Effect of Urea Molasses Straw (UMS) on the Performance of Steers (Local Zebu Cattle) with Supplementation of Wheat Bran

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Abstract: Three groups of steers mentioned as T1, T2 and T3 were maintained with untreated straw (control), urea molasses straw (UMS) and UMS + wheat bran respectively. The results revealed that feed intake were more in case of T2 than in T1. Average live weight gain/animal/day were 204.17, 400.0 and 418.75g in case of T1, T2 and T3 treatment groups respectively. Live weight changes in T1 and T3 treatment groups differed significantly from 2nd month to the end of experiment at 1% level. Maximum live weight gain was observed at T2 treatment group where extra wheat bran was added. Daily live weight gain and selling price were more in the steers of T3 group but net return was observed maximum in the steers of T2 group. It may be concluded that combination of UMS and wheat bran had an influencing effect on live weight gain.

Key words: Steers, UMS, feed intake, live weight gain, FSFSD site

Introduction
Meat production from cattle and goat is insufficient to fulfil the requirement of a large human population (120 million) in Bangladesh. Cattle are the important meat and milk producers in our country. There are 24.3 million cattle (FAO, 1998) in Bangladesh which are mostly reared sporadically in village condition with traditional feeding system. The annual meat production in Bangladesh is about 290000 metric ton where as beef contributes 161000 metric ton (FAO, 1998) of the total meat production. If the modern technologies are properly adopted in respect of feeding, breeding, management and disease control, the expected production will raise a much higher position. For instance, a large number of farmers involved in beef fattening just before 3-4 months of Eid-ul-Azha (a Muslim festival, where cattle are slaughtered) and get profitable prices when they sell the animal in the market. Lack dressing percentage and relatively lower body weight gain is the common problem of our native cattle due to improper nutrition and management.

Cattle fattening for beef production have become an important business of the small farmers in Bangladesh. The Directorate of Livestock Services of the Government of Bangladesh has taken beef fattening as an action program to generate income for the rural poor farmers. The farmers of Bangladesh mainly rear indigenous cattle for getting drought power, milk, calves and meat (Hassan et al., 1995). Commercially, beef production has yet not been started today in Bangladesh. A sporadic fattening program are now introduced in our country. Hug et al (1997) reported that the farmers were highly benefited by selling fattened cattle before the Eid-ul-Azha in Mymensingh district.

Urea treatment improves the nutritive value of straw and supply additional N for protein formation. It was found that if urea is supplied to the animals with straw then feed intake and digestibility of straw increased (Tareq, 1995). Urea is a non-protein-nitrogenous compound that can be used in the ruminal ration as protein supplement. Rumens micro flora convert urea to protein. Molasses is a mill by product which is an instant energy supplement. Wheat bran is also a mill by product, which is easily available, can provide energy, crude protein, minerals and vitamins. Therefore, the present study was undertaken with the following objectives:

1) To study the effect of UMS and wheat bran on feed intake in steers.
2) To study the effect of UMS and wheat bran on live weight gain in steers.
3) To grow awareness of the people about UMS feeding to the steers for fattening.

Materials and Methods
The experiment was conducted at FSFSD (Farming Systems Research and Development Site) Golapgonj, Sylhet. Four farmers were selected for these experiments. Twelve steers were bought from local market and gave 3 steers to each farmer. Ages of these steers were more or less than 2.5 years. Treatments are T1: Untreated straw, T2: UMS (urea molasses straw) and T3: UMS + wheat bran. Four hours grazing was allowed for every treatment group. Average initial body weight of the steers of T1, T2 and T3 were 144.75, 163.00 and 170.00 kg respectively. Common salt was supplied in the ration as mineral supplement and fresh water ad libitum. Table 1 shows the experimental ration for three treatment groups. Before starting the experiment, they were allowed to 15 days to adjust themselves with the experimental condition and diet. Deworming drugs were introduced before starting the experiment. Body weights were measured at every fortnightly up to 4 months early in the morning. The experiment was conducted at 15 July to 15 November 1996. Statistical analysis was done to see the significance of the findings with the principles of Zaman et al. (1982) following computer package MSTAT-C.

Results and Discussion
The feed intake by several treatment groups is shown (Table 2). The mentioned values are the mean amount of dry matter consumed by the steer from roughage and concentrate. The mean DM intake of T1, T2 and T3 treatment groups were 4.27 ± 0.25, 4.60 ± 0.33 and 4.89 ± 0.46kg respectively. There was significant difference (p<0.05) in DM intake in 9th, 11th, 13th and 15th weeks at the experimental period. DM intake significantly differs in T1 and T3 treatment groups after 7th week from starting the experiment. Rahman (2000) showed that bulls of ura treated group intake more (4.50 ± 0.66kg DM) than untreated group (4.08 ± 0.63kg DM). Hug and Chowdhury (1997) also stated that UMS increases the feed intake and digestibility. Live weight of the steers of T1, T2 and T3 treatment groups are shown in Table 3. Average live weight gain/animal/day were 204.17, 400.0 and 418.75g in case of T1, T2 and T3 treatment groups respectively. Live weight changes in T1 and T2 treatment groups were significantly different from 2nd month to the end at 1% level. At the first month of experiment (3rd and 5th week) body weight changes were significant at 5% level. Maximum live weight gain observed in T3.
It was observed from Table 4 that the average daily feed cost of T<sub>1</sub>, T<sub>2</sub>, and T<sub>3</sub> treatment groups were Tk. 10.83, 12.50 and 15.00 respectively. Management cost (Docking + labor cost) was same (Tk. 200). Average buying cost of steers of T<sub>1</sub>, T<sub>2</sub> and T<sub>3</sub> treatment groups were Tk. 2026, 3417 and 3855 respectively. Gross return were earned from selling of fattened steers and from dung. Net return obtained were Tk. 647, 2083 and 1845 from T<sub>1</sub>, T<sub>2</sub> and T<sub>3</sub> treatment groups respectively. Daily live weight gain and selling price were more in the steers of T<sub>1</sub> group but net return was observed maximum in the steers of T<sub>3</sub> group. It was suggested from the experiment that cattle fattening is more beneficial with only UMS and green grass supplementation. Hashem et al. (1999) stated that Tk. 3647.7 was earned from each cattle from cattle fattening program in Bangladesh. From this study it can be concluded that UMS and wheat bran in combination have an influencing effect on live weight gain. Bangladesh have a large cattle population and can produced more meat and meat byproducts by feeding UMS in a large scale in the rural areas.

### Acknowledgment

Financial support from World Bank is greatly acknowledged.

### References


