Environment and Ecology 42 (1) :130—134, January—March 2024
Article DOI: https://doi.org/10.60151/envec/TPTK8339
ISSN 0970-0420

Breeding and Healthcare Practices Followed by the Rajbanshi Dairy Farmers in Coochbehar District of West Bengal

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Received 18 August 2023, Accepted 3 December 2023, Published on 31 January 2024

ABSTRACT

Breeding and healthcare management play a significant role in utilizing the full potential of dairy animals. Constant breeding and healthcare development are essential to provide better conditions and improve dairy production and welfare. This study explores the breeding and healthcare management practices adopted by Rajbanshi dairy owners in West Bengal's Coochbehar district. Utilizing a pre-tested interview schedule, data was collected and subsequently analyzed in terms of frequency and percentage. The findings shed light on key patterns and practices, contributing to a better understanding of dairy management within this specific community. A strong preference (77.00%) for crossbreed cattle emerges in breeding practices meanwhile, heat detection predominantly relies on bellowing and mucus discharge (86.00%) and the pregnancy diagnosis was mostly done by Prani Bondhu (88.64 %). Within healthcare practices, dairy farm families vaccinated their animals by 98.50%, 19.50%, 16.50% and 52.50% of their animals with FMD, HS, BQ and Brucellosis vaccines respectively. Half of the dairy farm families (49.50%) followed deworming practices occasionally. The findings highlight the need for specific training within the dairy farming community on reproductive techniques and disease prevention methods. Also, promoting hygienic practices in animal housing and expanding access to veterinary care can improve overall animal health and farm sustainability.

Keywords Breeding, Health, Management practices, Dairy farming, Rajbanshi community.

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INTRODUCTION

Dairy farming is an integral part of the rural economy and is a potential source of not only provide gainful employment opportunities but also nutritional security for the rural poor (Khode *et al.* 2017). Successful dairy farms are the outcome of effective and efficient resource management, which significantly contributes to improving the genetic potentiality of animal productivity and reproductive performance

(Roy and Meena 2020). Ensuring the adoption of improved animal husbandry practices like breeding, and healthcare is necessary. Constant breeding and healthcare development are essential to provide better conditions and improve dairy production and welfare. This is done through the advanced management strategies that permitted the introduction of many technologies in cattle breeding. Further, the adoption of recommended healthcare management practices ensures better animal health, leading to increased animal productivity (Prajapati *et al.* 2015). Healthcare management like preventive measures, vaccination, deworming, and timely treatments ensure the proper health of animals (Singh *et al.* 2007). The timing of postpartum interval to estrus, accurate heat detection, timely animal breeding, and minimizing the number of inseminations/ matings collectively influence the service and calving periods, ultimately impacting the overall profitability in dairy farming (Prajapati *et al.* 2015).

The Rajbanshi community, originating from the historical Koch kingdom, is known as Koch Rajbongshi or Rajvanshi, with a rich heritage primarily found in West Bengal, Assam, Arunachal Pradesh, Meghalaya, and other parts of North-Eastern India (Coochbehar District Profile). Their social status varies across regions, being classified as OBCs in parts of Assam and Bihar, SCs in West Bengal, and STs in Meghalaya, with the highest population in Coochbehar district, West Bengal (Census 2011). Livestock farming plays an important role in the socio-economic and cultural life of the Rajbanshi people.

Management of dairy farms is needed because it helps to enhance the tolerability power of animals against prevailing biotic and abiotic stresses in nature (Matthewman 1993). So, it is essential to understand the dairy management practices followed by Rajbanshi farmers to assess the strengths and weaknesses of the husbandry systems and facilitating the development of appropriate intervention strategies (Gupta *et al.* 2008). Hence, the present investigation was conducted to study breeding and healthcare management practices followed by the Rajbanshi dairy owners in the Coochbehar district of West Bengal.

MATERIALS AND METHODS

A field study was conducted to outline the information on the array of existing breeding and healthcare management practices followed by Rajbanshi farmers. A multistage sampling technique was followed for the selection of the study area. The study was carried out in the state of West Bengal in the year 2022. Coochbehar district was selected for the purpose of the study. In West Bengal, the Rajbanshi people have been granted the status of Scheduled Caste and the 2nd highest SC population of the country is also living in this state. The sub-divisions are Coochbehar Sadar, Mathabhanga, Mekhliganj, Tufanganj, Dinhata. Coochbehar Sadar and Dinhata sub-divisions were selected randomly and subsequently from each selected sub-divisions, four blocks were selected randomly. Fifty respondents were selected from each selected blocks viz. Coochbehar I, Coochbehar II, Dinhata I, Dinhata II. Only those respondents were selected who had a dairy farming background with at least 50.00% income from dairy husbandry to draw a true picture of the dairy farming practices. Thus, a total sample size of 200 was taken for the present study. A pre-tested interview schedule was utilized for data collection, and the gathered information was organized and analyzed in terms of frequency and percentage to derive significant insights.

