**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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***Approved as to style and content by***

**…………………………….**

**Signature of Supervisor**

Dr. Md. Hasanuzzaman

Associate Professor

Department of Animal Science & Nutrition

Chittagong Veterinary and Animal Sciences University

**…………………………….**

 **Signature of Author**

 Name: Nasima Akter

 Roll No: 08/50

 Reg. No: 392

 Intern ID: D-33

**Chittagong Veterinary and Animal Sciences University**

**Khulshi, Chittagong-4202**

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 **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 |

**ACKNOWLEDGEMENT**

The author takes the privilege to acknowledge to the almighty Allah, who has given the opportunity to accomplish of the report.

The author would like to express her deep sense of gratitude and thanks to Professor Dr. A.S. Mahfuzul Bari, Vice Chancellor of Chittagong Veterinary and Animal Sciences University (CVASU) for his courage to do this work.

The author would like to express her deep sense of gratitude and heartfelt appreciation to Professor Dr. Md. Kabirul Islam Khan, Dean, Faculty of Veterinary Medicine, CVASU for giving her a chance to accomplish this report.

The author expresses her sincere gratitude, heartfelt respect and immense indebtness to her supervisor Dr. Md. Hasanuzzaman, Associate professor, Department of Animal Science and Nutrition for his endless help and support to complete this report.

The author highly gratitude to Mosammet Rasheda Begum, Assistant Professor, Department of Agricultural Economics and Social Sciences for her cordial help to analyze the data of this report.

The author highly expresses her sincere gratitude and gratefulness to Dr. Bibek Chandra Sutradhar, Director, External affairs for his support and courage.

The author extends her gratefulness to Md. Samun Sarker, Student of Faculty of Veterinary Medicine, CVASU for his cordial co-operation and help.

Finally the author expresses her good wishes and warmest sense of gratitude to all her well wishers, friends and families.

**The Author**

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 **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.

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