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Effect of feeding lyophilized bovine and goat colostrum on serum antibodies fluctuation in newborn goat kids

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Colostrum that constitutes the only source of antibodies for newborns goat kids, is very often a vehicle of Caprine Arthritis Encephalitis virus. It was evaluated the effect of initial levels of passive protection acquired from goat and bovine colostrum and the viability of using lyophilized bovine colostrum to newborns goat kids. Twenty-five newborns female goat kids were randomly allocated to five treatments, two fed goat (GCA) and bovine (BCA) colostrum, with 45 to 55 mg/ml of IgG, another two, goat (GCB) and bovine (BCB) colostrum, with 15 to 25 mg/ml of IgG, and a fifth treatment fed lyophilized bovine colostrum (LBC), with 45 to 55 mg/ml of IgG. The animals received 5% of body weight of colostrum at 0, 12, 24 hr of life and, after, cow's milk twice a day and concentrate *ad libitum* until 60 days of life. Blood samples were collected at 0, ½, 1, 2, 5, 10, 15, 20, 25, 30, 35, 40, 50 and 60 days of age and analyzed by electrophoretic fractionation of serum proteins to determine gamma globulin (CELMGEL). Serum gamma globulin concentration showed significant effect of period ($P<0.05$) and treatment ($P<0.05$). The levels of serum gamma globulin at birth were the smallest, with a mean concentration of 0.24 ± 0.04 g/dl, and at 12 hr (½ day) the values were lower than those found between 30 to 60 days. The mean serum Ig at 60 days was 7.1 ± 0.04 mg/ml. Animals from LBC, with a mean concentration of 6.7 ± 0.04 mg/ml, differed from GCB and BCB (4.7 ± 0.04 and 4.7 ± 0.05 mg/ml, respectively). Gamma globulin serum concentration found in animals from GCA and BCA, 6.2 ± 0.04 and 5.1 ± 0.04 mg/ml, respectively, were not different from concentrations found in animals from GCB and BCB, that have received colostrum with lower concentration of antibodies. The results indicate that lyophilized bovine colostrum can be used to feed newborns goat kids as an alternative source for the acquisition of initial protection.

Performance of lambs fed diets with different proportions of physic nut meal (*Jatropha curcas*)

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Although it has high protein value (23%), the physic nut is not utilized in animal feed due to its toxicity, resulting from the presence of the phorbol ester. Studies have shown it is possible to detoxify physic nut bran and development of varieties of physic nut without the phorbol ester, representing a potential use in ruminant feeding. The objective of this work was to evaluate the performance of Santa Inês lambs fed diets with physic nut meal (*Jatropha curcas*) with zero concentration of phorbol ester. Twenty four intact lambs, 120 days of age and 21 ± 1.88 kg of body weight (BW) were housed during 60 days and divided in four treatments according to the percentage of physic nut meal in the concentrate (0, 20, 40 and 60%). They were fed with Tifton (*Cynodon dactylon*) hay *ad libitum* and a concentrate isoenergetic and isoproteic mixture (corn, soybean meal and plus mineral mixture). Feed intake and BW were measured three times a week and every 15 days respectively. The statistical analyses were carried out utilizing the statistical software Statistical Analysis System (SAS) and an analysis of variance and Tukey's test at probability level of 5% was carried out. The daily weight gain and total weight gain showed no difference between the four groups. The average daily weight gain was 137 ± 27.2 ; 122 ± 9.0 ; 129 ± 32.3 ; and 116 ± 16.4 g/animal/day and the total weight gain was 8.2 ± 1.63 ; 7.3 ± 0.54 ; 7.7 ± 1.94 ; and 7.0 ± 0.99 kg for 0, 20, 40, 60% proportion treatment respectively. Therefore, the physic nut meal with zero concentration of phorbol ester had shown to be a viable alternative source of feed for ruminants.