

Performance and Colour Pattern of Khillar Cattle on Organized Farm

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Abstract: The study was conducted body weight of 848 Khillar individuals were collected by taking actual measurements of each individual. The results obtained from this investigation found that the body weight in Khillar cattle at 0 to 3 months, 4 to 12 months, 13 to 24 months, 25 to 36 months, breeding bull and more than 36 months age were as 39.93 ± 0.28 , 81.72 ± 2.07 , 127.99 ± 0.98 , 175.34 ± 1.68 , 309.24 ± 1.78 and 232.27 ± 3.13 kg, respectively. In Khillar White colour was predominant (85.96%), followed by Gray (10.02%) and Reddish at shoulder (4.02%).

Keywords: khillar, cattle, body weight, colour pattern, age.

I. Introduction

India is home tract of over 37 breeds of humped cattle. Some well defined milch breeds are Sahiwal, Red Sindhi and Gir. Dual -purpose breeds are Hariana, Ongole, Deoni and Kankrej. Draught breeds are Amritmahal, Kangayam, Malvi, Siri, Hallikar and Khillar (NBAGR,2014).

The khillar breed of cattle is predominantly suited to roadwork. Strength and pace of this breed are the chief requisites. The animals are put to various agricultural operations. These animals have comparatively long body with massive hezad resembling Mysore type cattle and are able to endure scarcity of fodder (Mahanta,1961). Cows are poor milk yielder and mostly used for nursing their calves. Well- fed animals attain maturity early and calve for the first time at as early as 30 months of age and subsequently every 14 to 15 months.

The body weight play important role in judging the animal. Body measurement as per the age of animals are true indicators of the growth and health status of animals. These traits have important bearing on the sexual maturity and draught ability of the animals. For estimating the balanced ration one has to consider the body weight of the animal, but under farmer's condition it is not possible to have weighing facility. In absence of valid records one has to consider external body measurements viz., chest girth and body length for predicting body weights by mathematical formula.

II. Material And Methods

The data pertaining to body weight traits of 848 Khillar calves at different stages of their age were collected from Khillar Cattle Breeding Farm, Junoni, Dist. Solapur (Maharashtra).The body The body weights at various age groups in Khillar cattle will be estimated by using Johnson formula (1940) as outlined below.

$$\text{Live body weight (in pound)} = \frac{\text{Length} \times \text{Girth}^2}{300}$$

Where,

L= Body length (inch)

G = Heart girth

BW = 8Body weight (pound)

Six age groups (0-3), (4-12), (13-24), (25-36), Breeding bulls and more than 36 months were used. The Means \pm SE for body weights were calculated by Least Square Technique as outlined by Harvey (1990) and effect of sex on body weight was calculated by ANOVA method and colour pattern by percentile method.

III. Results And Discussion

The average body weight were recorded at different age groups were presented in Table 1. It was revealed that the body weight of 0-3, 4-12, 13-24, 25- 36, above 36 month and breeding bull were 39.33 ± 0.28 , 81.72 ± 2.07 , 127.99 ± 0.98 , 175.34 ± 1.68 , 232.27 ± 3.13 and 309.24 ± 1.78 , respectively. The sex effect on all ages group was non significantly affected on body weight. These results are in agreement with Gokhale et al.(2009),Jadhav (2010) and Yadhav (2008). The present observations prove that body weight is most dependent trait health and growth status of the animals, so studied it properly.

In Khillar

The white colour is predominant (85.96%) followed by gray (10.02%) and reddish at shoulder (4.02%). Colour pigmentation is a genetically controlled parameter. It follows three major steps there are - (a) pigment synthesis (b) pigment transformation and (c) pigment packing. It is a continuous process but is responsible for deviation due to internal physiological environment. These results are in agreement with Jadhav (2010).

Table 1. Least squares means for linear body measurements in Khillar cattle

Age Groups	No.of observation	Body weight
0-3	122	39.33 ± 0.28
4-12	151	81.72 ± 2.07
13-24	175	127.99 ± 0.98
25-36	168	175.34 ± 1.68
Above 36 months	216	232.27 ± 3.13
Breeding bull	16	309.24 ± 1.78

Table 2 : Per cent variation of colour pattern in Khillar cattle

Sr. No.	Category (months)	N	White	Gray	Reddish at shoulder
1.	0 -3	122	86.88 (106)	9.83 (12)	3.29 (4)
2.	4 -12	151	86.09 (130)	10.60 (16)	3.31 (5)
3.	13 - 24	175	81.71 (143)	14.28 (25)	4.01 (7)
4.	25 -36	168	92.26 (155)	5.36 (9)	2.38 (4)
5.	>36 Male	137	89.78 (123)	7.30 (10)	2.92 (4)
6.	>36 Female	79	78.48 (62)	11.40 (9)	10.12 (8)
7.	Breeding bull	16	62.50 (10)	25.00 (4)	12.50 (2)
8.	Pooled	848	85.96 (729)	10.02 (85)	4.02 (34)

IV. Conclusion

It can be concluded that the body weight traits have close association with the advancement in age in khillar calves and conservation of different strains of khillar cattle at organized level.

References

- [1]. Gokhale, S.B., Bhagat, R.L., Singh, P.K. and Singh Gurmej 2009. Morpho-metric characteristic and utility pattern of Khillar cattle in breed tract. Indian J. Anim. Sci. **79** (1) : 47-51.
- [2]. Harvey, W.R.1990. Least Squares Analysis of Data With Unequal Subclass Numbers, Agricultural Research Service, United State, Department of Agriculture, Washington, D. C.
- [3]. Jadhav, B. A. 2010. Phenotypic Characterization of Khillar Cattle on Field Scale in Their Breeding Tract. M.Sc. Thesis submitted to M.A.U., Parbhani, Maharashtra, India.
- [4]. Johnson, D.W. 1940. Minn. Aft. Sta. Ext. Folder: 70
- [5]. Mahanta, K.C. 1961. Breeds of Livestock. A Text book of an introduction to Animal Husbandry : 6-26.
- [6]. NATIONAL BUREAU OF ANIMAL GENETIC RESEARCH (NBAGR). 2014. Breed descriptor of Cattle. www.nbagr.com.
- [7]. Yadav, K.N. 2008. Phenotypic Characterization of Deoni Cattle on Field Scale in Their Breeding Tract. M.Sc. Thesis submitted to M.A.U., Parbhani, Maharashtra, India.