

Performance of growing lambs fed with increasing levels of sorghum grains containing tannins

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Introduction Sorghum (*Sorghum bicolor* (L.) Moench) has a great importance in animal nutrition as substitute to corn, due to the similarity of the chemical composition and availability (Ruskin *et al.*, 1996). Comparisons have shown that sorghum represents 95% of the nutritional value of corn (Oliveira *et al.*, 2003). However, some sorghum grains may have tannins which can affect intake and digestibility (Reed, 1995; Cannas, 1999 and McDonald *et al.*, 1995). The purpose of this work was to evaluate the replacement of corn by sorghum grains containing tannins on growing lamb performance.

Material and methods Twenty male Santa Ines lambs with a mean body weight 17.80 ± 1.02 kg were adapted for two weeks with a basal diet (Tifton hay – 40% and corn plus soybean meal – 60%) prior to the experimental period. Animals were randomly divided into five (n = 4) treatments (0, 25, 50, 75 and 100% replacement of corn by sorghum (cultivar BR 701 containing 29 g/Kg DM of condensed tannins), for 75 days. The animals were allocated in individual pens with an individual feeding system (3% body weight), the water was offered *ad libitum*. Feed offered and refusals were measured everyday and animals were weighed weekly to calculate the average feed intake (kg/d), average daily weight gain (kg/d) and feed conversion (kg/kg gain). All the results were analysed using the GLM procedure, than the sum of squares was partitioned into orthogonal polynomials (linear, quadratic, cubic and quadratic components) using SAS system (2001).

Results The performance of animals was not affected ($P > 0.05$) by the level of replacement of corn by sorghum containing tannins (Table 1).

Table 1 Effect of replacement of corn by sorghum with tannins in growing lambs performance

% Sorghum	Initial body weight (kg)	Final body weight (kg)	Average Feed intake (kg/d)	Average daily weight gain (kg/d)	Feed conversion (kg/kg gain)
0	17.20	21.90	0.55	0.06	6.62
25	18.75	24.25	0.59	0.07	8.35
50	18.00	24.00	0.63	0.08	7.95
75	17.50	22.87	0.59	0.07	10.17
100	17.66	22.16	0.59	0.05	10.16
S.E.D	-	4.66	0.13	0.03	3.80
$P \leq$	-	0.48	0.69	0.53	0.60

Conclusions The results showed that the sorghum containing tannins may be used in growing lamb diets, but more studies are needed over long periods to ensure safety use in sheep and maintenance of production levels.

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