

**DETERMINE THE EFFECT OF FERMENTED  
SOYBEAN MEAL SUPPLEMENTATION INTO A  
DIET WITH OR WITHOUT FISH MEAL ON  
GROWTH PERFORMANCE AND MEAT QUALITY  
OF BROILER CHICKEN**

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## ABSTRACT

Effective feed formulation is considered as an essential element for broiler growth performance. Fermented soybean meal (FSBM) is a plant derived protein source which comprises with higher nutritional value. Thus, this research was conducted to determine the effect of FSBM supplementation into broiler diet with or without fish meal (FM) on performance and meat quality of broiler chickens. Two hundred forty day old broiler chicks were randomly assigned into four dietary treatments and each treatment comprised with six replicates. The control group ( $T_0$ ) received 4% (w/w) of FM and 0% (w/w) of FSBM for booster, starter and finisher diets, respectively. Broilers fed other experimental diets were;  $T_1$  (3% w/w FM, 2% w/w FSBM),  $T_2$  (2% w/w FM, 3% w/w FSBM) and  $T_3$  (0% w/w FM, 4% w/w FSBM) in booster, starter, and finisher diets, respectively. Body weights and feed intake were recorded during the experimental period. In addition, fecal samples were collected to evaluate Moisture, Ash, Nitrogen, Calcium and Phosphorous. In day 41, two birds that near to the mean body weight were slaughtered to measure the visceral organ weights, carcass weights, and, meat quality parameters in each replicate. There was no significant ( $P>0.05$ ) difference on growth performance, meat quality parameters, carcass characteristics and relative organ weights of broilers fed different dietary treatments. The highest Calcium (3.55%) and Phosphorous (1.81%) percentages in feces were recorded from broilers fed  $T_1$  while the lowest Calcium (2.27%) and Phosphorous (1.21%) percentages in feces were recorded from broilers fed  $T_3$  ( $P>0.05$ ). In conclusion, FM in broiler diets can be replaced by FSBM and there were no negative effects in both growth performances and meat quality of broiler chickens.