



# The effects of feeding untreated and formic acid treated colostrum ad libitum on intake and immunoglobulin levels in dairy calves

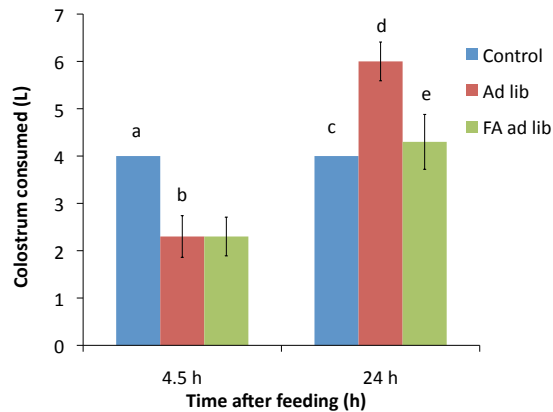
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Feeding calves an appropriate amount and quality of colostrum in early life is vital for their immunity and health. Calves are usually fed in one or two meals and it is unknown how much colostrum calves would drink if provided with colostrum ad libitum. Bacteria grow rapidly in colostrum left at room temperature. Formic acid depresses bacterial growth, yet the effect of this treatment on calf intake of colostrum has not been tested.

**Aims:** To determine the effects of feeding colostrum ad libitum on colostrum intake and Ig absorption during the first day of life, and the effectiveness of formic acid in reducing bacteria in colostrum without compromising intake or Ig levels.

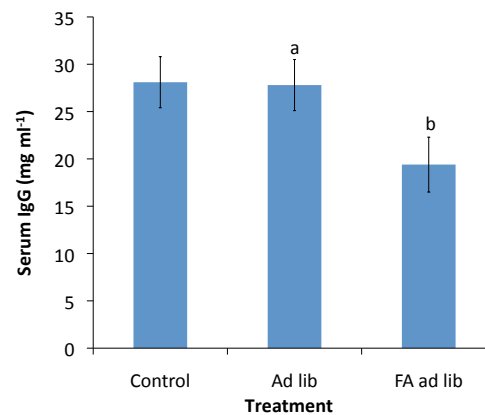
**Methodology:** Holstein bull calves (n=29) were randomly assigned at birth to one of three treatments. Blocks of three calves, one from each treatment, were offered colostrum from the same batch. Control calves were fed 4 L of untreated colostrum by esophageal feeder. The other two groups were offered either untreated ("Ad lib") or formic acid treated ("FA ad lib") colostrum ad libitum for the first day of life. Colostrum intake was measured at 4.5 and 24 h after feeding, and blood was sampled at 24 h after feeding.

## How much did they drink?



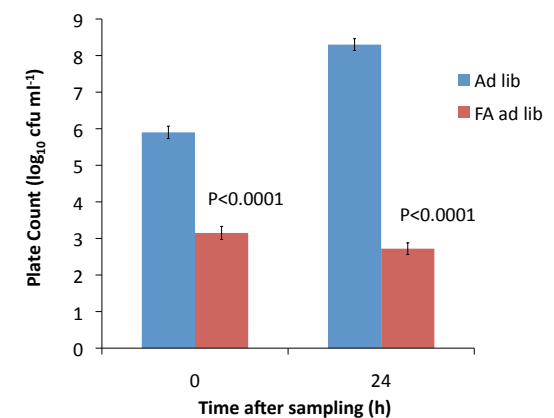
a, b and c, d and d, e are significantly different (P<0.05)

## Did treatment affect serum IgG?



a, b are significantly different (P<0.05)

## Did formic acid reduce bacteria?



These results indicate that calves provided untreated colostrum ad libitum will consume more colostrum than the amount conventionally fed, but there will be no differences in serum IgG levels. Formic acid minimized bacteria growth, but it caused reduced intake, therefore formic acid is not a practical preservation agent for colostrum offered to calves.

