

BREEDING AND REPRODUCTION MANAGEMENT PRACTICES FOLLOWED BY GOAT KEEPERS IN AKOLA AND HINGOLI DISTRICT OF MAHARASHTRA

LATA SHARMA AND JAYANT KHADSE

Baif Development Reseach Foundation, Urulikanchan, Pune, Maharashtra
E-mail: sharmalata11078@gmail.com, lata.sharma@baif.org.in

Abstract: Considering the importance of goat rearing as poor man's cow as well as ATM and live bank of rural poor people, a survey of goat keepers was conducted to find out the existing breeding practices in the Akola and Hingoli district of Maharashtra where sizable goat population was available. Low input, high fecundity, easy marketing and unprejudiced social acceptance of their products are advantages of goat rearing that provide assured income.

A total 45 goat farmers from Akola and Hingoli were randomly selected from 86 goat owners who were having average herd size 7.9 ± 1.75 and 3.2 ± 1.10 respectively as respondents by using random sampling method. Data were collected with help of well-structured questionnaire by telephonic interview schedule and data were subjected to standard statistical analysis

It was found from the response of the goat keepers that 68.88% of respondents were maintaining the breeding buck of Black Bengal and Osmanawadi breed. Majority of respondents (57.78%) were using 10-12 months old bucks for breeding purpose followed by 18-24 months (26.66%) and 12-18 months old (15.56%). Majority of respondents detected the heat by the sign vulval discharge (26.67%) and mounting (26.67%), followed by wagging of tail (20%) the frequent urination (15.56%), bleating (11.11%). All the respondents diagnosed the pregnancy by the non-return to estrus. Majority of the respondents (67.52%) reported twin kidding while 21.31%, 11.47% and 1.63 % respondents reported single, triplet and quadruplets respectively in a year. Goats breed round the year with two peak breeding periods spring (57.77%) and autumn (42.22%). All the respondents (100%) were adopting natural breeding and on an average 2 to 3 services per estrus were required by buck. It was found from the survey that Artificial Insemination (AI) of goats was not adopted by the farmers because of non-availability of AI services and lack of awareness and non about advantages of AI over natural breeding.

Keywords: Goat, Breeding, Heat detection, Heat symptoms

INTRODUCTION

Goat farming plays a vital role in providing nutritive food and in supplementing family incomes and generating gainful employment in the rural sector, particularly among the landless, small and marginal farmers. Goats are among the main meat-producing animals in India, whose meat (chevon) is one of the choicest meats and has huge domestic demand. Besides meat, goats provide other products like milk, skin, fibre and manure. Goats are important part of rural economy, particularly in the arid, semi-

arid and mountainous regions of the country. India occupies first position in terms of goat population and milk production. Since ancient times goat milk has traditionally been known for its medicinal properties and has recently gained importance in human health due to its proximity to human milk for easy digestibility and it's all round health promoting traits. Still research is needed to explore and validate medicinal properties of goat milk for projecting it as therapeutic milk for human health. Demand for goat milk and milk products for internal

consumption and export is expected to rise in coming years. Goat population in India is 148.9 million as per census 2019. Goat research needs progress rapidly to reach the level of knowledge of other species like cattle or sheep, especially in milk and meat production (Arguello 2011) [1]. Goat sector provides subsidiary source of livelihood to the people especially to small and marginal farmers and landless laborer's. Goat farming is capable of changing the economy of rural areas if proper attention is paid. Moreover, adoption of scientific management practices in the farmers' flock is very low (Singh and Kumar, 2007). However, the productivity of goats under the traditional production system is very low owing to their maintenance under extensive system on natural vegetation and shrinking common grazing lands and tree lopping (Kumar *et al.*, 2010). Goat farming has tremendous potential for income and employment generation, especially in rural areas (Singh *et al.*, 2013).

MATERIALS AND METHODS

The study was conducted in the Vidarbha region of Maharashtra state, comprising of two districts (Akola and Hingoli). Multi-stage random sampling procedure was followed to select the participants farmers from 6 villages of two districts. Thus, a total of 45 goat owners were selected randomly for the present study. The adoption index was calculated by following method: Adoption Index = (Respondents' total score/ Total possible score) * 100 Depending upon the extent of adoption of improved technologies. The Data were collected personally by semi structured interview schedule and analyzed by appropriate statistical methods.

Data on breeding season, type of breeding i.e. natural vs artificial, source of breeding buck, number of services by buck required per estrus, age of breeding buck, heat detection method and kidding pattern were collected for the study.

RESULT AND DISCUSSION

Extent of adoption of reproduction and breeding practices by farmers

Extent of adoption of farmers with respect to breeding management practices under

reproduction and breeding management were studied as breeding season, type of breeding, ownership of buck and age of Buck at the time of breeding.

The data in Table 1 shows that majority of goat owners breed their goats in spring season (57.78%) while remaining breed in autumn (42.22). AI of goats was not adopted by the farmers. All the owners (100%) follow natural breeding for making goat pregnant. It might be due to poor knowledge about good breeding practices and non-availability of AI services in the area. Gautam (1998) also reported that AI was not adopted by all the goat owners. Gokhale *et al.* (2002) reported that more than three fourth respondents had little awareness about AI in goats and about 17.50% respondents prepared to adopt if facility is made available.

It has been also observed from the study that 68.89% owners were having their own breeding buck whereas 31.11 percent were using others buck for breeding their goats.

It was revealed from Table 1 that Majority of respondents (57.78%) were using 10-12 months old bucks for breeding purpose followed by 18-24 months (26.66%) and 12-18 months old (15.56%). It was found from the study that only 68.88% of respondents were maintaining the breeding buck of Black Bengal and Osmanawadi breed whereas others were having sirohi, kathiyawad and some indigenous breed bucks.

