Breeding Practices Followed in Dairy Animals by Farmers of Kheda and Panchmahal Districts of Middle Gujarat

B. S. Divekar and M. M. Trivedi

Livestock Research Station

College of Veterinary Science and Animal Husbandry, AAU, Anand-388 001, India

Corresponding Author: bsdivekar@aau.in

Abstract

This study was undertaken in Kheda and Panchmahal districts of middle Gujarat to assess existing breeding practices followed by the dairy farmers. The study was conducted in randomly selected four talukas each from Kheda and Panchmahal districts. From each taluka five villages and from each village five respondents were randomly selected. Thus, total 200 respondents were included in the study. Data revealed that majority of the respondents (49.00 %) were keeping buffaloes only. Mucus discharge alongwith bellowing and frequent urination were the predominant heat symptoms as perceived by majority of the respondents. Majority of the respondents (92.50 %) were taking their anestrous animals for treatment. Overall, majority (82.50 %) of the respondents were using artificial insemination for breeding their animals. Further majority of the dairy farmers (64.50 %) were inseminating their dairy animals between 12 and 24 hrs after heat detection. Moreover, almost all dairy farmers (97.00 %) were taking their animals for pregnancy diagnosis. Breeding records were maintained by more than three fourth (77.00 %) of the respondents. Almost all (99.00 %) dairy farmers disposed the placental membranes by burial method. The findings revealed higher level of awareness for breeding practices among dairy farmers of middle Gujarat.

Key Words: Breeding practices, Dairy animals, Middle Gujarat.

Introduction

Dairy farming is one of the most important means of providing livelihood and nutritional security to the vast majority of rural masses. The breeding practices followed by the farmers affect the genetic potential of the animals and hence, have long-run implications for sustainability of dairy farming (Joshi, 2004).With the use of low quality germplasm, the productive breeds are getting progressively diluted and face degeneration. Good breeding practices are therefore, essential pre-requisite for bringing genetic improvement of animals and thereby improving the productivity and sustainability of animals.Therefore, the breeding management followed by the farmers play a vital role in enhancing the income from the dairy enterprise. Keeping this in view, the present study was carried out to know the existing breeding management practices followed by dairy farmers of Kheda and Panchmahal districts of middle Gujarat.

Materials and Methods

The study was conducted in Kheda and Panchmahal districts of middle Gujarat. Four talukas from each district and five villages from each taluka were randomly selected. Thus, total forty villages were included in the present study. From each village, five respondents/dairy farmers were randomly selected, thus making a total of 200 respondents for this investigation. While selecting respondents due care was taken to ensure that they were evenly distributed in the village and truly represented animal management practices prevailed in the area. The selected dairy farmers were single interviewed and the desired information was collected regarding breeding management practices with the help of pre-designed and pre-tested questionnaire. Data were tabulated and analyzed as per standard statistical tools to draw meaningful inference.

Results and Discussion

Data pertaining to existing breeding management practices followed by dairy farmers of Panchmahal and Kheda districts are presented in Table 1, which revealed that overall 12.00 % of the respondents kept only cows. Among cow keepers majority were keeping crossbreds and non-descript cows in Kheda and Panchmahal districts, respectively. Moreover nearly half of the respondents were keeping buffaloes only. Some 39.00 % of the dairy farmers were keeping both cows and buffaloes. Among buffaloes majority were Surti buffaloes and non-descript buffaloes in Kheda and Panchmahal districts, respectively.

Dairy farmers of both the districts were well aware of symptoms of estrus (heat) exhibited by the animals. Mucus discharge along with bellowing and frequent urination was the heat symptoms considered as predominant by majority (34.00 %) of the respondents from Panchmahal district. As against this farmers of Kheda district considered only bellowing (21.00 %), mucus discharge with bellowing (16.00 %), only mucus discharge (14.00 %) and mucus discharge together with bellowing and frequent urination (12.00 %) as the reliable symptoms for heat detection. These observations concurred with the earlier report (Prajapati *et al.*, 2015). Majority of the respondents (92.50 %) were taking their anestrus animals for treatment which showed good awareness of dairy farmers.

It has been observed that overall majority (82.50 %) of the respondents were using artificial insemination for breeding their animals. This is because both Panchmahal and Kheda districts have very good network of AI centers run by co-operative dairies and state animal husbandry department as well. These findings are in agreement with the earlier reports of Murai and Singh (2011) and Prajapati *et al.* (2015). Further majority of the dairy farmers (64.50 %) were inseminating their dairy animals between 12 and 24 hrs after heat detection. This indicated that farmers were having proper knowledge as what is the right time of breeding the dairy animals in order to achieve maximum conception. Singh and Shahi (2011) and Rao *et al.* (2014) reported similar findings. Moreover 97.00 % of dairy farmers were taking their animals for pregnancy diagnosis to either Veterinary officers (55.50 %) or Livestock inspectors (34.50 %). Subramanyam *et al.* (2016) reported similar findings wherein 90.00 % of the dairy farmers were confirming pregnancy of their animals from either veterinary officer or Livestock inspectors. Records pertaining to the breeding were maintained by more than three fourth (77.00 %) of the respondents. Almost all (99.00 %) dairy farmers disposed the placental membranes by burial method, which concurred with observations of Munish Kumar (2015).

