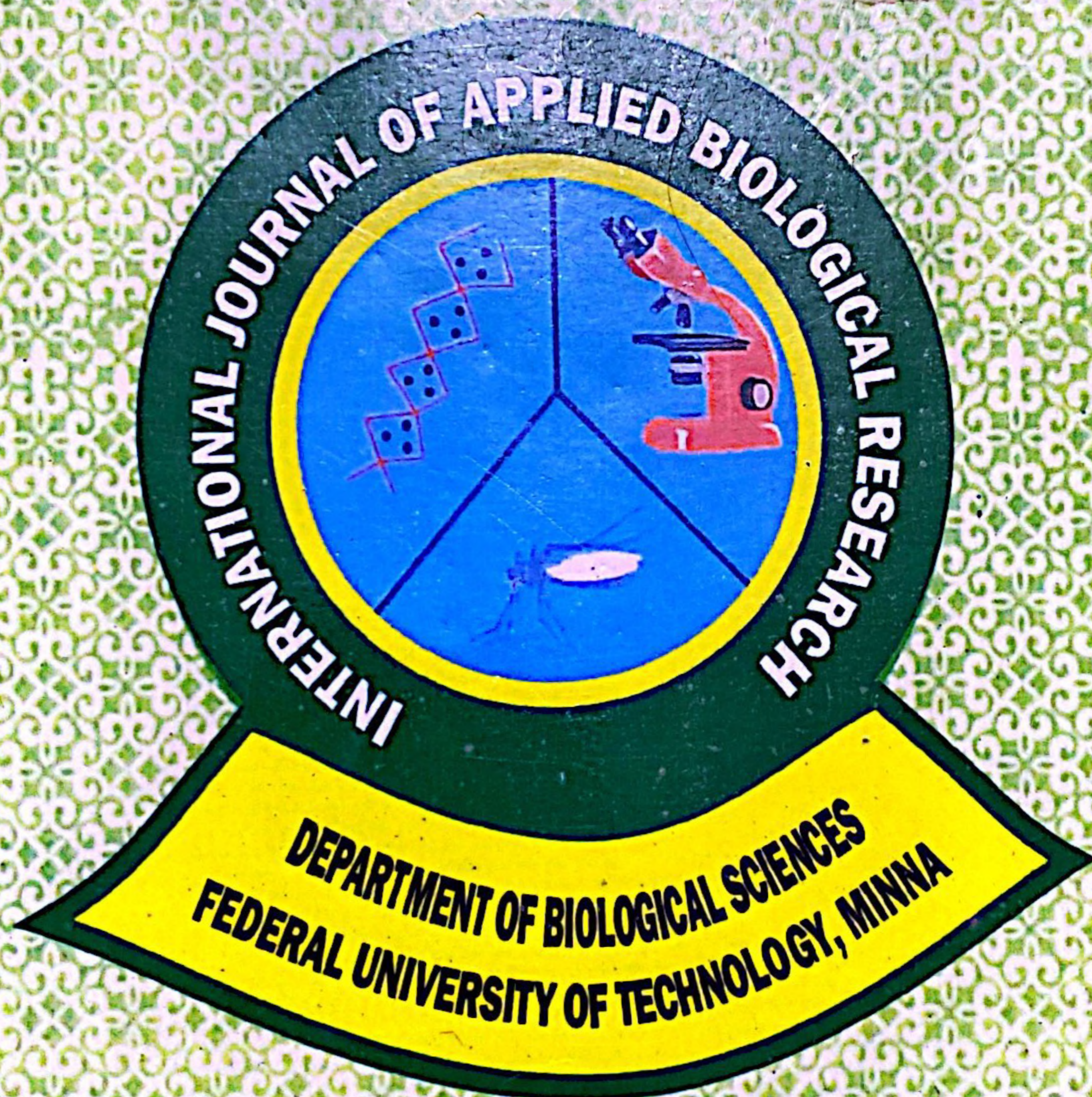
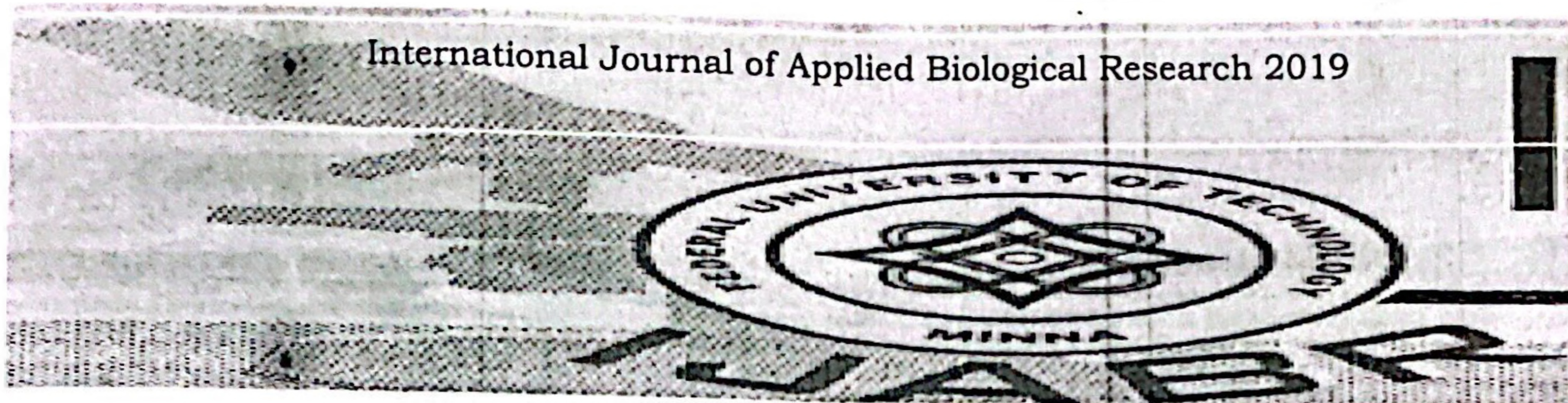


