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Adoption of Scientific Breeding Practices of Goat Owners in Chittorgarh District of Rajasthan

Anil Mordia[1*], M. C. Sharma[2], M.L. Gurjar[2], R.K. Nagda[3]

[1]Teaching Associate, Livestock Research Station, Dag, Jhalawar,

[2]Assistant Professor, Department of Livestock Production Management, College of Veterinary and Animal Science, Navania, Udaipur-313601

[3]Professor, Department of Animal Genetics and Breeding, College of Veterinary and Animal Science, Navania, Udaipur-313601 & Officer Incharge, Livestock Research Station, Dag, Jhalawar, (Rajasthan University of Veterinary and Animal Sciences, Bikaner-334001, Rajasthan, India)

Abstract: ***Livestock play a vital role in the agriculture and rural economics of the developing world. Animal husbandry is a major economic activity of the rural peoples, especially in the Chittorgarh district of Southern Rajasthan. A field survey was conducted to study adopted scientific goat health care practices of 120 respondents of 8 villages of Chittorgarh and Kapasan tehsils of Chittorgarh district of Rajasthan were interviewed. Adoption is a mental process and depends on many factors viz., awareness knowledge, innovativeness and characteristics of an innovations etc. The study revealed that high adoption was noticed in heat detection by observing proper symptoms obtained overall first rank with 95.56 MPS. In which level of adoption Chittorgarh and Kapasan tehsil obtained first rank with 97.78 and 99.33 MPS in the study area. It was noted that most of goat owners were use of breeding buck for 25-30 Breedable goat was obtained second rank with 85.00 MPS, moreover similar rank found was both tehsils with 84.44 and 85.56 MPS respectively for breeding purposes in all categories. The lower adoption was found that Use of improved breeding buck and Feeding of extra ration for strength to breeding buck obtained eight ranks in the priority of adoption with 33.33 MPS respectively in the study area.***

Keywords: Adoption, Goat Owners, Breeding, Practices, Chittorgarh and Rajasthan

1. Introduction

Livestock sector is significantly contributing to the national economy and its growth rate is continuously increasing.

Livestock sector constitutes an important component of agricultural economy of developing countries, a contribution that goes beyond direct food production and includes multipurpose products and uses, such as skin, feather, fibre, manure for fertilizer and fuel, power and transportation, as barter product in societies where there is no circulation of currency **(Satyanarayan *et al.* 2010).**

Animal husbandry is a major economic activity of the rural peoples, especially in the Chittorgarh district of Southern Rajasthan. Development of livestock sector has a significant beneficial impact in generating employment and reducing poverty in rural areas. More than 80 per cent rural families keep livestock in their households. Contribution of animal husbandry sector to the GDP of the state has been estimated to be around 9.16 per cent. About 35 per cent of the income to small and marginal farmers comes from dairy and animal husbandry **(Source-Animal Husbandry Department, Rajasthan 2016)**.

The world population of goat is estimated to be 921 million **(UN Food and Agriculture Organization, FAOSTAT-2012)**. More than 95 per cent of the goat population is found in developing countries. In terms of goat population, India possesses 135.17 million goats and contributes around 26.40 per cent of total livestock population in the country, ranking 2nd in the goat population of the world **(19th Livestock Censes -2012).**

The total livestock population in Rajasthan is about 577.32 lacs. In Rajasthan, the goat's population was 216.66 lac and contributes around 37 per cent of total livestock population in the Rajasthan **(19th Livestock Census Rajasthan-2012)**.

Research area Chittorgarh district has total livestock population is 13, 77,269 lakh. In Chittorgarh district total goat population is 4,74,799 and contributes around 34.47 per cent **(19th Livestock Census Rajasthan-2012)**. In which Chittorgarh tehsil goat population is 70,328 and contributes around 14.81 per cent whereas, Kapasan tehsil goat population is 64,165 and contributes around 13.52 per cent **(Farmers portal, Gram war population- 2012)**. Hence, the present investigation was undertaken to study the breeding and feeding management practices among livestock owners in Chittorgarh district of Rajasthan.

2. Materials and Methods

The present investigation was conducted to study goat scientific health care practices of 120 respondents of 8 villages, VIZ., Keljer, Phusariya, Nalda, Barsingh ka Gurha, Keerion ka Khera, Theparion ka Khera, Moda Khera and Samrathpura in Chittorgarh and Kapasan tehsils of Chittorgarh district of Rajasthan were selected using random sampling technique. The interview schedule was pre-tested before applying it to the actual respondents. After getting opinion of the goat owners and expert advice the interview schedule was modified and then finally used for the study. The data were collected through personal interview of the goat owners with the help of well-structured interview schedule. The response to each of the questions in the interview schedule was coded and tabulated respondent-wise in a master table. The qualitative data were quantified

accordingly and tabulated to draw meaningful inferences. In the present study appropriate statistical tools was applied. Tentatively it has been planned to apply percentage and frequency, mean, and mean per cent score, rank and chi-square test. Therefore, significance among the different classes will be tested with chi-squares test **(Snedecor and Cochran, 1994).**

3.1 Measurement of Adoption

In the present study the term adoption operationalized as the new practice recommended by scientist after thorough research for the benefit of goat owners. Whether the goat owners using these technologies over a period of time at the farm or not. The most important recommended scientific practices in each aspect were selected on the basis of highest score points in order of merit.

