Effects of Probiotic, Enzyme and Acidifier to Substitute Antibiotic Growth Promoter on Productive Performance, Blood Parameters and Carcass Characteristics of Broiler

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Examination Roll No. 0116/02

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AUTHORIZATION

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The Author

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

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Abstract

The study was conducted at CVASU poultry shed with one hundred Cobb 500™ day old chicks (DOC) for a period of 28 days to investigate the effects of water supplementation with probiotic, enzyme and acidifier as substitute to antibiotic on performance parameters, carcass characteristics and blood parameters in commercial broiler. The study population (DOC) were randomly divided into five dietary treatment groups as T_0, T_1, T_2, T_3 and T_4 having two replicates each containing 20 birds per replicate. Probiotic, enzyme, acidifier and antibiotic (additives) were supplemented @ 0, 1g, 1.5 g, l.5 ml, & 1 g per 1.5 L for T_0, T_1, T_2, T_3 and T_4 treatment groups respectively in regular drinking water. Results indicated that the highest average weight gain (100.2 g/d/b) was recorded in T_1 group and the lowest average weight gain (88.9 g/d/b) was recorded in T_0 group at 4^{th} week. Feed intake differed significantly ($p<0.001$) at 2^{nd} and ($p<0.05$) at 4^{th} week. At the same week the highest weekly average feed intake (174.0 g/d) was observed in T_1 group and the lowest weekly average feed intake (121.5 g/d) was in T_2 group. FCR was also statistically differed ($p<0.001$) at 2^{nd} and ($p<0.05$) at 4^{th} week. However, the best average FCR (1.4) was observed in the T_2 group and worst FCR (1.6) in T_0 and T_4 groups. In addition to performance parameter, all treatments had significant ($p<0.05$) effect on dressing percentage, abdominal and neck fat weight. Similar to performance parameter, ESR differed significantly ($p<0.01$) at 4^{th} week of probiotic, enzyme and acidifier supplementation. Interestingly, PCV, ESR, TEC, Hemoglobin and all blood cell parameter remained unchanged ($p>0.05$) throughout the whole experimental period. LDL differed significantly ($p<0.05$) at 3^{rd} week and Triglyceride differed significantly ($p<0.05$) at 3^{rd} and 4^{th} week of age and had no influence ($p>0.05$) on other biochemical parameters. However, supplementation of additives had no influence ($p>0.05$) on composition of meat excluding ash. Maximum net profit per broiler was obtained from birds containing enzyme supplementation adding in regular drinking water.

Keywords: Broiler Probiotic, Enzyme, Acidifier, Growth performance, Carcass Characteristics and Serum parameter.

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List of Abbreviation

<	-	Less than
>	-	Greater than
%	-	Percentage
AID	-	Apparent Ileal Digestibility
ALT	-	Alanin transaminase
ANOVA	-	Analysis of variance
AST	-	Aspartate transaminase
BBS	-	Bangladesh Bureau of Statistics
BCRDV	-	Baby Chick Ranikhet Disease Vaccine
BMD	-	Bangladesh Meteorological Department
Ca	-	Calcium
CF	-	Crude fibre
Co	-	Company
CP	-	Crude protein
CVASU	-	Chittagong Veterinary and Animal Sciences University
DCP	-	Digestible Crude Protein
DM	-	Dry Matter
DMD	-	Dry Matter Digestibility
DNA	-	Deoxyribonucleic acid
DOC	-	Day Old Chick
e.g	-	Example
EE	-	Ether Extract
ESR	-	Erythrocyte Sedimentation Rate
et al.	-	And his associates
etc.	-	Et cetera
F	-	Farenhite
FAO	-	Food and Agriculture Organization
FCR	-	Feed Conversion Ratio
Fig.	-	Figure
Ft	-	Feet
GDP	-	Gross Domestic Product
GIT	-	Gastrointestinal tract
Gm	-	Gram
Hb	-	Hemoglobin
i.e.	-	That is

IBD	-	Infectious Bursal Disease
IU	-	International Unit
KG	-	Kilogram
L	-	Litre
LCD	-	Liquid Crystal Display
LDL	-	Low Density Lipoprotein
Ltd	-	Limited
LW	-	Live weight
ME	-	Metabolizable Energy
MJ	-	Mega Jules
MS	-	Master of Science
NRC	-	National Research Council
NS	-	Non-Significant
NSP	-	Non Starch Polysaccharide
P	-	Phosphorus
PCV	-	Packed cell volume
pH	-	Negative logarithm of hydrogen
Ref.	-	Reference
SEM	-	Standard error of mean
Sig.	-	Significance
TEC	-	Total Erythrocyte Count
TP	-	Total Protein
US	-	United State