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# EFFECT OF GRADED LEVELS OF OVEN DRIED MAGGOT MEAL ON GROWTH PERFORMANCE AND CARCASS CHARACTERISTICS OF BROILER CHICKEN

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**Abstract**
An eight week experiment was conducted using two hundred and twenty five (225) *Marshal* Broiler chicks to evaluate the effect of graded levels of oven dried maggot meal on growth performance and carcass characteristics of broiler chickens. The design of the experiment was completely randomized design (CRD). Poultry unit of the Teaching and Research Farm of the Department of Animal Production, School of Agriculture and Agricultural Technology, Federal University of Technology Minna, Niger State, Nigeria was used for the study. The birds were randomly allocated into five dietary treatments containing 0.0, 0.5, 1.0, 1.5 and 2.0 % of maggot meal respectively. Each treatment had three replicates with 15 birds in each replicate. The birds were fed *ad libitun*. Data were collected on body weight, feed intake, body weight gain; feed conversion ratio, protein efficiency ratio and nutrient digestibility were calculated. Carcass and sensory characteristics were also evaluated. The starter phase covered weeks 0-4 and the finisher phase from weeks 5-8. The results showed that feed intake and feed conversion ratio values were influenced ($P<0.05$) by the dietary treatment at the starter phase. The results of the finisher phase revealed that dietary treatments had effect on ($P<0.05$) mean final body weight and weekly feed intake. High percentage mortality was observed in birds fed 2.0 % oven dried maggot meal. The result of the nutrient digestibility showed no ($P>0.05$) difference in crude protein, ether extract and nitrogen free extract. However, significant ($P<0.05$) differences were observed in dry matter, crude fibre and ash digestibility. The results of carcass cuts were only different ($P<0.05$) in the values of the dressed weight, wings, thigh and drumstick percent of live weight. Visceral organs of broilers were statistically different ($P<0.05$) in spleen and small intestinal percents of live weight, while all other visceral organs measured were not different ($P>0.05$). All sensory parameters were significantly ($P<0.05$) different except flavour. It was concluded that oven dried maggot meal can replace fish meal at 2.0 %

**Key words:** Broiler chicken, carcass, maggot meal oven dried, performance

## Introduction

High cost and scarcity of compounded feed is one of the problems faced by livestock farmers in Nigeria. These are the major factors affecting the development of livestock industries and hence the supply of animal protein. Further more competition between man and monogastric animals for grain sources is another factor (Abubakar*et al* 2006). However, this competition is not limited to grain sources but also to protein sources such as fish meal, making it expensive and scarce; hence the need to search for alternative protein sources that are cheap, readily available and less competed for by man and poultry industry. (Akinmutimi 2007). The proportion of dressed weight to live weight is used as a measure of meat production in farm animals because there is a relationship between weight and physical characteristics of animals which is a reflection of feed efficiency and performance (Ijaiya and Fasanya 2004). Broilers are fast growing birds that are capable of attaining market weight of 1.6 – 2.0 kg between 6-8 weeks (Effiong and Onyenweaka 2006). The authors also corroborated that broiler chickens consume between 2.5 – 4.0kg of feed with conversion ratio of 3.5 – 4.1. Fishmeal is a most suitable ingredient used in formulating feed for broilers. However, it is expensive. Hence, there are intense efforts by nutritionists to use cheaper and readily available non-conventional feed ingredients to replace fish meal in the diet of broilers. One of such non- conventional animal's protein sources is the maggot meals (larva of housefly; *Muscadomestica*). The mineral composition of maggot is high in trace element, phosphorus and B complex vitamins. It is also rich in crude protein (39 – 61.4%) and amino acids (Atteh and Ologbenla 1993). Comparing livestock and poultry production in Nigeria, poultry production is low, where it is interesting and rewarding and can also provide a great deal of pleasure to the farmers. Therefore the aim of this study was to evaluate the effect of graded levels of oven dried maggot meal on growth performance and carcass characteristics of broiler chickens.

