



Improving Colostrum Quality this Calving Season

Why is colostrum important for dairy calves?

Colostrum, the cow's first milk, is critical to the health of the newborn calf and has a significant impact on the calf's future performance. Calves are born lacking disease protection because antibodies (immunoglobulins) do not pass through the dam's placenta to the foetal circulatory system. The critical immunoglobulins found in colostrum create passive immunity, providing calves with their initial protection against environmental pathogens and disease. Colostrum is also high in protein, fat and essential vitamins and helps calves begin to build a healthy immune system.

Ensuring that colostrum quality is high among your cows before the start of calving should be a focus on dairy farms. During the dry period, the nutrition of cows needs to be correct to ensure that they are capable of producing high quality colostrum. Colostrum is produced by cows during their final days before calving. If colostrum quality has not been sufficient in previous years, there are a number of areas and options to look at for improvement.

Colostrum quality

Firstly, it is important that you are testing all of the colostrum from your cows that you will be feeding to calves. This can be done quite simply, by using a brix refractometer. Only colostrum with a reading of over 22% should be fed to calves, as this means the colostrum contains 50mg/ml of immunoglobulins.

You need to ensure that cows are being fed a silage with at least 12% protein – this will help them in producing high quality colostrum. Offering cows between 200-300g/head soya should improve the colostrum from the cow, without impacting calf size. Some farmers may be hesitant to feed soya to cows that are heavily in-calf and close to calving, but once soya is not overfed to cows, it will have little to no impact on calf size – but should have an impact on the colostrum produced by the cow.

Factors which affect colostrum quality in dairy cows include:

- Time from calving - after calving, dairy cows immediately start to produce large amounts of milk, which means that the colostrum is of poorer quality with every hour that passes between calving and first milking.
- Age of dam - older cows tend to produce higher quality colostrum as they have had a longer exposure period to farm specific pathogens, but first calving heifers often have high quality colostrum. Testing is required for all cow's colostrum.
- Dry period length - if the dry period is shorter than three weeks then colostrum quality tends to be poor.
- Inadequate nutrition: Appropriate protein levels are critical to colostrum quality and quantity.
- Month of calving - late calving spring cows (April/May) tend to have lower quality colostrum. Colostrum quality of autumn calving cows, calved from grass, is high.
- Higher yielding cows have lower quality colostrum.
- When colostrum from cows that have been vaccinated, (against Rotavirus for example), is fed to newborn calves, greater passive transfer of antibodies (against rotavirus) occurs ensuring better immunity and protection against calf scour caused by rotavirus.
- If the cow has mastitis or is treated with antibiotics the colostrum should not be used. This does not apply in the case of dry cow treatment unless the dry period was unusually short.
- If the cow leaks milk or the colostrum looks watery the quality will be poor.
- Bacterial contamination reduces the availability of the antibodies.

Pre-Calver Ration



A high energy pre-calver ration that will promote maximum production right throughout the lactation. The feeding of a pre-calver ration before calving will prime the dry cow's rumen for milk production, ensure it is adapted to the feeding of concentrates, reduce the risk of metabolic diseases and promote higher intakes post calving.

