**CHAPTER-I**

**INTRODUCTION**

Beef fattening is the intensified feeding of cattle to obtain the greatest quantity of high quality meat **(shmakov *et al.*, 1969)**. It can increase the income of the farmer. It can also compensate the deficiency of protein of the cattle which promote weight gain. In cattle raising several types of fattening are used to obtain dietetic veal, regular veal, baby beef, and beef **(shmakov *et al.*, 1969).** Like other agro-based developing countries Bangladesh also has to depend mainly on agriculture. About 80% people dependent on agriculture. Livestock play a great role in this agriculture dependent country **(FAO, 1998).** The livestock sector contributes 3 percent to the Gross Domestic Product (GDP) **(BBS, 1989).** Feeds and strategy of feeding are the important factors for livestock development. The feeding practice of livestock of Bangladesh is very much traditional and conventional**(Tareque, 1991).**

The cattle population Bangladesh very commonly suffers in malnutrition as well as beef fattening we need energytic diet . Cattle need minimum of 16% CP (crude protein) in their ration for their optimum growth, production, and reproduction (NRC, 1990). But through the conventional feeds and feeding systems they get a very lower amount of CP (Khalek *et al.,* 2004). The true protein (TP) feeds are very much expensive and so farmers can't offer their livestock the high protein source feeds. On the other hand urea is a NPN (non-protein nitrogen) substance which provide 16% CP to the ruminant animals. So incorporation of urea into the ruminant diet along with a higher carbohydrate (CHO) source can provide adequate protein as well as energy requirement of the ruminants which subsequently positively affect the growth, production, and reproduction of the ruminants **(Mathur and Sharma, 1985)** such type of material can be used as beef fattening.

Green grass from arable and non-arable land and some concentrates are also available at a sub-normal amount. Due to inadequate production of green grasses, rice straw has become the major feed resource for the livestock production of Bangladesh (Molla *et al.,* 2009). To overcome this shortage of feed and to provide adequate nutrition to the existing animals the conventional rice straw can be fed to the animal by somewhat modern feeding system. Modifying or treating this rice straw by other feed supplements like is an effective program for local cattle development. One of these processes is urea treatment of the straw. It is very much effective in cattle growth and also fattening. Cattle fattening for beef production has become an important business of the small farmers in Bangladesh (DLS, 2000). The Department of Livestock Services (DLS) has taken beef fattening as an action program to generate income for the rural poor farmers. There is little information available on cattle fattening by the rural farmers (Hossain, 1986). However worked on management system of cattle regarding feeding, housing, disease prevention and marketing in the Comilla district. Hossain *et al.,* (1996) conducted a study on beef fattening in the Manikganj district. They all trialed on beef fattening by urea feeding.

Stress causes cortisol to be released into the bloodstream, which can impair the immune response, cause loss of appetite, increase susceptibility to disease and reduce growth rate. Butaphosphan can be an important adjunct in hastening recovery and minimizing the effects of nutrient deficiencies related to poor feed intake.

As indicated earlier the information related to cattle fattening in Bangladesh is very sporadic. Detailed study is needed covering different districts of Bangladesh to recommend cattle fattening programs for the rural poor farmers as an income generating activity. Therefore, the present study was undertaken to investigate the following objectives of beef fattening at kuliarchar upazilla.

**OBJECTIVES:**

1. To know the effect of feed and metabolic drugs on beef fattening.

  **2**. To evaluate the cost effective methods of beef fattening.

**CHAPTER-II**

**REVIEW OF LITERATURE**

**2.1. Beef fattening**

 Beef fattening is defined as the intensified feeding of cattle to obtain the greatest quantity of high-quality meat. The quality of the meat and the economic indexes of the fattening of cattle depend on the breed, sex, age, health, and fatness of the cattle, as well as on type and intensiveness of feeding and on maintenance conditions. The best results are achieved by fattening specialized meat breeds and hybrids obtained from commercial crossbreeding .Cattle that are fattened include the entire healthy population to be slaughtered for meat, the young remaining after completion of the basic herd composition, and adult cattle discarded from the basic herd. For the best maintenance conditions, cattle are grouped according to sex, age, fatness, and temperament.

