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# BOVINE NEWSLETTER

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## Results of Our Calf Health Summer Project

This past summer we had Brittany Scace working as our summer student. She may have visited your farm doing one of her many tasks we enlisted her to do. Brittany gained much experience on farm that served her well heading back to 3<sup>rd</sup> year vet school.

One project was to look at serum proteins in calves between 1 and 7 days of age as an assessment of passive transfer in calves. This blood sample assesses what level of protein is in the calf's blood as a surrogate measure of immunoglobulin transfer from the colostrum of its dam. We use the cut point of 5.5 on a refractometer for a pass rate and aim for 90% of calves tested to be above this point. There are several factors that influence this number and it indicates the total success of the farms



colostrum/newborn calf program. Amount of colostrum given, time of when colostrum is given, time of when colostrum is collected from the dam, quality of the colostrum (total IgG) and cleanliness of the colostrum (total bacteria count) are all very important factors influencing the levels in the calf.

A study done by Ken Leslie from University of Guelph showed that several farms were below the goal for passive transfer on calves. What we found this summer was very similar. Brittany visited 20 farms and sampled 579 calves that were at least 24 hours after colostrum and less than 7 days old. Using these measures there were no farms that reached the goal of 90% pass rate for all calves. There were 7/20 farms that had 60-75% of calves that passed. Some of the herds did not have enough calves sampled to get to a high enough level to truly assess the program. Obviously it is hard to get to 90% pass rate on less than 10 calves sampled! By the same token, if the first 3 of 5 calves sampled failed the test, it is significant. This indicates that there may be more attention paid to how newborns are handled. Most of the herds sampled had an indication for sampling to be done as they did experience outbreaks of poor calf health from time to time. Many

**Lots of clean, dry bedding is essential for calves - good bedding scores can help prevent pneumonia as much as improved air quality can!**

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of the herds in the 60-75% range did have low calf morbidity rates and low mortality rates. This would suggest that although there are some gaps in newborn management there is good calf husbandry in general and calves are doing ok. This leads to the next question about growth rates and weaning weights in calves. Having a calf double its birth weight by 60 days of age is a good, albeit conservative goal. Brittany measured calf weights on many of these farms using a heart girth tape at first week of age and again near weaning. It turned out that most calves were on milk for 45-75 days with many of them averaging a kilogram of gain a day. Many farms were above the 2X birth weight at weaning having put on about 50+kg of weight while being fed milk. These results show that doubling birth weight by weaning is a conservative measure and producers interested in accelerated growth can achieve closer to 3X birth weight by weaning.

With all the 'new' calf ration formulations on the market today the next item we will be looking at on some farms is the level of BHB in the blood of a weaning age calf to assess the level of development of the rumen. This is a blood measure to gauge how much volatile fatty acid is being absorbed from the rumen. Ideally when a calf is weaned off milk it has reached the cut point level of BHB to transition onto a life of forage and concentrate with no step back along the way. Weighing calves at any point in the production system will allow you to plot them on a growth chart to confirm they are or are not growing like they should.

**“You can't manage what you don't measure.”**

To review, calf serum total proteins are a good measure of a farms' colostrum program and most farms could benefit from some investigation in this area. Measuring birth and weaning weights are a great way to assess the success of your calf feeding program. Further looking at success of weaning either by assessing rumen development or weighing calves a month after weaning will identify any possible gaps in your replacement heifer program.

All of these efforts in the early life of a calf have been shown to increase that animals' success in the system, including reducing age at first calving and first lactation production. Ask any of us for a heifer calf audit on your farm!



**How fast are your calves growing? Keeping track of weights at key times is a helpful way to evaluate your heifer program.**