## Materials and methods

A total of two hundred and twenty five (225) day old *Marshal* Chicks were used for the

experiment. The birds were randomly allocated to five treatments (Table 1) in groups of 45 birds and each group assigned to one of the dietary treatment of $T_1$ (0.0 %), $T_2$ (0.5 %), $T_3$ (1.0 %), $T_4$ (1.5 %) and $T_5$ (2.0 %) oven dried maggot meal in a completely randomized design. Each treatment group was further subdivided into three replicates of 15 birds each. Feed and water were provided *ad-libitum,* uniform light were provided 24 hours and proper vaccinations and medications were given. Body weight was recorded weekly, feed conversion ratio and body weight gain were used as measures for birds growth performance. The experiment lasted for eight weeks, the starter phase covered the first four weeks and the last four weeks covered the finisher phase. The birds were managed under a deep litter system of concrete floor with wood shavings on it, demarcated with wire mesh. The pen was thoroughly cleaned and disinfected two weeks before the commencement of the experiment. Heat was provided for the chicks during the brooding period with the use of charcoal pot and electric bulbs which were lit every evening and left all night. Vaccination and medication program were strictly adhered to. Other routine management procedures included, weighing of birds on arrival before the commencement of the experiment and subsequently at weekly intervals. Feed and clean water were supplied *ad-libitum.* Records of mortality, weight changes and feed intake were kept. The daily operation performed includes removal of left over feeds, cleaning of the drinkers and filling the feeder and drinker with new feed and water each day.

**Maggot meal preparation**:

Maggot meal was processed using the method described by Aneido and Owen, (2010). Wheat brown and whole blood were mixed in ratio 1:5 of the mixture and spread in a pit of 3.75-5.00 cm thickness and then exposed bio-degradation. After three days the maggots were harvested, washed, cleaned and then oven dried for 30 minutes at60 degree centigrade. Proximate analysis of maggot meal was carried out using (AOAC 1990) methods.

**Table 1: Proximate composition of oven dried maggot meal**

| Proximate composition% | Value |
|---|---|
| Ash | 5.60 |
| Crude fiber | 6.00 |
| Nitrogen free extract | 14.90 |
| Crude protein | 50.00 |
| Ether extract | 18.49 |
| Moisture | 5.01 |
| Dry matter | 94.99 |
| Energy ($kgcal^{-1}$) | 4140 |

**Data Collection**

Data collected for ascertaining the performance of the birds include: initial body weight which was collected by taking the weight of the day old birds on the farm using a weighing scale. Final body weight was collected at the last day of the experiment using the same weighing scale. Body weight gain was calculated by subtracting the initial body weight from the final body weight. Feed intake was also calculated by subtracting the amount of feed refused from the amount of feed offered to the birds and feed conversion was calculated by dividing the feed intake by the body weight gain of the broiler chickens.

**Digestibility Trial**

The digestibility trial was conducted by selecting two birds from each replicate of the treatments which were weighed and transferred into the metabolic cages. The birds continued to receive their diets for five days of the acclimatization period. The faecal droppings from each replicate were separately collected daily and were weighed and oven dried at 80°C until a constant weight was obtained. After drying, the droppings from each treatment were bulk together and sub-samples were taken for proximate analysis (AOAC 1990).

**Table 2: Proximate composition of the experimental diets fed to broiler chicks**

| Ingredients(%) | Starter phase (Maggot meal levels) | | | | | Finisher phase (Maggot meal levels) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0.0 | 0.5 | 1.0 | 1.5 | 2.0 | 0.0 | 0.5 | 1.0 | 1.5 | 2.0 |
| Maize | 50.79 | 50.86 | 50.98 | 51.08 | 51.16 | 61.45 | 59.78 | 59.89 | 61.74 | 61.73 |
| Soybean meal | 19.56 | 19.48 | 19.16 | 17.74 | 18.53 | 13.35 | 13.95 | 13.64 | 12.41 | 12.14 |
| Groundnut cake | 18.09 | 17.81 | 17.52 | 17.36 | 16.95 | 12.24 | 12.78 | 12.51 | 11.35 | 11.13 |
| Maggot meal | 0.00 | 0.50 | 1.00 | 1.50 | 2.00 | 0.00 | 0.50 | 1.00 | 1.50 | 2.00 |
| Fish meal | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| Wheat offal | 2.60 | 2.60 | 2.60 | 2.60 | 2.60 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Bone meal | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Limestone | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Palm oil | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Premix | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 |
| Methionine | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Lysine | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Salt | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Calculated | | | | | | | | | | |
| Crude protein | 24 | | | | | 20 | | | | |
| Energy Kcal/kg ME | 2995.17 | | | | | 3150.00 | | | | |

