

Pre Weaning Growth Performance of Karunkanni Goat Kids in an Organized Farm

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ABSTRACT

The goat husbandry is an evergreen enterprise in many parts of India. However the growth performance of the native goat breeds remains unrevealed. Hence a study was undertaken to assess the growth performance of Karunkanni goats from birth to weaning in Instructional Livestock Farm Complex, Orathanadu. A total of 175 animals were selected for the study, which revealed that the birth and weaning weights of Karunkanni were 1.60 ± 0.03 kg, 8.32 ± 0.20 kg respectively and preweaning average daily gain was 74.73 ± 2.17 g. The birth weight of male and female kids was 1.62 ± 0.05 kg and 1.55 ± 0.06 kg, respectively. Even though male kids recorded 4.4% higher body weight than female kids, no significant difference was observed. The average kids per doe 1.4 and the prolificacy rate was 141.13%. The percentage of single birth was recorded as 30.29%, multiple births as 69.7% out of which 58.29% was twins and 11.43% was triplets recorded. This study envisaged that the native animals would be better choice for the goat rearers in the Cauvery Delta region of TamilNadu.

Keywords: Karunkanni kids, Birth weight, Weaning, Average daily gain

INTRODUCTION

Goat rearing in Tamil Nadu has grown from backyard rearing to the venture of high intensified goat industry because of its wide adaptability to different agro-climatic zones. Day by day the goat is being a significant food source, due to its ability to convert poor quality feed into valuable human food. The total number of goat in India is 148.88 millions showing an increase of 10.1% over the previous census. And it contributes 20.45% in total livestock population in India (20th

Livestock Census 2012). Goat population in Tamil Nadu vis 8.14 millions and contributes 6.02% of goat population in India (19th Livestock Census 2012). High kid production is essential to meet the huge demand of goat meat in India as well as in other Asian countries (Aboul-Naga et al., 2012). These animals are mostly liked by the native people because of their varied adaptability and presence of lean meat. Wide populations of unrecognized goat are scattered throughout the country. One such goat breed is Karunkanni.

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However, there is sparse information available on growth performance of Karunkannai goats in Tamil Nadu. Therefore, present investigation was planned to study the growth performance of Karunkannai goats maintained at Instructional Livestock Farm complex, Veterinary College and Research Institute, Tamil Nadu Veterinary and Animal Sciences University, Orathanadu, Thanjavur. The present work was undertaken to study the growth performance of 175 Karunkannai kids from birth to weaning (0-90 days). The kids were weighed with a balance having sensitivity upto 50g.

MATERIALS AND METHODS

The Karunkanni animals are dwarf meat-type, early-maturing, non-seasonal, prolific animals whose growth performance was recorded in this study. This breed is available in the Cauvery delta region of Thanjavur, TamilNadu. Majority of the animals are small in size with straight, convex head, small sized legs, thin and shiny black coloured hair coat, curved or straight horn and short tail.

The newly born kids were reared with dams in kidding pens for individual care for up to 3 days after kidding. Kids suckled their dams and were also allowed *ad libitum* feeding of greenish succulent fodder and creep mixture from the age of one month. The kids were weaned at 3 months of age and weaning weight was recorded. The data collected were subjected to statistical analysis as per the method of Snedecor and Cochran (1994).

RESULTS AND DISCUSSION

The birth of 175 Karunkannai kids was recorded from 124 kiddings, averaging 1.4 kids per doe and the prolificacy rate was 141.13%. The percentage of single birth was recorded as 30.29%, multiple births as 69.7% out of which 58.29% was twins and 11.43% was triplets which is similar with the previous findings incidence of twins in Black Bengal goats 57.9% as evidenced by Pan et al. (2015) and 56.3% in Black Bengal goats in Bangladesh as observed by Hassan et al. (2007). Aboul- Naga et al. (2012) observed that twinning was more frequent (46.2%) in

Egyptian Nubian goats which gave 82.9% multiple births.

Mean with standard error for the effect of sex, season, type, parity and year on birth weight, weaning weight and preweaning average daily gain are presented in Table 1.

The birth and weaning weights of Karunkanni kids were 1.60 ± 0.03 kg, 8.32 ± 0.20 kg respectively and preweaning average daily gain was 74.73 ± 2.17 g. These values were higher than the Barbari kids except birth weight (1.88 ± 0.57 kg) (Bharathidhasan et al., 2009).

