**EFFECT OF TWO DIFFERENT COMMERCIAL EMULSIFIERS ON GROWTH PERFORMANCE OF BROILERS**



**Popi Roy**

Roll No. 0213/03

Registration No. 0162

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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**

**Chittagong-4225, Bangladesh**

**DECEMBER 2014**

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**Popi Roy**

**December 2014**

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**Popi Roy**

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Registration No. 0137

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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**

|  |  |
| --- | --- |
|  |  |
| (Prof. Dr. Goutam Buddha Das)Supervisor | **(Dr. Md. Hasanuzzaman)**Co- Supervisor |

**(Dr. Md. Hasanuzzaman)**

**Chairman of the Examination Committee**

**Department of Animal Science and Nutrition**

**Faculty of Veterinary Medicine**

**Chittagong Veterinary and Animal Sciences University**

**Khulshi, Chittagong -4225, Bangladesh**

**DECEMBER 2014**

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**List of Abbreviations**

|  |  |  |
| --- | --- | --- |
| °F  | **:** | Degree Fahrenheit |
| *et al.* | **:** | and his associates  |
| etc. | **:** | Et cetera |
| FC | **:** | Feed Conversion |
| Fig. | **:** | Figure  |
| gm | **:** | Gram |
| kg | **:** | Kilogram |
| ppm | **:** | Parts per million |
| Tk. | **:** | Taka |
| % | **:** | Percent |
| MS | **:** | Master of Science |
| Ft. | **:** | Feet |
| Sq. | **:** | Square |
| FC | **:** | Feed Conversion |
| CFC | **:** | Cumulative Feed Conversion |
| DOC | **:** | Day old chick |
| USA | **:** | United States of America |
| US $ | **:** | United States dollar |
| GPEGR | **:** | Glyceryl polyethylene glycol ricinoleate |
| BWG | **:** | Body weight gain |
| HLB | **:** | Hydro-lipophilic Balance  |
|  HDL | **:** | High Density Lipoprotein |
| LDL | **:** |  Low Density Lipoprotein |
| NaT | **:** | Sodium Taurocholate |
| NRC | **:** | National Research Council |

**Abstract**

A study was conducted to evaluate the effect of two exogenous (commercial) emulsifiers in energy based diet on broiler performance. A total of 90 day-old chicks (Cobb-500) were randomly distributed to the three treatment groups; each with three replicates. The experimental diet To (Basal diet as control), T1 (Basal diet+ 0.06% lysolecithin in both starter & grower ration) and T2 (Basal diet+0.08% glyceryl polyethylene glycol ricinoleate in both starter & grower ration) were fed to the respective groups for 28 days. Body weight, body weight gain and feed intake were taken weekly interval. It was observed that body weight was significantly (*P<0.05*) increased in both lysolecithin and glyceryl polyethylene glycol ricinoleate (GPEGR) supplemented diet group comparing to the control group at 4th week of age. Highest body weight was observed in GPEGR supplemented diet group and lowest in control group. Body weight gain was not significantly (P>0.05) affected but cumulative body weight gain was increased significantly (P<0.05) in both lysolecithin and glyceryl polyethylene glycol ricinoleate (GPEGR) supplemented group. Feed intake at 1st, 2nd, 3rd weeks varied significantly (*P<0.05*) differed except at 4th week, where it was statistically similar in diet groups. Feed conversion was significantly (P<0.05) improved along the whole study period in broilers fed diet containing lysolecithin and GPEGR comparing to control group. In cost items, significant (P<0.05) differences were observed in total cost (Tk/broiler) and total cost (Tk/Kg live broiler). Total cost (Tk/Kg live broiler) was highest in control group and lowest in GPEGR group. In term of income, total sale price (Tk/broiler), net profit (Tk/broiler), net profit (Tk/Kg live broiler) was increased significantly (P<0.05) in GPEGR and lysolecithin supplemented diet group than control group. The study revealed that supplementation of exogenous emulsifiers in diets improves broiler performance.

**Key Words:** Emulsifier, glyceryl polyethylene glycol ricinoleate, lysolecithin, broiler performance.