



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

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OBJECTIVES

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.

INTRODUCTION

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. However, there are studies to detoxify the physic nut bran and the possibility of varieties of physic nut without the phorbol ester, representing a potential use in ruminant feeding.

METHODS

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.

RESULTS

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.

CONCLUSION

Therefore, the physic nut meal with zero concentration of phorbol ester had shown to be a viable alternative source of feed for ruminants.

Table 1 – Average daily weight gain (ADWG) and the total weight gain (TWG) in the four treatments.

Treatments	ADWG (g/animal/day)	TWG (kg)
0%	137 ^{ns} ±27.2	8.2 ^{ns} ±1.63
20%	122 ^{ns} ±9.0	7.3 ^{ns} ±0.54
40%	129 ^{ns} ±32.3	7.7 ^{ns} ±1.94
60%	116 ^{ns} ±16.4	7.0 ^{ns} ±0.99



Figure 1 – Santa Inês lambs.