



COLOSTRUM STORAGE

Get some in the bank!

WHY?

If colostrum is left at ambient temperature, the bacteria present rapidly overgrow and can be the source of infection for calf-scour pathogens, such as *Salmonella* and *E.coli*. Heavily contaminated colostrum can prevent uptake of antibodies by the calf and increase the risk of failure of passive transfer (where calves do not have adequate antibodies to fight infection). If colostrum is not fed within 2 hours of collection, then it needs to be efficiently stored.

WHEN?

In seasonal herds, first-milking colostrum is frequently fed to new-born calves as soon as it is collected. Good quality colostrum, measuring $\geq 22\%$ using a Brix refractometer, is often in high demand and there is not usually excess to store. However, there may be periods where calf-drop is busy, followed by a quieter period before another busier period. This is common where synchrony programs have been used. In year-round herds and seasonal/split herds with a prolonged calving pattern, colostrum storage is an integral part of successful colostrum management.

Heifers can produce good quality colostrum but they generally produce low volumes and they often calve before the rest of the herd. A 'colostrum bank' consisting of good quality frozen colostrum collected from the previous calving period, allows adequate colostrum to be fed to calves born to heifers. This particularly beneficial for heifers in calf to sexed semen where good quality colostrum is required in large volumes for every calf born. Bull calves also require colostrum but the best quality colostrum ($\geq 22\%$ Brix) should be preferentially fed to heifer calves.

HOW?

SHORT-TERM

Colostrum can be stored in a refrigerator at 4°C for ~ 2 days. When excess is available, colostrum should be refrigerated as soon as possible after collection. Multiple small containers, such as bottles or Perfect Udder bags, are preferred as these will cool more rapidly than a single large volume of colostrum. If larger volumes in buckets are unavoidable, ensure these have a lid and are thoroughly cleaned after each use. Stainless steel collection buckets are preferred as they can be effectively cleaned.

The shelf-life of refrigerated colostrum can be prolonged to 5-7 days by adding a food preservative called potassium sorbate. This inhibits bacterial growth but "will not make contaminated colostrum clean again". When used with refrigeration, it can be very useful as it avoids the need for long-term storage. Your local Apiam clinic stocks K-Sorb, a ready-to-use potassium sorbate solution to assist in the preservation of colostrum.

LONG-TERM

Freezing colostrum is the most practical long-term storage method. Freeze good quality colostrum as soon as it is collected in small containers or Perfect Udder bags. Avoid using large containers as these will not thaw very rapidly. All colostrum should be stored in a deep freezer. The small freezer compartment included in some fridges will not suffice as colostrum is not cooled quickly enough to prevent bacterial overgrowth. Freezing colostrum does destroy the white blood cells but the benefits of this method out-weigh this negative effect. Avoid routinely freezing colostrum during the calving period as alternative, more convenient methods are available for short-term storage. Freezing is useful at the end of calving where supply often exceeds demand. In a deep freezer, colostrum will last approximately 10-12 months. Always write the date of collection on the container so that out-of-date colostrum can be discarded. This also applies to colostrum stored in the refrigerator.

Contact your ProDairy vet to discuss long-term storage of colostrum using Perfect Udder bags.

Adapted from an original article by Apiam dairy vet, Dr Gemma Chuck, for Dairy News Australia (October 2015)