*each 2.5g contains: vit.A 10,000,000IU;vit.D3 2,000,000IU;vit.E 20,000IU;vit.K 2,250mg;thiamine 1750mg;riboflavin 5,000mg;pyridoxine 2750mg;niacin 27,500mg;vit.B12 15mg;pantothenic acid 7,500mg;folic acid 7,500mg;biotin 50mg;choline chloride 400mg;antioxidant 125mg;Mn 80g;Zn 50g;iron 20g;Cu 5g;iodine 1.5g;selenium 200mg;cobalt 200g., Maggot meal inclusion levels ( %) 0 , 0.5, 1.5 and 2 %.

## Carcass Analysis

A total of sixty birds with two per replicate were selected, starved of feed over night, but giving only water, before slaughtering the birds were individually weighed and the live weights recorded. Thereafter, the birds were slaughtered by cutting their jugular veins and blood drained. The birds were individually weighed again after slaughtering to obtain their weight after slaughter. The birds were scaled in warm water of $60^0$C for 30 seconds and the feathers were manually removed. Afterwards, the fully-dressed weight of the carcass was recorded. Each carcass was then separated into breast, head, thighs, drumsticks, neck, wings back and giblets. (liver, heat and gizzard) and other internal organs (viscera). All this parts were expressed as the percentage of the live weight of the carcasses. In addition the length of the intestine of each carcass was measured and recorded.

$$\text{Dressing percentage} = \frac{Carcass weight}{Live weight} \times \frac{100}{1}$$

$$\text{Percentage weight of body cuts} = \frac{weight of body cuts}{live weight} \times \frac{100}{1}$$

## Sensory evaluation

Broiled meat from broiler chickens breast meat, were used for sensory evaluation. The breast meat was cut into bites sample sizes and served in plates to a twenty (20) member of untrained taste panel to assess for colour, tenderness, juiciness, flavour and overall acceptability using a 9 point hedonic scale (1 dislike extremely – 9 like extremely). The order of presentation of the samples was randomised to the panellist. Each of these palatability traits were rated independently of others. Cool water was served to the judges to rinse their mouths after scoring for each sample to avoid carryover effect.

## Data Analysis

The data collected from this study were subjected to analysis of variance (ANOVA).using SAS statistical package (12). The variations in means were separated using the Duncan Multiple Range Test (13).

## Results and discussion

The results of growth performance of broilers fed oven dried maggot meal at the starter and finisher phases are shown in Table 3. The starter phase showed that the results of initial body weight, average weekly body weight gain, average weekly feed intake feed conversion ratio and protein efficiency ratio were not influenced ($p>0.05$) by the dietary inclusions. However, final body weight (g) and average weekly feed intake were influenced ($p<0.05$) by the diets. The broiler chicks fed 2 % maggot meal were statistically higher in final body weight than the broilers fed 1.5 %, 0.5 %, 1% and the least was found among broilers fed the control diets. Although, broiler chickens fed 2 % were similar

