

Unlocking your calves' potential: Colostrum is key



Georgina Thomas.

In the second in this series, Trouw Nutrition GB Ruminant Specialist, Georgina Thomas, explains how the LifeStart Programme gives dairy producers the key to unlocking the full potential of calves, focussing on the importance of colostrum.

Colostrum is key for healthy calves

Feeding adequate volumes of good quality colostrum at the correct time is one of the most important factors that can influence calf health and performance.

Colostrum has a very different nutrient profile to whole milk. Colostrum is a nutrient dense feed with approximately twice the dry matter, five times as much protein as well as a higher fat and mineral content than whole milk. Not only does colostrum provide essential nutrients to the new born calf, it also stimulates digestive activity and is a critical source of immune protection. Colostrum contains immunoglobulins that function as antibodies to support the immune system.

Calves are born with no immunity against disease, relying entirely on absorption from colostrum to provide adequate immunity and protection until their own immune system develops at 3-4 weeks old through exposure to diseases and organisms in the environment.

Inadequate colostrum feeding leads to higher mortality rates, low growth rates and generally poorer health.

The 3 Qs

Following colostrum management protocols based on the 3 Qs will help get calves off to the best possible start.

—Quality

All colostrum is not the same and it is essential to feed good quality colostrum. Good quality colostrum should contain at least 50g of IgG per litre and have minimal bacterial contamination (<100,000 cfu/ml).

Many factors affect colostrum quality including breed, age and dry period length as well as the immune status of the dam and timing of first milking. As it is difficult to visually assess colostrum quality the use of a colostrimeter or refractometer is recommended.

Storage and handling influence colostrum quality:

- Only select good quality colostrum.
- Ensure storage containers are clean, hygienic and easily labelled.
- Cool colostrum quickly after collection if not being fed immediately to reduce the risk of bacterial contamination and proliferation as bacteria



Calves rely on colostrum to provide initial immunity to disease.

in colostrum can reduce absorption of antibodies.

- Colostrum can be refrigerated for up to seven days or frozen for up to one year; this will allow a bank of good quality colostrum to be accessible at all times.

—Quantity

Best practice recommendations are to supply 10% of calf bodyweight which equates to around 4 litres of colostrum for the average Holstein Friesian calf. Feeding good quality colostrum at this level at the correct time will supply the calves with a sufficient level of antibodies.

Feeding a large volume of colostrum will not overcome low immunoglobulin concentration or high bacterial contamination.

—Quickly

Timing of colostrum feeding is critically important as calves have a short-lived ability to absorb immunoglobulins. The cells lining the intestine begin to mature shortly after birth meaning the ability to absorb immunoglobulins significantly reduces with time, with the intestine being unable to absorb large molecules by 24 hours old.

To optimise antibody absorption

colostrum should be fed as soon as possible after birth, at the latest within 6 hours of birth.

Continuing to feed colostrum for the first 2-3 days before moving to calf milk replacer or whole milk offers additional benefits and has been shown to support development of the gut.

Effective colostrum management protocols can make a big difference to calf performance and get them off to the best possible start for minimal additional cost.

The LifeStart Programme is helping understand nature's way to unlock the early growth potential of the calf to further improve dairy farm efficiency in the future.

For more information visit lifestartscience.com or contact the Trouw Nutrition technical team at:
e: technical.gb@nutreco.com
t: 01335 341102