**COMPARISON OF RICE GRUEL WITH MOLASSES ON GROWTH AND RUMEN MICROBS IN CATTLE**

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# A PRODUCTION REPORT SUBMITTED

# BY

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Intern ID: D-33

Roll No: 08/50

Registration No: 392

***Report Presented In Partial Fulfillment for the Degree of Veterinary Medicine.***

**Chittagong Veterinary and Animal Sciences University**

**Khulshi, Chittagong-4202**

**January, 2014**

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**CONTENTS**

|  |  |  |  |
| --- | --- | --- | --- |
| CHAPTER | SERIAL NO. | SUBJECTS | PAGE NO. |
|  |  | **Acknowledgement** | I |
|  |  | **Abstract** | II |
| Chapter: 1 |  | **Introduction** | 1-2 |
|  |  | Aims of the present study | 2 |
| Chapter: 2 |  | **Review of literature** | 3-10 |
|  | 2.1. | Animal feeding and growth performances | 3-6 |
|  | 2.2 | Animal feeding and rumen ecology | 6-10 |
| Chapter: 3 |  | **Materials and methods** | 11-20 |
|  | 3.1. | Baseline survey on production of rice gruel | 11 |
|  | 3. 1.1. | Study area | 11 |
|  | 3. 1.2. | Quantification of rice gruel | 13 |
|  | 3. 1.3. | Collection of rice gruel for analysis | 13 |
|  | 3. 1.4. | Chemical analysis of rice gruel | 13 |
|  | 3. 2. | Feeding of animals | 13 |
|  | 3. 2.1. | Study area | 14 |
|  | 3. 2.2. | Selection of animals | 14 |
|  | 3. 2.3. | Preparation of experimental shed | 14 |
|  | 3. 2.4 | Examination of animals for parasites | 15 |
|  | 3.2.4.a) | External examination of animals | 15 |
|  | i. | Administration of Ivermectin drug | 15 |
|  | 3. 2.4.b) | Coproscopy | 15 |
|  | i) | Deworming | 15 |
|  | 3.2.4. c. | Examination of peripheral blood smear | 15 |
|  | 3. 2.5. | Feed offered | 15 |
|  | 3. 2.6. | Body weight gain | 16 |
|  | 3. 2.7. | Examination of ruminal fluid | 16 |
|  | i) | Aspiration of ruminal fluid/rumenocentesis (needle puncture) | 16 |
|  | ii). | Transportation of rumen liquor | 17 |

**CONTENTS**

|  |  |  |  |
| --- | --- | --- | --- |
| CHAPTER | SERIAL NO. | SUBJECTS | PAGE NO. |
| Chapter: 3 | iii) | Physical characters | 17 |
|  | iv) | Chemical characters | 18-19 |
|  | 3.2.8. | Statistical analysis | 19 |
| Chapter : 4 |  | **Results and discussion** | 21-30 |
| Chapter : 5 |  | **Conclusion** | 31 |
| Chapter : 6 |  | **References** | 32-36 |

**LIST OF TABLES**

|  |  |  |  |
| --- | --- | --- | --- |
| SL  NO. | TITLE OF THE TABLES | CHAPTER | PAGE NO. |
| 1. | Distribution of cattle according to treatment groups | Chapter: 3 | 14 |
| 2. | The composition of the concentrate mixture | Chapter: 3 | 16 |
| 3. | Animal groups with amount of feed offered/day | Chapter: 3 | 16 |
| 4. | Production of rice gruel (RG) per head per day in liter | Chapter: 4 | 21 |
| 5. | Chemical analysis of rice gruel | Chapter: 4 | 22 |
| 6. | Microscopic examination of feces for parasitic egg/ Oocyst | Chapter: 4 | 22 |
| 7. | Examination of blood smears for blood protozoa | Chapter: 4 | 23 |
| 8. | Consecutive body weight gain of cattle group (kg) | Chapter: 4 | 24 |
| 9. | Repeated measures Analysis of Variance | Chapter: 4 | 24 |
| 10. | Body weight gain | Chapter: 4 | 25 |
| 11. | Effect of diet and time on pH of SRL (Mean± SD) | Chapter: 4 | 26 |
| 12. | Effect of diet and time on various physical parameters of rumen liquor | Chapter: 4 | 27 |
| 13. | Effect of diet and time on bacterial count/ml of SRL (Mean± SD) | Chapter: 4 | 28 |
| 14. | Effect of diet and time on protozoal count/ml of SRL (Mean±SD) | Chapter: 4 | 28 |