**2.2. Types of Beef fattening**

In cattle raising several types of fattening are used to obtain dietetic veal, regular veal, baby beef, and beef. Fattening for dietetic veal, which is used mainly for feeding ill persons, begins when the calf is born and continues for 45 to 60 days. The principal feed is milk, with skim milk and concentrates added toward the end of the fattening period. To obtain regular veal, the calves are fattened until they are three or four months old. Beginning on the 15th to 20th days, the ration of whole milk is supplemented with whole-milk substitutes, skim milk, and concentrates. These forms of fattening are most frequently used in the United States, Great Britain, and the Federal Republic of Germany. For the production of baby beef, fattening begins at the age of six to eight months and continues until the cattle are nine to 12 months old. Baby beeves are raised in the United States, Australia, New Zealand, and some Western European and Latin American countries. An intensive fattening program, principally on a commercial scale, for obtaining beef is used extensively in the USSR, Western Europe, and North America.

In the USSR, dairy and dairy-meat breeds are fattened for 18 to 20 months (in major cattle-breeding regions, for 14 to 18 months), until the animals reach a weight of 400 to 480 kg. The cattle are fed green and succulent feeds, silage, hay, and industrial by-products (vinasse, bagasse). The principal feeds provide 50 to 70 percent of the required nutritional elements. Cattle are kept indoors or are pastured. The average daily weight gain is between 800 and 1,200 g. Eight to 11 feed units are expended per kg of weight gain; on beef-producing farms, 4.2–6.3 man-hours are expended for each quintal of weight gain. In South America, Africa, Oceania, Mongolia, and some regions of the USSR, where the principal sources of feed are natural pastures, extensive (as opposed to intensive) fattening programs are used. (shmakov *et al.,*1969).

**2.3. Methods of Beef fattening**

Cattle are fattened by different treatment like as urea supplemented feed or metabolic injection or combinedly. Urea treatment is one of the various chemical treatments which has been found beneficial as it increased the nutritive value of rice straw by increasing the protein content and nutrient digestibility and palatability of rice straw (Wongsrikeao and Wanapat, 1985). Supplementation with NPN (non protein nitrogen) can stimulate animal performance but care must be taken to avoid excessive intake of urea, as urea can be toxic when small amounts are consumed rapidly.

At present, supplements are not widely used by farmers in Asia because of the uncertainty surrounding the provision of urea (Doyle *et al.,* 1986). Since urea need to be fed slowly, several ways was explored to ensure an even intake of urea. one technical solution is the addition of urea in urea molasses mineral block (Sharma *et al.,* 1995). Supplementation of urea molasses block in the rice straw basal diet increased feed intake (PurnomoadI and Rianto, 2002). Astutik *et al*. (2002) reported that urea molasses mineral block together with rice bran and cassava supplemented to rice straw basal diet resulted in increased body weight gain of crossbred cattle. Feeding only rice straw generally does not provide sufficient nutrient to maintain body weight of ruminant animals. Supplementation to rice straw basal diet can be done with either concentrates, roughage or both. Forage legumes supplementation have been found to be effective in improving the utilization of crop residues (Richard *et al.,* 1994).

Rice straw, the most available feed stuff for cattle and buffalo in Bangladesh, has low nitrogen and minerals but high lignin and silica contents. These reasons account for the low digestibility of rice straw and consequently the low productivity of livestock fed on it (Sundstol *et al.,*1978)*.* Feedstuffs which contain nitrogen in a form other than proteins or peptides are termed non-protein nitrogen (NPN). Organic NPN compounds would include ammonia, amides, amines, amino acids. Inorganic NPN compounds would include variety of ammonium salts and ammoniated by-products. Of these urea dominates for feeding of animals with a functioning rumen as a substitute of protein feeds (G. C. Banerjee, 1998)*.*

**2.4. Constraint of Beef fattening**

The major constraint of livestock production in the country is an acute shortage of feeds and fodder both in quantity and quality. Due to high pressure on land for crop production for human consumption, farmers cannot spare land for fodder production for feeding cattle ([Akbar *et al.,* 2000](http://scialert.net/fulltext/?doi=pjbs.2009.970.975#210216_ja))*.* Cattle and buffalo mainly subsist on straw based diet with limited supplementation of green fodder and little or no concentrate.

Rice straw is commonly used as a ruminants feed in tropical countries. This residue is available on most rice base farms and is an important source of fodder especially in the dry season. Rice straw is characterized by low protein content, mineral, and energy levels. The lower energy content of rice straw has been reported by Ristianto *et al*. (1998). It observed the average total digestible nutrient of rice straw were 39.13%, consequently rice straw have a poor nutritive value for ruminants (Doyle *et al*., 1986). This low nutritive value can be improved by pre-treatment or supplementation with high quality feed. The application of urea treatment by farmers in the village level may be limited due to the fact that it is labor intensive and time consuming and causes management problems (Cheva and Jaerachi, 1987).

