

The Back 40

5 KEYS TO HEALTHIER NEWBORNS

Guest Editor: Dr. Dave Rethorst



All too often, I have seen producers get so wrapped up in pursuing a new technology that will be the answer to their calf health woes, that they forget to take care of the basics. If there is a magic, silver bullet that ensures healthier newborns calves, it is what is commonly referred to as “animal husbandry practices”. The essential animal husbandry practices that need to be addressed are nutrition, management of environment, stress management, vaccination and biosecurity, and observation during calving. If these practices are managed as a production system rather than concentrating on one or two of them, the system is more productive. Nutrition of the cow can generally be divided into a “big rocks” and “little rocks” discussion with protein and energy being the big rocks, while minerals and trace minerals are the little rocks. (Thanks, Dr. Chris Reinhardt). An easy measure of adequate energy intake is to monitor the body condition score (BCS) of the females during pregnancy. Cows should be maintained in a 5 to 5½ BCS and heifers generally in a 5½ to 6. These condition scores are necessary not only for the females to re-breed in a timely manner but, just as importantly, to ensure there is adequate fat in the colostrum. The brown fat that is present in colostrum is rapidly absorbed and is what warms the calf effectively. The colostrum fat also aids in the transfer of the fat soluble vitamins, Vitamin A and Vitamin E, necessary for the immune system, to the calf. Adequate dietary protein is necessary to allow for efficient digestion of the lower quality forage that is often utilized in wintering pregnant cows. This digestion produces heat that warms the cow thus helping to maintain BCS. Protein also provides the building blocks to form the antibodies that are present in colostrum and are essential in jump-starting the immune system of the newborn. Studies at the University of Nebraska, New Mexico State, and Oregon State have shown that protein supplementation during pregnancy impacts the lifetime health and performance of the in-utero calf. This includes health and grading in the feedyard as well as reproductive performance of the yearling heifer. While trace minerals are usually part of the “little rock” discussion, I tend to include them in the “big rock” discussion during the last 3 months of pregnancy. I do this due to the fact that during the third trimester the cow transfers trace minerals copper, zinc, manganese, and to some extent selenium, from her liver to the fetal liver. If the cow is receiving adequate trace minerals, the fetal liver levels of these trace minerals will be at least twice the levels found in the cows’ liver. This occurs so that the calf has adequate trace mineral for proper immune system function the first 50 to 60 days of life.

Environmental management includes windbreaks for cows during pregnancy, bedding and windbreaks during calving, and timing of calving season. Windbreaks will aid in maintaining body condition by reducing calories needed for basic maintenance. Bedding will keep calves warmer, reducing stress and keeping the immune system more functional. One reason some producers move to late spring calving is to reduce stress on calves, thus a healthier calf. Another example of environmental management is the use of the Sandhills Calving System in order to reduce the occurrence of calf scours. The basic premise of this system is to move the cows that have not calved to a new calving area approximately every 2 weeks allowing the newest calves to be born on clean ground. Stressors during pregnancy, whether they be nutrition, weather, or handling and transportation, can impact the fetus and should be minimized. Low stress handling is usually talked about in weaning discussion but should be practiced anytime cattle are handled, including during late pregnancy. Handle these cows slow and easy with minimal prod use if they have to go through a chute or if they have to be loaded and hauled. Vaccination

protocols are often found at the top of the animal husbandry practice list. It is my belief that vaccination protocols can become very simple and moved to the bottom of the list if the nutrition, environment, and stress practices are properly managed. There are operations where scour vaccines have a positive impact, especially in heifers, in spite efforts to manage these practices.

UPDATE:

We had a *hugely* successful producer’s meeting on cow-calf nutrition in November!

Thank you all!



