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Effect of milking frequency and melatonin implants during the dry-off period on milk yield and composition in pregnant dairy goats

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This study aims to evaluate the effects of different dry-off strategies based on melatonin implants or milking frequency on milk yield and chemical composition in pregnant dairy goats. On day -75 relative to expected parturition, 24 Majorera dairy goats were subcutaneously treated with 1 mL of saline or with a melatonin implant. From day -75 to day -60 relative to expected parturition, animals were either milked once daily or once every other day. From day -60 to day 0 relative to parturition, animals were not milked. From day -75 to day -60 relative to parturition, milk yield was recorded, and milk samples were collected to determine gross chemical composition (i.e., lactose, fat, protein and total solids) and somatic cell counts (SCC). Data were analysed using the PROC MIXED procedure of SAS, and the significance was set as $P < 0.05$. The results showed a faster milk yield reduction in those animals treated with melatonin implants compared to those receiving saline ($P < 0.001$). In addition, milk yield decreased faster in those animals milked once every other day than those milked once daily. Neither gross chemical composition nor SCC were affected by either the melatonin administration or the milking frequency ($P > 0.05$). In conclusion, it seems that reducing milking frequency as well as the use of melatonin implants during a 15-day dry-off period are effective strategies to promote a faster transition from late lactation to the dry period in dairy goats. This study was funded by the project PID 2020-113056RA-I00/AEI/10.13039/501100011033.

Session 22

Poster 15

Changes in milk yield and composition in dairy goats during kid suckling period

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The aim of the study was to assess the milk yield and kid growth dynamics during the suckling period in Alba de Banat dairy goats. Kids were weighed at birth (M1), at 28 days of age (M2) and weaning at 60 days of age (M3). Milk samples were collected by manual milking at 2, 28, 60, and 120 days after kidding. Milk was analysed for density, added water, freezing point, fat, protein, lactose, solids non-fat and minerals using Lactoscan analyzer. Daily ration of goats consisted of 0.9 kg alfalfa hay, 0.5 kg corn, 0.5 kg wheat bran, 0.05 kg calcium phosphate and salt for licking. Statistical analysis was carried out using Mann Whitney ANOVA in STATISTICA 7 software. Milking capacity of the goats at 28 days after kidding was between 24 and 25.8 kg. Average body weight of kids was 3.12 kg at birth, 7.27 kg at 28 days of age, and 16.00 kg at weaning (60 days of age). Per total growth period, the average daily gain in kids was 0.210 kg. Using Fleishman method to estimate the milk production consumed by kids over the growth period showed that this was between 49.9 and 50.7 kg. When were put on pasture after kids were weaned, the control milking of goats showed a milk yield between 1.485 and 1.800 kg/day. The main chemical components of the goat milk showed an increase from the first to the last control milking, except for the fat content that was significantly lower in M2 than in M1 (3.26% vs. 9.68%, $p \leq 0.05$). After weaning the kids and switching to mechanical milking (M4) a small and non-significant increase ($p \geq 0.05$) for all milk components compared to M3 was observed. There was a negative correlation between milk yield and composition. The highest change in goat milk composition was observed between M1 and M2. Kids growth was associated mostly with milk production of their mothers, therefore it was recommended to make a selection for milk production in Alba de Banat breed, and use the mechanic milking for individuals that have a production higher than 0.5 liters/day.