



ISSN: 2456-2912

VET 2023; SP-8(2): 15-17

© 2023 VET

www.veterinarypaper.com

Received: 16-12-2022

Accepted: 21-01-2023

Selvam R

Department of Animal Genetics
and Breeding, Veterinary College
and Research Institute, Theni,
Tamil Nadu, India

Satheeshkumar P

Department of Animal Genetics
and Breeding, Veterinary College
and Research Institute, Theni,
Tamil Nadu, India

Priyadharsini R

Department of Animal Genetics
and Breeding, Veterinary College
and Research Institute, Theni,
Tamil Nadu, India

Richard Jagatheesan PN

Department of Animal Genetics
and Breeding, Veterinary College
and Research Institute, Theni,
Tamil Nadu, India

Corresponding Author:

Selvam R

Department of Animal Genetics
and Breeding, Veterinary College
and Research Institute, Theni,
Tamil Nadu, India

Malaimadu - Hill cattle of Tamil Nadu: Habitat, characteristics and livestock keeper perceptions

Selvam R, Satheeshkumar P, Priyadharsini R and Richard Jagatheesan PN

Abstract

Malaimadu cattle have traditionally evolved from the mountains in the Western ghats of Tamil Nadu and are called "hill cattle". They fit suitably into the local environment and are resistant to diseases and can live down with low or zero inputs. They are multi-colored ranging from reddish brown, grey, dark grey, white, with red/brown spots and black spots. They are known for stamina and draft power. They are used for ploughing and sports purpose – reckla race and Jallikattu. The major source of revenue is the sale of dung and penning. They are housed in open-type housing. In recent decades malaimadu population size is in decreasing trend. Malaimadu cattle should be conserved in their native habitats through identification, characterization, documentation and by adopting a participatory approach involving all stakeholders that will prevent the decreasing trends of population and more sustainable utility.

Keywords: Malaimadu, morphological traits, utility, socio-economic status, conservation

Introduction

India possesses superior bovine genetic resources with 53 recognized indigenous cattle breeds and 20 recognized buffalo breeds (as of 31st August 2022). Among the total cattle population of 193.46 million in 2019, 83 percent (166 million) are indigenous animals and it records a reduction of 6% in the total indigenous cattle population than the prior census. (20th Livestock Census, 2019) [1]. Tamil Nadu cattle population increased by 7.4% between 2012 and 2019. But it is due to an increase in the crossbred population, whereas the indigenous cattle population is reduced from 2.46 million (2012) to 1.8 million (2019). Tamil Nadu has four registered cattle breeds (Kangayam, Umblacherry, Pulikulam, and Bargur) and two buffalo breeds (Toda and Bargur). The other lesser-known breeds which are yet to be registered are Alambadi, Nattukuttai Madu, and Malaimadu.

The ancient Tamil people categorized their land into five different landscapes and these are collectively known as Aintinai (Kurinji, Mullai, Marutham, Neithal, and Palai). These thinai have a patron deity (Britto, 2017) [2]. Kurinji - Hills and hilly areas (Cattle breeds in this thinai are Alambadi, Bargur, Malaimadu), Mullai - Forest and forest area (Cattle breed in this thinai is Kangayam) and Marutham - Field and field areas (Cattle breeds in this thinai are Pulikulam and Umblacherry). These indigenous cattle breeds possess superior qualities such as tolerance to heat and harsh climates, disease resistance, ability to live with minimal feed and fodder. However, they are low milk yielders and are suited for draught animal power. Indigenous breeds have adapted to climatic variations since time immemorial, and hence have acquired unique traits that make them suitable in given agroclimatic zones (Ahlawat, *et al.*, 2015) [3]. These superior indigenous cattle breeds are fronting a threat due to the mechanization of agriculture, shrinkage of grazing land, and lack of manpower for farming, comparatively high income from crossbred cattle and it led to a substantial genetic reduction of indigenous cattle population (Vandana *et al.*, 2021) [4].

