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BIOMETRICAL MEASUREMENTS AND PERFORMANCE OF PUNGANUR CATTLE UNDER FARM CONDITIONS

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ABSTRACT

A small herd of Punganur animals (154) are being maintained at Livestock Research Station, Palamaner under Sri Venkateswara Veterinary University as a part of *in situ* conservation. The data was collected on birth weight, biometrical measurements and certain physical traits. The average birth weights of male and female calves were 10.80 ± 0.48 kg and 10.80 ± 0.79 kg, respectively. The mean height at withers, body length, chest girth , paunch girth, pin bones width, poll length, tail length, and ear length in male calves in the present study were 46.4±1.04, 43.80 ± 1.12, 47.30 ± 1.26, 45.70 ± 1.40, 7.70 ± 0.68, 18.40 ± 0.93, 27.80 ± 1.58, 8.60 ± 0.68 cm, respectively while in female calves the corresponding values were 50.0 ± 2.40, 43.5± 1.26, 47.9 ± 1.44, 47.9 ± 1.22, 8.0 ± 0.72, 19.8 ± 1.00, 30.3

± 1.95, 9.2 ± 0.52 cm ,respectively. The average total lactation milk yield was 279.8 ± 51.18 litres with a lactation length of 95.3 ± 21.47 days. The daily average milk yield and peak yields were 2.4 ± 0.33 and 2.6 ± 0.34 liters, respectively with an average 5.4 % fat and 9.53 % S.N.F. The average age at first calving, service period and gestation period were 1540.2 ± 242.86 days, 129.1±17.36 days and 276.9±0.79 days, respectively.

Key words: Punganur cattle, Biometrical measurements, Performance.

Punganur cattle is one of the world's shortest humped cattle (*Bos indicus*) with a long tail and black switch touching the ground and originated in the surrounding areas of Punganur, Madanapalli, Palamaner places of Chittoor district in Andhra Pradesh. It can thrive well on less quantities of feed and fodder with reasonable returns to the farmers, have better adaptability to tropical climatic conditions with high disease resistance and heat tolerance. In Andhra Pradesh the Punganur breed of cattle is under the threat of extinction. Hence, efforts are being made for conservation and propagation of Punganur cattle to enable to save from the verge of extinction.

MATERIALS AND METHODS

A herd of one hundred fifty four numbers of Punganur animals are being maintained at Livestock Research Station, Palamaner under Sri Venkateswara Veterinary University as a part of *in situ* conservation. All breedable female animals were bred to Punganur bulls by natural service. A total of 24 Punganur calves were born during 2012-13 period. The data was collected on birth weight, biometrical measurements (height at withers, body length, chest girth, pin bones width, paunch girth, poll length, tail length, and ear length) and certain physical traits like color of coat, muzzle, hooves, and switch. The calves were weighed within twelve hours of their birth. The data on various body measurements were collected in the morning before the animals were left for grazing. Twelve Punganur cows were completed the lactation during the reported period and data was recorded on average daily milk yield, total lactation milk yield, lactation length and Peak yield. Similarly age at first calving, service period, dry period, calving interval and gestation period were calculated based on 5, 15, 18, 18 and 25 animals data respectively. The Data collected were statistically analyzed[4] .

RESULTS AND DISCUSSION

The average birth weights of male and female calves were 10.80 ± 0.48 kg and 10.80 ± 0.79 kg, respectively. The mean height at withers, body length, chest girth, paunch girth, pin bones width, poll length, tail length, and ear length in male calves in the present study were 46.4±1.04, 43.80 ± 1.12, 47.30 ± 1.26, 45.70 ± 1.40, 7.70 ± 0.68, 18.40 ± 0.93, 27.80 ± 1.58, 8.60 ± 0.68 cm, respectively while in female calves the mean height at withers, body length, chest girth, paunch girth, pin bones width, poll length, tail length, and ear length were 50.0 ± 2.40, 43.5± 1.26, 47.9 ± 1.44, 47.9 ± 1.22, 8.0 ± 0.72, 19.8 ± 1.00, 30.3 ± 1.95, 9.2 ± 0.52 cm ,respectively. The average birth weight of 13 kg in males and 11 kg in female Punganur calves was reported[1.] Similarly the average birth weights of male and female calves of Vechur cattle were estimated to be 11.20 ±0.20 kg and 10.20±0.20 kg, respectively which are comparable with the present findings[2]. While, in the present study the average birth weight of Punganur calves were lower than the Malnad Gidda (15.5 kg in male and 15.0 kg in female calves) which is a small sized zebu cattle breed native to heavy rainfall areas of western ghats[1].

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The birth weight of other indigenous breeds Tharparker (24.05 kg), Sahiwal (22.24 kg), Rathi (21.19 kg), Gir (20.29 kg), Deoni (18.4 kg) and Kangayam (18.42 kg) were higher than the present findings of Punganur[6]. Majority of the calves were born with a mixture of white and brown coat colour, black muzzle, black colour hooves and black switch.

The body weight, height at withers, chest girth, body length, pin bones width, paunch girth, poll length, tail length, and ear length in adult males in the present study were 233 kg, 92, 149, 109.5, 26, 135, 39.5, 89 and 22 cm, respectively while in females the corresponding values were 173 kg, 94, 132, 117, 32, 136, 42, 84 and 20 cm, respectively. The published information on Punganur about body weight, height at withers, chest girth, body length, in adult males were 244 kg , 107, 151, 113 cm respectively, while in females the corresponding values were 178 kg, 97, 128, 205.5 cm, respectively are close to the present findings[1]. The body weight and height at withers in adult males of Vechur cattle found in hills of Kerala were 130-200 kg, and 83-105 cm, respectively while in females the corresponding values were 95-150 kg and 81-91 cm, respectively was reported[3].

The average total lactation milk yield was 279.8 ± 51.18 litres with a lactation length of 95.3 ± 21.47 days. The daily average milk yield and peak yield were 2.4 ± 0.33 and 2.6 ± 0.34 liters, respectively with an average 5.4 % fat and 9.53 % S.N.F. The average age at first calving, service period and gestation period were 1540.2 ± 242.86 days, 129.1±17.36 days and 276.9±0.79 days respectively. The present findings on age at first calving and lactation milk yield are comparable with Vechur cows which are estimated as 1080.3±33.55 days and 579.6±35.7 kg, respectively[2]. Similarly the average daily milk yield and lactation milk yield were lower than the Malnad Gidda cattle[5].

CONCLUSION

The body weight and height at withers in adult Panganur cattle were higher than Vechur cattle. Age at first calving and lactation milk yield are comparable with Vechur cows. Average daily milk yield and lactation milk yield were lower than the Malnad Gidda cattle. Majority of the calves of Punganur cattle were born with a mixture of white and brown coat colour, black muzzle, black colour hooves and black switch.

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