



# **EFFECTS OF USING ORGANIC ACIDS TO SUBSTITUTE ANTIBIOTIC GROWTH PROMOTER ON GROWTH PERFORMANCE, CARCASS CHARACTERISTICS AND BLOOD PARAMETER OF COMMERCIAL BROILER**

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Examination Roll No. 0116/04

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**A thesis submitted in partial fulfillment of the requirements for the degree of  
Master of Science in Animal and Poultry Nutrition**

**Department of Animal Science and Nutrition  
Faculty of Veterinary Medicine  
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Chittagong-4225, Bangladesh**

**December 2017**

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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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## LIST OF ABBREVIATION

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ANOVA.....	Analysis of variance
BBS.....	Bangladesh Bureau of Statistics
BMD.....	Bangladesh Meteorological Department
CP.....	Crude protein
GDP.....	Gross domestic product
DOC.....	Day Old Chick
g.....	Gram
LW.....	Live weight
SGOT.....	Serum glutamic oxaloacetic transaminase
SGPT.....	Serum glutamate-pyruvate transaminase
FCR.....	Feed conversion ratio
Hb.....	Hemoglobin
TEC.....	Total erythrocyte count
SEM.....	Standard error of mean
NS.....	Non significant
<.....	Less than
>.....	Greater than
e.g.....	Example
et al.....	And his associates
etc.....	Et cetera
% .....	Percentage
i.e. ....	That is
Sig. ....	Significance
Ref. ....	Reference
MS .....	Master of Science

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## ABSTRACT

The study investigates the effect of organic acid supplementation in Cobb 500 broiler under intensive rearing system. One hundred Cobb 500™ broiler chicks were used in a 28-day trial at Chittagong Veterinary and Animal Sciences University (CVASU) poultry farm to study the effects of supplemental organic acid in water on performance parameters, carcass characteristics and blood parameter in commercial broiler. Birds were divided into five watery treatment i.e. water containing no organic acid (T<sub>0</sub>), water containing citric acid (T<sub>1</sub>), water containing formic acid (T<sub>2</sub>), water containing acetic acid (T<sub>3</sub>), water containing antibiotic (T<sub>4</sub>) and each treatment was further divided into two replica having 10 birds per replicate. All birds had free access to ad-libitum feeding and watering. The birds were assessed based on performance parameter, hematological and biochemical parameter and carcass characteristics. It was evident that, there was a positive relationship between organic acid supplementation and performance parameters at later stage. Highest weight gain was recorded in the bird's drinking water containing citric acid at 4<sup>th</sup> week of age. Similar to weight gain FCR were also improved in birds supplemented with citric and acetic acid. Similar to performance parameter, carcass characteristics were improved in terms of abdominal fat in organic acid supplemented group. There were no unusual changes in the blood and serum parameter in comparison to the reference level. Our study suggests citric acid as a potential water supplement with basal diet at later stage of broilers (During 3<sup>rd</sup>/4<sup>th</sup> week and onward).

**Keywords:** Organic acid, feed intake, weight gain, feed conversion ratio, carcass characteristics, blood parameter.