According to selection of recommended scientific breeding practices, an adoption schedule was developed. The resp ondents were asked to give opinion about adoption on the point's continuum i.e. fully, partially and least adopted the scientific practice. These three points were scored as 3, 2, and 1, respectively.

To find out the level of adoption, overall score for each respondent was calculated and respondent were categorized into three groups on the basis of overall score obtained by each respondents;

(a) Low level of adoption = [X - S.D.]
(b) Medium level of adoption = [X – S.D. to X + S.D.]
(c) High level of adoption = [X + S.D.]

Frequency and percentage of respondents in each category i.e., low, medium and high were calculated. The adoption index for each respondent was calculated by using the following formula

$$\text{Adoption index} = \frac{\text{Total adoption score obtained by an individual}}{\text{Maximum obtainable score}} \times 100$$

To determine the extent of adoption mean per cent score for each sub-practice was worked out and ranked accordingly. In order to find out the difference in adoption level among marginal goat owners, small goat owners and large goat owners about different aspects of scientific breeding practices.

3. Results and Discussion

3.1 Adoption of breeding practices perceived by the respondents

The data accorded in table 4.1 revealed that overall adoption of heat detection by observing proper symptoms overall 95.56 MPS with first rank while, Chittorgarh tehsil goat owners was 97.78 MPS and Kapasan tehsil goat owners it was 93.33 MPS. It was noted that overall most of owners were use of breeding buck for 25-30 Breedable goat was second rank with 85.00 MPS, moreover similar rank found was both tehsils respectively for breeding purposes in the study area.

The goat owners were highly adopted heat detection by observing proper symptoms i.e. wallowing, frequent urination, mounting and vaginal discharge. The respondents were highly aware about heat detection.

Likewise, the adoption of regular change of breeding buck every year, recommended extra managerial care of at the time of kidding, castration at the age of less than three months of age, recommended extra care of pregnant doe, castration through expert hands, selection of breeding buck on the basis of recommended criteria, feeding of extra ration for strength of breeding buck and use of breeding buck. obtained overall third rank with79.72 MPS, fourth rank with 72.50 MPS, fifth rank with 46.94 MPS, sixth rank with 40.00 MPS, sixth rank with 40.00 MPS, seventh rank with 33.89 MPS and eight rank with 33.33 MPS respectively in the study area.

The use of improved breeding buck and feeding of extra ration for strength to breeding buck had lowered adoption obtained overall eight rank because lack of awareness, high cost of breeding buck and low availability of high quality breeding buck.

Table 4.1: Adoption of scientific breeding practices by the goat owners, (n=120)

S. No	Statement	Chittorgarh		Kapasan		Total	
		MPS	Rank	MPS	Rank	MPS	Rank
1	Use of improved breeding buck	33.33	VIII	33.33	IX	33.33	VIII
2	Heat detection by observing proper symptoms	97.78	I	93.33	I	95.56	I
3	Castration at the age of less than 3 months age	41.67	V	52.22	V	46.94	V
4	Use of breeding buck for 25-30 breedable goat	84.44	II	85.56	II	85.00	II
5	Castration through expert hands	38.33	VI	41.67	VII	40.00	VI
6	Regular change of breeding buck every year	83.89	III	75.56	III	79.72	III
7	Recommended extra care of pregnant doe	37.78	VII	42.22	VI	40.00	VI
8	Selection of breeding buck on the basis of recommended criteria	33.33	VI	34.44	VIII	33.89	VII
9	Feeding of extra ration for strength to breeding buck	33.33	VIII	33.33	IX	33.33	VIII
10	Recommended extra managerial care of at the time of kidding	70.56	IV	74.44	IV	72.50	IV

MPS=mean per cent score

An overview of data indicate that still their existed an adoption gap among all category of respondent. The area has potential for goat management practices, the breeding status of goat can be improved many folds by bridging the existing gap.

Mishra *et al*. (2012) reported that adoption of improved goat farming practices. Higher the economic motivation, the more will be the favorable altitude towards improved goat farming practices. Dudi and Meena (2013) found that there was a significant difference in adoption levels between different categories of respondents about breeding practices of goat rearing. Rai *et al*. (2013) reported that awareness of adoption levels about improved goat rearing practices such as breeding.

4. Conclusions and Recommendations

It was concluded from study in the recommended scientific breeding practices revealed that heat detection by observing proper symptoms was highly adopted by goat owners and obtained overall first rank (95.56 MPS). To improve the adoption of recommended breeding practices (use of improved breeding buck, feeding of extra ration for strength to breeding buck, selection of breeding buck on the basis of recommended criteria) to be organize training camp about scientific goat rearing.

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