RESULTS AND DISCUSSION

Breeding management practices

Table 1 shows that 77.00% of dairy farm families preferred cross breeds cattle followed by 15.50% preferred indigenous breeds and 7.50% preferred exotic breeds. This might be due to the higher milk yield from the crossbreeds in comparison to indigenous cattle breeds. The result is similar to Malsawmdawngliana and Rahman (2016). Most farmers rely on visible signs and behaviors to detect when cows are in heat, possibly due to limited knowledge of scientific methods. For heat detection, the majority of the respondents depended more on “Bellowing and mucus discharge” (86.00%) followed by “Mucus discharge” (7.00 %), “Frequent urination and restlessness” (4.50 %) and “Ready to be mounted by another animal” (2.00). The result is similar to the findings of the

Table 1. Breeding management practices (n=200).

Sl. No.		Breeding practices and types	Frequency	Percentage (%)
1		Breed preference		
	a	Crossbreds	154	77.00
	b	Exotic breeds	15	7.50
	c	Indigenous breeds	31	15.50
2		Symptoms of heat detection		
	a	Mucus discharge	14	7.00
	b	Bellowing and mucus discharge	173	86.00
	c	Frequent urination and restlessness	9	4.50
	d	Ready to be mounted by another animal	4	2.00
3		Breeding after calving		
	a	2-3 months	56	28.00
	b	3-5 months	102	51.00
	c	After 5 months	42	21.00
4		Performing pregnancy diagnosis of cattle		
	a	Yes	132	66.00
	b	No	68	34.00
		Pregnancy diagnosis was done by out of 132		
	a	Own judgment	0	0.00
	b	Qualified veterinarian	15	11.36
	c	Prani Bondhu	117	88.64
5		Treatment of anestrous/ repeat breeder		
	a	Yes	122	61.00
	b	No	78	39.00
6		Kept breeding records		
	a	Yes	27	13.50
	b	No	173	86.50
7		AI worker is readily accessible		
	a	Yes	119	59.50
	b	No	81	40.50
8		Availability of good quality semen		
	a	Yes	114	57.00
	b	No	86	43.00

study undertaken by Paregi *et al.* (2023), Khadda *et al.* (2017), Yadav *et al.* (2016), Sabapara *et al.* (2010), Prajapati *et al.* (2015). The maximum proportion (51.00 %) of the dairy farm families bred female cattle 3 to 5 months after calving followed by 28.00% after 2-3 months and 21.00% after 5 months. Similar results were found by Paregi *et al.* (2023), Malsawmdawngliana and Rahman (2016). The practice of pregnancy diagnosis was followed by 66.00% of the dairy farm families however, 34.00% did not follow pregnancy diagnosis. Similar result was reported by Khadda *et al.* (2017), Prajapati *et al.* (2015). Mostly the pregnancy diagnosis was done by Prani Bondhu (88.64%) followed by qualified veterinarian (11.36%). The result is in accordance with Sabapara *et al.* (2010). The majority (61.00 %) of dairy farm families treated the anestrous/ repeat breeder however, 39.00% did not treat the anestrous/ repeat breeder. The result is in accordance with Sabapara *et al*. (2010). A significant percentage (86.50%) of dairy farmers do not keep breeding records due to difficulties in paperwork whereas 13.50% kept breeding records. The result is in line with the findings of Sabapara *et al.* (2010), Chandrasekar *et al*. (2017). Further, it was revealed that a high proportion (59.50 %) of farmers find AI services readily accessible as mostly the AI was done by the local animal health workers also known as Prani Bondhu, with good semen quality available to them (57.00 %). Rajpoot *et al.* (2021) reported a similar result in their study.

Health management practices

Results presented in Table 2 revealed that 98.50% of dairy farm families vaccinated their animals with FMD, 19.50% of dairy farm families vaccinated their animals with HS and 16.50% of dairy farm families vaccinated their animals with BQ whereas 52.50% of dairy farm families vaccinated their animals with Brucellosis. Tewari *et al.* (2018) observed that respondents vaccinated with FMD and HS showed similar results in their study. Half of the dairy farm families (49.50%) followed deworming practices occasionally for milch animals, 36.00% did not practise deworming and 14.50% of the dairy farm families followed regular deworming for the milch animal. Similar results were conveyed by Sabapara *et al.* (2010), Singh *et al.* (2019). Among the total respondents of

Table 2. Health management practices (n=200).

