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Cattle Newsletter – January 2024

Topic: Calf Care: Colostrum Selection

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As we approach calving season, I figured it appropriate to cover the topic of proper colostrum selection and use. With all of the different products on the market, it is easy to get lost in the selection. The number one thing to remember: **NOT ALL COLOSTRUM REPLACEMENTS ARE CREATED EQUAL!**

As I am sure all of you know, the first 24 hours of life for a calf are **EXTREMELY** important. Ideally, within 30 minutes of birth in a bed of clean straw, a calf has risen to their feet, found their dam's teat, and consumed an adequate amount of antibody rich colostrum. But what happens if the calf is slow to rise? Or the cow rejects the calf? Or there are twins? What if we do everything right and the calf still gets sick? These, and many more, are all scenarios in which it may be required that we intervene to give that calf the best chance of starting off life on the right path.

It comes as a shock to no one that the costliest disease to the beef industry as a whole is bovine respiratory disease, or pneumonia. For the cow-calf sector of the industry though, scours is the costliest. A calf that gets scours early in life is 9x more likely to get sick again and 5.5x more likely to die pre-weaning. Preventing scours, and the death loss associated with it, can greatly benefit your top line and the profitability of your business.

Colostrum:

The most important meal that a calf will ever consume is the very first one following their birth. Since no immunity is passed from the dam to the calf during pregnancy, the calf is born with no immune system. Assuming that the cow is managed properly, the colostrum that she produces for that calf's first meal is essential to ensure its early health and long-term performance. That colostrum is extremely rich in antibodies (IgG) and other nutritive proteins that are essential for the calf's function.

The goal is for a calf to consume 150 to 200g of IgG within the first 2 hours of birth. On average, a healthy, angus cross cow has about 100 to 120g of IgG per liter of her colostrum. So, that means that it is necessary for the calf to consume 1.5 to 2 liters of maternal colostrum by 2 hours of life. If this is accomplished, which it usually is without intervention, then there is adequate transfer of antibodies to the calf, and the calf gets its start on the road to success.

If, for some reason, a calf is unable to consume adequate colostrum in the necessary timeframe, then that calf will suffer from what we call "failure of passive transfer". Basically, this means that there was not an adequate transfer of antibodies from the cow to the calf and that calf's immune system is severely compromised. This results in calves that are extremely

susceptible to health issues; most notably, scours. If we observe a calf that we are afraid is not going to have the opportunity to consume adequate colostrum in the necessary timeframe, it is important that we intervene.

This is where colostrum replacers come in. It is important to note that getting a calf to suckle

As a side note, an accurate way to determine if a calf needs colostrum supplementation is to test their suckle reflex at birth by sticking your fingers in their mouth. If their suckle is weak or absent, it is safe to assume that the calf needs colostrum supplementation. If the suckle is strong, you can likely assume that the calf is strong enough to rise and consume colostrum from its dam in adequate time.

colostrum replacer is far better than tubing the calf with it. When suckling occurs, a reflex happens in the calf's stomach that allows the colostrum to bypass unnecessary parts of the digestive tract and get right to the location where the antibodies are absorbed. So, getting a calf to suckle as much as possible, and then tubing it with the remainder of the replacement is a good strategy.

As we are trying to select a colostrum product to use on the ranch, it is important to keep a few rules of thumb in mind:

- 1.) As we already discussed, the most important thing is that the calf receives 150 to 200g of IgG from the colostrum replacer. There are many products on the market that only have 50 or 60g of IgG per bag. These products are often marketed as "colostrum supplements" instead of "colostrum replacers". If you use these products, it is necessary that 3 bags are fed to the calf to achieve adequate supplementation. An issue that is often run into in that case is the

sheer volume of colostrum for a small calf. That is why it is better to instead choose one of the more concentrated products that contains 150 or 200g of IgG in a single bag; often marketed as a "colostrum replacer". Also, a single bag of colostrum replacer is usually cheaper when compared to 3 bags of the colostrum supplement.