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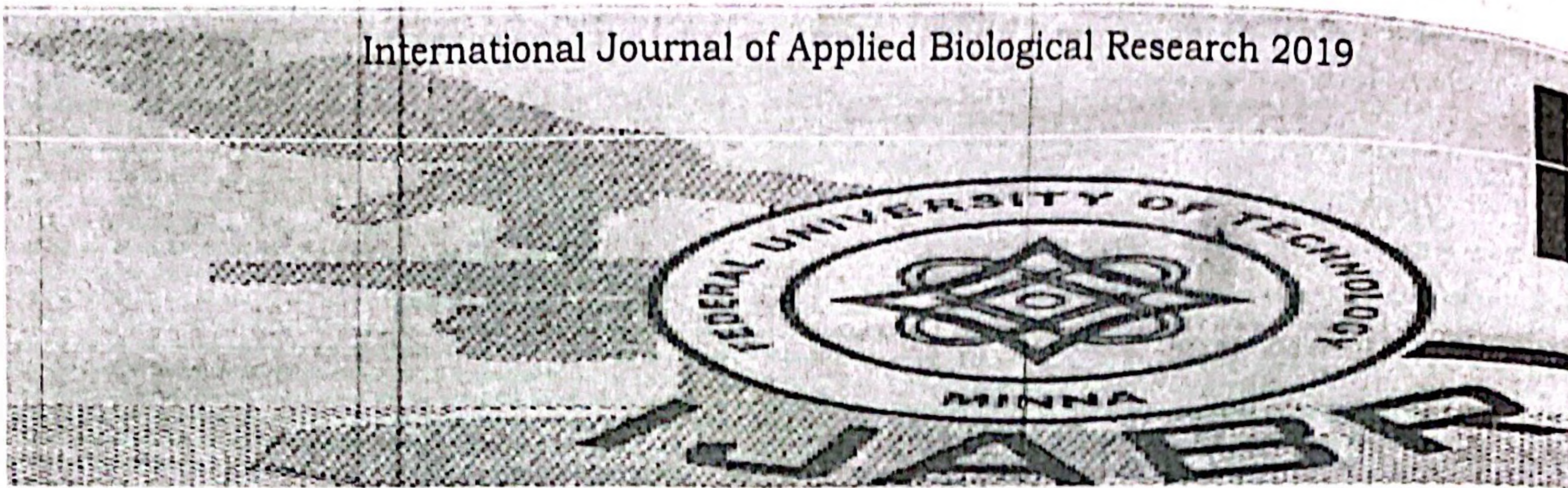
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Original article

GROWTH PERFORMANCE, NUTRIENT DIGESTIBILITY AND CARCASS TRAITS OF WEANER RABBITS (*Oryctolagus cuniculus*) FED DIETS CONTAINING PELLETTED BOILED NEGRO COFFEE (*Senna occidentalis*) SEED MEAL

*¹Ibrahim, M. J., ¹Kudu, Y. S., ¹Malik, A. A. and ¹Abdulmalik, A. O.

