

Breeding and health care management status of dairy animals in the tribal area of south Gujarat

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Health care management like preventive measures, vaccination, deworming and timely treatments ensure proper health of animals that promotes their productivity (Singh *et al.* 2007). Understanding the livestock management practices followed by farmers is necessary to identify the strengths and weaknesses of the rearing systems and to formulate suitable intervention policies (Gupta *et al.* 2008). Hence, the present study was undertaken to document information regarding breeding and health care management practices followed by the tribal farmers of Vansda *taluka* of Navsari district for providing help in adoption of scientific management practices in the area.

A field study was conducted to document information on breeding and healthcare management practices followed by the dairy animal owners of Vansada *taluka* of Navsari district of south Gujarat from October 2008 to January 2009. Vansada *taluka* is spread over 95 villages. Majority of the population in the *taluka* is tribal (Anonymous 2006). Out of 95 villages in the *taluka*, 20 villages having functional primary milk producers' co-operative societies were selected randomly, viz. Pratapnagar, Bhinar, Navatad, Mola amba, Khambhala, Kansariya, Dholumbar, Jamliya, Limbapada, Manapur, Bartad, Vasiyatalav, Vaghabari, Motivalzar, Kavadej, Dubal faliya, Mindhabari, Motibhamti, Khatamba and Navanagar. Ten dairy animal owners from each selected villages were randomly selected with the help of Talati-cum-Mantri (Tehasildar) which represented a total of 200 tribal respondents. While selecting respondents due care was taken to ensure that they were equally distributed in the village and truly stand for animal management practices existing in the area. The selected farmers were interviewed and the preferred information was collected with the help of

predesigned and pretested questionnaire.

Breeding management practice: Milch animal herd of these respondents comprised indigenous (Dangi, Gir, non-descript), crossbred cattle and buffalo (Mehsana, Surti, non-descript). The information regarding breeding practices were collected and are presented in Table 1. All respondents followed heat detection practice based upon behavioral signs of estrus only. Among the various behavioral signs of estrus, majority of farmers (85%) relied on mucus discharge and bellowing as the symptoms of heat, whereas others trusted only on mucus discharge, frequent urination and mounting as sole symptom of heat. It was also found that estrus symptoms were mostly pronounced in morning or cool hours of day. In winter buffaloes showed more intense heat symptoms as compared to summer. Similar findings were reported by Patel *et al.* (2005) and Chowdhry *et al.* (2006) in North Gujarat detected. Majority of farmers (96.5%) used scientific method of artificial insemination (AI) for breeding their dairy animals. Higher proportion for use of AI may be due to the availability of good infrastructure facilities, for the preservation and timely AI services with satisfactory results provided by AI workers in villages. There was no option of proven crossbred bull for natural service. Similarly, Chowdhry *et al.* (2006) observed that majority of farmers adopted AI in crossbred animals in North Gujarat. Majority of respondents (98%) allowed their female animals for breeding between 12 and 18 h after heat detection for better conception rate. This practice was widely accepted by farmers which might be due to extension work done by AI workers in villages. The results are in accordance with Patel *et al.* (2005) and Chowdhry *et al.* (2006). Nearly 51, 41 and 8% of respondents rebred their dairy animal after 2–3 months, 3–5 months and after 5 months of calving, respectively. Similar findings were reported by Gupta *et al.* (2008). However, lesser number of respondents followed this practice as reported by Shirsat *et al.* (1994), Jagdale *et al.* (2000) and Malik *et al.* (2005), i.e. 26.66% , 19.33% and 20.00% , respectively. It may be due to fairly high level of awareness

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Table 1. Breeding management practices adopted by tribal dairy farmers of south Gujarat