|  |  |  |  |
| --- | --- | --- | --- |
| No. | CHAPTER | TITLE | PAGE |
| 1 | Chapter : 3 | Study area map. | 12 |
| 3 | Chapter : 3 | Feeding of RG with concentrate mixture | 20 |
| 4 | Chapter : 3 | Collection of rumen liquor from cattle | 20 |
| 5 | Chapter : 3 | Estimation of DM of RG | 20 |
| 6 | Chapter : 3 | Dilution of SRL for bacterial count | 20 |
| 7 | Chapter : 3 | Slide of protozoal count | 20 |
| 8 | Chapter : 3 | Rumen protozoa under microscope | 20 |
| 9 | Chapter : 4 | Marginal mean of weight gain for treatment vs age and age vs treatment | 24 |
|  | Chapter : 4 | Body weight gain of two groups | 25 |
| 10 | Chapter : 4 | pH of rumen liquor at different post hours of feeding | 26 |
| 11 | Chapter : 4 | Bacterial cell count at different post hours of feeding | 29 |
| 12 | Chapter : 4 | Protozoal cell count at different post hours of feeding | 30 |

**LIST OF FIGURES AND PICTURES**

**LIST OF ABBREVIATIONS AND SYMBOLS USE**

|  |  |
| --- | --- |
| Abbreviations and symbols | Elaboration |
| % | Percent |
| / | per |
| +ve | Positive |
| ± | plus-minus |
| 0C | Degree Celsius |
| a.m. | ante meridiem |
| A.O.A.C | Association of Official Analytical Chemist |
| AIA | Acid Insoluble Ash |
| B.W. | Body Weight |
| BBC | The British Broadcasting Corporation |
| cm | Centimeter |
| CP | Crude Protein |
| DLS | Department of Livestock Services |
| DM | Dry Matter |
| DMB | Dry Matter Basis |
| DMS | Degrees Minutes Seconds |
| FAO | Food and Agriculture Organization |
| g (gm) | Gram |
| hrs | Hours |
| Kg | Kilogram |
| mg | milligram |
| ml | milliliter |
| mm | millimeter |
| No. | Number |
| RG | Rice gruel |
| SL | Serial |
| SRL | Stained Rumen Liquor |
| TA | Total Ash |
| -Ve | Negative |

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i

**ABSTRACT**

The present study was undertaken to observe the possibility of using rice gruel as a source of readily fermentable energy and to see it’s effect on rumen pH as well as microbial population in cattle. Six growing cattle were divided into two groups fed on two different concentrate mixtures at the point of molasses and rice gruel. G- I was fed with rice gruel where molasses were offered to G- II, in addition, three hours of grazing and *ad-lib.* water was offered to all the experimental animals. The feeding trial was continued for 60 days. Live weight changes during the experimental period for Group I and Group II were observed as 303.33±14.53 and 406.67±14.53 gm, respectively. The pH of the rumen liquor varied from 5.4±0.35 to 7.3±0.46 in Group I and 6.3±0.90 to 7.87±0.42 in Group II with highest value at 12 h in both groups and lowest value at 20 h and 16 h of post feeding in G-I and G-II, respectively. The bacterial population (cellx1010) per ml of SRL ranged from 7.33±0.50 to 9.67±0.15 in G-I and 5.23 ±0.25 to 8.47±0.15 in G-II with peak level at 20 h and 12 h in G-I and G-II diets, respectively and lowest value found at 4 h and 8 h of post feeding in G-I& G-II diets, respectively. The rumen protozoal population (cellx106) per ml of SRL ranged from 4.53±0.50 to 7.33±0.50 in G-I and 3.30 ±1.0 to 6.57±1.70 in G-II being highest at 20 h of post feeding in both G-I& G-II diets and lowest at 4 h and 24 h of post feeding in G-I & G-II diets, respectively. It can be concluded that rice gruel was less effective than molasses as fermentable energy source, however in situation where molasses is not available or costly, rice gruel does appear to have a place as readily fermentable energy source.

**Key words:** Rice gruel, chemical analysis, weight gain, rumen microbial population, cattle.

ii