

PERFORMANCE OF WEANER RABBITS FED SELECTED FORAGES AS SUPPLEMENT

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Abstract

Feeding trial was conducted with 36 weaner rabbits of mixed sexes and breeds to evaluate the performance of rabbits fed selected forages with concentrate. The rabbits were randomly allocated in to four treatment groups in a complete randomized design. Each treatment was replicated three times with three rabbits per replicate. Four experiment diets were formulated. Diets one was supplemented *Tridax procumbens* with concentrate which served as control (T1), *Amaranthus* with concentrate, *Fiscus carpensis* leaves with concentrate and water melon peel with concentrate in diet 2, 3 and 4 respectively. The test materials were supplied at 100g per replicate. The trial lasted for 56 days. Data were generated on growth performance (initial weight, final weight, total weight gain, daily weight gain, weekly weight gain, daily feed intake and feed conversion ratio) and nutrient digestibility parameters were measured. Results obtained revealed that the value of there were no significant ($P>0.05$) difference observed among the growth parameters and nutrient digestibility. It is concluded that T1 could be used for growing rabbit diets for optimum performance Therefore T1 can be recommended as best selected forages with concentrate

Keywords: Weaner, Rabbits, Forages, Supplement, Selected

Introduction

One of the solutions to the problem of protein shortage in the diet of most Nigerians is the rearing of rabbits at both subsistence and commercial levels. Rabbits play an important role in the supply of animal protein to the Nigerian populace (Amaefule *et al.*, 2005) and they possess a number of features that are of advantage which include high growth rate, high efficiency in converting forage to meat, short gestation period and high prolificacy, relatively low cost of production and high nutritional quality of rabbit meat (Biobaku and Oguntona, 1997). Forages such as *Panicum maximum* (Guinea grass), *Pennisetum purpureum* (Elephant grass), *Tridax procumbens* are acceptable by rabbits (Abu *et al.*, 2008). The use of non-conventional feed is gaining ground in Nigeria. Studies have shown that a 50:50 mixture of centrocema pubescens and a maize concentrate diet is optimal for maximum performance (Nworgu *et al.*, 1999). One of the major problems of intensive rabbit production in Nigeria is feed because of the competition between man, industries and animals for conventional feed stuffs. This has led to the high cost of conventional feed resources and has account for about 70% of total cost of production (Akinmutimi, 2004). Therefore, this study is designed to estimate Comparative Evaluation of weaner rabbits fed forage as supplement.

Materials and Methods

Location of the Experiment; The research work was carried out at the Rabbit Section of the Teaching and Research Farm of Ibrahim Badamasi BabangidaL University Lapai , Niger state . Lapai lies between latitude 9.31 ° and 9.45 °, east of the equator and is very close to Minna, the state capital (Usman, 2011).

Source of Rabbits, Test Ingredient , Experimental Diets and Management of Rabbits

The thirtysix weaned rabbits of mixed sexes and breeds were obtained from Sultan Veterinary Consult farm No 2, Samaru Street hayindogo Samaru Zaria, Kaduna state . Different forage wastes as *Tridax procumbens*, *Ammaranthus* waste, fig leaves, and water melon waste were collected from the surrounding environment in Lapai town, Lapai Local Government Area of Niger state, Nigeria. They were washed with salt solution prior to feeding the animals while premix, salt, lime stone and salt were obtained from Minna . Thirty six weaned rabbits mixed breeds and sexes, age between 5-6 weeks were randomly allocated to four treatment groups with nine

rabbits per treatment. Each treatment had three replicates of three rabbits per replicate. The same experimental diet was formulated with crude protein set at 23% for each. T₁ was designated as concentrate with Amaranthus, T₂ concentrate and Tridax procumbens waste, T₃ concentrate with fig leaves waste and T₄ concentrate and water melon peels. using ivermectin Vitacox-plus and Neo-furaseryl-plus were adequately given as well. The cages were well clean disinfected with Dettol and equipped with drinkers and feeders. Prior to the experiment, the animals were fed concentrate and allowed the adjustment period of one week to enable the animals get used to their various cages and diets. Fresh clean water was provided ad-libitum and the forages were measured before giving throughout the research period. The experiment lasted for 8 weeks

Table:1 Proximate Composition of Experimental Diet

Ingradients	T ₁ :	T ₂ :	T ₃ :	T ₄ :
Maize	76.00	76.00	76.00	76.00
Fish meal	1.50	1.50	1.50	1.50
Groundnut cake	20.00	20.00	20.00	20.00
Limestone	1.00	1.00	1.00	1.00
Bone meal	1.00	1.00	1.00	1.00
Salt	0.25	0.25	0.25	0.25
Premix	0.25	0.25	0.25	0.25
Total	100	100	100	100