- 2.) Next, select a product that is derived from colostrum, not bovine serum. To check for this, look at the ingredient list. One of the top ingredients must be "dried bovine colostrum". Dried bovine serum is a cheaper substitute, but it is not absorbed as well as dried bovine colostrum. Only commercial, colostrum products that are derived from bovine colostrum should be used.
- 3.) Finally, it is important to select a product that has been adequately studied and proven to actually transfer immunity to the calf when administered properly. One assumption that can be made is that only name brand products have a chance of having legitimate research backing up their performance. Although cheaper, avoid the generic colostrum replacers; it is safe to assume that there is less research behind them.

So, when it comes down to it, what colostrum products do we recommend? Well, there are 3 that either meet, or come close, to these rules of thumb. This does not mean that there aren't others out there, but these are the three that I am familiar and comfortable with. I will start with my least favorite and end with my favorite.

- 1.) Colostrix CR – Saskatoon Colostrum Company - 100 g – \$46.49/bag. It is important to note that there is a Colostrix CR (100g) and a Colostrix CS (50g). The CR and CS stand for "colostrum replacer" and "colostrum supplement", respectively. As you can see though, even the CR only has 100g of IgG per bag. So, for adequate

supplementation to be achieved, at least 1 ½ bags must be given. This brings the cost per complete supplementation to about \$69.73/150g IgG. The reason that this product falls to 3rd place for me is for 3 main reasons. First, it only contains 100g of IgG per bag. More than one bag must be used to adequately supplement a calf. Second, producers have told me that calves do not like the taste of it and that they usually must tube the calf with it. Like I stated before, tubing a calf is less ideal than if the calf were to suckle a bottle. Lastly, it is difficult to mix, and it tends to clump. If clumping occurs, proper absorption and digestion are inhibited.

- 2.) Bovine IgG Colostrum 200 – Saskatoon Colostrum Company – 200g IgG - \$89.99/bag – Again, it is important to note that Saskatoon Colostrum Company makes a couple other colostrum products under this brand with similar looking packaging. Unfortunately, these other products only contain 60g, 100g, or 105g of IgG per bag. This product though, contains an adequate 200g of IgG per bag. To compare apples to apples, this product costs \$67.49/150g IgG. I have two main issues with this product. First, the price is still high. Second, there are 750g of total powder in this bag of colostrum that must be dissolved adequately to give to the calf. That is about 50% extra compared to the other two products. For all that powder to dissolve adequately enough to flow easily through a bottle, the water must be very warm. Warm to the point that it is debatably too hot to give to a calf. That is why the next product is my favorite and the one that we carry at MVVS.
- 3.) OptiPrime – Hubbard Feeds - 150g - \$39.57/bag – Not to sound too cliché, but to me, OptiPrime is the perfect

colostrum replacer. It provides a full dose of IgG in a single bag (150g IgG/bag), it is derived from bovine colostrum, and adequate research has been done to prove that it actually supplies the calf with passive immunity. There are 500g of total product in the bag, so it mixes easily in warm, not hot, water. Also, it is the cheapest option for a full replacement dose at \$39.57/150g IgG. For these reasons, OptiPrime is the colostrum replacer that we carry at MVVS.

****Disclaimer: Quoted prices for Colostrix and Bovine IgG Colostrum 200 taken from Valley Vet Supply ****

To recap, ensuring adequate colostrum consumption in the beginning hours of life is extremely important to set a calf up for long-term health and success. As you begin to shop for your calving supplies, do not forget the rules of thumb that I have mentioned here. Following these guidelines will help you select the best product for your calves, and help mitigate issues, like scours, that arise with failure of passive transfer.

Happy calving season! Stay warm.

Best,
Ben Bennett, DVM

Thanks again for reading. As always, if you have questions, please reach out! If you have ideas for future newsletter topics, please share with us.

*****Discount!***** If you need to order any OptiPrime colostrum, mention this newsletter and we will take 5% off your first 1-9 bags. Order a case or more (10 bags), and we will take off 10%. To order, please respond to this email or call the office.