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Abstract & Author Information

Effects of dietary babassu coconut co-product on ruminal protozoa population of growing lambs

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The Babassu palm is easily found in Amazon rainforest. The oil extracted from kernels is industrially produced and has properties similar to coconut oil and is used in much the same context. The remaining material from oil extraction, known babassu "borra" (BB) have the potential to add value as byproduct, because the greater content of fat and protein. However, there is no information available about its addition in the diet of lambs on rumen environment. The objectives of this study were to evaluate the effect of increasing levels of BB (0, 5, 10 and 15%, DM basis) in the diet of growing lambs on rumen pH and protozoa population. Twenty-eight crossbred Santa Inês x Dorper lambs (20.6 ± 4.1 kg BW) naturally infected were used in a completely randomized design. Lambs fed an isonitrogenous diets (16.0 ± 0.1 CP, DM basis) with 20:80 hay:concentrate ratio. After 49 days in feedlot, lambs were slaughtered. Rumen content sampling was performed immediately collected after slaughter in the abattoir. The pH of rumen content was measured and an aliquot of 2 ml was immediately preserved with 2 ml of 10% formalin solution. The analysis of ciliate protozoa was performed individually by microscopic counting chamber Neubauer. The pH values were explored by ANOVA using PROC MIXED and the counting of total protozoa was compared by non-parametric analysis by PROC NPARLWA using the Kruskal-Wallis test ($P < 0.05$). There was no effect ($P = 0.858$) of increasing levels of dietary BB on ruminal pH. However, the addition of 10% BB increased ($P = 0.025$) the protozoa counting compared to control diet (2.5×10^5 , 4.1×10^5 , 9.1×10^5 and 4.5×10^5 for 0, 5, 10 and 15% BB, respectively). The predominance of *Entodinium* genre may be subject to the speed of reproduction of these protozoa.

Among diets with BB, it was observed a reduction in count of *Epidinium*, *Isotricha* and *Metadinium* genres when lambs fed 10 and 15% BB that can be explained by high lauric fatty acid content in BB. Babassu "borra" can be added up to 5% in the diet of finishing lambs without defaunatory effect of rumen protozoa.

KEYWORDS

defaunatory effect
lauric acid
microorganisms

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