Key

T₁= Concentrate plus Ammarathus(100g) T₂= Concentrate plus Tridaxprocumbeans(100g)

T₃= Concentrate plus Fig leaves (ficusCarpensis) (100g) T₄= Concentrate plus Water Melon Waste (100g)

Data collection

Performance Parameters

The parameters measured on the feeding traits were feed intake, Body weight gain and feed conversion ratio. The following formulae were used for growth performance parameter computation.

$$\text{Daily feed intake (g)} = \frac{\text{Quantity of feed offered-leftover}}{\text{Number of rabbits} \times \text{Number of Days}}$$

$$\text{Weekly weight gain (g)} = \frac{\text{Final weight- Initial weight}}{\text{Number of Days}}$$

$$\text{Feed conversion ratio} = \frac{\text{Quantity of Feed Consumed}}{\text{Weight gzin}}$$

Nutrient Digestibility : Digestibility study was conducted using nine rabbits per treatment during the seventh week of feeding. Faecal sample were collected daily by placing of Aluminum zinc underneath each replicate for five. At the end of each collection period, the faecal samples were bulked, oven dried at 80°C for 12 hrs and grounded for proximate analysis according to package (SAS, 1998) procedures.

Data Analysis: Data generated were subjected to Analysis of Variance (ANOVA) Using Statistical Package (SA S, 1998).

Results and Discussion

The result of growth performance of weaner rabbits fed selected forages as supplement is presented (Table 2) showed there were no significant ($P>0.05$) differences in the values obtained for growth parameters measured across the treatment groups. Although, higher values were recorded for final weight, treatment one had the highest value (3618g) while treatment four had the least value (3167g). Also treatment three had highest value for total weight gain (1227g) while treatment four had the least value (950g). For the daily weight gain, treatment three had the highest value (21.90g) while treatment four has the least value (16.97g). Feed conversion ratio, the result shows that treatment four had the highest value (12.63g) while treatment three had the lowest value (7.04g). However, treatment one had highest value for final body weight and daily feed intake. This implies that selected forages used as supplement in the diet with concentrate has no significant deleterious effect on the weight gains of the weaner rabbits. This also indicates an effective utilization of the forages by the rabbits.

Table 2: Growth Performance of Weaner Rabbits Fed Selected Forages as Supplement.

Parameters	Treatments					
(g)	T ₁	T ₂	T ₃	T ₄	SEM	LSD
Initial weight (g)	2467	2383	2233	2217	62.92	NS
Final weight (g)	3618	3535	3460	3167	1.24	NS
Total weight gain(g)	1152	1168	1227	950.0	87.15	NS
Daily weight gain (g)	20.57	20.87	21.90	16.97	1.56	NS
Weekly weight gain (g)	144.06	146.11	153.32	118.77	10.89	NS
Daily feed intake (g)	160.40	144.58	150.62	135.96	5.69	NS
Feed conversion ratio	7.35	7.07	7.04	9.47	0.77	NS
Key						

NS: No Significant difference SEM: standard error of mean LSD: level of significant difference

The result of chemical composition of faecal sample as shown (Table 3) revealed that diet four (T₄) had the highest value percent dry matter, crude protein and crude fibre (91.00 %, 3.70% and 33.30%) . This probably could be as a result of increase fibre content. This particularly in consonant with Cheeke and Amberg; (1972) who reported that increase CF resulted in voluntary feed intake in growing rabbit as a means of compensating for feed. The observation also in line with the report of Esonu *et al.*, (2003) who reported that inclusion of fibrous material had an energy dilution effect on feed and consequentially increases feed intake.

Table 3: Proximate Analysis of Faecal Sample

Parameters (%)	Treatments			
	T ₁	T ₂	T ₃	T ₄
Dry matter	89.00	82.00	86.00	91.00
Crude protein	3.60	3.20	3.20	3.70
Crude fibre	32.70	33.20	32.20	33.30
Ash	2.50	2.60	2.60	2.60
Ether extract	4.10	4.00	3.60	4.30
Nitrogen free extract	43.20	38.00	35.00	31.00

Conclusion; There were no significant differences in all the parameters measured among the treatment group . However, rabbit fed diet one (T₁) had better performance in final body weight and daily feed intake.

Recommendation; Based on the conclusion from this trial (T₁) that recorded higher values for final body weight and daily feed intake can be recommended for optimum growth and performance.

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