Due to rice straw based ration the cows get very lower amount of nutrients which are required for their growth, milk production and reproduction. As a result, their offspring also born by malnutrition and smaller size. The growth of the calves also retarded as they also have to grow on poor quality rice straw. Again they get insufficient amount of milk from their dam. The farmers of out country most of them are illiterate and have a little knowledge on cattle rearing. So they can't manage their livestock in proper way. As a result different types of diseases attack their livestock. About 80% cattle are suffering from malnutrition and parasitic infestation and they all are very much emaciated, weak and sometimes cachectic (Field Survey,2008-2009).

**2.5. Feeding of urea molasses treated straw**

Feeding urea to ruminants replacing a part of costly protein feed becomes a conventional method for economic livestock production ( Loosely *et al.,* 1968). Studies have shown that feeding of urea/ammonia and urine treated straw along with a forage of choice e.g. water hyacinth can increase voluntary intake, digestibility, body weight gain, feed efficiency and milk yield of cattle (Dolberg *et al..* 1980*;* Daves *et al.,* 1983). Several studies have shown that urea can replace satisfactorily up to about 30 percent of the protein in practical ration for natured ruminants ( Khandaker and Reza, 1993).

 Most of the urea fed to growing and lactating dairy cattle is incorporated into the concentrate protein of the ration. Generally speaking, urea is not employed in amounts higher than 3% of the total concentrates feed or 1% of the total dry matter in the ration which comes to be 1/3 of the total nitrogen in the ration. Liquid supplement of urea is a homogenous mixture of urea in the liquid molasses along with minerals and vitamins at the rate of 2.5 parts urea + 2.5 parts water +1 part salt + 2 parts mineral mixture + 92 parts molasses = 100 parts.

**2.6. Feeding of urea mixed silage and urea molasses block**

Urea mixed with silage is another way of feeding urea to cattle - especially dairy cattle are through the addition of urea to crops which are being ensiled. If chopped, whole maize plant is being ensiled at 35% to 40% dry matter, urea is then added a level of 0.5% of wet material. Urea added to dry roughages is a newer method of adding urea has not only enhanced the palatability and the nutritive value of straw but also partially solved the crisis of quality dry roughages in the country. The formula has been suggested by the National Dairy Research Institute at Karnal in India for enrichment of straw quality by adding urea is straw 100kg of 90% dry matter, urea 4kg and clean water 50 liters. Urea in salt blocks is another simple way of supplying protein precursors to livestock on pasture is through the use of urea in salt licks or blocks. Numerous combinations of all salt and urea are in use. One such preparation developed by the National Dairy Development Board. And in India is one of the latest innovations. The block is known is "Urea molasses block" contains molasses, urea, minerals like calcium, phosphorus, iron, cobalt, manganese, copper salt with small amounts of oil cakes. It has been claimed that animal's body derives 40-50% more nutrients from straw and other crop residue and also increase the consumption of such crop residues (G.C.Banerjee, 1998)

 **(**Mukammeluddin *et al.,* 1989) conducted an experiment on twelve local bull calves approximately 2 years of age with an average weight of 75 kg which were randomly divided into 4 equal groups. The animals were than dewormed with a broad spectrum anthelmintic (Endex) before and on the 23rd day of experiment. Each group was given any of the following four rations: (A) urea supplemented, (B) urea treated, (C) urea untreated. In case of urea supplemented diet, he has given 40 gm urea per kg rice straw along with 7.15 kg water hyacinth and 1.94 kg rice straw; in case of urea treated diet, 50 gm urea per kg rice straw along with 6.99 kg water hyacinth and 2.24 kg rice straw; in case of urine treated diet, 1 liter urine per kg straw along with 7.10 kg water hyacinth and 1.85 kg rice straw and in case of untreated rice straw diet, 2.2 kg water hyacinth and 1.76 kg rice straw which treated with urea or urine. The animals were raised on these rations for 56 days and found highest body weight gain in urea treated straw diet group which is 7.5 kg, then in urine treated straw diet group which is 7.00 kg, then in urea supplemented diet grout which is 4.67 kg and in control group that is in urea or urine untreated straw diet group it is only 2.67 kg.