In the study it was found that the birth weight of male and female kids was 1.62 ± 0.05 kg and 1.55 ± 0.06 kg, respectively. Even though male kids recorded 4.4% higher body weight than female kids, no significant difference was observed. Higher birth weight of males and significant effect of sex on the body weight has been reported by Bharathidhasan et al. (2009) in Barbari and Jamunabari kids, Sheikh et al. (1996) in Changithangi kids, Koratkar et al. (1998) in Osmanabadi kids, Karna et al., (2001) in Cheghu kids, Soundararajan and Sivakumar (2011) in Kanni Kids. The weaning weight of male kids (9.23 ± 0.21 kg) was significantly ($P < 0.01$) higher than that of female kids (6.84 ± 0.24 kg) in this study. Similar findings in kids of Tellicherry (Murali et al., 2014), Kutchi (Yadav et al., 2003) and Sirohi goats (Sharma & Pathodiya 2006) were reported. The superiority of males might be attributed to hormonal differences between sexes (Bell et al., 1970). The preweaning average daily gain of Karunkanni male kids was significantly ($P < 0.01$) higher than the female kids. Similar findings were reported by the Patel and Pandey (2013) in Mehsana goat kids.

Birth weight, weaning weight and preweaning daily gain of single, twin and triplet born kids were 1.64 ± 0.11 kg, 8.61 ± 0.44 kg and 77.40 ± 4.92 g, 1.62 ± 0.04 kg, 8.39 ± 0.24 kg and 75.63 ± 2.53 g and 1.59 ± 0.14 kg, 7.18 ± 0.37 kg and 61.85 ± 5.02 g respectively. Although birth weight, weaning weight and average daily gain of single birth were higher than that of twin and triplet born kids, no significant difference was observed. Bharathidhasan et al. (2009) reported that the

body weight between single and twin born kids were non significant as far as twinning percentage is concerned.

Birth and weaning weights of third parity were higher than the first and second

parities. However there is no significant difference observed among parity. Similar findings were reported in Barbari goats (Bharathidhasan et al., 2009).

Table 1: Effect of sex, type of birth and parity on preweaning growth performance of Karunkanni goat kids

| S.No | Attributes | Birth weight (kg) | Weaning weight at 3 months (kg) | Preweaning Average daily gain (gm) |
|------|----------------------|-------------------|---------------------------------|------------------------------------|
| 1 | Overall mean | 1.60 ± 0.04 (175) | 8.32 ± 0.20 (175) | 74.73 ± 2.17 (175) |
| 2 | Sex | | | |
| | Male | 1.62±0.05 (90) | 9.23±0.21 (90)* | 83.64 ±2.28 (90)* |
| | Female | 1.55±0.06 (85) | 6.84±0.24 (85)* | 59.21±2.38 (85)* |
| 3 | Type of Birth | | | |
| | Single | 1.64 ± 0.11 (53) | 8.61 ± 0.44 (53) | 77.40 ± 4.92 (53) |
| | Twin | 1.59 ± 0.04 (102) | 8.39 ± 0.24 (102) | 75.63 ± 2.53 (102) |
| | Triplet | 1.62 ± 0.14 (20) | 7.18 ± 0.37 (20) | 61.85 ± 5.02 (20) |
| 4 | Parity | | | |
| | First | 1.57 ± 0.14 (36) | 7.73 ± 0.53 (36) | 68.41 ± 4.76 (36) |
| | Second | 1.54 ± 0.05 (117) | 8.35 ± 0.27 (117) | 75.67 ± 2.84 (117) |
| | Third | 1.72 ± 0.05 (22) | 8.45 ± 0.48 (22) | 74.79 ± 4.22 (22) |

* Significant at (P< 0.01)

CONCLUSION

A study was conducted in 175 Karunkanni goats in Cauvery Delta zone of Tamil Nadu. It was observed that the native animals showed higher prolificacy and twinning percentage. Karunkanni kids had better gains in terms of weaning weight and average daily gain compared to other native breeds except Barbari goats. Hence it is recommended that these native animals could be beneficiary reared by the goat keepers in Cauvery delta region of TamilNadu.

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