to those fed 1.5 %. The group fed 1.5 % was also similar to those fed 0.5 % and 1 % maggot meal respectively. Those feed 1 % maggot meal was similar in final body weight to those fed the control diets. The superior performance of the broilers fed 2 % maggot meal at the starter phase corroborated the report of Awoniyi and Aletor (1999) and Awoniyi*et al* (2000).The authors concluded that maggot meal was not nutritionally inferior to fish meal. The feed conversion ratio and protein efficiency was better with the broiler chicks fed 2% an indication that shows high quality of fish meal. At the finisher phase, the initial body weight, and protein ratio were not significantly ($p>0.05$) different among the treatment means. However, the results of final body weight and average weekly feed intake were significantly ($p<0.05$) different. The final body weight at the finisher phase followed a similar trend with the starter phase. However the results of average weekly feed intake, weekly body weight gain and feed conversion ratio (FCR) differ ($p<0.05$) significantly between the broilers fed maggot meal and the control diets. It was observed that; feed intake reduced as the inclusion of maggot meals increased. Weekly body weight gain and feed conversion ratio were better in the broiler chickens fed 2% maggot meal. The downward trend in feed intake might be due to the birds consuming enough feed for the body as they eat for the maintenance of the body. This corroborates the results of Abeke*et al* (2006). However, the reduced feed intake of maggot meal as it increased was also observed by Atteh and olugbenla (1993) and Akpodiete*et al* (1999).

**Table 3: Effect of graded levels of oven dried maggot meal on performance of starter broiler chicks**

| Parameters | 0.0 | 0.5 | 1.0 | 1.5 | 2.0 | SEM |
|---|---|---|---|---|---|---|
| **Starter phase** | | | | | | |
| Initial body weight (g) | 33.30 | 33.30 | 33.30 | 33.23 | 33.30 | 0.01NS |
| Final body weight (g) | $751.57^{c}$ | $831.43^{b}$ | $791.43^{bc}$ | $846.57^{ab}$ | $886.43^{a}$ | 15.72 * |
| Weekly,body weight gain (g) | 179.56 | 200.11 | 189.73 | 203.41 | 213.28 | 14.08 NS |
| Weekly feed intake (g) | 383.97 | 392.90 | 416.14 | 395.67 | 446.04 | 30.79 NS |
| Feed conversion ratio | 2.06 | 2.04 | 2.24 | 1.87 | 1.96 | 0.05 NS |
| Protein efficiency ratio | 1.90 | 2.10 | 2.28 | 2.16 | 1.99 | 0.11 NS |
| **Finisher phase** | | | | | | |
| Initial body weight (g) | 818.23 | 831.43 | 811.43 | 813.10 | 819.66 | 9.39 NS |
| Final body weight (g) | $2013.60^{c}$ | $2135.10^{b}$ | $2050.60^{c}$ | $2238.10^{ab}$ | $2338.10^{a}$ | 37.76 * |
| Weekly body weight gain (g) | $170.77^{c}$ | $186.26^{c}$ | $147.02^{d}$ | $203.57^{b}$ | $216.81^{a}$ | 4.56* |
| Weekly feed intake (g) | $1079.60^{a}$ | $1004.60^{b}$ | $973.49^{b}$ | $961.63^{b}$ | $951.35^{b}$ | 12.49 * |
| Feed conversion ratio | $6.32^{a}$ | $5.39^{c}$ | $5.53^{b}$ | $4.72^{d}$ | $4.38^{e}$ | 0.19* |
| Protein efficiency ratio | 1.29 | 1.38 | 1.35 | 1.59 | 1.73 | 0.08 NS |

Mean in the same row with different superscripts a, b, c, d and e differ significantly ($P<0.05$)

Nutrient digestibility of broiler chickens fed graded levels of oven dry maggot meal (Table 4). The results of dry matter, crude fibre and ash were significantly ($P<0.05$) affected. However, crude protein, ether extract and nitrogen free extract were not influenced ($P>0.05$) by the diets. The broilers fed diet containing 2% maggot meal had the highest dry matter, though similar to those fed the control diets and 1% diets. Those fed 1.5% are similar in dry matter to those fed 0.5%. The crude fibre was also higher ($p<0,05$) at inclusion levels of 0.5 % maggot meal but similar to the broiler chickens fed 2.0 % and 1.5% maggot meal respectively. The ash was also higher at 2% maggot meal but differ significantly from the other treatments which are similar. Dry matter, crude fibre and nitrogen free extract digestibility might be as a result of high protein content of the diets and is in line with the report of Freitas*et al* (2011). The authors concluded in their study when they determined the effect of adding exogenous protease to corn-soybean meal and meat and bone meal based diets that regardless of dietary protein and energy concentration, broilers fed high protein and high energy diets performed better.

