group) received the standardized diet plus 5 g C.pyrenoidosa from 15 days before partum to day 40 of lactation. Goats were milked by machine milking once a day and milk samples (100 ml) of each goat were collected after milk removal at partum and 1, 2, 3, 4, 5, 10, 20, 30 and 40 days later. Milk samples were divided into two aliquots, 50 ml of each were used to measure the basic chemical composition (fat and protein) immediately after sampling and 50 ml were maintained at -80ºC until fatty acid composition was analyzed. The saturated, polyunsaturated and monounsaturated fatty acids percentage (SFA, PUFA and MUFA) was determined by using a gas chromatograph. The atherogenicity index (AI) was calculated as C12:0 + (4 x C14:0) + C16:0/ MUFA+PUFA. There was no significant effect of seaweed addition on milk fat percentage (8.87 vs 8.70% at partum and 5.20 vs 5.81% at day 40, seaweed and control group, respectively). In addition, fat percentage decreased throughout the experiment in both groups, ranged from 8.87 to 5.20% and 8.70 to and 5.81%, seaweed and control group, respectively. Milk protein percentage decreased throughout the experiment in both groups, ranged from (20.28 to 3.10% and 21.53 to 3.88%, seaweed and control group, respectively) being milk protein significantly higher at first day of lactation in the seaweed group (13.20 vs 8.30%, seaweed and control group, respectively). No significant effects of seaweed diet addition were observed in SFA, MUFA and PUFA percentages and AI. Both groups displayed similar values until day 5 of lactation. However, there was a trend of raising the SFA percentage and AI and decreasing the MUFA and PUFA percentages in both groups from day 10 to day 40 of lactation. In conclusion, the addition of C. pyrenoidosa increases the milk protein percentage at first day of lactation.

Effect of milking frequency on milk immunoglobulin concentration (IgG, IgM and IgA) and Chitotriosidase activity in Majorera goats

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Abstract / Resumo:

Eleven goats belonging to Majorera breed were used during the early lactation to determine the milk IgG, IgM and IgA concentration and the Chitotriosidase (ChT) activity in milk at three different milking frequencies. The goats were machine milked during 5 weeks, at week 1 and 5 once daily, at week 2 and 4 twice daily and at week 3, three times a day. Every week, milk samples (50 ml) were collected from each goat after the first morning milking. The samples were aliquoted and storage at -80°C until immunoglobulins concentration and ChT activity were analyzed. To determine the IgG, IgM and IgA concentration a commercial goat ELISA kit was used and fluorimetric assay was performed to measure the ChT activity. Milk IgG and IgM concentration decreased as milking frequency increased, showing an enhance trend when the milking frequency returned to milking once daily. IgA concentration increased throughout the experimental period from 0.03 mg/ml (week 1) to 0.09 mg/ml (week 4). ChT activity decreased from week 1 (782.90 nmol/ml/h) to week 5 (651.18 nmol/ml/h). In conclusion, milking frequency affected the milk immune status, although different evolutions have been observed. Findings in the present report might help in the discussion about the susceptibility of mastitis when milking frequency is increased. More experiments will be necessary to evaluate long term effects of milking frequency on milk immune status.