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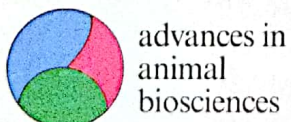
VOLUME 5 PART 1



Advances in Animal Biosciences

Science into Practice: planning for intensification

Proceedings of the British Society of Animal Science and the Association of Veterinary Teaching and Research Work includes BSAS/EBLEX Workshop Improving Ewe Efficiency Through Better Feeding



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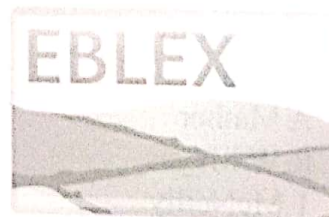
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Advances in Animal Biosciences

This book is part of a series which is a companion to the journal ANIMAL



The Proceedings of the British Society of Animal Science constitute summaries of papers presented at the Society's Annual Conference, *Science into Practice - planning for intensification*, held in Nottingham UK, 29-30 April 2014.

The meeting was organised jointly with the Association for Veterinary Teaching and Research Work and includes papers from the workshop *Improving ewe efficiency through better feeding*.

The summaries have been edited. Views expressed in all contributions are those of the authors and not those of the BSAS or AVTRW.

This publication contains all the summaries that were available at the time of going to press.

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Nutrient intake and digestibility of weaner rabbits fed graded levels of roasted pigeon pea meal

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Implications There is great potential of dietary inclusion of roasted pigeon pea meal an unconventional feed stuff in compounding rabbit feed in the future, particularly in those countries where conventional feed ingredients are expensive.

Introduction In Nigeria, conventional feedstuffs are expensive which has led to the search for cheap and locally available unconventional feeding materials. It is very obvious that the conventional sources of feed can no longer adequately meet the needs of the fast growing livestock industry. Pigeon pea is a legume crop of interest to many researchers in several countries of the world to use as a source of livestock feed ingredient. Akande and Adeleye (2013) reported that performance of rabbits were not negatively affected by up to 30% dietary inclusion of roasted pigeon pea meal.

Material and methods Forty Dutch x Chinchilla male and female rabbits with an average initial weight of 725g and between 5 and 7 weeks old were allocated to four dietary treatments. Each treatment had ten rabbits and five replicate per treatment in a completely randomized design (CRD). Pigeon pea seeds were roasted at about 80°C for 3-5 minutes. After cooling, the seeds were then milled in a hammer mill. The processed pigeon pea meal (PPM) was used in compounding iso-nitrogenous and iso-caloric experimental diets. Treatment 1 (control) was corn-soybean based diet with 0% PPM while treatments 2, 3 and 4 contained 10, 20 and 30% PPM in the diets respectively. This research was conducted at the Rabbit Research House of the Abubakar Tafawa Balewa University, Bauchi state, Nigeria. In the fourth week of the feeding trial, faecal collection was done for seven days. The faeces were dried, bulked and weighed for nutrient digestibility determination. The acid detergent fibre (ADF) and neutral detergent fibre (NDF) of the samples were determined by the method of Goering and Van Soest (1970). Data obtained were subjected to the analysis of variance (Steel and Torrie, 1980).

Results There was no significant effect of pigeon pea meal based diets on daily live weight gain and nutrient intakes of rabbits (Table 1). Dry matter intake (DMI), organic matter intake (OMI) and acid detergent fibre intake (ADFI) had values ranging from 43.5 - 53.1g, 40.0 - 48.3g and 5.8 - 7.1g respectively for rabbits fed both 30 and 10% PPM based diets. Results for OMI and ADFI followed the same trend as observed in the DMI. CPI values varied from 7.2 to 8.9g and that of NDFI was from 10.4 to 11.2g. Results of this study also showed that digestibility of nutrients were not significantly affected by dietary treatments (Table 1). This is similar to the findings of Oso *et al.* (2012) who reported the inclusion of up to 50g/kg of processed pigeon pea meal in the diet of their experimental animals without adverse effect on nutrient digestibility.

Table 1 Daily live weight gain, nutrient intake and digestibility of rabbits fed graded levels of roasted pigeon pea meal

Parameters	Dietary levels of PPM (%)				SEM
	0	10	20	30	
Daily live weight gain (g)	14	16	13	12	1.1 ^{NS}
Dry matter intake (g)	50.3	53.1	52.6	43.5	2.19 ^{NS}
Organic matter intake (g)	45.8	48.3	48.0	40.0	2.00 ^{NS}
Crude protein intake (g)	8.9	8.8	8.9	7.2	0.38 ^{NS}
Acid detergent fibre intake (g)	6.7	7.1	7.0	5.8	0.29 ^{NS}
Neutral detergent fibre intake (g)	10.5	10.5	11.2	10.4	0.47 ^{NS}
Dry matter digestibility (%)	73.8	75.2	70.9	72.0	1.67 ^{NS}
Organic matter digestibility (%)	79.9	80.4	78.1	79.6	1.84 ^{NS}
Crude protein digestibility (%)	86.4	83.7	84.5	84.0	0.71 ^{NS}
Acid detergent fibre digestibility (%)	30.0	30.3	28.0	29.1	1.73 ^{NS}
Neutral detergent fibre digestibility (%)	49.5	43.2	45.8	48.2	1.30 ^{NS}

SEM = Standard error of mean ; NS = Not significant

Conclusion The results showed that pigeon pea meal can be successfully included up to 30% in the diets of weaner rabbits without adverse effect on nutrient intake and digestibility

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