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EFFECT OF Yadiya (*Leptadenia hastata*) AND COWPEA HAULMS (*Vigna unguiculata*) SUPPLEMENTATION ON THE GROWTH PERFORMANCE OF WEANER RABBITS

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ABSTRACT

A 56-days study was conducted to determine the effect of Yadiya (*Leptadenia hastatata*) and cowpea haulms (*Vigna unguiculata*) on the performance of weaner rabbits. A total of twenty four (24) weaner rabbits aged five to six (5-6) weeks were used for the study. The rabbits were randomly allotted into four (4) treatments, each treatment having three (3) replicates of two (2) rabbits each in a completely randomized design (CRD). Yadiya and cowpea haulms were supplemented in the ratio of 3:2, 2:3 and 2.5:2.5 for T2, T3, T4 respectively, where T1 (control) was solely fed on concentrate. At the end of the study, data collected on growth parameters from each treatment was subjected to analysis of variance, and the result showed that Yadiya and cowpea haulms supplementation had significant effect ($P < 0.05$) on final weight, weight gain, and daily weight gain, with T4 (2.5:2.5) recorded the highest value of 1060.83g, 538.00g, 9.61g respectively. However, there were no significant difference ($P > 0.05$) on feed intake, daily feed intake. In conclusion, the experiment showed that Yadiya and cowpea haulms can be used as supplement in the feeding of weaner rabbits as indicated in this study, with T4 giving the best result (2.5:2.5).

Key words: (*Leptadenia hastatata*, *Vigna unguiculata*, weaner rabbit, performance, feed intake)

INTRODUCTION

The shortage of animal protein is mainly due to poor animal productive performance, especially in developing countries. With the rapid exhaustion of limited animal products, increasing population and better life styles, it is now imperative to explore other aspects of livestock production to bridge the gap of protein intake from animal origin (Oko *et al.*, 2018).

Rabbits (*Oryctolagus cuniculus*) play an important role in the supply of animal protein to the Nigerian populace (Amaefule *et al.*, 2005). The feeding of low quality forage and hay to rabbits is a common practice in areas with long dry season (Iyeghe-Erakpotobor *et al.*, 2012). Forage combination with low concentrate supplementation was found to be efficiently utilized and tolerated by rabbits without any deleterious effect on performance (Ozuo *et al.*, 2018). Crop residues such as cowpea haulms offer cheap alternative sources of protein supplementation Ehoche *et al.* (2001). Research showed rabbit can be fed with processed *leptadenia hastata* leave without adverse effects on growth performance (Wafaret *et al.*, 2014). The study was aimed to find out the effect of separate feeding of concentrate and the mixture of the *leptadenia hastata* leave and cowpea haulms. *Leptadenia hastata* belong to the family *Asclepiadaceae* is edible non-domesticated vegetable, it is a voluble herb with creeping latex stem, and glabrous leaves (Wafaret *et al.*, 2019). The vernacular name for *L. hastata* include Yadiya (Hausa) in Nigeria and Niger, ekamongo (Turkana) in Kenya, etc Thomas (2012). The study was aimed at evaluating the effect



of Yadiya *Leptadenia hastata* and Cowpea haulms (*Vigna unguiculata*) supplementation on the growth performance of weaner rabbits.

MATERIALS AND METHODS

Twenty four (24) Weaner rabbits of mixed sexes were used for the experiment. The experiment was conducted at Federal University Dutse Teaching and research farm, Jigawa State. The rabbits were divided into four experimental groups of six rabbits each, in a completely randomized design. Each treatment group has three replicates of two rabbits each. The treatments were designated as T2, T3 and T4, served with a concentrate and ratio of (3:2, 2:3, and 2.5:2.5) Yadiya (*Leptadenia hastata*) to Cowpea (*Vigna unguiculata*) haulms respectively, while treatment one (T1) serve as a control group offered only concentrate diet. The feeding system employed on T2, T3 and T4 involved separate feeding of concentrate and the mixture of the two forage meal in another container. Growth parameters and feed intake were recorded on weekly and daily basis respectively. Cost of feed consumed and cost of feed per body weight gain were computed. Data collected were subjected to analysis of variance using general linear model procedure and means were separated using LSD.

