The Pharma Innovation Journal 2018; 7(11): 342-344

www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating: 5.03
TPI 2018; 7(11): 342-344

www.thepharmajournal.com
Received: 28-09-2018
Accepted: 30-10-2018

P Reeja George
Assistant Professor, Department of Veterinary and AH Extension, CVAS, Mannuthy, Kerala Veterinary and Animal Sciences University, India

CM Sreelakshmi
Former post graduate student, Department of Veterinary and AH Extension, CVAS, Mannuthy, Kerala Veterinary and Animal Sciences University, India

Correspondence
P Reeja George
Assistant Professor, Department of Veterinary and AH Extension, CVAS, Mannuthy, Kerala Veterinary and Animal Sciences University, India

Housing of kasargod cattle - the scientific versus indigenous divide

P Reeja George and CM Sreelakshmi

Abstract
Rapid growths in populations as well as increased demands for more milk and milk products put pressure on production systems to explore alternate means of increasing milk production through crossbreeding. In the process, native breeds were displaced by intensively selected breeds and their high input – high output production systems. However many native breeds survived this process, especially in areas where high input high output systems were not established for economic, cultural or environmental reasons. In recent years, scientists, policy makers and farmers have recognized the important environmental, social, cultural, market and public values of native cattle. The Kasargod dwarf cattle are native cattle found in Kasaragod, the northern most district of Kerala. With the growing acceptance of the concept of zero-budget farming, the demand for Kasaragod dwarfs has also gone up. It is now well recognized that there is an urgent need to understand the state of Kasaragod dwarf cattle population in order to develop well oriented policies and strategies for preserving all the values related to the maintenance of this animal. Keeping in mind the important cultural, social and environmental values of this animal, it is important to explore strategies that focus on farming systems capable of maintaining the vigour and the potential to fulfil all conservation aims. The importance of farmer knowledge and expertise is on account of the fact that local criteria emerge from communities based on traditional and local ecological knowledge that support household and community needs. Keeping in mind the aforesaid facts a study into various aspects of the hitherto unexplored arena of Kasaragod cattle housing was undertaken.

Keywords: Kasargod cattle scientific versus indigenous

Introduction

Kasaragod is the northern most district in Kerala. It is from this district that the Kasaragod cattle have been reported. There are four blocks in Kasaragod district viz Manjeswaram, Kasargod, Kanhangad and Neeleswaram. In the first stage of sampling, Manjeswaram block was selected for the study since it had the highest population of indigenous cattle among the four blocks. Manjeswaram block is composed of twelve panchayats). In the second stage of sampling, panchayats were taken as the sampling units and from the 12 panchayats, two panchayats viz., Badiyadka and Enmagaje were selected by the procedure of simple random sampling. A list of farmers rearing Kasaragod cattle in both these panchayats was prepared in consultation with local veterinarians, progressive farmers and panchayat officials. These lists formed the sampling frame. Simple random sampling was then used to select 60 farmers rearing Kasaragod cattle. Randomization of responses was hence ensured. Data were collected through personal interviews using a pretested interview schedule. In order to measure the extent of adoption of modern cattle rearing practices, a scale was developed on the lines followed by Sharma and Sohal (1987) [2] with slight modifications. In order to assess the extent of adoption of indigenous cattle rearing practices a preliminary inventory of prevalent indigenous practices in the Kasaragod cattle keeping system were arrived through a pilot study involving personal interviews, focus group interviews and observations on farm visits. The extent of adoption of each practice was arrived at by obtaining the responses of the respondents to each practice on a three point continuum viz continued adoption, discontinued, and not adopted with scores of 3, 2 and 1 respectively.

Results

Extent of adoption of indigenous cattle housing practices

Table 1: Extent of adoption of indigenous housing practices

S. No	Statement	Continued adoption (%)	Discontinued %	Not adopted (%)	Mean score	rank
1	Sheds with elevated manger	98.33	1.66	0	2.98	I
2	Floor of sheds ½- 1 meter lower than ground level	98.33	1.66	0	2.98	I
3	*Gobbora system of rearing* (keeping animals over the leaves and later that is used as compost)	96.66	3.33	0	2.97	II
4	Sheds with three sided covered and a door on one side and manger in the uncovered area	76.66	19.69	1.66	2.75	III
5	Having holes on the covered area of the sheds	71.66	25	3.33	2.68	IV
6	Provision of keeping *'parappullu'* just below the roof of the sheds	40	16.66	26.66	1.8	V

