

Evaluation of Wool Production Performance on Different Lines and Strains of Angora Rabbit at Khumaltar, Lalitpur

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Abstract

Research on wool production performance between different lines and strains of Angora rabbit was started at Swine and Avian Research Program(SARP), Khumaltar, Lalitpur since 1994. The high yielding lines of German (G1) and Chinese Angora were introduced at SARP in 1998 from Chitlang Goat Farm of Department of Livestock Services(DLS) and Lumle Agriculture Research Center. Research on wool production performance of German, Chinese, Russian and British strains of Angora rabbit at Khumaltar, Lalitpur was conducted. Based upon the one year data G1 line of German Angora showed significantly ($P \leq 0.05$) higher wool production ($949.2 + 101$ g/rabbit/year) than other lines and strains of Angora rabbit. The average annual wool production in Chinese Angora, G2 line of German Angora, Russian Angora and British Angora were 656.2 g, 511g, 349.5 g and 335 g respectively. Similarly, additional improvement on management for existing lines and strains also showed significant ($P \leq 0.05$) increase on wool production performance as compared with the result of previous year(G2 line of German 423.125 g to 511 g and British 305 g to 349 g).

Key words: Angora rabbit, F1 generation, wool production.

Introduction

Angora rabbit farming in Nepal started in 1988 (Neopane 1992). Initially Pakhribas Agriculture Centre (PAC) in Dhankuta introduced German, British and Russian strains of Angora rabbit from Himanchal Pradesh, India. Those rabbits were bred at the centre and the bunnies were distributed to the interested farmers in different villages of the eastern hills of Nepal. At the beginning the farmers started rabbit farming as an income generation activity. Those farmers who received bunnies earlier started breeding to sell them to the needy farmers of different areas. At the beginning there was high demand of bunnies by the farmers of different districts. Therefore, the farmers became over ambitious in producing more bunnies. Due to haphazard cross breeding (even Angora with New Zealand white) to get more number of bunnies resulted to reduced birth weight. The average wool production

of those rabbits was very low (less than 400 g/rabbit/year reported by PAC) as compared to the wool production performance of rabbit in Germany and China (1200 to 1400 g/rabbit/year). Because of these reasons, the Department of Livestock Services(DLS) introduced high yielding stock (average of 1400 g wool/rabbit/year) of German Angora rabbit from Germany(Schlolaut 1990) and Lumle Agriculture Centre (LAC) introduced Chinese strains of Angora rabbit (average production of 1200 g wool/rabbit/year) from China in 1997. From both DLS and LAC provided F1 generation of German and Chinese strain of Angora rabbit to the Rabbit Research Programme of Nepal Agriculture Research Council for breeding and Research. These F1 generation of rabbit of both the lines and strains were maintained for 1 year at Khumaltar Livestock complex together with G2 line of German, British

and Russian strains for breeding and Research. G1 line of German and Chinese Angora were used for breeding at the middle of the study period and wool production record was maintained regularly.

The study was conducted to evaluate wool production performance of different lines and strains of Angora rabbit at Khumaltar, Kathmandu condition. The results obtained from complete one year record are presented in this paper.

Methodology

Fourteen weaned rabbits from G1 Line (stock brought from Chitlang) of German strain, 8 from G2 (stock brought from PAC) line of German strain, 11 from Chinese strain, 6 from British strains and 6 Line from Russian strains of Angora rabbits were selected for a comparative study of wool production performance between different lines and strains of Angora rabbit at SARP Khumaltar Lalitpur. All the rabbits were penned in individual cages. The average sizes of cages were 3' in length, 2' width and 2' in height. Rabbit droppings were collected in metal tray which were cleaned once a day. The floor was cemented and washed at weekly intervals.

Each rabbit was provided 100 g of pelleted feed containing 18% crude protein and about 300 g of green grasses. The common grasses available for feeding included Kikuyu (*Penisetum cladeustum*, oat (*Avena sativa*), white clover (*Trifolium repens*) and different native grasses. The rabbits were sheared manually using a

scissor. The time interval for shearing was 2.5 months for Chinese and G1 line of German strains and 3 month for other lines and strains. All the rabbits (both males and females) kept in the study were allowed for breeding. But breeding record of the rabbits were not included in this study, because the rabbits were physically mature and started breeding only at the middle of the study period. Data obtained were analyzed using the least square analysis techniques as per Harvey (1990).

Results and Discussion

The average annual wool production of G1 line of German Angora at SARP, Khumaltar farm found 949 ± 101.1 g. Similarly, the average annual wool production of Chinese, G2 line of German, British and Russian Angora rabbit at Khumaltarm, Lalitpur condition found were 656.4 ± 161 g, 511.9 ± 85 g, 335.7 ± 26.2 g and 349.8 ± 38 g /rabbit/ year respectively. In this study G1 line of German Angora produced significantly more wool ($P < 0.05$) than G2 line and other line/strains. Chinese Angora also produced significantly more wool ($P < 0.05$) than G2 line of German, British and Russian Angora rabbit. The results showed that G1 line of German and Chinese Angora produced significantly more quantity wool than the result of research previously published in Nepal (Neupane 1997). The wool production performance between British and Russian Angora rabbits at Khumaltar, Lalitpur condition were similar. The wool production records of the rabbits during the study period are presented in Table 1.

Table 1. Average wool production of different lines and strains of Angora rabbit at SARP, Khumaltar, Lalitpur.

Strains and lines	Average annual wool production/rabbit (g) ($\div \pm$ S.D.)	Number in Trial
G1 line of German Angora	$949.6 \pm 101.1^{a*}$	14
G2 line of German Angora	511.9 ± 85.0^c	8
Chinese Angora	656.4 ± 161.0^b	14
British Angora	335.7 ± 26.2^d	6
Russian Angora	349.5 ± 38.0^d	6
SEM (Pd ^{0.05})	28.3	

*In the column means followed by the same letter are not statistically significant by least significant difference test.

Wool production obtained from G1 line of German Angora and Chinese Angora were much higher than the others. Therefore rabbit farmers should be

encouraged to keep G1 line of German angora and Chinese Angora to get more wool production and make the enterprise more profitable.

The maximum average annual wool production in GI line of German Angora and increment in wool production of other lines and strains of Angora rabbit in Khumaltar was not only due to high yielding strains or lines but also due to the selection, scientific breeding method and good management. Therefore, rabbit farmers or the person interested in rabbit farming should be educated about different steps to make rabbit farming more profitable. If some help and improvement is made in housing, breeding and management in rabbit research programme of NARC, There are chances of further improvement to develop a better strain or releasing of high yielding new strains of rabbit in Nepal.

Acknowledgments

I would like to express my gratitude to Dr. N. P. Shrestha for his valuable suggestion and encouragement in this study.

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