



Growth Studies of Murrah Buffaloes Under Intensive Rearing System in West Godavari District of Andhra Pradesh

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ABSTRACT

Growth pattern in Murrah buffalo calves from birth to 18 months of age under intensive rearing system was studied in West Godavari District of Andhra Pradesh. 10 years data were collected from the Annual Reports of Buffalo Research Station, VR Gudem since 2001 upto 2011. The overall mean body weights (kg) of male and female buffalo calves at birth, 3, 6, 12 and 18 months of age were 33.42 ± 5.2 , 31.59 ± 0.83 ; 67.57 ± 1.54 , 62.55 ± 1.53 ; 105.02 ± 1.5 , 96.71 ± 1.04 ; 199.70 ± 1.85 , 184.12 ± 2.14 ; 184.12 ± 2.14 , 282.96 ± 4.16 and 254.05 ± 4.58 respectively. The overall mean body weight gain (grams/day) from birth to 3; 3-6; 6-12; 12-18 months were 374.41, 344.00; 416.11, 379.55; 526.00, 485.61; 462.55, 388.50 and 457.87, 408.18. A significant difference ($P < 0.05$) in body weights of male and female were observed at 3, 6, 12 and 18 months of age. Similarly the gain in body weight of male and female buffaloes were significant ($P < 0.05$) at 3 to 6 months of age and 6 to 12 months of age.

KEYWORDS: Murrah, Growth Rate, Weight Gain, Body Weight

INTRODUCTION

Murrah breed of buffalo is one of the important recognized buffalo breeds of India. It is the highest milk producing buffalo breed in the world (Sastry and Thomas, 2005). It was the breed of choice for up-gradation of nondescript, low producing local buffaloes in Andhra Pradesh. It was capable of thriving on harsh coarse fodder besides harsh climatic conditions. In the present study the growth pattern male and female buffaloes in the early part of their life was evaluated under intensive rearing system.

MATERIALS AND METHODS

Ten year data from the Annual Reports of Buffalo Research Station, VR Gudem in West Godavari District of Andhra Pradesh were collected. A total of 1880 records were taken for the study. The data were analysed statistically (Snedecor and Cochran, 1994) and Analysis of variance single factor was calculated by using MS Office excel 2003 version. The growth parameters under study included Birth weight, Weight at 3 months, 6 months, 12 months and 18 months in both male and females. In addition, the average weight gain at 3 months, 6 months, 12 months and 18 months of age were also calculated and the results were interpreted.

RESULTS AND DISCUSSION

The data on body weights were presented in table 1. The overall mean body weights (kg) of male and female buffaloes at birth, 3 months, 6 months, 12 months and 18 months of age were 33.42 ± 5.2 , 31.59 ± 0.83 ; 67.57 ± 1.54 , 62.55 ± 1.53 ; 105.02 ± 1.5 , 96.71 ± 1.04 ; 199.70 ± 1.85 , 184.12 ± 2.14 ; 184.12 ± 2.14 , 282.96 ± 4.16 and 254.05 ± 4.58 respectively. There was a significant ($P < 0.05$) difference between

male and female calves with respect to body weights at 3 months, 6 months, 12 months and 18 months of age. Afzal et al (2009) recorded a higher birth weights of 34.85 to 36.60 kg in Nili-Ravi buffalo calves which might be due to breed difference. The 3 months body weights were comparable to the previous findings (Buffalopedia). The 12 months body weight was on par with the findings of Homayoun MAHMOUDZADEH & Hassan FAZAELI (2009), (Buffalopedia). The gain in body weight (g/day) from birth to 3 months, 3 to 6 months, 6 to 12 months and 12 to 18 months of age for male and female buffalo calves were 380.16 ± 13.57 , 344.56 ± 10.32 ; 416.05 ± 10.03 , 387.50 ± 8.37 ; 525.91 ± 11.17 , 477.97 ± 5.23 and 452.54 ± 25.16 , 410.52 ± 12.05 respectively. The overall average gain in weight from birth to 18 months of age was 451.87 ± 9.03 and 416.02 ± 3.06 g/day respectively in male and female calves. Similarly, the gain in body weights were significant ($P < 0.05$) between male and female buffaloes as regards 3 to 6 months and 6 to 12 months of age only. Afzal, et al (2009) observed comparable weight gain in Nili-Ravi male calves at 9 months of age with the weight gains of present study whereas Bilal, et al (2006) observed higher growth rates upto one year in Nili-ravi buffaloes in Pakistan this might be due to genetic make-up and managerial practices adopted by the farmers in Pakistan.

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The article may be published under the category of **Veterinary Science and Animal Husbandry subject**.

Table 1. Body weights of male and female buffalo calves from birth to 18 months at BRS VR Gudem under intensive rearing system.

