning a larger profit.

He explains at their research operation, cows are culled for any problems in pregnancy. He notes if they are not pregnant within 30 days of postpartum anestrus, they are culled. He reports an increase in calf value by implementing this strategy.

In tandem, Lamb advises producers to shorten their



Implementing an effective nutrition program is essential to capitalize on herd efficiency.

breeding season. He explains that restricting the breeding season to 60 days or less results in a higher pregnancy rate at the beginning of the following breeding season.

Additionally, he notes producers should ensure heifers are between 60 and 65% of their mature weight before beginning breeding season. He says this, with putting more emphasis on nutrition during mid-gestation and after calving, will result in a better outcome.

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Lamb says there are a variety of ways to manage nutrition available to today’s cattlemen.

He says cattle fed higher-protein diets with alfalfa or grain reach puberty sooner and have a higher pregnancy percentage when compared to those only on forage like Bermuda.

“From a heifer development standpoint,” he explains, “ensuring that during the development phase those animals are receiving some supplement, regardless if it is forage based or not, is better than just feeding them straight hay for enhanced fertility.”

In closing, Lamb says BCS should be an essential management tool utilized by all operations.

“Keep this as a rule of thumb,” he explains. “The condition at which cows calve dictates almost everything else from a reproduction standpoint, so target your cows to calve at a body condition score five or six.” **HW**



Nutrition is crucial during every stage of gestation, not just immediately before calving.