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## LIST OF ABBREVIATIONS

Abbreviations	Elaborations
AGP	Alternative Growth Promoter
ANOVA	Analysis of Variance
AR	Antibiotic Resistant
CEO	Cinnamon Essential Oil
CF	Crude Fiber
CNO	Cinnamon oil
CP	Crude Protein
CP	Cinnamon Powder
CVASU	Chattogram Veterinary and Animal Sciences University
D	Day
DDPS	Department of Dairy and Poultry Science
DHA	Docosahexaenoic Acid
DLS	Department of Livestock Services
DM	Dry Matter
DMRT	Duncan's Multiple Range Tests
DOC	Day-old chicks
EE	Ether Extract
EO	Essential Oils
EOE	Essential Oil Extracts
EU	European Union
FAO	Food and Agriculture Organization
FCR	Feed Conversion Ratio
FI	Feed Intake
g/b	Gram/bird
IBDV	Infectious Bursal Disease Vaccine
Kg/b	Kilogram/bird
LDL	Low Density Lipoproteins
LW	Live Weight
LWG	Live Weight Gain
MDA	Malondialdehyde
NK	Natural Killer
OEO	Organic Essential Oils
PFA	Phytogenic Feed Additives
ppm	Parts per Million
PEO	Phytogenic essential oil
PRTC	Poultry Research and Training Center
TBA	Thiobarbituric Acid

TBARS	Thiobarbituric Acid Reactive Substances
US	United States
%	Percentage
<	Less Than
>	Greater Than
e.g	Example Given
et al.	And his Associates
etc	Et cetera
Sqft	Square Feet



## Abstract

The study was conducted for investigating the effect of different levels of phyto-genic essential oil (Digemax EE<sup>R</sup>) on the productivity and meat quality of broiler chicken. Day-old broiler chicks (Cobb 500, n=112) of either sex were distributed randomly into four treatments, *i.e.*, T<sub>1</sub> (Control), T<sub>2</sub> (0.5 % oil), T<sub>3</sub> (1 % oil) and T<sub>4</sub> (1.5 % oil) in a completely randomized design (CRD). Each treatment was replicated four times with 7 birds per replicate. Chicks were reared in the battery cages of equal size entire the trial period from day 1-32 day. Chicks had a free access to water treated with herbal essential oil (Digemax EE<sup>R</sup>) at the rate of T<sub>1</sub> (0ml/L), T<sub>2</sub> (0.5ml/L), T<sub>3</sub> (1ml/L) and T<sub>4</sub> (1.5ml/L), and this treated water supplied to the birds *ad libitum* throughout the trial period. Data on feed intake (FI), live weight (LW), live weight gain (LWG), feed conversion ratio (FCR), and livability were recorded. Besides, carcass yield traits, relative weights of gastro-intestinal organs, water intake (WI) and cost benefit analyses were also measured on day 32. The data revealed that FI, LW, LWG, FCR and viability % of broilers were not influenced (P>0.05) by the treatments. The LW and LWG of broiler fed herbal supplemental oil (T<sub>2</sub>) tend to be significant (P<0.072). The highest LW (1833.20 g/b) was observed in T<sub>2</sub> diet and the lowest LW (1770.30 g/b) found in T<sub>1</sub> diet during day 1-32 day. The visceral organ weights (proventriculus, gizzard, liver, heart) were unaffected (P>0.05) between treatments. The results of meat yield traits revealed that dressing %, thigh weight, breast weight, wing weight, back weight, shank weight, head weight, drumstick weight, neck weight, and abdominal fat content percentages etc., were found similar (P>0.05) between treatments. The WI of broiler differed significantly (P<0.05) between treatment on day 32. The highest WI was found in T<sub>3</sub> and T<sub>1</sub> group and the lowest WI was seen in the T<sub>2</sub> and T<sub>4</sub> treatment group, respectively, during 32 days. The birds fed the T<sub>2</sub> diet group showed higher profit margins (P<0.05) and cheaper cost of production than the birds fed the other diet groups. It can be concluded that Digemax EE<sup>R</sup> @ 0.5ml/L of water was found to be more potential for improving the growth performance and economic of broiler chickens production under farming condition.

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**Keywords:** antibiotic alternative, phyto-genic essential oil, growth, meat carcass yield, water intake, broilers