OUR NEXT MEETING:
April 5th
Dr. Mark Hilton with
Elanco

CAUTION - CALVES COMING

In most cases though, husbandry practice management reduces or eliminates the need for this vaccine. It is imperative that cows be on a well-planned vaccination program to address BVD virus and IBR virus because of the immunosuppressive effects that both viruses, but especially BVD, have. These viruses not only play a role in health of the calf but can be related to reproductive losses if not managed adequately. Testing of heifers before they enter the breeding herd for the persistently infected form of BVD should be part of a BVD control/biosecurity plan. Good vaccination and biosecurity protocols are well planned and carefully executed. While we are talking about biosecurity or keeping diseases out of a herd, let's talk about purchasing calves at the salebarn or from a neighbor to graft onto that young cow that loses a calf. This is the most common biosecurity breach I have seen in cow herds over my years in practice. That calf may look healthy but you never know if it is carrying a Salmonella or an E. coli that your cattle have no immunity to or if it is a persistently infected BVD calf. Much the same can be said for using fresh/frozen colostrum

from another operation. Colostrum can serve as a source of Salmonella, E. coli, Bovine Leukosis Virus, or the bacteria responsible for Johne's disease. A graft calf or the use of colostrum from another operation are not worth the risk that the practices pose.

The next step is to get a strong, viable calf on the ground. If the first four husbandry practices have been managed properly, we should have a healthy, strong, viable fetus that has to transition from the warm and cushy uterine environment to the seemingly cold, cruel world. One of the biggest impediments to this is knowing when to intervene in a dystocia situation. I have always used the rule that if a heifer was not progressing 2 hours after the water bag breaks (1 hour on a cow) that it was time to get an arm in them and see what was going on. I recently saw a quote from Dr. Mark Hilton that when he was at Purdue College of Veterinary Medicine they used the rule of "progress every hour" which I really like. This still says if they aren't progressing, they need to be checked but gives a reference point on that heifer you find early in the morning and have no idea how long she has been trying. Once the calf is on the ground and breathing we need to make sure it gets some of that good colostrum that we built with our nutrition program. Colostrum serves as the source of antibodies, fat soluble vitamins (A and E), and white blood cells all of which are necessary to get the immune system working as well as fat for energy and warmth. Work done at the Meat Animal Research Center at Clay Center NE in the 1990's showed calves receiving colostrum but not adequate colostrum, were 6.4 times more likely to become sick as a neonate and 3.2 times more likely to require treatment before weaning. The ability of the calf's gut to absorb colostrum begins slow approximately 6 hours after birth and is shut down by 12 hours. The stress of a difficult birth speeds up this process. Also, colostrum quality declines in a matter of a few hours after the calf is born. So, the earlier the calf gets colostrum, the better off it is.

Each animal husbandry practice that is part of the system intertwines with the other practices in order to make the system successful. A new vaccine or a new, more powerful antibiotic is rarely going to fix a broken system. We hear terms like judicious antimicrobial use, veterinary feed directives and antibiotic resistance and wonder how we are going to deal with them. It is my belief that we deal with them by getting back to basics and paying more attention to animal husbandry practices rather than looking for a magic, silver bullet like antibiotics or more vaccines to address beef cattle health issues. Let's truly focus on prevention and improve the consumer perception of our product along the way!

Are you ready for your calf crop?

Heads up! It's January and calves will be here before you know it!

A few preparation reminders!

Locate and Clean! Find your calving equipment, give it a good going over and make sure its there when you need it!

Pro Tip: Clean equipment leads to live, healthier calves!

Prepare your space! Make sure that calving head catch and lights are working well, be ready for that chilled calf and keep your equipment close.

Pro Tip: Good lighting and WD-40 can make all the difference in the middle of the night.

Stock up on colostrum, bottles and tubes NOW rather than LATER!

Prepare your book!

Great calving records can lead to excellent cow and marketing decisions later. Write it all down and then review it.

KEEP A LOOK OUT...

The Animal Hospital Team is working hard to develop our record keeping for your cattle!

This season we are tracking info during our pregnancy exam time

We are refining and pooling that data to help you and would love to hear your thoughts!

Please check in with your ideas!

brought to you by...

Dr. Lauren Mack &

The Animal Hospital Team