Particulars	Frequency	Per cent
<i>Methods of heat detection</i>		
Symptoms	200	100.00
Teaser	000	000.00
<i>Symptoms of heat detection</i>		
Mucus discharge	010	05.00
Mucus discharge + bellowing	170	85.00
Frequent urination	012	06.00
Mounting	008	04.00
Any other	000	00.00
<i>Breeding of female animals</i>		
Artificial insemination	193	96.50
Natural service	006	03.00
Both	001	00.50
<i>Insemination or mating of female after heat detection</i>		
Immediately after heat	000	00.00
Within 12–18 h	197	98.00
After 18 h	003	02.00
<i>Breeding after calving</i>		
2–3 months	102	51.00
3–5 months	082	41.00
After 5 months	016	08.00
<i>Pregnancy diagnosis</i>		
No	072	36.00
Yes	128	64.00
Own judgments	000	00.00
(ii) Qualified veterinarian	016	12.50
(iii) LI or AI worker	112	87.50
<i>Calving interval</i>		
<i>Crossbred cow: n=143</i>		
(a) 12–13 months	066	46.15
(b) 13 - 15 months	077	53.85
(c) more than 15 months	000	00.00
<i>Indigenous cow: n=40</i>		
(a) 12–13 months	000	00.00
(b) 13–15 months	039	97.50
(c) more than 15 months	001	02.50
<i>Buffalo: n=94</i>		
(a) 12–15 months	002	02.13
(b) 16–18 months	085	90.42
(c) more than 18 months	007	07.45

in respondents as they are under a milk shed of co-operative milk producer union.

Practice of pregnancy diagnosis was followed by 64% of the respondents, whereas remaining 36% of the respondents did not follow pregnancy diagnosis practice for their dairy animals. Among pregnancy diagnosis practice adopted, 87.50% pregnancy diagnosis were done by either livestock inspectors or AI workers and only 12.50% by qualified veterinarian at about 3 months of pregnancy. This finding is in accordance with findings of Shirsat *et al.* (1994), Jagdale *et al.* (2000) and Gupta *et al.* (2008) the figures reported being 62.50, 71.34 and 73% , respectively.

Yadav *et al.* (2009) reported that 15% cases of pregnancy diagnosis are done by a veterinarian which is also similar to the present findings.

Calving interval was 12 to 13 months and 13 to 15 months in 46.15 and 53.85% of crossbred cows whereas majority of indigenous cows (97.50%) had 13 to 15 months of calving interval. In buffaloes, 2.13, 90.42 and 7.45% of animals had 12–15 months, 16 to 18 months and more than 18 months calving interval, respectively. These observations are similar to that of Patel *et al.* (2005) and Chowdhry *et al.* (2006) for crossbred and buffaloes. The information of present studies is indicative of very high level of awareness regarding this most important economic trait of dairy animal.

Health care practices: Regular vaccination was practised by 79% respondents for their animals against foot-and-mouth disease and haemorrhagic septicaemia disease, while, 21% respondents did not follow vaccination practice against these diseases (Table 2). No regular vaccination for BQ and anthrax was done in this area. The present finding was on higher side to that reported by Malik *et al.* (2005), Singh *et al.* (2007) and Kalyankar *et al.* (2008). This is suggestive of fairly high level of awareness in farmers regarding protecting the animals by vaccination.

Table 2. Health care management practices adopted by tribal dairy farmers of south Gujarat

Particulars	Frequency	Per cent
<i>Vaccination against FMD and HS</i>		
Yes	158	79.00
No	042	21.00
<i>Deworming of milch animal</i>		
Regular	051	25.50
Occasional	141	70.50
Not practised	008	04.00
<i>Deworming of calves</i>		
Regular	051	25.50
Occasional	141	70.50
Not practised	008	04.00
<i>Navel disinfection of calf after birth followed</i>		
Yes	000	00.00
No	200	100.00
<i>Dehorning of calves followed</i>		
Yes	20	10.00
No	180	90.00
<i>Practices to control ecto – parasites</i>		
Followed	043	21.50
not followed	157	78.50
<i>Sanitary condition of shed / shelter / standing place</i>		
Clean(dry)	041	20.50
Dirty(wet)	159	79.50
<i>Treatment of Sick animal by</i>		
Use of local empirical knowledge	000	00.00
Calling a quack	000	00.00
Livestock inspector	180	90.00
Veterinary doctor	020	10.00