(Khandaker and Reza, 1993) studied on twelve emaciated indigenous male cattle of almost 9 years of age (average body weight of 133 kg) which were purchased from the market and randomly divided into three groups having 4 animals in each and fed individually in the stalls. The animals were dewormed prior to initiating the experiment. Animals in group- A, B and C were supplied with the following diets: a) rice straw + green grass + concentrate mixture (A), b) rice straw + kitchen by product + concentrated mixture containing urea (B) and c) rice straw soaked in urea-water + green grass + concentrate mixture (C) respectively. In case of diet -A, urea is not incorporated with the diet and the animals fed of 3 kg rice straw. 400 gm til oil cake, 700gm wheat bran, 250gm molasses and 50 gm bone meal; in case of diet-B, 60 gm urea supplemented with concentrate mixture containing 3 kg rice straw, 550 gm wheat bran , 500 gm molasses and 50 gm bone meal; and in case diet-C, 3 kg of rice straw was treated with 60 gm of urea which was fed along with 550 gm of wheat bran, 500 gm of molasses and 50 gm of bone meal. The green grass was fed adlibitum to the animals. Animals were fed twice a day. The experiment was continued for a period of 75 days and found highest body weight gain in case of diet-C animals which is 15.7 kg, then next body weight gain found in case of diet-A animals which is 13.4 kg and the lowest body weight gain found in case of diet-B which is 7.3 kg.

(Rahman *et al.,* 2010) conducted an experiment to investigate the effects of supplementation of Urea-Molasses-Straw (UMS) based diet with different levels of concentrate for fattening emaciated bulls. The un-supplemented control diet T0 was composed of UMS (80%) and green grass (20%). In the treatment diets T1, T2 and T3 concentrate mix was added at 10, 20 and 30% of DM requirement, respectively to replace the same amounts of UMS and green grass. There was significant (*p < 0.01*) difference in average DM intake, which were 3.42, 4.65, 4.79 and 5.14 kg for T0, T1, T2 and T3, respectively. The animals fed supplemented diets T3, T2 and T1 gained significantly (*p < 0.01*) higher live weight (56.0, 46.0 and 40.0 kg, respectively) and had better feed conversion ratio (6.58, 7.34 and 8.22, respectively; non-significantly) than the animals fed on T0 (Live weight gain 11.0 kg and feed conversion ratio 21.95). There was a tendency to increase nutrient digestibility with increased levels of concentrate supplementation. The highest cost for each kg meat production was recorded for diet T0 (Tk. 143.45) followed by diets T3 (Tk. 75.67), T2 (Tk. 72.91) and the lowest was recorded for diet T1 (Tk. 68.73).

**CHAPTER-III**

**MATERIALS AND METHODS**

**3.1. Placement + Duration of the study**

The placement of study was carried out in kharak mara village at Kuliarchar upazila of Kishoreganj district for a period of 8 weeks from 16 July to 7 September, 2012.

**3.2. Selection of animal for beef fattening**

Nine healthy indigenous young calves of almost 1.5 to 2.5 years of age (average body weight of 64 kg) were selected from the backyard system inhibiting under Kharak mara village at Kuliarchar Upazilla, under Kishoreganj district of Bangladesh. The character of selected animal are presented in table-1

 **Table-1: Age, Body weight and Id. number of group of animal**

|  |  |  |  |
| --- | --- | --- | --- |
| **Group of animal** | **Id number** | **Age(years)** | **Body weight(kg)** |
|  **A** |  **A1** |  1.9 |  61.2 |
|  **A2** |  1.8 |  54 |
|  **A3** | 1.8 |  57 |
|  **B** |  **B1** |  1.5 |  58 |
|  **B2** |  2.2 |  69 |
|  **B3** |  1.8 |  63 |
|  **C** |  **C1** |  2.6 |  74 |
|  **C2** |  2 |  64 |
|  **C3** |  1.9 |  68 |

3.3 **Anthelmintics:** Prior to fattening in each animal with Endex (novertis)1bolas@41-70kg body wt. Sufficient amount of water was supplied during this period for better metabolism of drugs.

**3.4: Experimental design and different treatment**

 In the present study following three types of diets and injection are offered to three different groups.

|  |  |
| --- | --- |
| **Group** | **Feed items** |
| G-A | Urea+ rice straw+ green grass + concentrate mixture |
| G-B | Urea molasses straw with kitchen by products+green grass + rice polish with metabolic injection |
| G-C | Rice straw +green grass+concentrate mixture + metabolic injection |

Animals of group-A were supplied urea, rice straw, green grass, concentrate mixture. Animals of group-B were supplied with urea molasses straw with kitchen by product, green grass, 250 gm rice polish with metabolic injection. Animals of group-C were supplied with rice straw, green grass, concentrate mixture and metabolic drug