Sl. No.		Healthcare practices and types	Frequency	Percentage
1		Vaccination for		
	a	FMD	197	98.50
	b	HS	39	19.50
	c	BQ	33	16.50
	d	Brucellosis	105	52.50
2		Frequency of deworming of milch animal		
	a	Regular	29	14.50
	b	Occasional	99	49.50
	c	Not practised	72	36.00
3		Practices to control ectoparasites		
	a	Followed	182	91.00
	b	Not followed	18	9.00
4		Hygienic state of shed /housing/standing place		
	a	Clean (dry)	44	22.00
	b	Dirty (wet)	156	78.00
5		Primary veterinary healthcare is done by		
	a	Farmer himself/ herself	33	16.50
	b	Neighbour farmer	69	34.50
	c	Prani Bondhu	98	49.00
	d	Veterinarian	0	0.00
6		Treatment of sick animals by		
	a	Use of local knowledge	0	0.00
	b	Calling a Prani bondhu	193	96.50
	c	Veterinarian	7	3.50
7		Accessibility to the veterinary hospital		
	a	0- 5 km.	19	9.50
	b	5- 10 km.	167	83.50
	c	10- 15 km.	14	7.00
	d	> 15 km.	0	0.00
8		Grooming practice of cattle		
	a	Yes	187	93.50
	b	No	13	6.50
9		Isolate the sick animals from healthy animals		
	a	Yes	94	47.00
	b	No	106	53.00

dairy farm families, 91.00% followed practices like spraying, and using drugs for the control of ectoparasites and only 9.00% did not follow practices to control ectoparasites. The result is in line with the findings of Prajapati *et al.* (2015). Majority (78.00%) of the farm families had dirty (wet) hygienic state of the shed /housing/standing place and only 22.00% of dairy farm families had a clean (dry) shed. Similarly, Singh and Gupta (2015) reported a comparable result. The data in the table depicted that primary veterinary healthcare was done mostly by calling a Prani Bondhu (49.00%) followed by the neighbour farmer (34.50 %) and the farmer himself/ herself (16.50 %). For treating a sick animal, the dairy farm families depended on mostly Prani Bondhu (96.50%) and only a few of the dairy farm families called for veterinarians for the treatment of animals. The farmers mentioned that there were problems associated with access to veterinarians in the area and they had to depend on the local Prani Bondhus for serious health issues of animals. This finding was supported by the work of Sharma *et al.* (2023), Singh *et al.* (2007), Rathore *et al.* (2010). A total of 83.50% of dairy farm families were 5 to 10 km away from the veterinary hospital. It was also revealed that majority of the dairy farm families (93.50%) followed grooming practices. A similar result was reported by Gill and Saini (2008), Kumar *et al.* (2014), Prajapati *et al.* (2015). About half of the dairy farm families (53.00 %) do not isolate sick animals from healthy ones, possibly due to lack of knowledge or suitable facilities. The reason might be lack of knowledge about animal health practices or lack of place available to settle the animal. The result is in line with the findings of Prajapati *et al.* (2015).

CONCLUSION

The present study shed light on various aspects of dairy animal breeding and health management practices followed by Rajbanshi dairy farmers. The findings highlight both the practices that many dairy farm families have adopted, as well as areas that require attention and improvement. The preference for crossbred cattle is due to higher milk yield. Visible signs are still the most common method of detecting heat, there is a need to promote advanced techniques. Timing of breeding aligns with good reproductive health practices. A high proportion of

farmers find AI services readily accessible, with good semen quality. Vaccination practices demonstrate a commendable emphasis on disease prevention, with room for expansion. A significant portion of farmers do not practice regular deworming for milch animals and many dairy farm families have dirty and wet conditions in their animal housing. Improving animal well-being by addressing irregular deworming and improving shed hygiene. Given the scarcity of veterinarians, the role of local animal health workers (Prani Bondhu) is critical. Overall, the importance of education, access to veterinary services, and the adoption of best practises for thriving dairy farming systems is emphasised in this study.

ACKNOWLEDGMENT

Authors are thankful to the respondents for sharing valuable information regarding dairy farming practices. Sincere appreciation is expressed to the Head of the Eastern Regional Station, ICAR-NDRI, for providing essential facilities and fellowship support.

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