Growth Performance Of Zebu Heifers Under Different Feeding Regtmes

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Abstract- ***This experiment was carried out to determine the effects of different types of feed on the performance of the zebu heifers. Thirty heifers are divided into three groups to feed eight types of rations. All heifers of almost same age and body weight, receiving basal diet ad-libitum rice straw and grass. There were six types of diet in group I, two types of diet in group II and two types of diet in group III. It was conducted with zebu heifers in Kyaukse and Salin. The experimental period was nine months. Pregnancy loctation and calf were observed. Daily feed consumption and weekly body weight gain of the heifers were recorded. The average weight gain 0.356% for group I (ration No. 6), 0.219 for group II ration No.7) and 0.1884 for group III (ration No.8) were observed. Feed efficiency in group I was 14.08 and 15.51 and 24.62 for group II and III. Feed efficiency, puberty, location period difference of heifers fed with ration No.6 were observed to be the best among the three groups. Body weight gain percentages of heifers were distinct in three groups. Feed efficiency and cost per day for ration No.6 was the lowest among the groups. The disease outbreak and others were observed during the experiment.***

Indexed Terms- ***Feed, efficiency, heifers, diet, consumption, body weight.247***

I. MATERIALS AND METHODS

a. Materials

This experiment is made by the use of the following materials and procedures.

A total of thirty (30) heifers were used in this study. The cattle are early of the same age and body weight. The animals are separated into three groups as shown below.

1) Kyaukse I (group I) twenty heifers from the government technological college were used to study the effect of six types of diet.
2) Salin township (group II) four heifers divided into two treatments. Were used to study the effect of two types of diet.
3) Kyaukse ii (group III) six heifers from private farms were used to study the effect of two types of diet.

b. Methods

This experiment was made by the following procedures.

1) Feeding management program
2) Feeding system
3) Preparation of Formulated Feeds
4) Measurement of Body Weight
5) Measuring Digestibility

II. PREPARATION FOR RESEARCH EXPERIMENTS

In this experiment the 30 zebu heifers, from three different localities. were selected for the experiments to study the effect of with eight types of rations during nine months of zebu heifer. Nutrient content of the ration was found to have effect on the growth rate and puberty of zebu. Dry matte content, composition and palatability were different according to the type of ration.

Monthly average growth rates are given in Table 1. Ration No.6 was found to be the best in producing growth among the different rations in group I. Heifers in group III of Kyaukse showed a slightly, better growth and zebu heifers of group II from Salin township exhibited the best growth.

In this experiment, the percentages of protein in each ration arc nearly the same and monthly average body weight of heifers are different. These parameters are observed in Table 1 and 2 the average body weight of heifers fed ration No.6 is increased among the different rations because the supplement of proteins such as amino acid, energy, minerals and vitamins in ration No.6 is more than other. The ingredients consisting of ration No.6 reduce crude fiber, ether extract and ash and the percentages of carbohydrate and fat is more than other rations in order to Table 7.

The result of fresh matter intake, dry matter intake and digestibility are supplied. The average digestibility of each ration was not different but the heifers of Salin (group II) received higher level and greater quantity. The heifers fed ration No.7 decreased average body weight gain per day and raised feed efficiency as shown in Table 4.

The palatability of heifers fed ration No.6 is increase among the rations. Puberly was found to be early or late depending on the type of nutrition.

Table 1.Nutritive Value of Rations

Sr. No	Ration	DM %	CP %	CF %	EE %	Ash %	Ca %	P %	Min %	Vit %	Amino acid %
1	Ration1	12.36	3.52	34.58	7.13	10.19	0.29	0.01	0.91	0.003	-
2	Ration2	90.10	22.29	31.24	4.68	0.72	0.72	0.19	2116	0.305	0.874
3	Ration3	90.10	22.87	24.69	5.13	0.72	0.72	0.19	1.733	0.0183	0.716
4	Ration4	92.80	22.98	32.30	4.82	0.79	0.74	0.22	2.28	0.0182	0.729
5	Ration5	92.10	20.44	7.62	3.863	1.62	0.69	0.96	2.366	0.063	0.651
6	Ration6	95.42	22.39	10.31	5.33	3.13	1.40	0.0598	3.473	0.671	0.9831
7	Ration7	96.06	21.68	6.67	8.24	1.02	1.05	0.01	0.922	0.0633	0.449
8	Ration8	92.86	23.03	23.83	3.63	1.47	0.94	0.23	2.67	0.0271	0.1973

Table 2.Monthly Average Body Weight of Heifers for Each Ration

kg/month / Ration	1	2	3	4	5	6	7	8	9
1	157.68	176.41	189.56	196.42	203.68	210.30	215.40	230.19	247.03
2	120.79	126.64	141.05	147.21	158	167.84	177.87	185.19	196.61
3	161.81	180.99	185.74	199.65	203.01	223.61	228.03	229.26	259.21
4	163.89	183.41	185.50	200.57	202.17	219.05	228.36	234.16	248.91
5	137.46	152.75	155.09	172.41	176.68	184.68	195.33	214.29	222.05
6	142.45	154.89	182.25	206.66	215.69	222.08	235.54	243.18	274.48
7	137.41	205.13	223.79	241.75	250.79	264.65	273.79	274.05	275.01
8	180.26	195.37	195.32	197.96	201.12	223.56	230.14	240.19	257.64

Table 3. Percentage of Average Body Weight Gain and Feed efficiency for Light Rations

