

**Effects of Sources of Protein on Productive Performance and Immune Response in Commercial Broiler**

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**Roll No. 0214/03**

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**A thesis submitted in the 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**

**Chittagong Veterinary and Animal Sciences University**

**Khulshi, Chittagong-4225, Bangladesh**

**December, 2016**

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**Sabuj Kanti Nath**

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**This is 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 AND ALL WELL WISHERS**

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# List of Abbreviations and Symbols Used

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| **Abbreviations and Symbol** | **Elaboration** |
| EAA | Essential amino acids |
| SBM | Soybean meal |
| ANFs | Anti-nutritional factors |
| CP | Crude protein |
| SPC | Soybean protein concentrate  |
| SPI | Soybean protein isolate |
| HP | Hamlet protein |
| SDP | Spray-dried plasma |
| IgG | Immunoglobulin-G |
| GIT | Gastrointestinal tract |
| NRC | National research council |
| NDV | Newcastle Disease Virus |

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**The Author**

**Abstract**

The study was conducted to investigate the effect of different protein supplemented feed (animal protein, plant protein and combination of animal protein and plant protein) on the growth performance of broiler and the immune response of the birds against Newcastle Disease (ND). A total of 99 broiler birds were divided into 3 groups, each group consist of 33 individuals. Rations supplemented with animal protein, plant protein and combination of animal protein and plant protein were formulated for 3 treatment groups. ND vaccine was administered according to the vaccination schedule. Growth performance was measured using Feed Conversion Ratio (FCR) and immune response against ND using Haemaglutination Inhibition (HI) test. The study revealed that there was significant difference in growth performance due to variation in protein source of the supplied ration FCR was found 2.06, 1.64 and 1.68 for group A, B and C respectively. Antibody titre of the birds against ND vaccine virus was highest at day 7 is 7.10 and at day 28 is 6.90 in group-A birds supplemented with animal protein. The finding shows that immune response in broilers against ND depends on the protein source of the ration and animal protein is the best to have strong immunity.

**Key words:** Ration, protein source, growth performance, immune response.