 The ingredients composition and nutritive value of the experimental diet-B are shown in the table-2

**Table 2: Ingredient composition and nutritive values of the experimental diets and injection**

|  |  |  |  |
| --- | --- | --- | --- |
| **Particulars** | **Dietary group A (gm/ day)** | **Dietary group B (gm/day)** | **Dietary group C (gm/ day)** |
| Rice straw | 3550 gm | 2000 gm | 3550 gm |
| Green grass | Adlibitum | Adlibitum | Adlibitum |
| Kitchen waste | 0 gm | 1000 gm | 0 gm |
| Rice polish | 0 gm | 250gm | 0 gm |
| Urea | 20gm | 20gm | 0 gm |
| Molasses | 0 gm | 300gm | 0 gm |
| Salt | 3 gm | 3 gm | 3 gm |
| Catophos (inj.) | 0 gm | .57 gm | .57 gm |
| Total | 3573gm | 3573gm | 3553gm |
|  Nutritive value (calculated) |
| DM% | 71.7% | 71.7% | 69% |
| CP% | 7% | 7% | 4.6% |
| DCP% | 2.3% | 2.3% | 2.3% |
| TDN% | 45.5% |  45.5% | 45.5% |

**3.5:** **Methods of feeding**

Firstly, all the ingredients were measured using manual balance and then the 20 gm urea was mixed with 4 liter of water and finally the molasses mixed homogenously. Then the urea-molasses solution was sprinkled over the rice straw. During sprinkling the rice straw was stirred for several times. The prepared treated straw stored with polythene and fed to the animals to a special bamboo made feeder. The prepared treated straw was fed to the animals at first week @ 1 kg treated straw + 1 kg untreated straw and then the following weeks @ 2 kg treated straw to each animal. The rice polish and salt measured everyday and fed to each animals by mixing with water twice a day (at morning and afternoon). The residue of treated rice straw of previous day was mixed with the treated rice straw of the next day. Green grass offered adlibitum. .Urea treated straw supplied to the group A and group B.

In case of diet-C , the rice straw was offered untreated and concentrated mixture was offered excluding urea. Everyday 3.5 kg rice straw was measured and offered to each animal. The residue of the rice straw of the previous day was offered by mixing with the next day diet. Green grass offered adlibitum. The 3 gm salt with straw which offered twice daily at morning and at afternoon. Catophos(ing.) is given intramuscularly. The chemical composition of the supplied ingredients is given in the following table.

**Table-3: Chemical composition of the ingredients supplied**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ingredients | DM % | CP % | DCP% | TDN% |
| Rice straw | 88 | 2.4 | 0 | 41.62 |
| Green grass | 30 | 9.36 | 5.13 | 58.43 |
| Rice polish | 91.8 | 12.2 | 6.76 | 64.4 |
| Urea |   |   |   |  |
| Molasses | 73.6 | 3 |  |  |

Source : ( Banerjee,1998)

**3.6: Body weight measurement**

At the beginning of the experiment the animals were weighted at morning before offering any types of feed by using Shaeffer’s formula and the measurement was continued throughout the experiment at morning once weekly.

**Fig. 1:** Measuring length between point of

 shoulder to pinbone

**Fig. 2:** Measuring Heart Girth of animal





The formula is given below:

Shaeffer’s formula,

Body weight =(L× G2)/300 = Weight (lb)

Here,

L= Length of the body starting from point of the shoulder to the point of buttock in inch.

G=Heart girth in inch

By dividing with 2.2 to get the reading in kg. (G.C. Banerjee, 1998) .

**3.**7 **Statistical analysis**

The obtained information was imported, stored and coded accordingly using Microsoft Excell-2007 to STATA/IC-11.0 (Stata corporation college station) for analysis. The results were expressed in body weight gain with P-value for Chi-square test. Significances was determined when *P<0.05.*

**CHAPTER-IV**

**RESULTS AND DISCUSSION**

**4.1: Dry matter intake**

Dry matter intakes of the experimental animals are shown in **Figure-3.** It can be seen from the tables that total dry matter intake in dietary group-A and dietary group-B animals were similar and slightly higher than that of the dietary group-C animals. However the difference, is not significant (*p>0.05*). The DM intake of the experimental animals group A and B are similar and it may due to affinity of the animals towards the urea-molasses treated straw and urea-molasses supplemented concentrations. As the experimental diet-C has no such type of urea-molasses treated straw or urea-molasses supplemented concentrate the DM intake also significantly lower than the experimental diets A and B.