¹Department of Animal Production, Federal University of Technology, Minna, Nigeria

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ABSTRACT

A 12-week feeding trial was conducted to determine the growth performance, nutrient digestibility and carcass traits of weaner rabbits fed diets containing pelleted boiled *Senna occidentalis* seed meal. A total of 45 weaner rabbits of mixed sexes were randomly allotted to five treatment diets, in a completely randomized design model, with three replicates per treatment and three rabbits per replicate, making a total of nine rabbits per treatment. Boiled and pelleted *Senna occidentalis* seed meals were included in the diets at the levels of 0 %, 2.5 %, 5 %, 7.5 % and 10 % respectively. Feed and water were supplied to the animals *ad libitum*, and data collected on growth performance. At the end of the feeding trial, one animal per replicate was randomly selected, fasted for about 12 hours, and slaughtered using a sharp knife at the jugular vein. Results showed significant differences ($p < 0.05$) in feed intake and feed conversion ratio; and they decreased linearly with increasing levels of *Senna* in the diet. Weekly weight gain was highest in Treatment 4 (7.5 % boiled pelleted *Senna*) from the fourth week till the end of the experiment (11.94 g/day), while Treatment 5 (10% *Senna*) recorded the lowest weight gain (6.03 g/day) throughout the experiment. Treatment 1 had the highest digestibility values for crude protein and ether extract (82.74 and 77.39 % respectively) while Treatment 4 had the highest value for crude fibre, digestibility (78.66 %) although significant variations ($p < 0.05$) occurred among all the parameters taken. Also, significant differences ($p < 0.05$) occurred in the live weight, slaughter weight and dressed weight among the various treatments. Better performance parameters were obtained in Treatment 4 indicating that up to 7.5 % pelleted boiled *Senna occidentalis* seed meal can be included in the diets of growing rabbits without any adverse effects on their growth performance and carcass traits.

Keywords: Pelleted boiled *Senna occidentalis* seed meal, growth performance, carcass traits, weaner rabbits.

*Corresponding author: ibrahimmj@futminna.edu.ng

INTRODUCTION

Rabbit production is becoming more attractive among the tropical farmers because of its numerous desirable traits which include: ability to convert plant feed materials into high quality protein, high growth rate (when compared to other livestock like goat, sheep, pig and cattle), high fecundity, short generation interval, good source of organic manure for farmers and high adaptability to varying climatic extremes among others [1].

The cost of the conventional feed stuffs have continued to increase tremendously in recent times, and as livestock production continues to increase to meet the growing population of the world, the availability of these conventional feed stuffs is often fickle. This challenge has been worsened by the rising competition between man and livestock for these conventional feedstuffs [2]. Feed forms the most important component in livestock production and if not provided in the right quality and quantity, the amount and quality of livestock products will reduce and there will be limited supply of animal protein to meet the human needs. Non-conventional feedstuffs generally refer to those feed stuffs that are not traditionally used for feeding livestock and are not used commercially to produce animal feeds. Several known examples of these feedstuffs include palm leaf meals, palm press fibre, seeds and leaves of *Gmelina arborea* (Gmelina), cassava foliage and Negro coffee. The objective of this study is to determine the potentials of *Senna occidentalis* (Negro coffee) as feedstuff on the growth performance and carcass traits of rabbits. [3] reported that the use of Negro coffee is limited due to poor information on its nutritional values and the presence of anti-nutritional factors such as phytates, cyanide, saponnins,

trypsin inhibitor, tannins and anthroquinones, coupled with its pungent smell.

MATERIALS AND METHODS

Forty-five (45) mixed sex rabbits were used for this study. The *Senna occidentalis* seeds were harvested from the matured shrub stands in the wild along Minna-Bida road. *Senna* pods collected were well dried and threshed to get the seeds which were then winnowed and cleaned to remove dirt. The cleaned seeds were then boiled using the method described by [4] which was adopted by [5]; the seeds were subjected to boiling at 100° C for 60 minutes and then removed and dried. The boiled dried seeds were milled using hammer mill to get a fine texture and was labelled boiled *Senna occidentalis* seed meal (BSOSM) and then stored. Anti-nutritional factors such as cyanide, tannin content, saponnin, phytic acid, trypsin inhibitor activity of both boiled and raw *Senna* seeds were determined at the National Cereals Research Institute, Badeggi using the methods of [6]. Formulated feeds were pelleted using pelleting machine of 2 mm screen size to prevent waste of feed during feeding. Feed and clean drinking water were served to the animals kept in standard wooden rabbit cages *ad-libitum*. Data were collected on daily feed intake. The experimental animals were weighed at the beginning of the experiment; and were weighed weekly thereafter to obtain weekly weight gain. At the end of the 11th week of the experiment, a nutrient digestibility trial was carried out and faecal samples were collected using the total collection method. Proximate analyses of the feed and faecal samples were carried out using the standard analytical procedures of [7] to determine

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