

EVALUATION OF GROWTH PERFORMANCE AND GENETIC PROGRESS IN SAANEN GOAT BREED AT NATIONAL GOAT RESEARCH PROGRAM BANDIPUR, TANAHU, NEPAL

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ABSTRACT

A study was conducted in National Goat Research Program, Bandipur, Tanahu, Nepal to evaluate the growth performance of Saanen pure goats. A total 19 offspring born on FY 2074/075 were used for the analysis of mean of birth weight, weaning weight and eight-month weight. Out of all born 12 kids were male and 7 kids were female and the twinning percentage and mortality rate were 58.33 % and 5.26%, respectively. The birth weight for Saanen pure kids were 3.75 ± 1.24 kg for male and 3.60 ± 1.84 kg for female kids. The mean weaning weight and eight-month weight were 16.14 ± 2.67 kg, 29 ± 2.95 kg for males and 15.50 ± 2.29 kg and 22.2 ± 3.12 kg for females, respectively. The body weight gain from birth to eight-month age was 107.29 g per day for male and 77.50 g per day for female kids, respectively. These results indicated a genetic progress of the breed.

Keywords: Birth weight, Saanen, Growth performance, Weaning weight

INTRODUCTION

Saanen is the milk producing breed in the world. Goat production is regarded as a feasible means to improve the income and nutrition of rural communities and to bring these communities in to bring these communities into commercial marketing systems (Braker *et al.*, 2002). Goats are important for both commercial and subsistence farming system in Nepal. Saanen is the most popular milk breed of world. The Saanen Goat is a Swiss breed, originating in the Valley Switzerland. Commercial farmer's rears goats primarily for meat production and subsistence farmers use them as a source of meat and milk, as well as cash for other expenses (Casey and Van Niekerk, 1988). The dairy goat's popularity continues to increase rapidly as more people discover the dairy goat's appeal, utility and

productiveness. The Saanen breed originates from Switzerland, from the Saanen Valley, where the annual average temperatures are 9.5° C (Silva et al. 2006). Saanen does are heavy milk producers and usually yield between 3% and 4% fat. The Saanen is a typical dairy-type animal, it has a dished or straight facial line and a wedge-shaped body. Saanens are of medium height when compared with the other Alpine breeds in Australia. Does weigh at least 64 kg. The average height measured at the withers is about 81 cm for does and 94 cm for bucks. The coat is all white or all cream and the hair is generally short and fairly fine although some may have longer hair along the spine, hindquarters, or both. Between different goats available it occupies the place that the Holstein-Friesian has among cattle breeds (Weppert, 1998). The present paper aims to know the growth performance of Saanen pure goats at research station.

MATERILAS AND METHODS

Study site and selection of experimental kids

This study was conducted at National Goat Research Program, Bandipur of Tanahu district which is located 135km from capital city Kathmandu, at an altitude of 80 masl and at 2° 6' 8" N and 8° 2' "E. The mean annual temperature is 21.01°C and annual rainfall is 340.8mm with average relative humidity of 74.65%. This study was performed in FY 2074/75 of GRS, Bandipur. A total 19 off spring born kids were used for the analysis of mean of birth weight, weaning weight and eight-month weight. Out of all born 12 kids were male and 7 kids were female. Kids were weaned at the age of four month

Shed and health management and feeding regime

Saanen goats were kept in semi-intensive system and improved farm managed condition of Goat Research Station. Seasonal mix fodder (provide name of fodder) was provided to experimental kids in groups twice daily during noon and evening. Concentrate mixture was given @ 1% of body weight. Anthelmintics was provided based on fecal examination at regular interval and kids were dipped in malathion solution against external parasites. Vaccination was performed against PPR, FMD and Clostridium Perfringens Types C & D- Tetanus Toxoid.

Data collection and analysis

All the weight was measured using electronic weighing machine. Weight were taken from birth weight, weaning weight and eight month weight were recorded

in morning before feeding and watering at monthly interval. The data were analyzed using Statistical Package for the Social Science (SPSS). Means were compared using Ms-excel.

RESULTS AND DISCUSSION

Growth performance of experimental kids

The birth weight of pure Saanen kids were 3.75 kg for male and the 3.60 kg for females, respectively which was higher than that of study made by Khandoker *et.al.*(2018) as in Malaysian condition (3.07±0.58 kg for male and 2.75±0.62 kg for females). Weaning weight (age) for male was 16.17kg and female for 15.50 kg, respectively. Tek *et al.* (2011) reported that the average live weight of Saanen kids on birth was 3.29 kg, which was lower than the value found in the present study. In addition, higher birth weight was recorded in male (3.23±0.62kg) than that of the female (2.75±0.58 kg) in the present study which was supported by the previous study of Wenzhong *et al.* (2005) and Djemali *et al.*(1994). Eight month weight were 29.5kg for male and 22.2 for females. Weight gain from birth to 8 month weight gain for male was 107.29 g/day and 77.50 g/day for female, which is more than that of Khari and other Boer crosses breeds (Ref) (Table 1).

Table 1. Body weights gain of pure Saanen kids

Parameter	Male		Female	
	Weight (kg)	Weight gain g/day	Weight (kg)	Weight gain g/day
Birth Weight	3.75 ±1.24		3.60 ±1.84	
Weaning weight	16.14 ± 2.67	103.25	15.50 ±2.29	99.16
Eight-month weight	29.5 ±2.95	107.29	22.2 ±3.12	77.50



Figure 1. Saanen kid weight measurement

Kid mortality and twinning percentage

During fiscal year 2074/75, at NGRP, Bandipur a total of 19 kids were born from does at kidding rate of 1.58 kids/doe. Out of all born kids 12 were males and 7 were females. The kid mortality rate was found to be 5.26 % on an average up to the eight months. Does with single kids accounted for 41.66% and twins 58.33%, respectively (Figure 2).

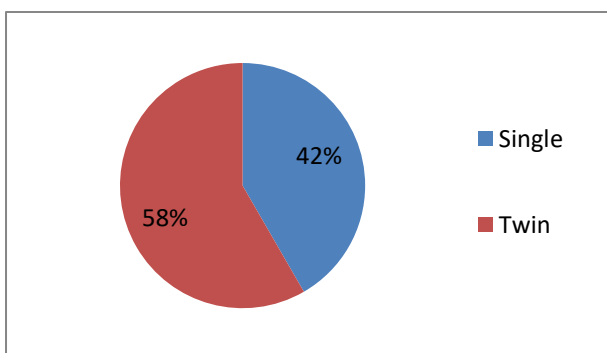


Figure 2. Does with single kids and twins

CONCLUSION

From this study, it can be concluded that Saanen kids have good growth performance. The significant effect of sex at different ages indicates potential of the breed for better productivity under improved management system. Moreover, continuous improvement in genetic selection, feeding method and management system may contribute to faster growing rate.

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