Green grass intake was also similar in the animals of each group. Since the animals were given fixed quantity of rice straw the response on straw intake was not noticed. Rice straw was deficient in nitrogen, energy, and minerals and cannot support maintenance or production unless supplemented with deficient nutrients required for microbial growth in the rumen as well as by the animal (Preston and Leng, *1984*).

Campling *et al*., (1962) have reported that when urea infused continuously in the rumen of cattle (150gm/day), straw consumption. It appears that such supplementation speed up the rate of fermentation of straw due to increased microbial activity in the rumen through microbial proliferation but this did not alter the extent of fermentation on terms of unit amount of ingested straw.

**Fig. 3**: Total DM intake of experimental animals

The effect on live weight gain and feed efficiency of different experimental diets are shown in Table 4

**Table 4: Effect on live weight gain and feed efficiency of different experimental diets**

|  |  |  |
| --- | --- | --- |
| Particulars |  Animal Group  | Level of significance |
| Dietary animals group A | Dietary animals group B | Dietary animals group C |
| Initial body wt.(kg) | 57.6 ± 7.68 | 63.5 ± 7.68 | 69 ± 7.68 | NS |
| Final body wt(kg) | 58.55 ± 7.8 | 64.6 ± 7.8 | 67.65 ± 7.8 | NS |
| DM intake(kg) | 191 ± 9.00 | 191 ± 9.00 | 178 ± 9.00 | NS |
| Gain inbody wt(kg) | 2.6 ± 0.13 | 4.15 ± 0.13 | 3.05 ± 0.13 | \* |
| Feed convertion efficiency(kg feed/live wt gain) | 102.9 ± 1.44 | 64.15 ± 1.44 | 87.65 ± 1.44 | \* |

**4.2: Weight gain**

I have measured the body weight of animals by Shaeffer’s formula. From the table-4, it is seen that the body weight gain of the experimental group-B is the highest among the experimental groups. This indicates that treatment of straw with urea and butaphosphan has positive effect on the live weight gain of the animals. Statistical analysis showed that gains in animals receiving diet-A and C were significantly lower than those receiving diet-B. The reason for lower live weight gain in group-A and C animals is might be due to the type of the experimental diets (without urea in diet-C and without butaphosphan(ing) by urea in diet-A) which has been reported by Sadullah and Haque(1981) and might due to higher digestible energy intake by group-B animals, *Jayasuriya, 1981*.

**Fig. 4: Comparison of body weight gain (kg) of the different experimental animals.**

**4.3: FCR analysis**

The FCR of the experimental animals group was determined by dividing the kg body weight gained to the kg feed intake and it was found that the FCR is significantly lower in experimental animal’s group-B than the group-A and C. So it can say that urea-molasses treated straw is more suitable, preferable and economic than the urea-molasses supplementation or the untreated rice straw diets which is also reported by (Khandaker and Reza., 1993).

 **CHAPTER-V**

 **Limitation of the study**

There were some limitations in my study. The study period was limited and study area was restricted to a particular district. The sample size was small. Treatment variation was limited.

 **CHAPTER-VI**

 **CONCLUTION**

Feeding of urea treated rice straw with catophos(inj.) intramuscularly to the cattle shows better utilization of roughages as well as rapid live weight gain rather than urea supplemented or urea untreated rice straw diet. As ours is a poor country and we cannot offer good quality roughage to our cattle most of them are malnourished and emaciated. Again the rice straw is harder than other dry roughages and requires more energy to digest it. So in comparison to other forages rice straw shows minimum growth of animals. The experiment proved that treatment of rice straw with urea-molasses increase the protein, energy as well as palatability and tenderness of rice straw which subsequently increase the intake as well as growth of the animals. Butaphosphan and cyanocobalamine (Catophos-inj.) can be an important adjunct in hastening recovery and minimizing the effects of nutrient deficiencies related to poor feed intake. The other method having urea supplementation with concentrate mixture not shows a marked positive effect on the feed intake as well as the growth of the animals. So in the poor countries like Bangladesh the farmers both at backyard and farm level can fed the urea treated rice straw and can inject metabolic injection to the cattle. As it requires least cost, labor and time but gives better result it is applicable throughout the country. The farmers of our country yet unaware of it and who know about it they also afraid of applying this feeding method (due to sometimes change of urea toxicity).If the feeding method can be followed scientifically it will improve the health of the animals as well as the farmers condition. The farmers of our country should feed their animals urea treated straw with butaphosphan intramuscularly instead of untreated rice straw.

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