Postpartum breeding interval of more than 6 months duration was found in dairy animals kept by 78.00 % of the respondents in Panchmahal district. Contrary to this, 87.00 % respondents of Kheda district managed to have postpartum breeding interval of their dairy animals upto 5 months duration only.The differences in this regards between two districts were significant (p<0.01). The possible reason for this might be the different types of dairy animals owned by farmers of both the districts. As mentioned earlier farmers of Panchmahal district were having mostly non-descript cows and buffaloes, whereas crossbred cows and Surti buffaloes were kept by majority of the dairy farmers

of Kheda district. Post- partum breeding interval observed in Kheda district is in accordance to the findings of Prajapati *et al.* (2015).

Table 1:Existing breeding management practices for dairy animals in Panchmahal and Kheda districts of Gujarat

Sr. No.	Particulars	Dairy farmers			
		Panchmahal	Kheda	Overall	
		No.	No.	No.	%
1	**Type of dairy animals**				
	Only cows	11	13	24	12.00
	Only buffaloes	55	43	98	49.00
	Both cows & Buffaloes	34	44	78	39.00
	χ^2 =2.91NSTotal	**100**	**100**	**200**	**100.00**
2	**Symptoms of heat detection**				
	Only mucus discharge	00	14	14	7.00
	Only bellowing	02	21	23	11.50
	Only frequent urination	00	00	00	00.00
	Only mounting behaviour	00	00	00	00.00
	Mucus discharge + bellowing	18	16	34	17.00
	Mucus discharge + frequent urination	04	07	11	05.50
	Bellowing + frequent urination	04	00	04	02.00
	Mucus discharge + mounting	01	02	03	01.50
	Mucus discharge + bellowing + frequent urination	34	12	46	23.00
	Mucusdischarge+bellowing+ mounting	14	06	20	10.00
	Mucus discharge + frequent urination + mounting	05	09	14	07.00
	Bellowing+frequent urination+ mounting	10	03	13	06.50
	Mucus discharge + bellowing + frequent urination + mounting	08	10	18	09.00
	χ^2 =53.82 p<0.01 Total	**100**	**100**	**200**	**100.00**
3	**Treatment of anoestrus animals**				
	Yes	99	86	185	92.50
	No	01	14	15	07.50
	χ^2 =12.18 p<0.01Total	**100**	**100**	**200**	**100.00**
4	**Breeding method**				
	Natural service	14	05	19	09.50
	Artificial Insemination	79	86	165	82.50
	Both	07	09	16	08.00
	χ^2 =4.81 NSTotal	**100**	**100**	**200**	**100.00**
5	**Time of insemination (NS/AI)**				
	Immediately on noticing heat	29	08	37	18.50
	Between 12-24 hours after heat detection	68	61	129	64.50
	Within 12 hours of heat detection	03	31	34	17.00
	χ^2 =35.35 p<0.01Total	**100**	**100**	**200**	**100**
6	**Pregnancy diagnosis**				
	Not practiced	00	06	06	03.00
	Practiced	100	94	194	97.00
	χ^2 =6.18 p<0.05 Total	100	100	200	100.00
	By Veterinary officer only	100	11	111	55.50
	By Livestock Inspector only	00	69	69	34..50
	By Quacks only	00	02	02	01.00
	By Veterinary officer + LI	00	10	10	05.00
	By Livestock Inspector + Quacks	00	02	02	01.00

Sr. No.	Particulars	Dairy farmers			
		Panchmahal	Kheda	Overall	
		No.	No.	No.	%
7	**Breeding records maintained**				
	Yes	99	55	154	77.00
	No	01	45	46	23.00
	χ^2 =54.65 p<0.01 Total	**100**	**100**	**200**	**100.00**
8	**Method of placenta disposal**				
	Buried in soil	100	98	198	99.00
	Throw away	00	02	02	01.00
	Burnt	00	00	00	00
	Hanged on trees	00	00	00	00
	χ^2 =2.02 NSTotal	**100**	**100**	**200**	**100.00**
9	**Post-partum breeding interval**				
	Less than 2 months	02	08	10	05.00
	2-3 months	07	41	48	24.00
	3-5 months	11	38	49	24.50
	5-6 months	02	07	09	04.50
	More than 6 months	78	06	84	42.00
	χ^2=107.05 p<0.01 Total	**100**	**100**	**200**	**100.00**
`10	**Length of calving interval**				
	For cows				
	12-15 months	53	75	128	64.00
	16-18 months	15	19	34	17.00
	More than 18 months	02	03	05	03.00
	For Buffaloes				
	12-15 months	00	20	20	10.00
	16-18 months	65	60	125	63.00
	More than 18 months	25	08	33	16.00
11	**Average Age at first calving**				
	For indigenous Cows				
	3-4 years	55	64	119	60.00
	4-5 years	13	26	39	20.00
	More than 5 years	02	05	07	04.00
	For Crossbreds				
	2-3 years	04	47	51	25.00
	More than 3 years	00	22	22	11.00
	For buffaloes				
	3-4 years	16	32	48	24.00
	4-5 years	68	37	105	53.00
	More than 5 years	05	21	26	13.00

In general, the findings revealed higher level of awareness for breeding practices among dairy farmers under milk shed areas of Amul and Panchamrut dairies of middle Gujarat.

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