

Colostrum

The importance of an early, high intake of immunoglobulins from colostrum to protect the newborn calf from infectious disease is well known. When scour outbreaks occur and calves are blood sampled and found to have low levels of immunoglobulin it is often assumed that the fault lies with the cow for producing low levels of poor quality colostrum. However there are several other equally important factors which can cause or contribute to the problem.

1. Dirty teats.

The newborn calf is only able to absorb the large immunoglobulin molecules from colostrum due to the large “spaces” it has in its digestive tract. These can become blocked by any “dirt” the calf takes in from suckling dirty teats. (This dirt can also carry disease organisms such as those responsible for scour or even worse Johne’s.) To avoid this cows must be kept as clean as possible ie well bedded in the weeks prior to calving.

2. A delay in suckling.

Regardless of whether the calf has suckled or not, these gaps in the lining of its gut gradually shrink so that 6 – 12 hours after birth the calf is unable to absorb the large immunoglobulin molecules. After this the calf is dependant on the gradual development of its own resistance to the various diseases it encounters.

Any delay in the newborn calf suckling will therefore seriously reduce its ability to absorb immunoglobulins and increase its susceptibility to infectious diseases. First suckling can be delayed for several reasons eg –

- The calf being slow to stand, particularly after a difficult calving.
- The cow being slow to stand, again particularly likely following a difficult calving.
- The cow being too excited to stand still and allow the calf to suckle, a common problem in first calving heifers.
- Calves being abandoned by their mother, again more likely to occur with first calving heifers.
- The cow and/or her calf being bullied by other cows yet to calve.
- The cow having been suckled by another older calf in the hours before she calves, reducing both the quantity and quality of the colostrum available to her own calf.

To avoid these problems any cow reluctant to stand after calving should have some colostrum removed immediately – while it is easy to do so. Any calf reluctant to stand within half an hour of birth should be helped to suckle and if that fails fed colostrum from its mother ideally through a teat. Cows with newborn calves should be removed daily and penned up with other calved cows to establish groups of calves of a similar age.

There is no evidence that under feeding cows in late pregnancy so that they lose condition to help grow the calf inside them has any detrimental effect on either colostrum quantity or quality, providing the ration still meets the protein, mineral and vitamin requirements of the pregnant cow.

Once the calf’s gut is no longer able to absorb immunoglobulins, the role of colostrum is still important in acting as a “mild antibiotic” lining the surface area of the digestive tract and minimising the risk of scour developing. This is how vaccination against Rotavirus works in increasing the level of immunoglobulin antibodies in the cows colostrum and early milk which then

provide protection for the first 2 – 3 months of the calf's life by coating the lining of its gut everytime it suckles.

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