

Pasteurization and skimming effects on colostrum antimicrobial activity during refrigeration

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The aim of the present work was to study the effect of pasteurization and skimming treatments during refrigeration on goat colostrum antimicrobial activity against the *E. coli*. Colostrum samples were collected from ten dairy goats (Majorera breed) at partum. Animals were milked using a milking machine, after that, each colostrum sample was pour into 50ml bottles and store at -80°C until analysis. Samples were thawed at 37°C and, after that, three different treatments were applied, with the exception of control sample. Two different pasteurization methods were performed, 56°C during 1 hour or 63°C during 30 minutes. Another colostrum aliquot was skimmed using a commercial skimmer. Ten microliters of each sample were imbibed in sterile antibiogram disk and let to dry. Sterile saline serum and Enrofloxacin (250 microgram) were used as negative and positive control, respectively. 200 microliters of *E. coli* (ABS 600 nm = 3) were plating into Petri plates with violet red bile agar medium. Four antibiogram disks (positive and negative controls and two samples to test) were located on each plate and then incubated at 37°C for 24 hours. After incubation the halos were measured using a digital scanner. An anova with repeated measures procedure was performed. It was assumed positive control as 100% and negative control as 0%. No differences between treatments along the time were observed, but strong ($P<0.001$) effect of time was detected. Antimicrobial activity was 15.95, 13.16, 10.66, 5.92, 4.34 and 2.61% at 0, 2, 4, 6, 8 and 10 days of refrigeration. Present results will help in the management of refrigeration of colostrum in dairy farms.

Keywords: colostrum, antimicrobial activity