

DISTRIBUTION AND CHARACTERISTICS OF KANGAYAM CATTLE

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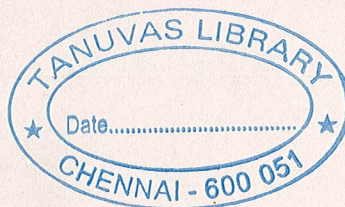
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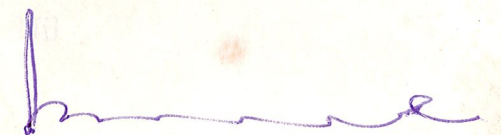
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CERTIFICATE

This is to certify that the thesis entitled, **DISTRIBUTION AND CHARACTERISTICS OF KANGAYAM CATTLE** submitted in part fulfilment of the requirements for the degree of **MASTER OF VETERINARY SCIENCE** in **ANIMAL GENETICS AND BREEDING** to the Tamil Nadu Veterinary and Animal Sciences University, Madras is a record of bona fide research work carried out by **Thiru.R.RAJENDRAN** under my supervision and guidance and that no part of this thesis has been submitted for the award of any other degree, diploma, fellowship or other similar titles or prizes and that the work has not been published in part or full in any scientific or popular journal or magazine.

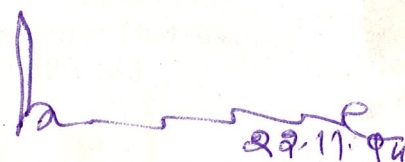
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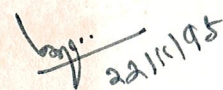
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ABSTRACT

DISTRIBUTION AND CHARACTERISTICS OF KANGAYAM CATTLE

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Kangayam, an excellent draught breed of Tamil Nadu, is hardy and well-adapted to the dry tract of Periyar district and contiguous areas. Absence of systematic studies on Kangayam cattle in farmers' herds is a serious lacuna in assessing the genetic potential. Hence, an investigation was undertaken to study the habitat and distribution, morphology, morphometry, and production and reproduction characters of Kangayam cattle in the breeding tract to establish the breed characteristics.

Key Words : Kangayam cattle, distribution, characteristics, production, reproduction.

The distribution of Kangayam cattle was assessed through a survey in the breeding tract and adjoining areas. Morphology and physical characters were studied in 12 villages selected randomly, one each from 12 former Key Village Centres. Milk recordings were done in four villages at monthly intervals for five months. As milking was incomplete the recordings were considered as daily partial milk yield.

In addition to morphology, important physical characters such as height at withers, body length, chest girth, and face and horn dimensions were recorded along with other characters. Body measurements were made in 323 calves (0-6 months), 306 youngstock (7-36 month), 8 bulls, 147 bullocks and 308 cows. A total of 466 milk recordings were made in 135 cows and 306 milk samples were collected for estimation of milk constituents. Data on lactation length and reproduction traits were obtained through questionnaire. Information on housing, feeding and prevalence of disease was also collected.

Kangayam cattle were distributed with varying densities in Periyar district (except Satyamangalam taluk) and adjoining areas consisting part of Coimbatore and Dindigul-Anna districts, Karur taluk of Tiruchirappalli district, and Tiruchengodu and Sankaridrug taluks of Salem district.

Kangayam calves were generally red at birth and changed to grey colour around six months. Bulls were grey with dark colour in hump, fore quarter, hind quarter, face and legs and bullocks were grey in colour. Cows were grey or grey-white in colour. Black colour was present in fetlock region of all four legs and knees also. Generally horns swept backward, outward and then inward to form crescent shape in adults.

In calves of six months, the means for height at withers, body length and chest girth were 97.81 ± 1.11 , 92.77 ± 1.13 and 104.00 ± 1.35 cm respectively. The means for these traits were 117.72 ± 0.70 , 119.98 ± 1.09 and 138.02 ± 1.04 cm in 19 to 24 months age group and 122.95 ± 1.18 , 128.16 ± 2.09 , 154.68 ± 2.27 cm in 31 to 36 months age group respectively.

In adult bulls, bullocks and cows, height at withers, body length, chest girth and horn length were : 144.00 ± 4.36 , 150.75 ± 3.40 , 178.75 ± 6.90 and 40.75 ± 2.02 cm; 140.53 ± 0.67 , 145.92 ± 0.97 , 177.44 ± 1.12 and 59.11 ± 0.88 cm; and 125.12 ± 0.41 , 131.76 ± 0.61 , 156.15 ± 0.63 and 46.87 ± 0.46 cm respectively.

The average daily partial milk yield was 1986 ± 45 g (n=300). The estimated total milk yield based on partial milking was 540 kg for an average lactation length of 9.04 ± 0.29 (n=55) months. The mean fat (n= 305), total protein (n=306) and total solids (n=305) were 3.89 ± 0.07 , 3.21 ± 0.03 and 10.91 ± 0.09 per cent respectively.

The averages for age at, first oestrus, first mating and first calving were 33.08 ± 1.08 (n=53), 33.13 ± 1.80 (n=23) and 43.17 ± 1.05 (n=52) months respectively and calving interval was 15.34 ± 0.23 (n=112) months.

The study revealed extension of breeding tract into new areas and shrinkage due to the replacement by exotic crosses in the original tract. Height at withers appeared to have increased over years. Excellent draught capacity, very low calf and adult mortality, adaptation to poor nutrition and drought conditions and longevity are the special features of this breed.