CONCLUSION AND RECOMMENDATION

Conclusively quail egg has the highest level of cholesterol while local breed hen has the lowest level. So it is recommended that since local breed hen egg is the one that seems to have low level of cholesterol content and it is readily available, it can be consume by the populace. It is also recommended that another research should be carried out in Oder to see fact about the cholesterol content present in different bird eggs.

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Carcass Traits and Relative Organ Weights of Growing Rabbits fed Graded Levels of Processed Kola nut (*Cola nitida)* Pod Husks

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Abstract
Carcass traits and relative organ weights of growing rabbits fed graded levels of processed (ash treated and rumen liquor fermented) kola nut (*Cola nitida*) pod husks (PKPH) were investigated. One hundred and twenty (120) rabbits were randomly allotted to four (4) dietary treatments at 0, 10, 20, and 30 % inclusion levels and designated as diets 1, 2, 3, and 4 respectively. Each treatment group was replicated ten (10) times with three (3) rabbits representing a replicate and was fed *ad-libitum* for 56 days. Highest slaughter weight (1813.80 g/r), dressing weight (1068.70 g/r) and dressing percentage (58.54 %) recorded in rabbits fed diet 3 (20% PKPH) were similar to those fed the control diet (0 % PKPH) and diet 2 (10% PKPH) but was significantly ($P<0.05$) higher than those fed diet 4 (30 % PKPH). The lungs, liver, kidney, heart, and spleen of the rabbits fed dietary treatments showed no significant effect.
Keywords: Kolanut pod husk, Carcass traits, rabbits, rumen liquor, ash

Introduction
The declining world's raw materials as the population grow rapidly, coupled with the real threat of global food shortages has contributed to a growing awareness of the need for conservation and the re-use of things which once would have been thrown away without a second thought (Abioye*et al.*, 2006). Thus, in order to meet maximize food production to meet human protein requirement in Nigeria, all available reasonable options, especially the production of livestock that is yet to play a major role in animal production must be considered for efficient utilization amongst which is the rabbit.The major limitation to the production of rabbit in Nigeria is high cost of finished feed (Adeyemi*et al*., 2008) as it has been reported that feed accounts for 60-70 % of the total intensive production cost (Nworgu*et al.*, 1999). Efforts have been directed towards finding alternative sources of feed ingredients for livestock using materials that cannot be directly consumed by man as this is envisaged may alleviate competition between human and animal and reduce feed costs particularly for livestock species that are quite adapted for utilization of fibrous crop residues and by-products (Atuahene*et al.*, 1985) and such crop residues or by-products are kola nut pod husk (Abioye*et al.*, 2006). However, the presence of anti-nutritional factors such as caffeine, theobromine, and tannins restricts the use of kola nut pod husk(KPH) as animal feeds. Several methods have been employed to improve the nutritive value of KPH for livestock production and this include fermentation which led to increase in crude protein of fermented KPH as reported by Lateef*et al.* (2008) and also enhanced micronutrient bio-availability and aids in degrading anti-nutritional factors (Oboh, 2006). Internal organs of animals exhibit abnormal growth in response to toxins in feeds (Ayodele*et al*., 2916). Therefore, this study aimed at assessing the carcass traits and relative internal organ weights of growing rabbits fed graded levels of processed kola nut pod husks.

Materials and methods
The experiment was carried out at the Rabbitary; Teaching and Research Farms of the Federal College of Agriculture (FECA), Akure, Nigeria. The kola nut pod husks were processed as previously described by Adeyeye*et al*., (2016). Kolanut pod husks were chopped into pieces with sharp stainless steel knife, sun-dried for 7-14 days. Dried corn stalks collected were also gathered and burnt to ashes and used to prepare Corn Stalk Ash solution (CSAS) by suspension in deionized water for 48 hours at room temperature and filtered. One gram of KPH was steeped in 7mls of CSAS for seven days anaerobically and thereafter sundried and named Ash Treated Kolanut Pod Husk (ATKPH) (Adamafio *et al*., 2004). Droppings of commercial layers' wastes were collected from FECA poultry unit sundried and milled. The ATKPH was mixed with dried layers waste (100g/kg) and molasses (50ml/kg). Freshly collected rumen liquor from

slaughtered White Fulani cattle was added into the ATKPH and mixed properly with layers' wastes and molasses, covered and fermented anaerobically for 7 days, sundried for one week and named processed kola nut pod husks (PKPH) and analysed for chemical composition. Thereafter, four (4) diets (Table 1) were formulated in which processed cocoa pod husks were included at 0, 10, 20 and 30% and designated as diets 1, 2, 3 and 4 respectively and the rabbits' diets were pelletized (4mm diameter and 8mm long). One hundred and twenty (120) healthy, five-week-old growing rabbits were randomly allotted to the four (4) dietary treatments after balancing for weight in a completely randomly design. Each treatment group was replicated ten (10) times with three (3) rabbits representing a replicate. The rabbits were fed their respective diets *ad-libitum* throughout the period of eight (8) weeks.Two (2) rabbits were randomly selected from each treatment group of thirty (30) rabbits at the end of the 8 weeks feeding trial, starved overnight, slaughtered according to the guidelines of the World Rabbit Science Association (Blasco*et al*., 1993) and skinned. Their internal organs were removed and weighed while the dressed weights were determined and used to calculate the dressing percentage for the rabbits.

