

**Effect of Dietary Maize Substitution with Potato Meal on the Productive Performance and Carcass Characteristics in Broiler Chicken**

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Examination Roll No. 0116/10

Registration No. 293

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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

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Khulshi, Chittagong-4225, Bangladesh

**June 2018**

**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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|  |  | **Abbreviations** |
| ANOVA | - | Analysis of variance |
| BBS | - Bangladesh Bureau of Statistics | |
| BCRDV | - Baby Chick Ranikhet Disease Vaccine | |
| BMD | - | Bangladesh Meteorological Department |
| CF | - | Crude fibre |
| 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 |
|  |  |  |
| Kg | - | Kilogram |
| LW | - | Live weight |
| ME | - | Metabolizable energy |
| NFE | - | Nitrogen free extract |
| NS | - | Non-significant |
| SEM | - Standard error of mean | |

**Abstract**

Potato meal (PM) is used as a source of dietary carbohydrate substitution with maize in broiler chicken. One hundred and twenty Ross-308 unsexed day old broiler chicks were used in a 28-day trial to investigate the effects of different levels of PM on productive performance and carcass characteristics in commercial broiler. Birds were randomly distributed into four dietary treatment groups designated as T0, T1, T2, and T3 which were supplemented with 0, 20, 30, and 40% PM for T0, T1, T2 and T3 treatment groups, respectively. The results showed that there were no significant differences in feed conversion ratio, survivability rate and dressing percentage among the treatment groups of broiler up to 40 % of maize with potato. Results also show that fat percentage is less in potato meal based diets which could be beneficial for human health. This results suggest that potato meal might be included up to 40% as substitute of maize in broiler diet without having any negative effects. It can be assuped that the findings of this study come significantly contribute to the country where the maize production is not as large as that of potato.

**Keywords:** Potato meal, Carcass characteristics, Feed conversion ratio, Weight gain, Dressing percentage.