**A Study on Low Cost Phage Probiotic Preparation From Livestock**

****

**A production report submitted in partial satisfaction of the requirement for the Degree of Doctor of Veterinary Medicine (DVM)**

**By-**

**Jannatul Naima**

**Intern ID: 07**

**Roll no: 17/09**

**Reg. no: 01827**

**Session: 2016-‘17**

**Faculty of Veterinary Medicine**

**Chattogram Veterinary and Animal Sciences University**

**Khulshi, Chattogram – 4225, Bangladesh**

**A Study on Low Cost Phage Probiotic Preparation From Livestock**

****

**Approved by-**

**Professor Dr. Ashraf Ali Biswas**

**Department of Animal science &Nutrition**

**Faculty of Veterinary Medicine**

**Faculty of Veterinary Medicine**

**Chattogram Veterinary and Animal Sciences University
Khulshi, Chattogram – 4225, Bangladesh**

**Table of contents**

|  |  |
| --- | --- |
| **Contents** | **Page No.** |
| List of figures | IV |
| Abstract | V |
| Introduction  | 1-2 |
| Literature review  | 3 |
| Method & materials  | 4-17 |
| Result  | 18 |
| Discussion  | 19 |
| Conclusion  | 20 |
| Reference  | 21-22 |
| Acknowledgement  | 23 |
| Biography  | 24 |

**List of figures**

**Figure Title Page No**

Figure 1: Blood collection from sheep …………………………........…………. 6

Figure 2: Blood agar Preparation ……………………………………….......…… 7

Figure 3: Giving *E coli* streaking in blood agar……………………........………. . 9

Figure 4: *Ecoli* colony in blood agar …………………………………........……... 9

Figure 5: Brain heart infusion broth preparation ………………………......……. 10

Figure 6: *E coli* culture in broth ………………………………...………..........… 11

Figure 7: Trypton broth preparation ………………………………..........………. 13

Figure 8: Serial dilution of phage ……………………………...........…………… 14

Figure 9: Muller hinton agar preparation ………………………………….......... 16

Figure 10: Mixing of diluted phage &*E coli* in the tube & pour into plate…......... 17

Figure 11: Plates after incubation ……………………………………….............. 18

**Abstract**

In Bangladesh, poultry industry is an important part of its national economy. This industry has been emerging to supply quality protein to people at the lowest price in the world. The major crisis of this sector is disease problem that cause around 30-40% mortality of poultry as well as loss of production. Increasing multi-drug resistant bacteria is a major cause behind it. An alternative strategy is urgently required to overcome it. Bacteriophages as a promising approach is used for the treatment of bacterial infections. Its killing mechanism differs from antimicrobial agents by rapidly infecting the specific bacterial cell & lysing it without harming the host cell. Still our country unable to establish any phage preparation for that we have to import phage product from foreign countries with a high cost. In this study we are trying to prepare low cost phage probiotic for livestock from locally available source. A protocol was established to count plaques of phages by using available laboratory products. It was an experimental study to see that the protocol can be used for further plaque count or not.

**Keywords:**Emerging, Multi-drug resistance, Plaque count.