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### **Effects of oxytocin administration using at different doses on milk partitioning**

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To investigate the effects of different doses of oxytocin on milk partitioning, 10 Canarian goats in second parity were divided into five groups of 2 animals each, according to milk yield. During a 6 week period, the goats were milked once daily (0800) except during one day a week when they were milked four times (0800, 1200, 1600, and 2000) and recording the milk obtained. On this day, after each milking, the animals were injected intravenously with a dose of oxytocin according to the experimental group, and the residual milk was measured. Group 1 was used as a control and was injected intravenously with 5 ml of saline solution, and the groups 2, 3, 4 and 5 were administered with 0.5, 1, 2 and 4 IU of oxytocin, diluted in 5 ml of saline solution, 1 min before machine attachment. Milk samples (total machine and residual fractions) were analyzed immediately after collection, to determine milk composition, using a DMA2001 Milk Analyzer (Miris Inc., Uppsala, Sweeden). An ANOVA (with repeated measures) procedure from SPSS was used for statistical analysis. Percentages of total machine and residual milk were unaffected in the 1200, 1600 and 2000 intervals, due to applied treatments ( $P > 0.05$ ). Total machine milk percentages were higher ( $P < 0.05$ ) in the control group ( $> 80\%$ ) than the oxytocin groups (ranging from 40.21% to 61.69%) at 1200, 1600 and 2000. Fat, protein and lactose percentages of total machine and residual milk did not differ between treatments at 1200, 1600 and 2000 ( $P > 0.05$ ). Fat percentages in residual milk did show a significant decrease between 1200 and 2000 for the studied groups. The apparent decrease in fat content could be due to cortisol released in response to stress caused by the experiment, preventing lipid formation from glucose and acetate. In conclusion, the results showed that differing injected doses of oxytocin did not affect the milk flow rate from alveoli to cistern. This could indicate that the contraction of the myoepithelial cells that surround the mammary alveoli is similar between low and high doses of oxytocin, and depends on accumulation of milk in the alveolar compartment.