**Table 4: Nutrient digestibility of broiler chicks fed graded levels of oven dried maggot meal**

| Parameters (%) | 0.0 | 0.5 | 1.0 | 1.5 | 2.0 | SEM |
|---|---|---|---|---|---|---|
| Dry matter | 93.20$^{a}$ | 80.12$^{b}$ | 89.85$^{a}$ | 87.20$^{b}$ | 90.13$^{a}$ | 1.16 * |
| Crude protein | 88.91 | 92.32 | 91.09 | 93.41 | 94.53 | 0.92 NS |
| Ether Extract | 95.30 | 94.24 | 95.54 | 96.44 | 96.44 | 0.72 NS |
| Crude fibre | 20.50$^{c}$ | 40.01$^{a}$ | 30.05$^{b}$ | 35.50$^{ab}$ | 39.04$^{a}$ | 2.48 * |
| Ash | 78.50$^{b}$ | 75.20$^{b}$ | 76.66$^{b}$ | 77.60$^{b}$ | 88.15$^{a}$ | 1.67 * |
| Nitrogen free extract | 96.70 | 95.40 | 96.15 | 96.50 | 97.25 | 0.69 NS |

Mean in the same row with different superscripts a, b and c differ significantly (P<0.05)

The result of the carcass of meat from broiler chickens fed graded levels of oven dried maggot meal (Table 5) revealed no significant (P>0.05) difference in live weight, eviscerated weight, head, breast and shank percent. However, the dressed weight, wings, thigh and drumstick percent of live weight were statistically (P<0.05) different. The results showed a trend in all the significant parameters measured in that as the inclusion level of maggot meal increases, the value of the cut-up proportions (dressed, wings, thigh and drum stick percent) increased. This might be caused by the increase in protein content of the diets. The result is in line with the report of Bilgili*et al* (1992).The authors reported that higher levels of dietary amino acids could affect the cut–up parts. The result of visceral organs of broilers fed maggot meal (Table 6) were statistically (P<0.05) different in spleen and small intestinal percents of live weight, while all other visceral organs measured were not different. An increase in spleen and small intestinal percents could be as a result of high activity of these organs, although no possible attendant illness was found with the birds as suggested by Geguia*et al* (2002). The authors fed maggot meal to broilers.

**Table 5: Carcass percent proportion of live weight of broiler chickens fed graded levels of maggot meal**

| Parameters (%) | 0.0 | 0.5 | 1.0 | 1.5 | 2.0 | SEM |
|---|---|---|---|---|---|---|
| Live weight (g) | 1925 | 1987 | 2025 | 2112 | 2335 | 0.21 NS |
| Dressed% | 81.62$^{b}$ | 84.08$^{b}$ | 84.58$^{b}$ | 85.70$^{ab}$ | 88.00$^{a}$ | 0.92 * |
| Eviscerated% | 63.51 | 64.29 | 65.69 | 65.17 | 66.18 | 0.71 NS |
| Head% | 2.21 | 2.34 | 2.37 | 2.42 | 2.47 | 0.04 NS |
| Wings% | 7.81$^{b}$ | 9.42$^{ab}$ | 10.36$^{a}$ | 10.69$^{a}$ | 11.16$^{a}$ | 0.05 * |
| Thorax% | 10.13 | 11.95 | 12.8 | 13.15 | 13.20 | 0.04 NS |
| Breast% | 14.16 | 14.74 | 14.78 | 14.19 | 14.91 | 0.12 NS |
| Thigh% | 11.03$^{c}$ | 11.95$^{bc}$ | 12.69$^{b}$ | 13.16$^{ab}$ | 14.51$^{a}$ | 0.42 * |
| Shank% | 3.17 | 5.27 | 3.30 | 3.35 | 3.33 | 0.04 NS |
| Drumstick% | 10.02$^{b}$ | 10.69$^{b}$ | 11.11$^{ab}$ | 11.24$^{ab}$ | 11.79$^{a}$ | 0.24 * |

Mean in the same row with different superscripts a, b and c differ significantly (P<0.05)