Results and Discussion

The variation in the slaughter weight (SW) of 1624.20-1813.80 g/rabbit and dressed weight (DW) of 937.75-1058.70 g/rabbit in this study could be ascribed to variations in the live weight of the experimental rabbits which increased as the levels of processed kola nut pod meal (PKPH) increased to 20 % and thereafter decreased in 30 % inclusion and this is similar to the report of Olafadehan, (2011) and Retore*et al*.(2008). The slaughter weight was however lower than 1640.00-1860.00g earlier reported by Olafadehan, (2011) and 1677.44-2218.01 g reported by Ogunsipe*et al.* (2014). The dressed percentage range of 56.40-58.54% in this study was however higher than 50.03-58.51%, 52.05-53.36%, 43.24-53.83%, 48.70-49.45%, 43.76-51.45% and 51.10-57.39g reported by Olafadehan, (2011), Sobayo*et al.* (2008), Akinmutimi and Alufo (2006), Oteku and Igene (2006), Olajide and Adeniyi (2015) and Abegunde *et al*. (2014) respectively but lower than 68.00-70.34% and 61.69-66.66% reported by Adeyemi*et al*., (2011) and Togun*et al*., (2006). These variations could be due to differences in breeds, age, nutrition, and animal environment. Examination of organ weights and histo-pathological findings are considered the very important aspect of any routine studies because they reveal many of the age-related, naturally occurring lesions of the animal used (Ogbuewu, 2011). The relative organ weights of the growing rabbits in this study were not affected by the dietary treatments. This is an indication that the test diets promoted similar organs' development and health as the control diet.

Table 1: Gross composition of the experimental diets (g/kg)

	Levels of PFKPM inclusion (%)			
	0	**10**	**20**	**30**
INGREDIENTS	**Diet 1**	**Diet 2**	**Diet 3**	**Diet 4**
Maize	16.00	15.80	15.50	14.50
PFKPM	0.00	10.00	20.00	30.00
Wheat offals	2.50	1.50	1.50	1.50
Soya bean meal	8.65	7.65	7.65	7.65
BDG	25.90	26.10	19.40	13.40
Rice Bran	26.90	18.90	15.90	12.90
*Other ingredients	20.05	20.05	20.	20.05
Total	**100.00**	**100.00**	**100.00**	**100.00**
Calculated analysis (g/kg)				
Crude Protein	17.19	17.20	17.18	17.17
Crude fibre	16.03	16.06	16.04	16.02

Metabolizable energy (kcal/kg)	2540.80	2540.69	2533.19	2541.03

FKPM:Potash-rumen liquor fermented Kolanut pod husk meal, BDG: Brewers' dried grain.
*Other ingredients: soybean meal (5%), maize husk (13%), bone meal (1%), premix (0.25%), methionine (0.15), lysine (0.1%), salt (0.25%) and vegetable oil (0.3%)

Table 2: Carcass evaluation of weaner rabbits fed graded levels of Potash-rumen liquor fermented Kolanut pod meal (PFKPM)

	Levels of PFKPM inclusion (%)					
	0	10	20	30		
Parameters	**Diet 1**	**Diet 2**	**Diet 3**	**Diet 4**	**SEM**	***P value***
Slaughter weight (g)	1747.30[a]	1710.90[ab]	1813.80[a]	1624.20[b]	24.63	0.03
Dressing weight (g)	984.92[b]	978.08[b]	1058.70[a]	937.75[c]	13.30	0.00
Dressing percentage	56.40	57.26	58.54	57.79	0.57	0.66
Lung (%)	0.53	0.54	0.55	0.53	0.004	0.45
Liver (%)	3.20	3.24	3.40	3.17	0.05	0.43
Kidney (%)	0.63	0.65	0.64	0.67	0.02	0.85
Heart (%)	0.26	0.26	0.28	0.28	0.01	0.56
Spleen (%)	0.09	0.08	0.10	0.09	0.09	0.33

Means with different superscripts in the same row are significantly different ($p<0.05$).

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