A cursory look at data in Table 1 reveals the extent of adoption of various indigenous practices pertaining to the housing of Kasaragod cattle. The practices on having sheds with elevated manger as well as that on having the floor of sheds half to one meter below the ground level was continued to be adopted by more than 98.33 per cent of respondents and hence were ranked first among all the indigenous housing practices related to Kasaragod cattle. The practice of keeping a particular type of grass referred to as *parappullu* in local parlance just below the roof of cattle sheds was adopted to the least extent. Just forty per cent of respondents had adopted this practice while 26.66 per cent had not adopted it. Kasaragod animals are traditionally reared on what is termed as the *Gobbora system* of rearing animals. In this system, animals are reared in sheds which have a floor half to one meter below ground level on which leaves of a particular composition are spread. Animals are allowed to remain on this litter of leaves and dung and urine is allowed to fall on the litter for days. The resultant manure that is produced is shovelled out of the sheds and used in the adjoining agricultural fields of the farmer. This practice- termed as the *Goborra sys*tem of rearing - continued to be adopted by 96.66 per cent of respondents. Very few respondents (3.33 per cent) had discontinued this practice. The practice of having a three sided shed with cover and a manger in the uncovered area was continued to be adopted by 76.66 per cent of respondents whereas nearly one fifth of respondents (19.69 per cent) had discontinued this practice.

Extent of adoption of modern housing practices

Table 2: Extent of adoption of modern housing practices

S. No	Statement	Continued adoption (%)	Discontinued %	Not adopted (%)	Mean score	Rank
1	Provision of manger facility	60.00	35.00	5.00	2.85	I
2	Planting shade trees in the vicinity of the cattle shed	61.66	5.00	33.33	2.28	II
3	Providing separate space for bull.	25.00	40.00	35	1.9	III
4	Providing a standing space of at least 1.5 x 1.0- m for Kasargodcattle	0	61.66	38.33	1.62	IV
5	Providing separate space for pregnant animal.	13.33	28.33	58.33	1.55	V
6	Daily removal of dung and urin.	11.66	26.66	61.66	1.5	VI
7	Constructing a separate dung pit	0	0	100	1	VII
8	Daily washing of the floor and disinfection	0	0	100	1	VII
9	Dung channel at the end of the standing space	0	0	100	1	VII

A quick look at data in Table 2 sheds light on the fact that the practice of providing a manger in the sheds of Kasaragod cattle was the practice adopted to the greatest extent whereas the practice of daily washing and disinfection was the least adopted scientific practice, under the domain housing. The data in Table 2 shows that none of the respondents had adopted the modern practice of providing the dung channel at the end of the standing space. So also, daily removal of dung and urine was not adopted by nearly two-thirds (61.66 per cent) of respondents whereas 26.66 per cent of the respondents had discontinued this practice after prior adoption and the rest (11.66 per cent) continued to adopt this practice. None of the respondents had adopted the practice of daily washing of the cattle shed and the use of disinfectants. The practice of having a manager was the most adopted one where as practices regarding having a dung channel, daily washing of the floor with disinfectants and constructing separate dung pit were not adopted by any of the respondents. This was consistent with the finding of Bashir (2010) [1] who observed that daily cleaning of the shed was adopted to a medium extent by tribal farmers of Attappady. These finding are due to the fact that the system or rearing of Kasaragod animals is totally different from that of the mainstream breeds. The keepers of Kasaragod cattle follow a particular system of rearing where in animals are allowed remain on a litter of leaves of a particular composition on which dung and urine fall. This compost is of great demand as manure for use in areca nut and cashew plantation in the area. This system of rearing that is practiced is known as the 'gobbora' system of rearing It is also clear from Table 2 that just over two-fifth (61.66 per cent) of respondents continued to plant trees in the vicinity of the cattle shed while one-third (33.33 per cent) had not adopted this practice. None of the respondents had adopted the practice of having a separate dung pit. A little more than sixty per cent (61.66 per cent) of respondents had discontinued the practice of providing a standing space of 1.5 x 1 m for their animal while the rest (38.33 per cent) had not adopted this practice. More than half of the respondents (58.33 per cent) had not adopted the practice of providing separate space for pregnant animals while just over one-tenth (13.33 per cent) continued to adopt this practice and the rest of the respondents (28.33 per cent) had discontinued. One

fourth of those studied continued to provide a separate area for bulls whereas forty per cent had discontinued this practice after prior adoption and the rest (35 per cent) had not adopted this practice. The results of the study also reveal that sixty per cent of respondents continued to provide separate manger facility in cattle sheds while 35 per cent had discontinued this practice and five per cent had not adopted it among various management practices.

It is important to have more in depth studies of the Kasaragod cattle system in order to explore the system of rearing since experiences in other parts of the world where native cattle have been reared indicate that past and present neglect of local knowledge regarding farm animal genetic resources and traditional breeding practices causes major difficulties to develop and implement adequate participatory strategies at the national and local level (Wollny, 2003) [3].

Acknowledgements

This paper forms part of the thesis submitted by the second author under the guidance of the first author to Kerala Veterinary and Animal Sciences University for the Master's Degree. The authors acknowledge the facilities provided by the Dean, CVAS, Mannuthy for conducting the study.

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