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Growth performance and economy of production of broiler chickens fed black soldier fly larvae meal-based diets

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This study investigated black soldier fly larvae meal (BSFLM) as replacement for fish meal on growth performance and economy of production of broiler chickens. For processing, the live larvae were poured into heated water at about 70 - 80°C and stirred for about 3 – 5 minutes in order to make the larvae inactive. Filtered larvae were sun dried. Dried larvae were then milled and stored in an airtight container prior to use. Two hundred and fifty Cobb 500 breed day-old chicks were randomly allotted at 50 chicks per treatment of 5 replicates using growth performance and economy of production as response criteria in a Completely Randomized Design. The BSFLM was used to replace fish meal at graded levels of 0, 25, 50, 75 and 100% and designated diets I, II, III, IV and V, respectively. The same procedure was followed for the finisher phase. The respective diets and water were fed to the chickens ad libitum from 1 – 21 days. Among all the parameters measured only the feed intake were significantly ($P < 0.05$) influenced by the dietary treatments. The highest final weight (2000g) and best feed conversion ratio (1.23) were recorded in birds fed diets I and III, respectively. Highest dressed and eviscerated weights (1818g and 1524g) were recorded in birds fed diet I. The highest Net profit/bird (N3219.21) was recorded in bird fed diet V. Considering the cost implication from this study, the percentage net profit/bird increased as the level of BSLM inclusion increased. It could be concluded within the limit of this study that replacement of FM with BSLM could reduce the high cost of finished feed and thereby leading to increase in farmer general profit and also making animal protein available to the populace.



Figure 1: Graphical description of the study

Recent Publications:

1. Adegbenro, M., Agbede, J. O., Onibi, G. E. and Aletor, V. A. (2020). Quality of eggs produced by laying hens fed composite leaf meal as alternative to premix. *Livestock Research for Rural Development* 32(4)
2. Adegbenro, M., Ajidara, A. S., Modupe, S. G and Onibi, G. E. (2020). Performance and egg qualities of Isa-Brown layers fed different performance, haemato-biochemical indices and sexual maturity of pullet chickens. *Acta fytotechn zootechny* 24 (1): 64 - 77
3. Ayeni, A. O., Adegbenro, M., Obadare, I. G., Oladayo, T. O. and Agbede, J. O. (2022). Efficacy of additive composite leaf mix from selected tropical plants on the performance of broiler chickens. *Animal Research International* 19(1): 4403 – 4414.
4. Adegbenro, M., Ayeni. O. A., Agbede, J. O. and Aletor, V. A. (2020). Inclusion of fluted pumpkin (*Telfaria occidentalis*) fortified bread waste in broiler chickens' diets. *Bulletin of the National Research Centre* 44: 97.
5. Olugosi, O. A., Agbede, J. O., Babarinde, O. D., Adegbenro, M., Amos, T. T., Ayeni, A. O. and Oladunmoye, M. K. (2021). Effects of *Rhizopus stolonifer* fermented cocoa pod husk meal supplemented with enzyme on growth.

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