
EFFECTS OF CHANGING FEED BRAND AND FREQUENCY OF FEEDING ON THE OVERALL PRODUCTIVITY OF LAYING HENS

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ABSTRACT

Increasing cost of feed ingredients, seasonal availability and a host of other factors causes scarcity of proprietary poultry feeds. This forces farmers to change feed brands very often. This research work was carried out to evaluate effects of changing feed brand and frequency of feeding on the overall productivity of laying hens. Four hundred and eighty (480), 53 weeks old Isa Brown layers were used for the 8 weeks feeding trial. The birds were randomly allocated in a 5 x 2 factorial arrangement to five feeding dynamics (D1 AC only; D2 TF only; D3 weekly alternation of TF & AC; D4 Alternation of TF & AC every two weeks; D5 Monthly alternation of TF & AC) and two feeding frequencies (Twice & Thrice daily feeding). The results showed that feed intake, egg production and feed conversion efficiency were not significantly ($P > 0.05$) affected. From the findings of this research, changing feed brands in the short, medium and long term as well as feeding twice or thrice daily did not affect production performance.

Keywords: feed brand, change, laying hens, productivity, feeding frequency

INTRODUCTION

A major constraint to poultry production in developing countries is inadequate supply of feeding resources in terms of quality, quantity and high cost regardless of the production system and geographical location. Onabajo *et al.* (2016) reported that poultry farmers change from one brand of commercial feed to another due to limited availability and changing quality of feeds. An investigation of the implications of such changes on production performance is justifiable. This study therefore investigated the performance of laying birds subjected to change of feed brands in the short, medium and long terms.

MATERIALS AND METHODS

The experiment was conducted on a private farm at Ijeun Akoni Village, Odeda Local Government Area, Osiele, Abeokuta, Ogun State Nigeria. Odeda L.G.A, which shares boundary with Abeokuta North local government area of Ogun State. A total numbers of four hundred and eighty (480), 53 week old ISA Brown laying hens were used for the experiment. They were housed in battery cages 50x40x40cm/cell (4 birds/cell). The experimental feeds were offered at 125g/bird/day and water was provided free-choice. Birds were raised under natural day length. Two commercial brands of feed (Layers mash) were used for the experiment (TF and AC feed). The feeding practices were twice feeding daily or thrice feeding daily.

Experimentation

The experimental design was Randomized Complete Block Design (RCBD). The treatments being 5 (five) dynamics (D) of feed change and the block, B (two feeding times per day). The five treatment groups are: D1, use of AC Layers mash throughout the experiment; D2, use of TF Layers mash throughout the experiment; D3, short term (weekly) alternation of AC and TF throughout the experiment; D4, medium (2 weekly) alternation of AC and TF throughout the experiment; D5, Long term (monthly) alternation of AC and TF throughout the experiment. The two blocks are: B1, Feeding twice daily at 7a.m in the morning and 2pm in the afternoon; B2, Feeding thrice daily at 7a.m in the morning, 1pm in the afternoon and 5pm in the evening.

Data collection and Analysis

Data were collected on feed intake, body weight change, liveability, percentage egg production and Feed Conversion Ratio. Data collected were subjected to ANOVA. Significantly different means were separated using Duncan's Multiple Range Test. All data analysis were done using SAS (2005).

RESULTS AND DISCUSSION

Effects of simulated feeding dynamics on performance of laying birds

The main effects of stimulated feeding dynamics and frequency of feeding on number of birds, egg production, egg weight, percentage egg production, feed conversion ratio, body weight, and livability are presented in Figure 1 (A-F) and Table 1. It was observed that the simulated feeding dynamics did not significantly ($p>0.05$) influence egg production, egg weight, percentage egg production, feed conversion ratio and liveability among the birds.

The different feeding dynamics and feeding frequencies recorded in the study seems not to alter the productive properties (number of birds, egg production, egg weight, percentage egg production livability and feed conversion ratio) of the chicken. The findings of this result disagreed with Oyedeji *et al.* (2007) who opined that feeding methods and manipulation of feed have negative response to hen egg production and reduced growth of bird. This implied that either alternating between the two feeds or not as well as feeding them twice or thrice a day may not have anything to do with these properties.

