



**REPLACEMENT OF SOYBEAN MEAL BY DDGS AND ITS
EFFECT ON GROWTH PERFORMANCE, MEAT
QUALITY, LIPID PARAMETERS AND ECONOMICS IN
BROILER**

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Examination Roll No. 0119/03

Registration No.616

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**Department of Animal Science and Nutrition
Faculty of Veterinary Medicine
Chittagong Veterinary and Animal Sciences University**

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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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**Dedicated to my beloved parents Abdul Gafur and
Azimon Nahar**

Authorization

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June 2022

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Abbreviations

ANOVA	=	Analysis of variance
BCRDV	=	Baby Chick Ranikhet Disease Vaccine
BMD	=	Bangladesh Meteorological Department
CF	=	Crude fiber
CP	=	Crude protein
CVASU	=	Chittagong Veterinary and Animal Sciences University
DM	=	Dry matter
EE	=	Ether extract
FAO	=	Food and agriculture organization
FCR	=	Feed conversion ratio
g	=	Gram
IBD	=	Infectious Bursal Disease
ND	=	Ranikhet disease
Kg	=	Kilogram
LW	=	Live weight
ME	=	Metabolizable energy
NFE	=	Nitrogen free extract
NRC	=	National research council
NS	=	Non-significant
SBM	=	Soyabean meal
SEM	=	Standard error of mean

Abstract

Distillers dried grain with soluble (DDGS) was used as a source of dietary protein substitution with soybean meal (SBM) in broiler chicken. Ninety-six Ross-308 unsexed day old broiler chicks were used in a 35-day trial to investigate the effects of different levels of DDGS on growth performance, carcass characteristics, blood parameter, oxidative stability of meat and cost benefit analysis in commercial broiler. Birds were randomly distributed into four dietary treatment groups designated as Control (basal diet), D1 (10% replacement of soyabean meal with DDGS), D2 (20% replacement of soyabean meal with DDGS), and D3 (replacement of soyabean meal with DDGS 30%) respectively in a completely randomized design. The results showed that there were significant differences in body weight gain, feed conversion ratio and economics analysis among the treatment groups of broiler up to 30% of replacement of soyabean meal with DDGS. But blood profile, dressing percentage and oxidative stability of broiler meat were not significantly changed compared to control group. This result suggests that DDGS might be included up to 30% as replacement of SBM in broiler diet without having any negative effects. Average daily gain (ADG) was significantly increased from 2nd to 5th week ($p < 0.05$) while average feed intake also varies in treatment group. Feed conversion ratio significantly reduced ($p < 0.05$) in all treatment groups compared to control group. Meat crude protein content significantly increased in DDGS supplementation ($p < 0.05$) particularly in D1 (DDGS 10%) group. A significant reduction in TBARS concentration while increased net profit per bird in this study. It can be concluded that DDGS can be the potential alternatives to soyabean meal for poultry industry in Bangladesh without any harmful effects on human health.

Keywords: Broiler, DDGS, SBM, Growth performance, Meat quality, Lipid Profile, TBARS, Economics.