These indigenous cattle must be conserved, developed, and proliferated to safeguard our superior germplasm. Genetic characterization and studying breeding practices are significant factors in conservation programs and for the genetic improvement of livestock (Maswana *et al.* 2022) [5]. Malaimadu cattle have traditionally evolved from the mountains in the western ghats and have been domesticated.

They are habituated to the home-grown environment and are invulnerable to many diseases and can grow well with minimal or no input. With this background, this article is aimed to review the distribution, morphological traits, production system, and utility of Malaimadu cattle.

Habitat and Distribution

The Malaimadu is a group of cattle found exclusively in the Western Ghats and surrounding areas of Theni, Virudhunagar, Madurai, Dindigul, and Tirunelveli districts of Tamil Nadu (Karthickeyan *et al.*, 2019) ^[6]. It is mainly grown in the villages around Theni including Kudalur, Kampam, Bodi, Periyakulam, Erasakkanayanoor, Narayanadevanpatti, Muthampatti, Odambatti, Surulipatti, Ayambatti, Pallavarayanpatti, Chinnamanur and Megha hill. They are called hill cattle because they graze in the mountains. Malaimadu cattle are considered culturally important in their native tract. There is a greater reduction in the number of malaimadu cattle from 3, 00, 000 to 55, 000 during the period 1989 to 2004 (Vivekanandan, 2006) ^[7]. It may be attributed to pastoralists being restricted from their grazing fields because these mountains are controlled under various 'forest protection' schemes (Köhler-Rollefson, and Rathore, 2004) ^[8].

Morphological Traits

The distinctive morphological feature of this cattle is its body color. The malaimadu cattle are multi-colored ranging from reddish brown, grey, dark grey, white with red/brown spots and black spots. It is said that due to growing in the mountains, they have black and red/brown colors on their bodies and are hence called Karumbor and Chembor respectively. Malaimadu cattle are medium-sized animals, with compact body. Adult animals are approximately weighing around 160-200 kg, the height of the animals is 110 cm and the length is 105 cm (Selvan *et al.*, 2022) ^[9]. As they evolved in hilly regions, malaimadu cattle are sturdy to climb the mountains and aggressive in nature.

Production performances

The bulls are normally used for draught works. The cows are poor milkers. Cows give a very small quantity of milk ranging from 1 to 1.5 litre. Malaimadu farmers do not sell the milk from the cows and they use it within their households. If the calf is not there, it will not be milked. These cattle live up to 25 years longer because they grow up by consuming herbs in the mountains.

Utility

Malaimadu cattle are well known for stamina and draft power. They are used for ploughing and sports purpose - reckla races (Sakthivel Selvan *et al.*, 2021) ^[10]. In recent years only the animals are participating in Jallikattu. Mainly they are used in manju-virattu and reckla races because they get trained for that by traveling long distances in mountains for grazing every day. Only Ayambatti and Pallavarayanpatti bulls are trained for the Jallikattu competition. The major source of revenue from these cattle is the sale of animals for sports purposes, by sale of dung (Köhler-Rollefson, 2003) ^[11], and penning in paddy fields. The demand for such dung is high and each bag of dung weighs about 80 kg and is priced at Rs. 120. Penning is one of the best conventional methods of improving soil fertility. In this method, cattle are kept overnight in the agriculture fields. Penning is a popular and cost-effective method of soil management in organic farming. While keeping the animals trample the soil with their horns

and hooves which improves the fertility of the soil through increasing porosity and texture. Selling manure is the main source of income for malaimadu farmers.

Socio-economic status

The livestock keeper of these malaimadu cattle maintains these animals for pride and without any profit motive. Cattle that graze on the hills are brought down according to the rains. Half of the year they graze in the mountains and the rest on the land. The cattle are housed in loose open-type housing, they are not tied up and can walk around freely, hence these cattle are also called Thozu madu. These animals are highly resistant to diseases (Vivekanandan and Alagumalai, 2013) ^[12]. Farmers use only local traditional knowledge of ethnoveterinary medicine for treating these animals. As they grow in the mountains, they have the characteristics of aggressive wild animals. They can fight against animals like tigers, leopards, jackals, and foxes. It could walk and graze effortlessly on the hillsides.

