



Impact of Training Program on Knowledge and Awareness Levels of Goat Farmers in Kandi Area of District Hoshiarpur in Punjab

Gagandeep Singh*, Hujaz Tariq and R K Sharma

Regional Research and Training Centre, Talwara, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana

ABSTRACT

In recent years, a growing number of goat farmers in the villages of *Kandi* area have turned to goat rearing as a means of generating income. However, many of these farmers lacked scientific knowledge about proper goat husbandry practices, leading to lower return on investment. To address this issue, training sessions were organized for the farmers with the aim of enhancing their understanding and awareness of goat rearing practices and thereby increasing their income. A questionnaire was prepared on four different aspects viz., feeding, general management, disease prevention and control and reproductive management aspects and the farmers were assessed both prior and post training to check the increase in knowledge levels of goat farmers. Prior to the training, it was observed that farmers had limited knowledge regarding feeding (39%), general management (47 %), disease prevention and control (46 %) and reproductive management (86 %). However, following training sessions, a significant improvement was observed by around 49, 48 51 and 11 % in the farmers' understanding on these critical goat rearing aspects for feeding, general management, disease prevention and control and reproductive management respectively. From this study, it can be concluded that, scientific knowledge and awareness regarding the various aspects of goat farming is very important for the farmers for better return on investment.

Key Words: Awareness, Goat farming, Impact, Training.

INTRODUCTION

In the *Kandi* area, the convergence of challenges such as small and marginal landholdings, undulating terrain, and limited water availability often results in diminished fodder production, subsequently leading to sub optimal agricultural productivity. This predicament, in turn, restricts the economic opportunities available to farmers (NAIP, 2014). Against the backdrop of an evolving agricultural landscape, recent years have witnessed a substantial upswing in Beetal goat farming in the Kandi area, emerging as a beacon of promise for sustainable livelihoods and presenting a potential source of employment (Rathore, 2023). The impetus behind this surge can be ascribed to several advantages, encompassing a low initial capital investment, a terrain replete with forests providing an ample source of tree leaves for goat fodder, minimal land requirements, heightened feed conversion efficiency, superior economic returns, and reduced fodder demands compared to cattle and buffalo farming (Singh *et al*, 2019).

Despite these positive trends, farmers in the region grapple with various challenges, including inadequate genetic resources and a lack of scientific knowledge in goat rearing. Furthermore, limited exposure to modern farming tools often translates into a lower return on investment.

Within this dynamic agricultural sector, the pivotal impact of farmer training programs on the growth and development of goat farming cannot be overstated. Regional Research and Training Centre (RRTC), Talwara designs tailored training programs to meet the specific needs and socio-economic profiles of diverse groups, with a focus on optimizing effectiveness through guiding trainees in applying acquired skills (Keshava, 2002).

To comprehensively evaluate the impact of the goat farming training programs conducted by RRTC, Talwara, a study was undertaken to meticulously scrutinize the overall changes in knowledge and awareness levels among goat farmers and delve into the economic benefits derived from the training.

Impact of Training Program on Knowledge and Awareness Levels of Goat Farmers

MATERIALS AND METHODS

The study was conducted on trainees from *Kandi* area of District Hoshiarpur, Punjab who participated in various specialized goat farming training programs at the Regional Research and Training Center, Talwara, affiliated with Guru Angad Dev Veterinary and Animal Science, Ludhiana, Punjab, between year 2022 and 2023. A total of 50 trainee farmers participated in the study, responding to a meticulously prepared questionnaire based on the expert consultation primarily involved to train the farmers during the requisite course before these training programs. Following the successful completion of these training sessions, the farmers were reevaluated to gauge the impact on their knowledge and awareness. The training primarily consisted of lectures held in various villages and RRTC, Talwara classroom supplemented by on-farm practical demonstrations conducted at farmers' doorsteps with groups of farmers.

The questionnaire covered four distinct categories: general management, feeding management, disease prevention and control and reproductive management. Data were collected, assessed, and presented using statistical measures such as frequencies and percentages to facilitate interpretation. To evaluate the knowledge gain, the trainees' knowledge scores during the pre-test were compared with their current scores. Changes in goat management practices were determined through focused group discussions and observations at the farmers' fields. The collected data were analysed using frequencies and percentages for interpretation.

RESULTS AND DISCUSSION

The results pertaining to impact of various trainings on knowledge awareness on different aspect of goat farming has been presented in Table 1. Overall, the result indicated an increase in awareness level of knowledge among the trainee post training.

