

# Adoption of Scientific Goat Rearing Practices in Bhilwara District of Rajasthan

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## ABSTRACT

A study was undertaken to investigate the adoption of improved scientific goat rearing practices in Bhilwara district of Rajasthan. Data collected from 100 farmers revealed that breeding management (46.25%) had a highest adoption index followed by health, kid and feeding, management 44.66, 42.16 and 8.41%, respectively. The overall adoption index for scientific goat rearing practices by goat farmers was 35.37 %. The adoption rate of improved feeding practices for goat indicated higher mean score (0.36) for practices of concentrate feeding to lactating does. Breeding management practices higher mean score (0.93) was possessed by adoption of heat detection, With respect to the adoption of improved health practices maximum mean score was recorded for treatment of sick goats (0.740) and higher mean score (0.94) was observed for feeding of colostrum to kids. The regression coefficients were significantly 0.05 and 0.01 level in respect of flock size and economic motivation.

**Key words:** Adoption; Rearing practices; Goat; Bhilwara; Rajasthan;

Goat farming in India is a well-established, antiquated form of farming especially in places where dry land farming system is practiced. It is generally practiced by farmers who have a very small area of land for farming. Sometimes landless laborers also undertake goat farming since the risk, initial investments etc. are much lower than other forms of farming. Goats are hence rightly called as “poor man’s cow” since it has promises of good return that can serve as investment source. India ranks on top in goat population. The demand for meat, milk and fiber is increasing progressively and expected to further rise in future in view of sizable increase in per capita income and health consciousness of people. Worldwide consumers are preferring products that are “clean, green and ethical”. As such goat producers are shifting to husbandry practices that do not compromise the welfare of animals. In last few years, goat production in the country gained momentum in the form of a commercially viable enterprise as evidenced by increasing interest of young entrepreneurs to develop knowledge and skill in this species. In many small-herd dairy goat enterprises, not all does must be milked, so meat is often the main

product. Along with meat, the sale of breeding stock from small herds of dairy goats may be an important income source. Goats constitute 26.40% of the total livestock population and the 19th Livestock Census puts the number of goats in the country at 135.17 million. Goat plays a significant role in providing supplementary income and livelihood to millions of resource poor farmers and landless laborers of rural India. Goat farming has tremendous potential for income and employment generation, especially in rural areas (Singh *et al.*, 2013). Small ruminant rearing ensures self-employment and acts as a cushion in distress situations like drought and famine. Hence, the present study was undertaken to assess the adoption of scientific goat rearing practices in Bhilwara district.

## METHODOLOGY

A total of 100 goat farmers from 10 villages spread over four blocks (Suwana, Mandel, Kotri and Jhajpur) in Bhilwara district of Rajasthan were included in the study. Data on rearing practices of goats were collected from May to December 2017 through personal interviews with the help of a well structured schedule.

The extent of adoption of improved scientific goat rearing practices was assessed as full, partial and non-adoption with scores of 2, 1 and 0, respectively. Total score was for each practices were calculated and the mean score was calculated as per (Sabapara and Kharadi, 2015). According, area- wise adoption indices were calculated and finally overall adoption index was determined (Yadav and Sharma, 2012) by using the following formula:

$$\text{Adoption index (\%)} = \frac{\text{Actual score obtained}}{\text{Maximaum score assigned}} \times 100$$

## RESULTS AND DISCUSSION

The result shown in table 1, the adoption rate of improved feeding practices for goat indicated higher mean score (0.36) for practices of concentrate feeding to lactating does, followed by a stall feeding (0.20), concentrate feeding before 2-3 weeks of breeding (0.15), feeding of concentrate before 2-3 weeks of breeding

(0.10), concentrate feeding during advanced pregnancy (0.10) and supplementary feeding of mineral mixture (0.03).

For breeding management practices, higher mean score (0.93 ) was possessed by adoption of heat detection , followed by Appropriate age of breeding (0.78), breeding after 2-3 months of kidding (0.75), selection criteria for breeding bucks (0.60) and changing of breeding bucks (0.24). Narmatha et al. (2013) also reported that 90% of farmer in Namakkal district of Tamil Nadu adopt practices of identifying the goat in heat. It was observed that mounting on each other and bleating were the most reliable symptom for detection of heat in goats. With respect to the adoption of improved health practices, maximum mean score was recorded for treatment of sick goats (0.740), followed by protection from extreme weather (0.72), deworming for end-parasites (0.68), vaccination against

