

How to store cow colostrum

Stored colostrum is a cheap, highly nutritious source of food for young calves.

The high protein content of colostrum means two litres of colostrum is equal to five litres of whole milk.

Colostrum can be stored in plastic or stainless steel containers.

Experienced veterinarian Dr Bas Schouten has developed one option to keep the colostrum in good condition.

His recipe is to add a litre of plain yoghurt (or a sachet of EasiYo) to 20 litres of colostrum at the beginning of the season. This initiates the 'yoghurt' process and can be used to 'seed' other drums.

The colostrum should be stored at 5-15 degrees Celsius, preferably in the shade and stirred twice daily. It is important not to let the stirrer touch the ground because this can contaminate the stored colostrum.

The stored colostrum should be diluted - two parts colostrum to one part hot water - and fed twice a day to calves at three litres per feed.

Schouten warns against adding mastitis milk, milk containing antibiotics or milk from dry-cow treated cows.

Calves for rearing need four litres of colostrum after birth

Calves selected for rearing ideally need four litres of 'first-milking' colostrum within the first 24 hours of birth.

Poukawa Dairy Beef Project research manager Paul Muir says the uptake of immunoglobulins in colostrum by calves reduces quickly after the first 24 hours and is almost negligible by 36 hours after birth.

"With daily calf pick-up being common on most dairy farms, it is still important for the calves to be fed 2-4 litres of high quality colostrum - and this means first-milking colostrum."

Muir says several studies have shown that calves picked up daily are more likely to receive insufficient colostrum from their mothers.

The most recent study at Poukawa found that 25% of calves had no colostrum at all when collected on a daily basis. A combination of causes were found. These include heifer births, difficult births, badly-shaped teats, lack of mothering ability and movement of calves under hot wires.

The calves in the study were penned individually and their progress monitored through to slaughter. "On average, the calves in the low colostrum status group died at seven days of age. There was no consistent source of death but we did treat almost all of them at some stage."

Muir says it takes around six hours for a calf to stand and suckle its mother.

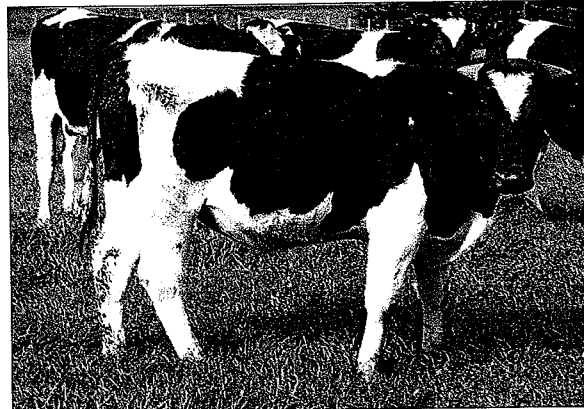
"Our recommendation is that calves should receive at least two litres of colostrum on arrival at the dairy shed. This should be first-milking colostrum and ideally sourced from several cows."

Studies have shown that up to 40% of the calves which don't receive sufficient colostrum will die, usually within the first 10 days of age.

The level of mortality does depend on the calving and rearing environment. "For example, where good management systems are in place on both the dairy farm and rearing unit, the risk of disease is minimized and calves that miss out on colostrum can still survive and perform quite well."

However, Muir says lack of colostrum increases the risk of a problem occurring.

Hawke's Bay veterinarian Bert Middleberg says colostrum from the first three to four



Healthy calves require at least 2-4 litres of first milking colostrum within of birth.

How the calves performed in the Poukawa Study					
Colostrum status	Birth weight	3 month wgt (kg)	6 month wgt (kg)	14 month wgt (kg)	Pres w:
High	38.9	106.7	174.4	305.2	5
Medium	39.3	106.8	172.2	315.4	5
Low	38.6	96.1	159.0	313.4	5

milking contains a high concentration of antibodies and vitamins to protect against disease.

"Colostrum (antibodies) is only absorbed by the gut in the first 36 hours of life and absorption is best in the first six hours," Middleberg says.

The study at Poukawa also showed the effect of colostrum deficiency on the weight gain performance of calves.

Colostrum-deficient calves that survived to six months of age were 14kg lighter on average than those calves that received sufficient colostrum, in spite of having similar birth weights.

But, a surprising result is those colostrum-deficient calves are now 26kg heavier than the high colostrum calves (see table). "This suggests that it may have been the weaker and poorer growing animals that died."

Another suggestion is that the acquired immunity, as opposed to the passive immunity in calves fed colostrum, allowed these calves

to develop different metabolic pathways enabled better performance.

Dairy cows produce 40-50 litres of colostrum containing a wide range of nutrients: proteins, fat, vitamins, minerals plus and growth factors.

Nutraceuticals, derived from human colostrum, is a huge growth worldwide.

Colostrum will last well if stored in place and stirred on a daily basis, not to mix colostrum from cows with penicillin with healthy colostrum.

Muir also clarified the issue of calves a colostrum additive right through their rearing period.

"It's still good to feed calves colostrum with colostrum additive, but from the point of view of immunoglobulins because that still lasts 36 hours."

Middleberg says the antibodies are useful in preventing disease in calves

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