



Duration of feeding (minutes)	93.33 $\pm$ 30.23	57.00 $\pm$ 17.69	83.00 $\pm$ 22.64
Rate of reproduction (no of eggs laid)	89.00 $\pm$ 32.74 ^b	102.00 $\pm$ 36.59 ^b	233.00 $\pm$ 73.91 ^a

Conclusion and Recommendation

The findings from this study showed that the various photoperiod the snails were exposed to had an effect on their feed intake, duration of feeding, cost of feed per kg weight gain and egg production. The result showed that the diet was utilized efficiently. Treatment 3 had the best feed conversion ratio and the lowest cost of feed per kg weight gain which will lead to less or cheapest in raising the animals. Therefore treatment 3 is recommended to farmers

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EFFECTS OF PARTIAL REPLACEMENT OF SOYABEAN MEAL WITH CASHEW NUT MEAL ON HAEMATOLOGICAL PARAMETERS OF WEANER RABBITS



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Abstract

Effects of partial replacement of soyabean meal with cashew nut meal on haematological indices of weaner rabbits was investigated using 30 weaner rabbits. The rabbits were allocated to 5 dietary treatments. Treatment was replicated thrice using two rabbits per replicate in a completely randomized design experiment. Five diet were formulated which contained 0% (control), 5, 10, 15 and 20% of cashew nut meal. The experiment lasted for four (4) weeks. The result showed that the partial replacement of soyabean meal with cashew nut meal resulted in a significant ($P < 0.05$) difference in all the haematological parameters measured across the dietary treatments. Rabbits on T3 recorded the highest value of Pack Cell Volume (42%) while the lowest value for PVC was noticed for rabbits on T5 (25.50). Rabbits on T1 recorded the highest value of WBC (5.10%) while the lowest WBC (4.85%) was obtained for rabbits on T4. It can be concluded that the inclusion of cashew nut meal in rabbits was found to be effective without adverse effect on haematological indices of weaner rabbits.

Keywords: haematology, cashew nut meal, weaner rabbit, WBC, RBC.

Introduction

Animal protein is one of the most important components of human diet and its consumption varies from country to country (Okai *et al.*, 2005). It has become imperative to turn attention to the exploitation of other legumes, particularly those indigenous to the tropics that are non-conventional, relatively cheap and available when compared with conventional feed stuff like groundnut cake, Soyabean which are the main plant protein source for monogastric and are very expensive due to competition between man and livestock (Tuleun and Patrick, 2007). However, there is the need to urgently incorporate non-conventional feed stuff in rabbit diet for optimum performance and reduction in cost of production to make rabbit consumption viable and solve the problem of scarce and expensive conventional feed stuff. According to Fetuga *et al.* (1974) only about 60-65% of the total cashew production in Africa is utilized while the rest are discarded Assay of livestock suggest the physiological disposition of animals to their nutrition. Haematological constituent reflect the physiological response of animal to its internal and external environment which include feed and feeding (Esonu *et al.*, 2001).

Materials and Methods

Experimental Site and test Ingredient



The experiment was carried out in the Rabbitary Unit of Teaching and Research Farm of Oyo State College of Agriculture And Technology, Igboora .

Collection of sample: Cashew nut was procured from the cashew nut processing company limited Ilorin, Kwara State and sundried for one week.

Experimental Animal, Management and Design: A total of thirty (30) weaner rabbits were allocated to five dietary group of six (6) animals in a completely Randomized design (CRD), each group was divided into three replicate of two rabbits each. The diets were formulated such that diet 1 had 0% CNM, diet 2 had 5% CNM, diet 3 had 10% CNM, diet 4 had 15% CNM and diet 5 with 20% CNM.