Table 1: Percentage Composition of Experimental Diet

Ingredients	T1 (0%) 0:0	T1 (5%) 3:2	T1 (5%) 2:3	T1 (5%) 2.5:2.5
Maize	60.00	60.00	60.00	60.00
Wheat offal	16.23	16.23	16.23	16.23
Groundnut cake	20.00	20.00	20.00	20.00
Bone meal	3.00	3.00	3.00	3.00
Salt	0.25	0.25	0.25	0.25
Premix	0.25	0.25	0.25	0.25
Total	100	100	100	100
Calculated analysis				
ME(Kcal/Kg)	2891.90	2891.90	2891.90	2891.90
Crude protein (%)	17.20	17.20	17.20	17.20
Crude fiber	3.58	3.58	3.58	3.58

0 and 5%= percentage supplementations, while (3:2, 2:3, and 2.5:2.5) is the ratio of Yadiya (*Leptadenia hastata*) to Cowpea (*Vigna unguiculata*) haulms respectively

RESULTS AND DISCUSSION

The results shows, final weight gain, daily weight, total weight gain and feed conversion ratio were significantly affected (P<0.05) among the treatments observed, with T4 (2.5:2.5) recording the highest value for final weight gained, total weight gain and daily weight gain of 1060.83, 538.00 and 9.61g ,respectively. While T1 solely concentrate (0% forage) recorded the least values



in the aforementioned parameters. The values obtained for daily weight gain of 6.92 – 9.61g was within the range of 9.39-10.29g reported by Yakubu and Wafar (2014) but lower than 11.13 - 22.15g reported by Wafar *et al* (2019) for rabbits fed different legumes haulms supplemented with concentrate.

However, other parameters observed initial weight, total feed intake, and daily feed intake were not significantly affected ($P > 0.05$) throughout the treatments. Though treatment one T1 (0:0) has the highest total feed intake (800.00g) and daily feed intake (114.29g/rabbit), compare to the other treatments (2, 3, and 4) supplemented with Yadiya and cowpea haulms. Daily feed intake of 94.78g – 114.29g was higher in this study than 79.93 – 81.84g reported by Iyeghe-Erakpotobor (*et al.*, 2012) and 51.65g reported by Yakubu and Wafar (2014) on a study, effect of processing methods of *Leptadenia hastata* on growth performance of weaner rabbits.

Table 2: Effect of Yadiya and cowpea haulms on growth performance of Weaner rabbits

Parameters	T1	T2	T3	T4	SEM
Initial weight (g)	522.67	526.33	519.67	522.67	13.16
Final weight (g)	910.50 ^b	1048.67 ^a	1039.17 ^a	1060.83 ^a	14.12
Weight gain (g/rabbit)	387.83 ^b	522.33 ^a	519.50 ^a	538.00 ^a	13.26
Daily weight gain (g)	6.92 ^b	9.28 ^a	9.33 ^a	9.61 ^a	12.12
Total feed intake (g)	800.00	663.40	700.80	741.60	12.01
Daily feed intake (g/rabbit)	114.29	94.78	97.97	105.95	1.45
Feed conversion ratio	2.15 ^a	1.62 ^b	1.60 ^b	1.93 ^b	0.20

Means with the same letter on the same row are not significantly different ($P > 0.05$), means with different letters on the same row are significantly different ($P < 0.05$).

CONCLUSION

Base on this study, Yadiya and cowpea haulms can be used as supplement in the feeding of Weaner rabbits considering the entire above mentioned ratio (3:2, 2:3 and 2.5:2.5).

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