Ration	Average Weight gain (kg/day)	Average Weight gain in % of body weight	Feed efficiency
1	0.29	0.175	44.34
2	0.34	0.281	20.89
3	0.38	0.229	24.12
4	0.37	0.249	15.08
5	0.38	0.311	16.03
6	0.498	0.356	14.08
7	0.38	0.219	15.51
8	0.32	0.188	24.62

Table 4. Relation Body Weight and Puberty of Heifers

Ration	Group	Initial age at experiment (month)	Age at Puberty of Heifers (month)	Body Weight at Puberty (kg)
3	I	17	20	210.67
3	I	18	20	195.76
4	I	18	21	182.78
4	I	18	21	191.27
6	I	17	19.27	212.81
5	I	20	23	182.15
7	II	18	22	196.69
8	III	16	19	175.37
1	II	16	21	230.27

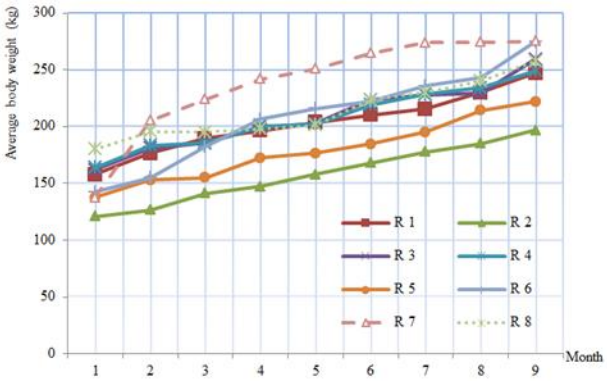

Fig.1. Average Body Weight (kg) and Month

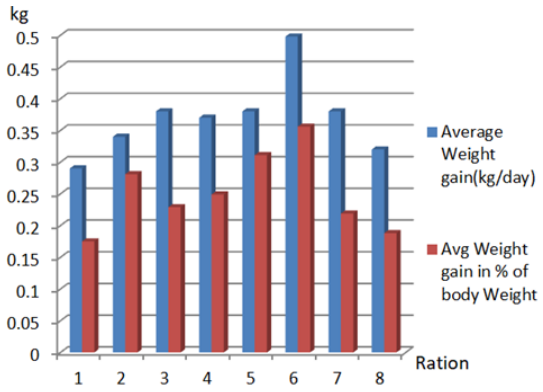

Fig.2. Average Body Weight gain (kg) and Ration

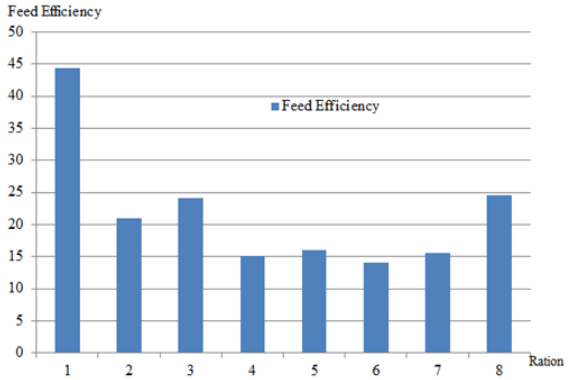

Fig.3. Feed Efficiency and Ration

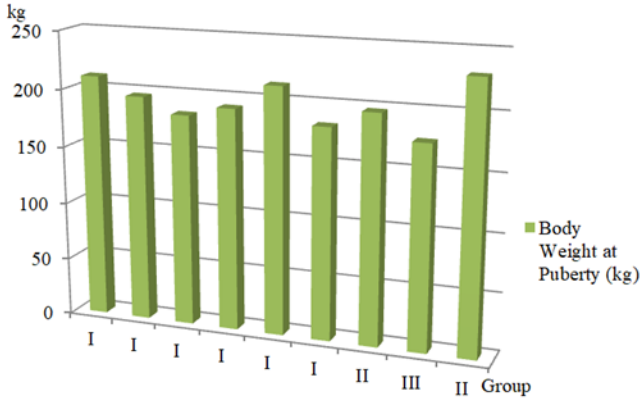

Fig.4. Body Weight at Puberty (kg) and Group

III. CONCLUSION

Feeding ruminants remains part-art, part-experience and part-science, however the development of feed evaluating systems and feeding standards for the Myanmar farmer, who depend for their livelihoods on animal production have not been introduced pastures. Now a day, animal feed supplements were formulated using grains with enrich carbohydrates, protein and other essential nutrients. But it is very expensive for some feeds. Therefore, various types of proteins and carbohydrate sources from various sources are being used. This must be of cheap cost and effective to animals. Molasses and leucaeua need to be included in the feed for growth performance cost and effect.

Feed supply is the basic resource for the animal industry. Adequate feed quantities with appropriate quality for the various classes and ages of livestock are essential for sustained, economic production of human foods from animal growth. From this study, the Ration No. 6 in group I was observed to be the most suitable feed for the cattle. The average liveweight gain of heifer fed ration No.6 is better than those of diets the other. The matter intake and average digestibility of ration No.6 is better than the other. The feed efficiency of Ration No.6 is less than other rations because it contains the balance of protein, energy, vitamins, essential minerals and amino acids as a supplement of protein. The appetite of animals are the best of other rations, the puberty age of heifer was found to be earlier with moral the pregnancy time. These also depend on genetics level of nutrition. Environmental condition, Body growth

rate of heifer is evidence that the supplementation of molasses in ration No.6 produces significantly better growth rate to the experimental heifer.

Figure 4. Feature of Heifer before Feeding in Kyaukse I

Figure 5. Feature of Heifer after feeding in Kyaukse I

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