

# Case Study

## Using bacterial counts to troubleshoot calf health problems

**History:** Calves developing diarrhea within the first few days of life, with some mortality.

**Question:** Was there bacterial contamination of the colostrum, making the calves sick?

**Procedure:** Collect an aseptic composite colostrum sample from the cow, the stainless-steel bucket used to harvest the colostrum, the bucket into which the colostrum is transferred after harvest, and from the nipple/bottle used to feed the calf. Culture each sample to determine bacterial counts.

**Results:**

Source of the sample	Fecal coliforms	Interpretation
cow's udder	0	no mastitis & good udder prep
colostrum harvest bucket	20 cfu/ml	acceptable cleaning; not a problem
holding bucket	TNTC (>5,000 cfu/ml)	inadequate sanitation of holding bucket
nipple/bottle	TNTC (>5,000 cfu/ml)	cannot evaluate until the holding bucket issue is resolved



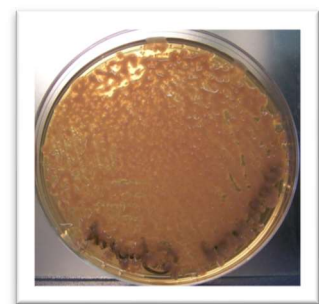
Cow



Harvest bucket



Holding bucket



Nipple / bottle

**Outcome:** Although the holding bucket looked clean, it was contaminating the colostrum. Allowing colostrum to sit in the holding bucket at room temperature for extended periods of time exacerbated the problem. Proper sanitation procedures were adopted for cleaning the holding bucket, including a cool water rinse, a chlorinated detergent wash with hot water, and a hot water rinse followed by an acid sanitizer. The bucket was stored upside down to allow for drying in between use. Colostrum that was not used right away was moved into a refrigerator for storage. Follow-up samples revealed all low bacterial counts, and the diarrhea problem in the calves resolved.