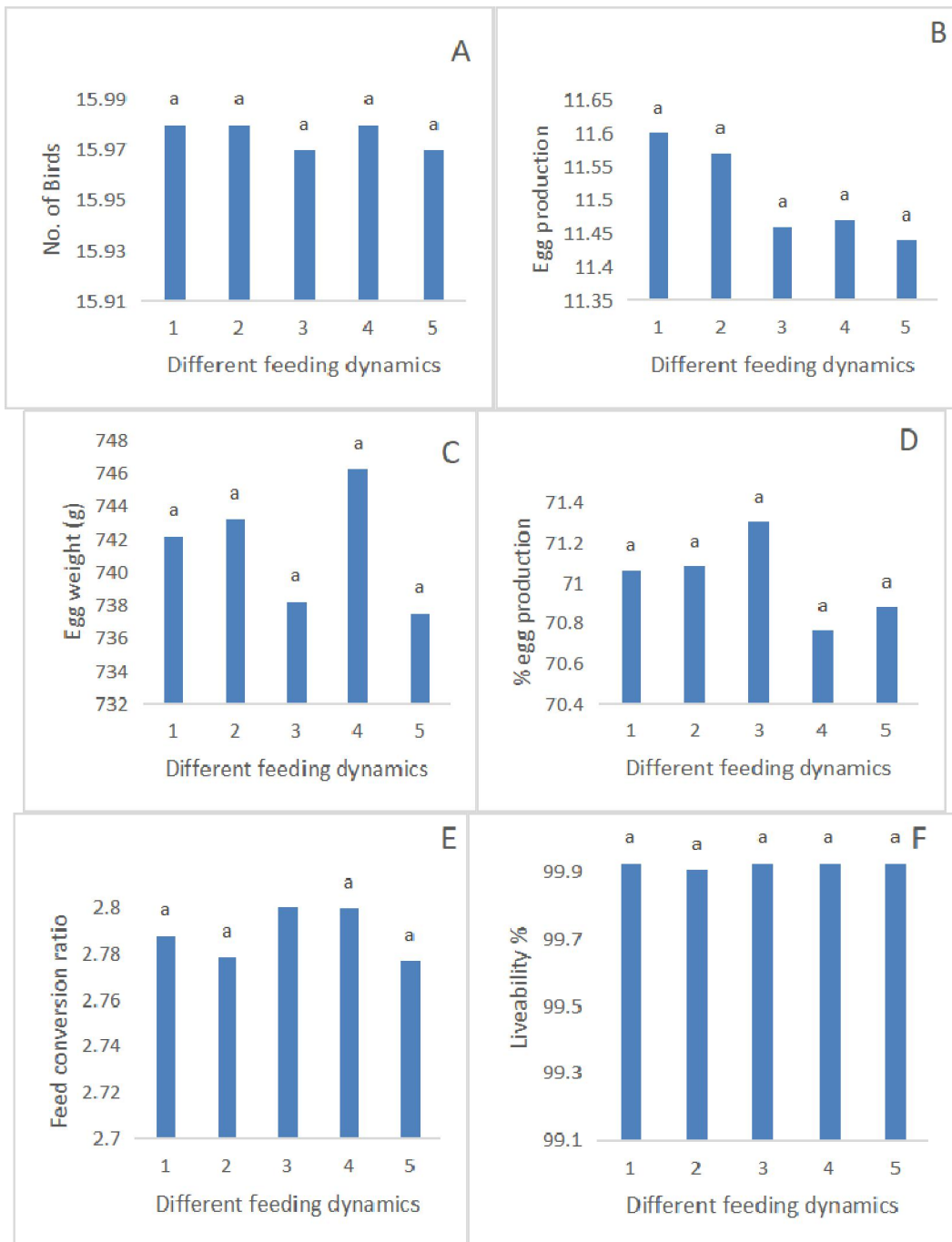


Figure 1: Effects of simulated feeding dynamics on (A) Number of birds (B) Egg production (C) Egg weight (D) % Egg production (E) Feed conversion ratio (F) % Liveability.

Bars with different superscripts (alphabets) on a chart are significantly different ($p < 0.05$)

Table 1: Effect of feeding frequency on performance of the chicken

Variables	No of birds	Egg production	Egg weight	% egg production	Feed conversion Ratio	Livability
Twice feeding	15.98	11.57	737.13	70.84	2.80	99.92
Thrice feeding	15.97	11.44	745.79	71.19	2.78	99.93
Mean						
Differences	0.01	0.13	-8.66	-0.35	0.03	-0.01
t-values	0.305	1.314	-1.375	-0.585	0.948	-0.225
p-values	0.761	0.189	0.169	0.559	0.343	0.822

CONCLUSION

From the findings of this research, changing feed brands in the short, medium and long term as well as feeding twice or thrice daily did not affect production performance. However, when there is scarcity of feed, substitution with reputable brands and alternation of feed brands in the short term (weekly) is recommended. Twice daily feeding is also recommended.

REFERENCES

- Hassan A.A. (2002). Comparative Economic Analysis of Poultry Egg production using Commercial and Homemade feed in Kaduna State. An Unpublished M.Sc. Thesis, Department of Agric Economics and Rural Sociology, A.B.U. Zaria.
- Onabajo, A. O. , Adamu. C. O., Oyediran, W. O., Onabajo, B.O. and Adeyanju, Y. T. (2016). Influence of poultry feed dynamism on egg production in Odogbolu Local Government Area of Ogun State, Nigeria. American Journal of Agricultural Research, 1 (1): 0031-0035.
- Oyedeki J. O, Orheruata AM, Omatsuli M (2007). Effects of feed rationing on the laying performance of 40 weeks in lay hens. J Food Agri Environ 5: 301-303.
- SAS, Statistical Analysis Institute, (2002). Users Guide. Statistical Analysis Institute, Inc, Carry North Caroline, USA.