Sl. No	Year	Birth Weight (Kg)		3 months Weight(kg)		6 months weight(kg)		12 months weight(kg)		18 months weight(kg)	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1.	2001-02	33.90 (7)	32.78 (7)	67.76 (14)	65.76 (14)	104.60 (14)	95.14 (5)	204.5 (9)	185.15 (5)	258.20 (9)	247.50 (4)
2.	2002-03	34.18 (29)	33.60 (23)	68.40 (4)	66.80 (33)	105.15 (4)	100.17 (4)	193.0 (12)	187.50 (12)	286.00 (10)	265.00 (5)
3.	2003-04	33.83 (22)	33.40 (25)	70.15 (2)	64.25 (4)	103.90 (9)	98.50 (8)	196.0 (14)	182.64 (8)	290.00 (9)	261.56 (15)
4.	2004-05	35.01 (29)	33.00 (24)	77.30 (6)	63.50 (12)	111.00 (7)	96.17 (11)	198.0 (3)	184.81 (8)	275.00 (15)	252.60 (7)
5.	2005-06	34.50 (26)	34.00 (24)	69.75 (20)	65.45 (16)	104.15 (24)	97.19 (21)	194.25 (17)	186.80 (44)	288.50 (6)	262.00 (7)
6.	2006-07	35.00 (23)	34.50 (27)	70.20 (4)	68.90 (4)	109.50 (4)	101.00 (20)	198.8 (3)	189.65 (45)	283.65 (6)	271.00 (11)
7.	2007-08	30.83 (34)	29.40 (29)	63.62 (44)	58.40 (56)	104.50 (59)	95.15 (78)	202.77 (13)	180.58 (63)	270.25 (13)	250.50 (32)
8.	2008-09	31.21 (37)	27.45 (20)	63.39 (40)	61.70 (61)	104.34 (55)	99.34 (26)	210.73 (11)	180.62 (52)	280.33 (10)	251.46 (26)

9.	2009-10	34.56 (39)	29.69 (23)	65.55 (9)	57.17 (23)	105.80 (5)	94.80 (10)	205.11 (9)	182.87 (8)	306.55 (18)	252.75 (8)
10.	2010-11	31.25 (24)	28.12 (21)	59.61 (15)	53.12 (20)	97.23 (11)	89.71 (15)	193.67 (13)	171.63 (12)	291.21 (17)	256.21 (16)
	Overall	33.4±0.52 ^a (270)	31.59±0.83 ^a (223)	67.5±1.54 ^a (158)	62.55±1.53 ^b (234)	105.02±1.5 ^a (192)	96.71±1.04 ^b (198)	199.70±1.85 ^a (104)	184.12±2.14 ^b (257)	282.96±4.16 ^a (113)	254.05±4.58 ^b (131)

*The figures in the parentheses indicates number of observations.

**Values with the same superscripts do not differ significantly.

Table: 2. Weight gain per day in male and female buffalo calves between 2001-2011 from birth to 18 months at BRS VR Gudum under intensive rearing system.

Sl.No	Year	Birth to 3 months (g/d)		3 to 6 months (g/d)		6 to 12 months (g/d)		12 to 18 months (g/d)		Overall average weight gain from birth to 18 months (g/d)	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1.	2001-02	376.22 (21)	366.44 (12)	409.33 (28)	404.22 (10)	555.00 (23)	500.00 (10)	298.33 (18)	346.38 (9)	411.55 (90)	415.0 (41)
2.	2002-03	380.22 (33)	368.88 (56)	408.33 (8)	370.77 (37)	488.05 (16)	485.16 (16)	516.66 (22)	430.55 (17)	462.05 (79)	428.0 (126)
3.	2003-04	403.55 (24)	342.77 (29)	375.00 (11)	380.55 (12)	511.66 (23)	467.44 (16)	522.22 (23)	438.49 (23)	470.03 (81)	418.64 (80)
4.	2004-05	477.55 (35)	338.88 (36)	374.40 (13)	363.00 (23)	483.30 (10)	492.44 (19)	427.77 (18)	376.63 (15)	440.34 (76)	402.29 (93)
5.	2005-06	391.66 (46)	349.44 (40)	382.22 (44)	352.66 (37)	500.50 (41)	471.63 (65)	523.36 (23)	421.22 (51)	406.05 (154)	418.34 (193)
6.	2006-07	391.11 (27)	382.22 (31)	436.60 (8)	352.66 (24)	496.22 (7)	492.50 (65)	471.27 (9)	451.94 (56)	456.23 (51)	433.94 (176)
7.	2007-08	364.33 (78)	322.22 (85)	454.22 (103)	408.33 (134)	545.94 (72)	474.61 (141)	374.88 (26)	388.44 (95)	439.30 (279)	405.68 (455)
8.	2008-09	357.55 (77)	380.55 (81)	455.22 (95)	418.22 (87)	591.05 (66)	451.55 (78)	386.62 (21)	393.53 (78)	457.10 (259)	411.02 (324)
9.	2009-10	344.33 (48)	316.44 (46)	447.22 (14)	418.11 (33)	551.70 (14)	489.27 (18)	463.55 (27)	388.22 (16)	499.06 (103)	409.28 (113)
10.	2010-11	315.11 (39)	277.77 (41)	418.00 (26)	406.55 (35)	535.77 (24)	455.11 (27)	540.77 (30)	469.88 (28)	476.99 (119)	418.09 (131)
	Overall	380.16 ±13.57 ^a (428)	344.56 ±10.32 ^a (457)	416.05 ±10.03 ^a (350)	387.50 ±8.37 ^b (432)	525.91 ±11.17 ^a (296)	477.97 ±5.23 ^b (455)	452.54 ±25.16 ^a (217)	410.52 ±12.05 ^a (388)	451.87 ±9.03 ^a (1291)	416.02 ±3.06 ^a (1732)

*The figures in the parentheses indicates number of observations.

**The values with same superscripts do not differ significantly.

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