

## MLP -12

### Comparative Performance of Weaner Rabbits Fed Graded Levels of Rice Husk in Place of Wheat Offal

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#### Abstract

The present study was to evaluate the effect of replacing wheat offal with rice husk in weaner rabbits at varying levels. Twenty four weaner rabbits were divided into four experimental groups. Control groups (T<sub>1</sub>) was given a diet without rice husk, while T<sub>2</sub>, T<sub>3</sub> and T<sub>4</sub> were fed diet with rice husk at varying levels (10%, 15% and 20%) in place of wheat offal respectively. Data taken were growth performance and organ weight. There were no significant ( $p>0.05$ ) difference among the treatment means for all the parameters considered for growth performance. Diet 2 had the least feed conversion ratio among others diet 2(4.82), diet 1(5.53) diet 3(5.21), diet 4(4.96). For organ weights, there were no significant differences ( $p>0.05$ ) for all the parameters evaluated. Considering the least value of feed conversion ratio and appreciable organ weights of diet 2 among other diets, Diet 2 (10% rice husk in place of wheat offal) is recommended.

**Keywords:** Performance, rabbits, rice husk, wheat offal

#### Introduction

The major hindrance to the production of poultry to satisfy the required protein needs of most Nigerians has been attributed to high cost of production of which feed cost is highly significant. Feed accounts for about 70-80% of the total cost of animal production (Akinmutimi *et al.*, 2011). This has been attributed to the escalating prices of conventional feed ingredients especially the energy sources such as maize, sorghum etc (Fanimu *et al.*, 2006). This has brought about the quest to search for alternative feedstuff (Ijala *et al.*, 2001). Rice (*Oryza sativa*) has been considered as among the stable crop, which essentially contributes to the protein and energy needs of man (De Leon, 1990, Nwoche *et al.*, 2011). After threshing, the husks become a menace to the environment.

The effect of rice husk on growth and organ weights of weaner rabbits is yet to be reported. This forms the objective of this study.

#### Materials and methods

The study was carried out at the Rabbitry Unit of the livestock and Teaching Research Farm, Michael Okpara University of Agriculture, Umudike, Abia State. The experimental rabbits were housed in hutches located in the rabbitry building. Each hutch had a feed and watering trough for concentrates and water respectively. Twenty four (24) weaner rabbits of mixed sexes and breed were used for the experiment. They were randomly assigned to 4 dietary groups T<sub>1</sub>, T<sub>2</sub>, T<sub>3</sub> and T<sub>4</sub>. Each treatment had three replicates with two rabbits per replicate in a completely randomized design. The experiment lasted for fifty-six (56) days. Feed and water were given *ad libitum*. Medications were administered to each rabbit prior to introduction to the rabbit house. The feedstuff (Rice Husk) was collected from a rice mill in Uzuakoli in Abia State. There were 4 (four) treatment diets with Diet 1 serving as the control diet. The test ingredient replaced wheat offal at 10, 15, and 20% in Diets 2, 3, and 4 respectively (Table 1). The rabbits were fed equal quantities of grasses and legume (*Panicum maximum*, *Centrosema pubescence*, *Calopogonium muconoid*) as supplements to the diets during the period of study. The data obtained were subjected to Analysis of Variance as described by Steel and Torrie (1980).

#### Results and discussions

Table 2 above reveals the proximate composition of the experimental diets. The crude protein range of (16.19 – 17.67%) and crude fibre range of (7.1 -11-6%) from diets 1 to 4 falls within the range of crude protein and crude fibre requirements for weaner rabbits (Akinmutimi *et al.*, 2011). Table 3 reveals the growth performance of weaner rabbits fed graded levels of rice husk in place of maize. There were no significant differences ( $p>0.05$ ) for all the parameters considered. Although there was no significant difference for feed conversion ratio, Diet 2 seems to be superior to all other diets due to the least value of Diet 2 (4.82) among others (Diet 1 (5.53), Diet 3 (5.21) and Diet 4 (4.96). Since the lower the numerical values of feed conversion ratio, the more superior the diet (Ogbonna *et al.*, 2001; Akinmutimi *et al.*, 2011).

Table 1: Experimental diet

Parameter	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>
Maize	40.5	30.5	25.5	20.5
Rice husk	-	10	15	20
Soybean	15	15	15	15
Palm kernel	25	25	25	25
Fish meal	1	1	1	1
Wheat offal	15	15	15	15
Bone meal	3	3	3	3
Salt	0.25	0.25	0.25	0.25
Vitamin premix	0.25	0.25	0.25	0.25
Total	100	100	100	100
Crude protein	16.54	16.79	16.79	17.41
ME/CAL/kg	2284.6	2731.4	2756.3	2694.6

Table 2: Proximate composition of the Diet

Parameters	T <sub>1</sub> (0%)	T <sub>2</sub> (10%)	T <sub>3</sub> (15%)	T <sub>4</sub> (20%)
Dry matter	88.80	89.49	89.83	90.18
ME (Kcal/kg)	2686.83	2711.97	2737.2	2788.0
Crude protein	17.67	17.53	17.21	16.19
Crude fibre	7.1	9.4	10.89	11.60
Ether extract	3.73	3.92	4.49	4.81
Ash	6.81	6.93	7.03	7.24
NFE	46.89	48.30	49.35	51.19
Calcium	1.47	1.50	1.51	1.56
Phosphorus	0.6	0.6	0.6	0.6

Table 3: Growth performance of weaner rabbits fed graded levels of rice husk

Parameters	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	SEM
Initial weight (g)	658.33	650.00	650.00	650.00	11.70
Final weight (g)	1150.00	1191.67	1125.00	1183.33	9.73
Daily weight gain (g)	8.77	9.67	9.38	9.52	0.20
Daily feed intake (g)	48.58	46.66	48.23	0.20	0.53
Feed conversion ratio	5.53	4.82	5.21	4.96	0.14

Table 4 reveals the organ weights of weaner rabbits fed graded levels of rice husk in place of maize. There was no significant difference ( $p > 0.05$ ) in all the parameters determined. This implies that any of the diet is a choice diet (Akinmutimi *et al.*, 2011). Considering the numerical value of feed conversion ratio and appreciable organ weights of diet 2 among other diets, Diet 2 (10% rice husk in place of maize) is recommended.

Table 4. Organ characteristics of Rabbits fed experimental diets

Parameters	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	SEM
Spleen (g)	0.089	0.089	0.089	0.089	0
Heart (g)	0.59	0.58	0.56	0.60	0.01
Lungs (g)	0.98	0.86	0.89	0.85	0.02
Liver (g)	2.36	2.40	2.40	2.20	0.04

### Conclusion and Recommendation

Despite the replacing of wheat offal with rice husk, the result shows no negative or adverse effects of rice husk on the parameters. Therefore, further studies to explore other raw materials (feed resources) that will enhance the nutrition of rabbit without any harmful implications.

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