Content list available at http://epubs.icar.org.in, www.kiran.nic.in; ISSN: 0970-6429

Indian Journal of Hill Farming

June 2017, Volume 30, Issue 1, Page 17-18

Effect of Altitudes and Seasons on Body Weight gain in Mithun Calves (*Bos frontalis*)

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ARTICLE INFO

Article history:
Received 25 May 2016
Revision Received 20 September 2016
Accepted 27 November 2016

Key words:
Mithun, altitude, Season, Body weight gain

ABSTRACT

A comparative study on body weight gain during different season at different altitudes in Mithun calves was carried out at Medziphema farm (300 MSL) and Porba farm (2100 MSL) Nagaland, India. The mithuns of either sex were selected and fed in confined condition. Body weight gain was 523.8 ± 70.6, 500.0 ± 31.9 and 642.8 ± 61.1g/day at Medziphema whereas it was 523.8 ± 79.6, 476.1 ± 30.1 and 547.6 ± 68.1 g/day at Porba, respectively during S_1 (March - June), S_2 (July - Oct) and S_3 (Nov - Feb) season. Body weight gain (g/day) was 427.7 ± 0.04 and 470.55 ± 0.04 respectively at Medziphema and Porba. It was concluded that Mithuns can be reared at both higher and lower altitude without any significant difference in the body weight gain.

1. Introduction

Mithun (*Bos frontalis*), the cattle of mountain, are generally found at an altitude between 1000 - 3000 m MSL and are quite adaptable in that range. This animal thrives well in hot humid and hilly terrain. At higher altitude, the territories of Mithun are shared by Yaks, while at lower altitudes domestic cattle and Mithun cohabit. The peculiarity of this animal is its ability to browse on steep slopes of hills or forest where other animals cannot reach (Prakash *et al*. 2005). Considering the wide adaptability of this animal the present experiment was designed to study the growth rate of mithuns in different altitudes.

2. Materials and Methods

A total of six young mithuns were selected each from Medziphema (300 m MSL) and Porba farm (2100 m MSL) irrespective of their sexes and strains. The animals selected were kept in separate shed for the whole year which was divided into three season viz. S_1 (March - June), S_2 (July - Oct) and S_3 (Nov - Feb) to study the effect of different season and altitude on their performance. The body weight of the animals was recorded from the day of start of the experiment at fortnightly interval. Weighing of the animals was done prior to feeding and watering of the animals at 6.30 am. All the data are expressed as Mean ± SE.

3. Results and Discussion

3.1 Gain in body weight during different season

Overall variation in body weight gain (Table No.1) revealed that there was no significant difference in body weight gain among the seasons at both the altitudes.

3.2 Gain in body weight at various altitudes

From the values obtained, it was revealed that there was no significant difference in the body weight gain (g/day) of the mithuns reared at two altitudes (Table. No 2).

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Table 1. Variation in body weight of mithun calf during different seasons

Particulars	**A_1**			**A_2**		
	S_1	**S_2**	**S_3**	**S_1**	**S_2**	**S_3**
Initial body weight (kg)	222.3 ± 3.0	283.6 ± 11.7	297.1 ± 7.9	165.3 ± 23.1	218.0 ± 24.1	249.0 ± 26.1
Final body weight (kg)	226.0 ± 3.1	287.1 ± 11.7	301.6 ± 7.7	169.0 ± 23.1	221.3 ± 24.1	252.5 ± 26.5
Body weight gain (g/day)	523.8 ± 70.6	500.0 ± 31.9	642.8 ± 61.1	523.8 ± 79.6	476.1 ± 30.1	547.6 ± 68.1

Table 2. Body weight (kg) and daily weight gain (g/day) of mithun calf at different altitudes

Particulars	Altitude	
	Medziphema	Porba
Initial body weight (kg)	267.72 ± 9.10	210.77 ± 15.72
Final body weight (kg)	271.61 ± 9.15	214.38 ± 15.76
Body weight gain (g/day)	555.55 ± 34.43	515.87 ± 34.91

4. Discussion

Dhali *et al*. (2004) found a growth rate of 491, 542 and 435 (g/ day) when fed on different TMR. Das et al. (2010) found that the average daily gain of mithun was 602 g and 554 g, respectively in male and female mithun when fed on mixed tree leaves and straw based ration. Keretsu (2010) reported an average daily weight gain was 558.33 and 550.00 (g/day) in mithun when fed with normal maize (R_1) and Quality Protein Maize (QPM) (R_2) based rations. The findings of the present study were in close agreement with the observation of above workers.

Conclusion

From the present experiment it can be concluded that though mithuns are believed to be animal of high altitude but it can be reared at low altitudes without any changes in their growth rate. Farmers who want to rear mithuns at low altitude can rear these mithuns for higher economic returns as mithun fetches a better price than cattle and Buffaloes.

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