**Table1. Adoption of improved scientific goat rearing practices**

Practices	Adoption (No.of farmers)			Total adoption score	Mean score
	Full	Partial	No		
<b>Feeding management</b>					
Stall feeding	8	12	80	28	0.20
Concentrate feeding to lactating does	6	30	64	42	0.36
Concentrate feeding during advanced pregnancy	4	6	90	14	0.10
Special feeding after kidding	2	8	92	12	0.10
Concentrate feeding before 2-3 weeks of breeding	6	9	85	21	0.15
Supplementary feeding of mineral mixture	2	1	93	05	0.03
<b>Breeding management</b>					
Appropriate age of breeding (12-14 month)	66	12	22	144	0.78
Libido as selection criteria for breeding bucks	42	18	40	102	0.60
Breeding after 2-3 months of kidding	35	40	25	110	0.75
Pregnancy diagnosis by veterinarian	00	00	100	00	0.00
Changing of breeding bucks	14	10	76	38	0.24
Adoption of heat detection	68	25	07	161	0.93
<b>Health management</b>					
Deworming	48	20	32	116	0.68
Vaccination	26	20	54	72	0.46
Isolation of sick animals	04	20	76	28	0.24
Treatment of sick goats	44	30	26	118	0.74
Ecto-parasite control	28	12	60	68	0.30
Protection from extreme weather	62	10	28	134	0.72
<b>Kid Management</b>					
Colostrum feeding of kids (1-2 h after birth)	88	06	06	182	0.94
Timely feeding of colostrum (thrice a day)	44	20	36	108	0.64
Weaning of kids (at 3 month of age)	22	00	78	44	0.22
Green fodder to kids	52	22	26	126	0.74
Ligation and disinfection of naval cord	00	00	100	00	0.00
Castration of male kids	18	10	72	46	0.28

**Table 2. Adoption indices of improved goat management practices**

Practices	MPS	OS	AI (%)
Feeding management	1200	101	8.41
Breeding management	1200	555	46.25
Health management	1200	536	44.66
Kid management	1200	506	42.16
Overall	4800	1698	35.37

**Table 3. Regression analysis of independent variables and with the adoption level of goat husbandry practices**

Independent variables	'b'	SE	't' Value
Age	-0.058	1.132	-0.647
Family size	-0.114	1.352	-1.678
Educational status	0.245	0.564	1.372
Annual average income	-0.231	2.325	-0.187
Socio- economic status	0.236	0.589	0.078
Flock size (No.of goats)	0.975	1.678	4.567**
Innovation proneness	-0.078	0.657	-1.098
Attitude towards goat rearing	0.098	0.306	0.879
Economic motivation	0.513	0.678	3.527*
Utilization of mass media	0.098	0.543	0.981
Contact with extension staff	0.019	0.786	0.278
Marketing facilities	-0.009	0.987	-0.098
Supervision of goat farm	-0.982	0.657	-0.345

\*\*P<0.001, \*P<0.05

enterotoxaemia, peste des petits ruminants and foot and mouth disease (0.46), ecto-parasite control (0.30) and isolation of sick animals (0.24). Higher mean score (0.94) was observed for feeding of colostrum to kids, followed by feeding of green fodder to kids (0.74), thrice a day feeding of colostrum(0.64), castration of male kids (0.28) and weaning of kids at 3 months of age (0.22). *Lahoti and Chole (2010)* found that 100 per cent respondents in Beed district (Maharashtra) adopted the

colostrum feeding with one hour to new- born kid and 10 per cent adopted castration of male kids. The overall adoption index was 35.37 per cent (Table 2), which were comprised feeding, breeding, health and kid management 8.41, 46.25, 44.66 and 42.16 per cent, respectively. In determination of regression analysis it was found that out of total 13 independent variables only two variables i.e. flock size and economic motivation were significant at 0.01 and 0.05 level of significant, respectively. The results of the analysis were indicated of the facts that age, educational status and attitudes of the farmers were most important predictor of the adoption of goat rearing practices technology (Table 3).

The low adoption of scientific rearing practices in the study area could be attributed to poor economic status and lack of scientific knowledge among farmers. Thus, to improve the adoption of goat rearing practices in the study area through KVK and Department of Animal Husbandry should arrange trainings, Front line demonstration, on farm trial and extension activities for the improved scientific goat rearing practices to goat farmers.

### CONCLUSION

Hence, it may be concluded that the adoption rate of improved feeding practices for goat indicated higher mean score for practices of concentrate feeding to lactating does, breeding management practices higher mean score was possessed by adoption of heat detection, with respect to the adoption of improved health practices maximum mean score was recorded for treatment of sick goats and higher mean score was observed for feeding of colostrums to kids. The overall 35.37 per cent of adoption index of scientific goat management practices.

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