

Nutritional management of spring-calving cows should be a priority this winter

Here are a few reasons why cutting corners does more harm than good

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With the recent drought conditions across much of the Southeast, hay and other forage resources will likely be in short supply this winter. With the added frustration of current feeder cattle prices, many of us may consider cutting corners on our winter feeding program. Because – let’s face it – hay is expensive, and dry cows don’t need very much to get through the winter, so we can put them on a bit of a diet to get through to spring grass without any problems – right? Wrong. Cows require almost as much energy and protein toward the end of late gestation as they do throughout lactation. Failing to meet their requirements during this critical period will come at a cost.

But, before I address that, there’s something that we need to get out of the way – fear of feeding pregnant cows and birth weight. We’ve all heard that we shouldn’t feed late-term pregnant cows very much because it increases birth weight and causes calving difficulty. I hear it all the time. Unfortunately this is a common myth that needs to be debunked. An animal’s phenotype – what we actually observe – is the result of the interaction between its genetics and the environment. Regardless of how good the environment is (ex: the developing calf has all of the nutrients that it could possibly use), its phenotype, or birth weight in this scenario, will be limited by its genetics. In other words, we can’t increase a calf’s birth weight beyond its genetic potential for birth weight. This means that if a calf’s genes say that its birth weight should be 80 lbs when provided with all of the nutrients that it needs, we can’t make it 85.

We can feed cows in excess and to the extent that we increase calving difficulty, but it isn’t due to a change in birth weight. At the upper extremes of body condition, deposition of internal fat may cause some constriction in the birth canal. If that occurs, the cow has to move a calf that is the same size through a smaller space. In order for that to happen, she literally has to be at the upper extreme in terms of body condition – a body condition score of 8 or greater. Yes, she has to be obese in order for over-conditioning to increase calving difficulty. But if she isn’t, and we deprive her and her calf of nutrients during late gestation, we might be able to decrease birth weight slightly – if anything by only a pound or two at most, and we have research evidence from across the country that supports this. That marginal decrease in birth weight doesn’t decrease calving difficulty. Instead, it generally works against us by increasing the incidence of calving difficulty. Because the cow is now calving at a disadvantage – she has less energy reserves to be able to lay down and go to work.

But birth weight aside, how the cow is managed this winter plays a huge role in her reproductive performance next spring. One of the major factors that determines if and when she conceives during a breeding season is whether or not she was already cycling. Resumption of estrous cyclicity is directly related to body condition at calving. If she calves in a body condition

that is less than ideal, she's going to require more time to begin cycling than if she calved in better condition. A cow that calves at a BCS of 5 or greater begins cycling early enough to conceive within the window necessary to calve once a year. If she calves in poorer condition, she'll be less likely to begin cycling early enough to conceive within that window. By cutting corners on our winter feeding program and sending her into the calving season in poor condition, she's likely either going to take more time to breed back, or have a higher probability of coming up open.

But regardless of whether or not you're able to get her bred back, not meeting her nutrient requirements during late gestation can also have some major implications to calf health and performance. One of the first consequences is body temperature regulation, or lack-there-of. Energy status is the major factor that affects a newborn calf's ability to stay warm during cold weather. The calf metabolizes the majority of the fat that was deposited throughout fetal development as a source of heat during the first 24 to 48 hours of life. If we aren't meeting the cow's nutrient requirements during middle and late gestation, and she doesn't have enough condition to fill the void, the calf won't have the fat stores necessary to keep itself warm. And anybody that's ever had to bring a weak newborn calf into the house knows exactly what I'm talking about.

Another consequence of nutrient restriction has to do with the calf's immune system. Nutrient-restricted cows not only produce colostrum that is lower in quality, but they produce less of it. Insufficient colostrum consumption soon after birth can affect the calf for the remainder of its life, because it needs those antibodies to populate its naïve immune system. No matter how good of job we do at identifying and treating some health issues – I'll use respiratory disease as an example – that sick calf will never be the same again. Some of these issues can be prevented by ensuring that the cow is managed appropriately prior to calving. In addition, fetal nutrient restriction may also have some more long-term consequences to health and performance of the calf through fetal programming – but that's a topic for another article.

In order to prevent these issues, we just need to focus on meeting her nutrient requirements in the most economical way possible so that she calves in sufficient body condition without making her too fat. Ideally, she's fed to calve in the spring at a body condition score of somewhere between 5 and 6.5. Feeding her to calve in lower body condition doesn't decrease birth weight to a meaningful degree. Instead, it just makes her harder to get bred back, and her calf's health and performance will suffer the consequences along the way.