Feeding management

Efficient feeding management is fundamental for successful goat farming, as it forms the cornerstone of balanced and economical

feeding. Around 70% of total expenses in livestock rearing, particularly in goat farming, are attributed to feed. Therefore, prioritizing effective feeding practices is essential for maximizing profitability and ensuring the prosperity of goat farming operations (Hundal et al, 2016). The questionnaire for feeding management covered six different aspects namely colostrum, creep feed, mineral mixture, fodder, flushing and overall dry matter intake requirement of animals. Overall, the knowledge level for feeding management was found average (39 %) which improved significantly post training to 87.5 %. These results were found in concurrence with the findings of Meena *et al* (2023) and Hundal *et al* (2016) who observed similar improvements in knowledge levels on feeding managements of goat farmers after training. Although, the farmers were aware regarding the colostrum feeding but it was observed that they had limited knowledge regarding the quantity and importance of early feeding as evident during discussion. Further, it was observed that only few farmers had knowledge regarding flushing (34 %; extra feeding during breeding season), creep feed (12 %) and dry matter (34 %) and fodder requirement (44%). Lastly, farmers were mainly aware regarding importance of mineral mixture (62 %) in feeding regime of goats. Post training the knowledge level were found to be improved by 38 %, 78, 32 %, 42 %, 56 % and 48 % for colostrum, creep feeding, mineral mixture, fodder requirement, flushing and overall dry matter intake requirement of animals

General management

Knowledge level of various general management practices is another crucial parameter for goat farming to ensure optimal production, prevent infections, and maintain farm profitability (Arora et al, 2006). Proper housing management is essential to prevent goats from extreme weather and maintain the health and production of animals (Sejian *et al*, 2021). In this study it was observed that farmers had little knowledge regarding the housing requirements (22%). On the hands farmers were found comparatively aware for breed characteristics (76 %) and weaning age of Beetal goats (70 %).

Table 1 Impact of training on knowledge level of farmers regarding goat farming

Characteristic	Mean correct response (Frequency)		Correct % response Percentage)	
	Pre training	Post training	Pre training	Post training
Feeding Management				
Colostrum feeding	27	46	54	92
Creep feed	6	45	12	90
Importance of mineral mixture	31	47	62	94
Fodder requirement	22	43	44	86
Flushing	14	42	28	84
Dry matter intake requirement of goats	17	41	34	82
Average	19.5	44	39	88
General management practices				
Age determination of goats	21	49	42	98
Breed characteristics	38	47	76	94
Body weight measurement	18	47	36	94
Weaning age	35	47	70	94
Age of castration	17	41	34	82
Housing floor space requirement	11	38	22	76
Average	23.33	44.83	46.67	89.67
General disease management				
Udder hygiene	29	47	58	94
Deworming schedule	31	43	62	86
Vaccination schedule	12	41	24	82
Metabolic diseases	16	42	32	84
Zoonotic diseases	28	45	56	90
Average	23.2	43.6	46.4	87.2
Reproductive management				
Estrous cycle length	43	48	86	96
Age of puberty	39	48	78	96
Gestation length	46	50	92	100
Estrous signs	43	47	86	94
Average	42.75	48.25	85.5	96.5

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Further, the farmers were found moderately aware for the age of castration (34 %), age determination (42 %) and body weight measurement of goats (36 %). Overall, the farmers were found to have low knowledge level on general management practices prior to training (47 %) which significantly improved post training (90 %). These were similar to the findings of Singh *et al* (2023a) who observed improved knowledge in dairy farmers of kandi area after training. Similar observations were found by Senthilkumar *et al* (2013) and Ravi *et al* (2022) who found improved knowledge levels of farmers post training in goat and sheep farmers.

Disease prevention and Control

Ensuring the health and well-being of goats relies on effective disease prevention and control measures. These encompass maintaining proper udder hygiene, deworming schedule, administering vaccinations, preventing metabolic diseases and zoonotic diseases (Singh *et al*, 2023a). Deworming is essential for managing internal parasite infestations, which can significantly impact goat health, reproduction, and productivity. Furthermore, addressing ecto parasites like ticks and lice is crucial, as they can transmit protozoan diseases and impede goat production. Vaccinations are equally pivotal in safeguarding goats from infectious diseases, requiring adherence to a carefully planned schedule. Various metabolic diseases like pregnancy toxemia, milk fever, udder edema and ketosis can occur in goats during transition period which can affect the productivity and health of animals (Singh *et al*, 2023b). Lastly, managing zoonotic diseases is critical, given their potential transmission between animals and humans, underscoring the necessity of comprehensive disease management on the farm. After training the knowledge level of farmers improved significantly which is similar to Singh *et al* (2023a) Arya *et al* (2021) and Meena *et al* (2020). Post training the knowledge level were found to be improved by 36 %, 24 %, 58 %, 52 %, and 34 % for udder hygiene, deworming schedule, vaccination schedule, metabolic diseases and zoonotic diseases of animals.

Reproductive management

Managing reproductive performance is key parameter for successful goat farming business as it determines the farm profitability. The evaluation of pre questioner showed that farmers were better aware for reproductive parameter knowledge such as age of puberty, estrous signs, gestation length and length of estrous cycle as compared to other topics such as feeding, general and disease management. It is presumed that this knowledge might be acquired by the farmers during the rearing of the goats. Further there was an improvement in knowledge level by 12% in reproductive management after the completion of training programs. It is similar to findings of Hundal *et al* (2016) and Singh *et al* (2023a) who observed similar findings in goat and dairy farmers of Punjab.

CONCLUSION

Farmers showed awareness of proper feeding techniques, the importance of disease vaccination, insights into reproductive behaviors, and other vital management practices. Thus, conducting training can be used to provide farmers with scientific knowledge and awareness in goat farming which can mitigate economic losses and ensure the sustainability of goat farming endeavors.

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