It is observed that very few respondents (25.5%) practised deworming to their milch animals at regular interval. This finding is well comparable with finding of Pawar *et al.* (2006) whereas Chowdhry *et al.* (2008) reported that deworming is followed by less than 50% of respondents. Regular deworming in calves were followed by only 25.50% respondents whereas 70% respondents followed occasionally and remaining 4% did not give any medication to control the endoparasites. Similar findings were reported by Gupta *et al.* (2008) and Kalyankar *et al.* (2008). The results of this practice are indicative of high level of awareness in respondents.

All the respondents did not practice navel cutting and it was left to fall off itself naturally. The similar findings were reported by Kokate and Tyagi (1991). However, Pawar *et al.* (2006) and Rathore *et al.* (2009) reported cutting and disinfection of navel cord in 31 to 37% cases. More and concentrated efforts are required to motivate farmers to follow this practice. Only 10% respondents followed dehorning practice (hot iron method) after 3–4 week of age of their calves and 90% respondents did not follow it. This finding is in accordance with the finding of Kokate and Tyagi (1991) and Rathore *et al.* (2009).

Majority of respondents (78.5%) did not follow any practice to control ecto-parasites. However, some farmers adopted traditional practices like smoke of neem leaves to prevent mosquitoes, salt spray to control ticks and lice in animal houses etc. Similar findings were reported by Yadav *et al.* (2009). This practice needs attention to create awareness in respondents covered under present study.

It was found that 20.50% respondents cleaned shed, while 79.50% farmers did not give more attention towards sanitary condition of shed. This might be due to lack of sufficient space in house, inadequate drainage facility and shed with earthen floors, which can not be washed and thus ultimately leads to dampness and insanitary condition. The results are contradictory to the findings of Chowdhry *et al.* (2008) for dairy animals in north Gujarat.

Only 10% of the respondents acquired the services of a qualified veterinarian for treatment. Similar findings were reported by Kokate and Tyagi (1991) and Malik *et al.* (2005). This may be due to non-availability of a qualified veterinarian of a veterinary dispensary, which is established at *taluka* place and the excessive workload to Person In-charge.

Our study indicated that adoption of overall scientific breeding practices was good apart from using the services of a qualified veterinarian for pregnancy diagnosis. Adoption of regular vaccination for FMD and HS was good but very poor in other health care practices like regular deworming practice of milch animals. Only few of the sick animals of the respondents of this area were treated by a qualified veterinarian. Hence, these practices need to be improved to a great extent in this tribal area.

SUMMARY

A field study was conducted to collect the first hand information on dairy animal management practices followed by the tribal dairy animal owners. Existing breeding and healthcare management practices were studied through predesigned and pretested questionnaire from 200 tribal dairy animal owners. Findings of the study were: 85% of farmers relied on mucus discharge and bellowing as the symptoms of heat; 96.50% of farmers used AI for breeding their dairy animals; 98% respondents allowed their female animals for breeding through AI or natural service between 12 and 18 h after heat detection; pregnancy diagnosis was followed by 64% respondents, where only 12.5% of pregnancy diagnosis was done by a qualified veterinarian; regular vaccination for FMD and HS was practised by 79% respondents; 25.50% respondents practised deworming to their milch animals at regular interval; practice of navel cord cutting after birth was not followed; 10% respondents obtained services of a qualified veterinarian for treating sick dairy animals. Adoption of overall scientific breeding practices and vaccination programme was good but practices like measures to control ecto- and endo-parasites, navel cord disinfection, availability of services of a qualified veterinarian was poor and needs to improve a lot.

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