****

**EFFECTS OF NEEM (*Azadirachta indica*) LEAF EXTRACTS AT DIFFERENT CONCENTRATION AGAINST ASPERGILLOSIS IN BROILER**

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Roll No. 0214/02

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Session: 2014-2015

**A thesis submitted in the partial fulfillment of the requirements for the degree of Master of Science in Pharmacology**

**Department of Physiology, Biochemistry and Pharmacology**

**Faculty of Veterinary Medicine**

**Chittagong Veterinary and Animal Sciences University**

**Chittagong-4225, Bangladesh**

**JUNE, 2016**

**╣DEDICATION╠**

TO MY MOTHER & FATHER

#

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**June, 2016**

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# Acronym Used

|  |  |
| --- | --- |
| ENLEANLE | Ethanolic Neem Leaf ExtractAqueous Neem Leaf Extract |
| % | Percentage |
| ESR | Erythrocyte Sedimentation Rate |
| PCV | Packed Cell Volume |
| Hb | Hemoglobin |
| DLC | Differential Leucocytes Counts |
| TG | Triglycerides |
| CHOL | Cholesterol |
| ALT/ SGOT | Alanine Amino-Transferase |
| AST/ SGPT | Aspartate Amino-Transferase |
| TP | Total Protein |
| Alb | Albumin |
| SDA | Saboured Dextrose Agar |
| PDA | Potato Dextrose Agar |
| ME | Metabolizable Energy |
| CP | Crude Protein |
| FCR | Feed Conversion Ratio |
| BCRDV | Baby Chick Ranikhet Disease Vaccine |
| DLS | District Livestock Services |
| LRI | Livestock Research Institution |
| IUCN | International Union for Conservation of NaturePage | 11  |

# Effects of Neem (*Azadirachta indica*) Leaf Extract at Different Concentration against Aspergillosis in Broiler

# Summary

The present study was conducted to evaluate the effect of aqueous and ethanolic extracts of neem (*Azadirachta indica*) leaves against aspergillosis in broiler during July to December, 2015 at Chittagong Veterinary and Animal Sciences University (CVASU), Bangladesh. A total of 75 Cobb-500 day-old chicks were purchased from a hatchery and kept within chick guard upto Day-14. All birds were infected with *Aspergillus fumigatus* through water to all birds at Day-12. Birds were divided into eight treatment groups based on different concentration, designated as T0, T1, T2, T3, T4, T5, T6, and T7 where each group consisted of nine chicks. Birds of group T1, T2, T3, T4 were treated with ethanolic neem leaf extracts @ 0.6mg/ml, 0.7mg/ml, 0.8mg/ml, 0.9mg/ml respectively and T5, T6, T7 were treated with aqueous neem leaf extracts @ 50mg/ml, 100mg/ml, 150mg/ml consecutively at Day-22. Group T0 was kept as untreated control. Feed intake data with live weight was recorded in every seven days interval to assess growth performances. Blood samples were collected from jugular vein at Day-28 (after treatment period) from three randomly selected birds of each group and subsequent hematology and biochemical analysis were done. Group T3 and T7 showed less gross lesion in lungs at post treatment. T3 group showed the highest body weight gain and improved feed conversion ratio (FCR) after ending of treatment period. Significant (*p*≤0.05) increases of PCV and Hb in T3 group than control group. On the other hand T3 and T7 groups showed significant decrease of aspertate aminotransferase (AST) and alanine aminotransferase (ALT) level respectively than control group after treatment with extracts. The mean value of albumin was also altered significantly (*p*≤0.05) on T3 group. It was found that 0.8mg/ml of ethanolic neem leaf extract and 150 mg/ml of aqueous neem leaf extract possesses positive effect in curing of aspergillus infection in broiler.

**Key Words:** Aspergillosis, Broiler, Neem leaves extracts, Concentration, Growth performance. Page | 12