Conclusions

Genetic characterization is an important tool in the implementation of appropriate breeding programs. The conservation of superior indigenous germplasm includes identification, characterization, valuation, and documentation. It is important to study the habitat, distribution, production performance, and utility of indigenous animals to conserve the existing genetic material. The malaimadu cattle are best suited to their local climatic conditions and production system and they should be conserved in their native breeding tract by following a partaking method by including all stakeholders in conservation programs. Further, to improve the economic worth of these animals the production performance should be increased through selective breeding programs that prevent the decreasing trends of population and sustainable utility.

References

- 20th Livestock Census. Published by Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India; c2019.
- Britto MJ. December. Sangam Landscapes and Thing Theory: A Study with Reference to Kurunthogai. In Forum for World Literature Studies. Wuhan Guoyang Union Culture & Education Company. 2017;9(4):704-724.
- Ahlawat SPS, Pushendra Kumar, Kush Shrivastava, Niharranjan Sahoo. Indigenous livestock resources in a changing climate: Indian perspective. Livestock Production and Climate Change, CABI Climate Change Series. CABI International; c2015, 214.
- Vandana Manomohan, Ramasamy Saravanan, Rudolf Pichler, Nagarajan Murali, Karuppusamy Sivakumar, Krovvidi Sudhakar, *et al.* Legacy of draught cattle breeds of South India: Insights into population structure, genetic admixture and maternal origin. PLOS ONE. 2021;16(5):e0246497.
- Maswana M, Mugwabana TJ, Tyasi TL. Evaluation of breeding practices and morphological characterization of donkeys in Blouberg Local Municipality, Limpopo province: Implication for the design of community-based breeding programme. PLoS One. 2022;17(12):14.
- Karthickeyan SMK, Kumarasamy P, Chandra A, Mary R, Hepsibha P, Sivaselvam SN. Molecular characterization of Malaimadu cattle. Indian Journal of Animal Science. 2019;89(7):91-93.

7. Vivekanandan P. Towards A Pastoral Policy for the Protection of Pastoralists' Rights and for Conservation of Local Animal Breeds. Traditional Knowledge Systems of India and Sri Lanka, Papers presented at the COMPAS Asian Regional Workshop on Traditional Knowledge Systems and their Current Relevance and Applications, Bangalore; c2006, 119.
8. Kohler-Rollefson I, Rathore HS. Indigenous versus official knowledge, concepts and institutions: Raika pastoralists and the outside world. *Nomadic Peoples*. 2004;8(2):150-168.
9. Selvan AS, Thangaraj S, Dash S, Karthikeyan A, Karthickeyan SMK. Multivariate analysis of morphometric traits of Malaimadu cattle – Autochthonous draught cattle of south India. *Research Square*; c2022. DOI: 10.21203/rs.3.rs-2191383/v1.
10. Sakthivel Selvan A, Harshini V, Yathish HM, Karthickeyan SMK. Cytogenetic characterization of Malaimadu cattle. *The Pharma Innovation Journal*. 2021;SP-10(5):76-78.
11. Köhler-Rollefson I. Community-based management of animal genetic resources—with special reference to pastoralists. Community-based management of animal genetic resources, Proceedings of the workshop held in Mbabane, Swaziland; c2003. p. 13-26.
12. Vivekanandan P, Alagumalai V. Community Conservation of local livestock breeds. NABARD Supported Project Report towards Capacity Building of Livestock Keepers for Conserving 10 Local Breeds in Tamil Nadu. *Sustainable-Agriculture & Environmental Voluntary Action (SEVA)*; c2013.