



EFFECTS OF PHYTASE SUPER DOSING ON PERFORMANCE, PLASMA MINERAL CONTENTS AND BONE MINERALIZATION IN BROILER CHICKEN

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Roll No: 0118/03

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of Master of Science in Poultry Science**

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This is to certify that we have examined the above Master's thesis and have found that is complete and satisfactory in all respects, and that all revisions required by the thesis examination committee have been made.

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LIST OF ABBREVIATIONS

<	Less than
>	Greater than
°C	Degree celsius
ANOVA	Analysis of variance
AOAC	Association of Official Analytical Chemists
AP	Alkaline phosphatase
BWG	Body weight gain
Ca	Calcium
CF	Crude fiber
cm	centimeter
CP	Crude protein
CRD	Completely randomized Design
CVASU	Chattogram Veterinary and Animal Sciences University
DM	Dry matter
DOC	Day old chick
e.g.	Example given
EE	Ether extract
<i>et al.</i>	And others
etc.	Etcetera
FCR	Feed conversion ratio

FI	Feed intake
FTU	Phytase unit
gm/kg	Gram per kilogram
GOT	Glutamic oxaloacetic transaminase
GPT	Glutamic pyruvic transaminase
<i>i.e</i>	That is
LSD	Least significance difference
LW	Live weight
ME	Metabolizable energy
Mg	Magnesium
ml	Milliliter
NFE	Nitrogen free extract
NRC	National research council
P	Phosphorus
PC	Protein concentrate
sq.ft.	Square feet
Temp.	Temperature
Tk	Taka
TP	Total protein
<i>viz.</i>	Videlicet
Zn	Zinc

Abstract

The experiment was performed to evaluate the effect of phytase super dosing on performance, tibia bone quality and serum biochemistry of broiler chicken. Ninety-six day-old chicks were distributed randomly into four treatment groups: D0, D1, D2, D3 with four replicates per treatment (6 chicks per replicate). The treatment consists of control diet (D0), control diet + 500 FTU phytase/kg (D1), control diet + 1500 FTU phytase/kg (D2) control diet + 2500 FTU phytase/kg (D3). These experimental diets were fed to the birds from d 13 to 28. Birds were offered a commercial starter diet from d 0 to 12. The different levels of phytase had no significant effect on BWG and FI. Birds fed the D1 and D2 diets showed better ($P < 0.05$) FCR than those on D0 and D3 diet. The concentration of serum P and TP was highest ($P < 0.05$) in birds consumed the D2 diet than birds fed other diets. There was no significant effect of phytase level on serum Ca and GPT, GOT, and AP levels. The length and width of the tibia bone were increased ($P < 0.05$) in birds fed D1 and D2 diet compared to those on other diets. Birds on D2 diet showed increased ($P < 0.05$) level of Ca content in tibia bone. The weight of the heart was increased ($P < 0.05$) in birds fed D0 and D3. The drumstick weight was greater ($P < 0.05$) in birds consumed D1 and D2 diets than those on D0 and D3 diets. Bird fed D1 and D2 diets showed lower total feed and production cost and had better total profit/kg live bird and cost: benefit ratio. In conclusion, supplementing the diet with 500 and 1500 FTU phytase/kg improved the overall production performance of broiler chickens and consequently enhanced the economic profitability.

Keywords: Phytase, cost-benefit analysis, serum P, bone quality