Table 1: Adoption of farmers with respect of different breeding practices

S.No.	Parameters		Numbers	Percentage
1.	Breeding season	Spring	26	57.78
		Autumn	19	42.22
2.	Type of Breeding	Natural	45	100
		Artificial	0	
3.	Breeding Buck	Own	31	68.89
		Others	14	31.11
4.	Age of Buck at the time of breeding	10-12 months	26	57.78
		12-18 months	07	15.56
		18-24 months	12	26.66

Heat Detection

It was observed from Table 2 that majority of respondents detected the heat by the wagging of

tails and vulval discharge (46.67), followed by the sign of mounting (26.67%), frequent urination (15.56%) and by bleating (11.11%). However, there was less understanding of the oestrus interval and mostly they were ignorant on the role of nutrition on the oestrus. In case of pregnancy diagnosis it was recorded that all the respondents diagnosed the pregnancy by the non-return to oestrus post breeding. It was also observed from the survey that goat keepers confirm pregnancy diagnosis by shining of skin coat, not coming in heat, drop in milk production and vulval discharge.

Table 2: Methods of Heat Detection

S.No.	Methods		Percentage
1.	Wagging of Tail & Vulval Discharge	21	46.67
2.	Mounting	12	26.67
3.	Frequent Urination	07	15.56
4.	Bleating	05	11.11
	Total No.	45	100

Kidding

Table 3 reveals that majority of the respondents (67.52%) reported twin kidding, 21.31% respondents reported single, 11.47 triplets and 1.63 quadruplets. The twinning percentage in Osmanabadi goat was reported to be 10.52 ± 1.98 by Sahare *et al* 2009. The year wise twinning percent ranged from 0 to 26.31. Deokar *et al.* (2006); Joshi *et al.* (2005) and Nneur *et al.* (2004) as they reported higher percentage of twinning in Osmanabadi and Marwari goats. Whereas Gaikwad (1999) reported very low percentage of twinning i.e. 5.27 % in Osmanabadi goat. Goat breed round the year with two peak breeding periods (May-July and September-October). Majority of the respondents (90%) were adopting breeding of the goats in breeding season.

Table 3: Number of kids per kidding

S.No.	Numbers	Percentage
1.	Twin	67.52
2.	Single	21.31
3.	Triplets	11.47
4.	Quadruplets	1.63

CONCLUSION

It can be concluded from the present study that goat keepers are following traditional breeding

practices. Millions of small holders rear animals on "Crop Residues" and "Common Property Resources". The small holders produce milk, meat, fiber, skin etc. for the community with virtually no capital, resource and formal training. Poor breeding and management practices leads to poor growth rate and lower milk production goats. Lack of awareness among goat keepers about different practices leads to poor production and mortality. Awareness and benefits of artificial insemination need to be introduced among the goat keepers. It is recommends that to create awareness among the farmers, through training, demonstration of efficient technologies and motivating the goat farmers to adopt improved scientific breeding management practice.

References

- Arguello A. Trends in goat research: a review. *Journal of Applied Animal Research*. 2011; 39(4):429-34.
- Chaturvedani AK, Sil BK, Goyel Jayant, Dhruw Kalpna, Pratap Jitendra, Chandrakar Choodamani and Singh Amit Kumar. Adoption level of breeding, health care and marketing practices among goat farmers in Chhattisgarh. *The Pharma Innovation Journal* 2018; 7(7): 432-434.
- Deokar, D.K., V.S. Lawar and B.R.UlmeK(2006): Morphological characteristics of Osmanabadi goats. *The Indian J. Small Ruminants* 12 (1): 13-15.
- Gaikwad, U.V. (1999): Studies on twinning ability in goats. M.V.Sc.Thesis (Unpublished). Dr.P.D.K.V. Akola.
- Gokhale, S.B., Gokhale, R.B., Phadke, N.L and Desale R.J. (2002). Status of village goat management practices in Maharashtra. *Indian J. Anim. Sci.*, 72(9), 810- 814. 3
- GOI. Basic Animal Husbandry & Fisheries Statistics, Animal Husbandry Statistics Division, DADE, MoA, New Delhi, 2017.
- Joshi, A., P.K.Vema, Satish Kumar, V.P.Maurya, R.Gulyani and I.P. Mittal (2005): Survey on reproductive status and management of Marwari goats in farmer flock of arid region of Rajanstan. *Indian J. Animal production Management* 21 (1-4) 113-115.
- Kumar R. Adoption and sustainability of goat health technologies among farmers in different agro-climatic zones of Bihar. PhD Thesis, ICAR- IVRI, Izatnagar, Bareilly, Uttar Pradesh, India, 2012.
- Kumar S, Rao CAR, Kareemulla K, Venkateswarlu B. Role of goats in livelihood security of rural poor

- in the less favored environments. *Indian Journal of Agricultural Economics*. 2010; 65(4):760-780.
- Livestock Censuses, Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture & Farmers' Welfare, GoI 2019
- M.G.Sahare, A.D.Sawaimul, S.Z.Ali, B.R.Kolte. Kidding Percentage and Twinning Ability in Osmanabadi goat in Vidarbha Climatic Condition. *Veterinary World* February 2009; Vol.2 (2):60-61,
- Singh MK, Dixit AK, Roy AK, Singh SK. Goat rearing: A pathway for sustainable livelihood security in Bundelkhand region. *Agricultural Economics Research Review*. 2013; 26:79-88.
- Singh NP, Kumar S. An alternative approach to research for harnessing production potential of goats. *Proceedings of 4th National Extension Congress, Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur, 2007.*
- Vihan VS. Important viral diseases of goats and their prevention, *Goat Enterprise, CIRG, Makhdoom, 2009, 167-75.*