

JAFFNA LOCAL SHEEP AND THEIR MANAGEMENT SYSTEM

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There is a traditional endemic sheep breed called Jaffna Local in the northern area of Sri Lanka. The purpose of this study was to evaluate the management system and the phenotypic characteristics of Jaffna Local sheep (JLS). Socio-economic data were collected using a pre-tested structured questionnaire by interviewing five JLS farmers and 104 sheep (n=38 ewes, n=10 rams and n=56 lambs) were individually observed for qualitative characteristics; coat colour pattern, presence of horns, wattles and quantitative measurements; body weight and withers height. The management system was extensive and no expenditure was involved for providing feed and water. They were mainly reared on forages available on roadsides and paddy fields and water available in small ponds at feeding grounds. Sheep were mainly reared for manure purpose however, excess sheep were sold for meat. When considering the phenotypic characteristics, the majority were black and white (56%), 37% were white in colour and 8% of the sheep were brown in colour. Only 13% and 22% of the sheep had horns and wattles, respectively. The mean body weight of a lamb, ram, ewe and pregnant ewe were 12.2±0.59, 22.4±0.59, 20.9±0.59, and 23.0±0.59 kg, respectively. Mean withers height of a lamb, ram, ewe and pregnant ewe were 52.3±0.88, 61.4±0.88, 60.4±0.88, and 56.3±0.88 cm, respectively and both ram and ewe had similar withers height compared to lambs. Principal component analysis prepared by the correlation matrix showed that seven principal components cumulatively explained nearly 75% of the total variability in the indigenous sheep population examined. The loaded characteristics to explain this variability were sex, age, coat colour and presence of wattles. The study shows that this species can be reared using minimal resources and hence it has a good potential to be popularised in Sri Lanka. Farmers who are engaged in JLS farming are willing to expand the farm as it provides more than LKR 0.45 million per month in income. However, it was observed that there is a high risk of inbreeding within the population.

Keywords: Indigenous sheep, Phenotypic characteristics, Principal component analysis, Quantitative measurements