

Stop bad things from happening to good cows – Adam Geiger

Each phase of a cow's development is distinct and important for lifetime performance. In the transition period intake is reduced near calving, the cow is in a negative nutrient balance, while her immune function is compromised, which makes her vulnerable to diseases. The main goals for the transition cow are to maintain DMI and reduce stress. Energy from consumed feed is first allocated to uphold basal metabolism. Thereafter a portion goes to growth, the maintenance of a previously established pregnancy, to replenish energy reserves and to initiate the estrous cycle and new pregnancy, while excess energy will be diverted to energy reserves. However, if her immunity has been compromised and she has inflammation, most of the energy will divert to inflammation and there might not be enough energy available to uphold the necessary production criteria. Research has shown that the pregnancy rate over the first 40 days is > 80% for cows that gain BCS versus < 30% for cows that lose BCS. The less transition health disorders experienced, the more milk that cow will be able to produce during her lactation. One extra liter of peak milk is equivalent to an extra 239 liters of milk per lactation.

What can we do to help our cows?

1. Limit the time away from the rest of the herd.
2. Reduce the number of pen movements. Move cows into close-up pens once/week or consider all in /all out close-up pens.
3. Ensure adequate lying time and make sure the lying surface is comfortable.
4. Monitor heat stress – cooling is important! Provide a place for the hot air to go.
5. Make it your goal to limit lame cows in the close-up pen to 0%.
6. Provide the correct macro- and micronutrient intake.

The way we impact the calf starts with the cow! The macro/micro mineral content of the adult cow diet is a key thing that can impact the calf. For example, Calcium and Manganese work together in the developing fetus and the young calf to promote bone elongation. But it is not just about what we put into the diet. In the case of Mn, although dietary levels may be appropriate, background Fe levels in the water can limit Mn uptake as they are absorbed via the same mechanism.

Birth is a rough time for the cow, but how often do we think about the impact it has on the calf? The calf must initiate breathing, regulate acid/base balance, control its own temperature, begin metabolic processes, and consume colostrum. We need to focus on the 5Q's of good colostrum: Quantity (10 g/L), Quality (50 g/L), Quantity (>150 g IgG), Quickly (<2 hours) and Quite Clean (< 100 000). If you do not measure quality, then you need to start ASAP! Tube feeding vs. bottle feeding of colostrum does not matter, just feed it quick! Bacteria kills more calves than anything else and it can come from something as simple as the bucket that you use to transport the colostrum. The first 24 hours are just the start, the main goal is to double the body weight of the calf by 60 days of age.

There is a global trend to feed more milk as it leads to more BW growth, which has been shown to lead to more mammary growth in calves and improve future milk yield. However, more milk consumption = less grain intake, which can lead to issues at weaning and poor rumen development. Therefore, if we feed more milk, we must pay special attention to weaning and make it gradual.

As heifers age, there are three key disease risks:

1. Respiratory disease - each treatment of the calf reduces total lifetime DIM by between 25-50 days, regardless of disease severity. Air ammonia levels can be used to determine risk level. Ammonia > 5 ppm is when the risk begins.
2. Digital Dermatitis - DD can begin as early as 6 months of age and easily spreads from animal to animal.
3. Mastitis: Heifers calving in with mastitis have compromised mammary growth pre-calving which can lower lifetime milk yield by > 10%.

And the last take home message was: "Use Body weight and not age to determine when to breed heifers!"