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Effects of oxytocin-treatment (endogenous and exogenous) on dairy production

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To determine the effects of oxytocin (endogenous and exogenous) on dairy goat production, 39 Canarian goats were divided into three groups of 13 animals each according to milk yield. All goats were milked once daily (0700). During an 8 week period, group 1 was introduced to the milking parlor once a week, 10 h after morning milking, and all pre-milking routines were carried out, including stripping 2-3 squirts of milk from each teat, but the animals were not milked. During the same period, group 2 was injected intravenously with 2 IU of oxytocin outside the milking parlor once a week, and also 10 h after morning milking, but again the animals were not milked. Group 3 (control) remained in the pen without treatment. The day following applied treatments, milk recording was performed at the morning milking. A milk sample was collected to determine milk composition using a DMA2001 Milk Analyzer (Miris Inc., Uppsala, Sweden). An ANOVA (with repeated measures) procedure from SPSS was used for statistical analysis. Milk yield ranged from 1.92 to 2.15 L/d, from 1.83 to 2.06 L/d, and from 1.84 to 2.15 L/d throughout the experiment with goats of group 1, 2 and 3 respectively. However no differences were found due to endogenous or exogenous oxytocin treatments in any weeks during the experiment ($P > 0.05$). Fat, protein and lactose percentages ranged from 4.34% to 4.86%, from 3.75 to 3.93%, and from 4.86 to 5.17% respectively, in the studied conditions and neither showed significant differences. In conclusion, the results indicate that the administration of synthetically manufactured oxytocin, or the oxytocin release by the stimulatory effect of milking procedures, have no galactopoietic effect in goats not milked immediately. Likewise, it did not produce apparent changes in the milk composition.