

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

USE OF BANANA PEELS IN SUBSTITUTION TO MAIZE IN NON-PELETIZED DIETS FOR GROWING RABBITS

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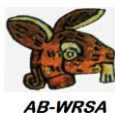
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Resumo: Resíduos agroindustriais são produzidos anualmente em grande volume no Brasil. A utilização dos mesmos na nutrição animal, entretanto, limita-se devido à falta de conhecimento sobre suas características nutricionais. Nesse sentido, o objetivo deste trabalho foi avaliar o desempenho de coelhos de corte alimentados com dietas contendo casca de banana em substituição ao milho. Para tal, foram utilizados 30 coelhos da raça Nova Zelândia Branco, divididos em três tratamentos, com 10 repetições cada. Os animais foram submetidos aos seguintes tratamentos: T0CB - dieta controle sem inclusão de cascas de banana, T25CB - dieta com substituição de 25% de cascas de banana ao milho e T50CB - dieta com substituição de 50% de cascas de banana ao milho. As médias foram comparadas por análise de variância. Os resultados obtidos mostraram que as médias foram, para consumo de ração, de 102.02, 96.24 e 105.19 (g/dia); para ganho de peso, de 27.43, 26.95 e 25.93 (g/dia); e para conversão alimentar, de 3.38, 3.22 e 3.71 nos tratamentos 0CB, 25CB e 50CB, respectivamente, sem diferenças significativas entre os tratamentos. Assim, conclui-se que as cascas de banana podem substituir o milho em até 50% em dietas para coelhos em crescimento sem prejudicar o desempenho dos animais.

Keywords: animal nutrition, by-products, cuniculture

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Introduction

The rising prices of conventional ingredients to animal feeding raised cost of production and, consequently, reduced profit margin of producers. For this matter, the use of alternative ingredients has been of great interest to many researchers (Chaves et al., 2014; Akande, 2015). In this sense, banana peels are usually discarded, even though they present favorable nutritional characteristics for use in animal feeding and low acquisition cost (Omer, 2009).

Maize is the most energetic ingredient in the nutrition of non-ruminant animals. However, culturally, corn is used in human nutrition, unlike agroindustry by-products such as banana peels. In this context, replacing part of the maize by banana peels reduces arable areas for production of animal nutrition ingredients, which makes it possible to use residues in rabbit nutrition.

Data on the inclusion of banana peels in diets for rabbits are scarce and insufficient in the literature. In this context, the purpose to this study was to evaluate the effect of banana peels in substitution of maize for growing rabbits.

Materials and methods

The biological essay was conducted in the Cuniculture Laboratory at Federal University of Santa Maria from 2017 May to 2017 July. A total of 30 mixed-sex New Zealand White Rabbits, weaned at 35 days old, were used. They were randomly assigned to one of the three experimental groups (10 rabbits/diet). The animals were allocated in individual galvanized wire cages – with a dimension of 50x50x50cm – with ceramic feeders and drinkers, in a suitable shed for rabbits. The animals received, ad libitum, water and non-peletized ration.

During the essay, body weight and daily weight gain were recorded biweekly for further statistical analysis. Three diets were formulated according the nutritional requirements of the category (AEC, 1987): 0BP – control diet without banana peels;

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25BP – experimental diet with 25% of banana peels in substitution to maize; and
50BP – experimental diet with 50% of banana peels in substitution to maize.

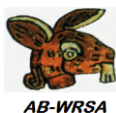
For data analysis, Microsoft Excel static package was used. Performance measures of each phase were submitted to analysis of variance (ANOVA).

Results and discussion

Performance parameters of rabbits, which were fed with different levels of banana peels in substitution to maize, are presented in Table 1. Data on daily feed intake showed that 0BP rabbits had no difference when compared to those in 25BP and 50BP groups. Daily feed intake ranged from 102.02g for rabbits in the 0BP group to 105.19g for rabbits in the 50BP group, which shows good palatability of BP that was well-accepted by animals. Therefore, the consumption may be related to the palatability of the ration, which is one of the responsible for ingestive behavior (Oliveira, 2013; Lounaoucy-ouyaed et al., 2008).

As for the daily weight gain, it was verified that there was no difference between the treatments. This parameter ranged from 25.93g for rabbits fed with 50BP diet to 27.43g for rabbits fed with 0BP diet. Feed conversion of the animals was 3.38, 3.22 and 3.71 in groups 0BP, 25BP and 50BP, respectively. In this aspect, the best conversion was verified in rabbits from 25BP group. However, the values that were obtained for this parameter were statistically similar. As for the final live weight, it was not influenced by the levels of maize replacement by banana peels, and its values were equivalent to 2156g, 2088g and 2081g for the diets 0BP, 25BP, and 50BP, respectively.

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Table 1 – General performance of rabbits that were fed diets containing dry banana peels in substitution to maize.

Parameters	Experimental diets			Value P
	0BP	25BP	50BP	
Body weight at 35 days (g)	784.44	740.22	784.22	0.62
Body weight at 80 days (g)	2156.22	2088.0	2081.11	0.48
Daily weight gain (g/d)	27.43	26.95	25.93	0.44
Daily feed intake (g/d)	102.02	96.24	105.19	0.18
Feed conversion rate	3.38	3.22	3.71	0.74

0BP - control diet without banana peels; 25BP - diet with 25% of banana peels in substitution to maize; 50 BP - diet with 50% of banana peels in substitution to maize.

Researches show the use of residues, besides its possibility in animal nutrition, reduces the cost of production. Still, about the stagnation of agricultural land, the viability of the use of residue is of great value due to its abundance and because of its pollution. Furthermore, residues and by-products provide to farmers a viable alternative that increases profitability.

Conclusion

The addition of banana peels in the diets showed no difference in the values that were analyzed on the performance of growing rabbits. Therefore, the conclusion is that substitution of maize by banana peels is viable up to 50%.

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