Table 1: Gross composition of experimental animal diets (CNM)

Percentage	Replacement Levels				
	0%	5%	10%	15%	20%
	T1	T2	T3	T4	T5
Ingredients					
Maize	44.0	43.07	42.1	41.16	40.23
Soybean meal	19.25	18.29	17.32	16.36	15.40
Wheat offal	1.51	1.51	1.51	1.51	1.51
CNM	0.00	1.89	3.83	5.73	7.64
Rice bran	24.59	24.59	24.59	24.59	24.59
PKC	6.5	6.5	6.5	6.5	6.5
Bone meal	2.00	2.00	2.00	2.00	2.00
Limestone	1.65	1.65	1.65	1.65	1.65
Salt	0.25	0.25	0.25	0.25	0.25
Grower premix	0.25	0.25	0.25	0.25	0.25
Total	100.00	100.00	100.00	100.00	100.00
Determined analysis					
Crude protein (%)	15.51	15.42	15.34	15.25	15.17
Crude fibre (%)	12.03	12.04	12.05	12.053	12.06
Ether extract (%)	5.67	5.67	5.67	5.67	5.67
Calcium (%)	0.100	0.102	0.093	0.093	0.098
Phosphorus (%)	0.300	0.318	0.341	0.370	0.394
Ash (%)	4.37	4.35	4.34	4.32	4.29
Energy (MEKcal/kg)	2524.67	2533.85	2544.00	2554.05	2564.08



Key: CNM- Cashew nut meal, PKC-Palm kernel cake

Blood collection

At the end of the 4th week, two rabbits per treatment were randomly selected for haematological indices. Blood samples (3ml) were collected using sterilized needle and syringe through the heart (left side) of the animal into sample bottles containing Ethylene Diamine Tetra Acetic Acid (EDTA) for haematological and are transported to laboratory.

Statistical analysis

Data collected were subjected to Analysis of Variance (ANOVA) using SAS (1999) version means were separated by Duncan's Multiple Range Test.

Results and Discussion

Table 2 showed the haematological indices of weaner rabbits fed cashew nut meal as a partial replacement for soybean meal. There were significant ($P < 0.05$) difference in the haematological parameters measured across the dietary treatments. The highest PVC (42.0%) and RBC (7.2%) were obtained for rabbits on T3. While rabbits on T5 recorded the lowest value (25.50% and 4.25%) for PVC and RBC respectively.

The neutrophil and lymphocytes values obtained were significantly ($P < 0.05$) difference across treatment means, the value obtained were within the normal range for rabbits (35.02-43.2) and (53.5-65.8). (Mitruka and Rawnsley, 1997). The higher values of haematological indices observed in this study is an indication that the animals did not pose to any disease condition and this also tends to indicate a better utilization of cashew nut meal by the rabbits.

Table 2: Haematological parameters of weaner rabbits fed cashew nut meal

Parameters	T1	T2	T3	T4	T5	SEM
PVC(%)	33.00 ^b	27.00 ^d	42.00 ^a	31.00 ^{bc}	25.50 ^e	2.60
HB (g/dl)	11.70 ^b	8.60 ^e	14.90 ^a	10.50 ^{bc}	9.20 ^d	0.10
RBC(10^6 u/l)	5.22 ^b	4.31 ^{cd}	7.29 ^a	4.67 ^c	4.25 ^e	0.50
WBC (10^3 u/l)	5.10 ^a	2.50 ^{cd}	4.98 ^{ab}	1.60 ^e	2.85 ^c	0.62
Lymp (%)	66.00 ^a	55.00 ^e	62.50 ^c	64.00 ^b	59.00 ^{cd}	1.74
Neutrol (%)	39.00 ^b	41.50 ^a	33.00 ^{de}	34.00 ^d	37.00 ^c	1.40
Mono (%)	1.00 ^b	3.00 ^a	1.00 ^b	3.00 ^a	3.00 ^a	0.44
EOS(%)	4.00 ^a	2.00 ^c	3.00 ^b	1.00 ^d	1.00 ^d	0.52
Platelet	103.00 ^b	69.50 ^{cd}	121.50 ^a	63.50 ^e	71.00 ^c	10.10

abcde: means on the same row but with different superscript as significantly difference ($P < 0.05$)



WBC = White blood cell, RBC = Red blood cell, PVC = Pack cell volume, HB = Haemoglobin, EOS = Eosinophils, Mono = Monocytes, Lymph = Lymphocytes, Neutro= Neutrophil

Conclusion

It could be concluded that cashew nut meal can replace soyabean meal up to 20% replacement level without any adverse effect on the haematological indices of weaner rabbits

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EFFECT OF COTTONSEED MEAL SUPPLEMENTED WITH LYSINE ON GROWTH PERFORMANCE OF RABBIT BUCKS