**Table 6: Organ percent proportion of live weight of broiler chickens fed graded levels of maggot meal**

| Parameters | 0.0 | 0.5 | 1.0 | 1.5 | 2.0 | SEM |
|---|---|---|---|---|---|---|
| Gizzard% | 2.38 | 2.519 | 2.65 | 2.75 | 3.09 | 0.10NS$^{S}$ |
| Abdominal fat% | 2.39 | 2.47 | 2.59 | 2.64 | 2.73 | 0.06NS |
| Gallbladder% | 0.05 | 0.05 | 0.08 | 0.09 | 0.45 | 0.08NS |
| Kidney% | 0.27 | 0.28 | 0.32 | 0.35 | 0.5 | 0.01NS |
| Spleen% | 0.09$^{c}$ | 0.096$^{bc}$ | 0.10$^{b}$ | 0.11$^{ab}$ | 0.11$^{a}$ | 0.02 NS |
| Liver% | 2.19 | 2.55 | 2.72 | 2.81 | 2.85 | 0.08 NS |
| Heart% | 0.51 | 0.52 | 0.53 | 0.56 | 0.50 | 0.01NS |
| Crop% | 1.96 | 2.54 | 2.72 | 2.76 | 3.08 | 0.17NS |
| Lungs% | 3.17$^{c}$ | 5.27$^{b}$ | 3.30$^{c}$ | 0.60$^{ab}$ | 0.62$^{a}$ | 0.01 * |
| Small intestine% | 2.71$^{b}$ | 3.05$^{b}$ | 3.17$^{ab}$ | 3.69$^{a}$ | 3.95$^{a}$ | 0.20 * |
| Large intestine% | 0.32 | 0.34 | 0.37 | 0.37 | 0.41 | 0.02 NS |
| Small intestine(cm) | 212.50 | 225.00 | 227.50 | 230.00 | 232.00 | 3.94NS |
| Large intestine(cm) | 13.00 | 13.50 | 13.75 | 14.25 | 14.43 | 0.31 NS |

Mean in the same row with different superscripts a, b and c differ significantly (P<0.05)

The sensory evaluation of the meat from broilers chickens fed maggot meal (Table 7) revealed that only flavor was not statically (P>0.05). All other sensory parameters were significantly

(P<0.05) different. The result formed a trend. As the maggot meal increases, the palatability score increased in an increasing order. The broiler chickens fed 2 % had the highest evaluation in all the parameters. This could be an effect of the maggot meal on the meat as corroborated by Jaturasithset *al* (2008) who suggested that palatability depends on breed, sex, diet and post mortem handling skills.

**Table 7. Sensory evaluation of meat from broiler chickens fed graded levels of maggot meal**

| Parameters | 0.0 | 0.5 | 1.0 | 1.5 | 2.0 | SEM |
|---|---|---|---|---|---|---|
| Juiciness | $7.60^{d}$ | $7.85^{c}$ | $8.10^{bc}$ | $8.45^{b}$ | $8.70^{a}$ | 0.07 * |
| Flavour | 7.80 | 7.85 | 8.15 | 8.45 | 8.65 | 0.07 NS |
| Colour | $7.25^{d}$ | $7.55^{cd}$ | $7.70^{c}$ | $8.05^{b}$ | $8.18^{a}$ | 0.07 * |
| Tenderness | $7.70^{d}$ | $7.95^{c}$ | $8.15^{bc}$ | $8.45^{b}$ | $8.90^{a}$ | 0.07 * |
| General acceptability | $7.85^{c}$ | $7.90^{c}$ | $8.00^{c}$ | $8.45^{b}$ | $8.80^{a}$ | 0.06 * |

Mean in the same row with different superscripts a, b, c and d differ significantly (P<0.05)

## Conclusion and Recommendation

The inclusion of maggot meal in the diets of broilers chickens at starter and finisher phases has no negative effect on the growth performance of broiler chickens compared to the control. Carcass yield and proportions as well as the organ weights were better as the maggot meal in the diets were increased. The palatability test of the meat from broilers was also not negatively affected by the inclusion levels of oven dried maggot meal. Therefore maggot meal can be included in the meal of broilers at 2 % for more broiler meat production.


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