

Eight hour window for calves to thrive

There is just an eight hour window for colostrum to have the best effect it can on the immune system of calves.

Dr Bas Schouten, a veterinary consultant, says that even as little as two litres of colostrum at birth will lift the immunoglobulins (IgG) blood levels above the safe level of 10mg/ml.

"Two litres eight hours after birth will also do it, but after that no matter how much colostrum you give none will be absorbed into the blood stream," he says.

He does say colostrum after eight hours will provide some form of local protecting affect on the gut wall but it won't provide any immunity.

So what stops a calf from getting the important first feed of colostrum?

Schouten says there are three factors that can prevent that occurring. These include calf

factors, cow factors and colostrum factors.

There are numerous reasons that stop the calf getting colostrum. These can include a long birth (swollen head and tongue), low brain oxygen levels, cold stress, being very small, making the animal slow to stand up and suckle or leg deformities.

Cow factors relate to large or small teats, blocked teats, muddy udders, or mastitis. Mis-mothering and metabolic diseases can also pose obstacles.

The main and most important factor for colostrum is the timing. Table one illustrates how much the first feed of colostrum has to offer.

"This clearly shows that first day colostrum is an awesome feed, high in energy and containing some 60 times more of those valuable immunoglobulins than found in cows milk."

Schouten says the trick of getting the most benefit is the harvesting and feeding of it.

"It is the timing of the first feed that is critical. So if in doubt about whether a calf has had enough colostrum at eight hours, give some more."

He says there is little difference in colostrum between breeds, but there can be a variation within a herd, which is largely related to age.

Schouten says the best colostrum is produced by third and fourth calvers.

Heifers produce good quality, but the volume could be less than older cows.

The poorest quality comes from light second calvers, light cows in general, cows that leak colostrum before calving, induced cows, cows dried off for less than six weeks and big cows producing

composition of colostrum	
Solids %	2 x milk
Fat %	2 x milk
Lactose	same as milk
Protein	4 x milk
IgG	60 x milk
Vitamins	8 x milk

more than eight litres of colostrum (dilution effect).

Schouten urges farmers to collect and store colostrum and where possible store first day colostrum separately from subsequent milkings.

"I don't take chances"

Helen Dackers - Professional Calf Rearer



"When it comes to successful calf rearing, there is little room for error. So I make it my business to get my calves growing fast on the feeds that are proven and cost effective."



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Trial highlights colostrum's role in calf health

A Waikato commercial trial involving 180 dairy bull beef calves has once again highlighted the importance of colostrum to the health of calves.

In the trial by NZ Agbiz Ltd the calves were picked up at five days of age averaging 44.8kg LW.

The next day they were all blood tested for colostrum and it was found that 30% of calves had below adequate levels of colostrum, measured by GGT enzyme in blood (>100 iu/L).

The calves were monitored until weaning off milk at 65kg in which time four calves died from septicaemia, including three that had GGT levels below 100iu/L.

This highlighted the higher mortality of calves that have received below this level.

Of calves that had GGT levels below 300iu/L, 63% experienced scouring. These calves were also affected by scours for an average of 71 scour days versus 38 days for calves with GGT levels greater than 300iu/L.

This shows that calves with GGT levels above 300iu/L are more likely to withstand a scours challenge.

This clearly highlights the importance of enhancing calf immunity within the first 12 hours of life with adequate levels of colostrum.

It was also interesting to note that rotovirus was identified in calves that had moderate or severe scours via a laboratory culture. However there was no explosive outbreak of scours and recovery of the calves was prompt.

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