

Original Research Article

<https://doi.org/10.20546/ijcmas.2020.902.348>

Studies on Breeding and Feeding Practices in Karnal District of Haryana: A Descriptive Study

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ABSTRACT

Keywords

Artificial insemination, Breeding practices, Feeding practices, Pregnancy diagnosis, Rectal palpation

Article Info

Accepted:
20 January 2020
Available Online:
10 February 2020

The study was all about assessing of breeding and Feeding practices followed of dairy farming by farmers in Karnal District of Haryana. Total eight villages of Karnal District were gleaned for this specific descriptive study. By random sampling all total 120 respondents were personally interviewed to know their followed dairy farming practices. The respondent farmers in all villages were well aware of different method of heat detection like bellowing, mucus discharge, frequent urination, mounting etc. All the respondents were practicing A.I and Pregnancy diagnosis at 60 days by either veterinary or paravet (as per the availability), for their animals like Indigenous cattle, Crossbreed cattle and Buffalo etc. Feed and fodder intake of animals were found as 18.32 kg, 6.05 kg, 3.44 kg in green fodder, dry fodder and concentrate, respectively. For green fodder, they used to cultivate sorghum & maize in summer and Berseem in winter for their animal. For dry fodder, they used to give paddy straw (parali), wheat straw, and rice husk, etc. in general. In different aspects of feeding practices among respondents were following two times feeding interval in feed, Fodder and water.

Introduction

As developing country like India where dairy farming always found to be a complimentary to the agricultural sectors, plays an important role to generate employments as well as regular income to the family with a sustainable growth. With consideration of socio-economic status of farmers regardless depends on interaction effect of both the

sectors namely, agriculture as well as dairy farming. To availing of trio-benefits like resource mobilization, additional income and sustainability through dairy farming has a significant role to enhance not only farmers income but also in National income. Non-availability of quality feed causes as an obstacle to reach animals' fullest potential in both productive and reproductive performance (Staal *et al.*, 2008, NCA, 1976; Ranjhan,

1994; NDRI, 1996). Balanced feeding mechanism has potential to increase animal performance with respect to enhance farmer income (Duncan *et al.*, 2013; Patil and Udo, 1997). Inefficient management of data regarding different dairy farming practices makes policy makers clueless to formulate dairy animals-based scheme and other steps to bring significant remarks over there (Verma, 1989).

Another aspect like breeding practice also has contribution to obtain maximum yield through upgrading germplasm, pedigree selection etc. Different methods of heat detection were followed in all over the country in spite of bothering about the recommended practices. Both Breeding and feeding practices are important aspects of dairy farming to look for better performance and make it dynamic in competitive environment.

Materials and Methods

Karnal district of Haryana state was purposively selected for this descriptive study. The state Haryana positioned in the northern region of India. It is bordered by Punjab, Rajasthan, Delhi and Uttar Pradesh. Karnal district lies on western bank of river Yamuna. The river splits Haryana from Uttar Pradesh. Karnal district lies between 29°41'22.27"N and 76°18'13.18" east longitude. Its height from sea level is approximately 257 metres. It is encircled by Kurukshetra district on its north and North West, Jind district on its south west and Panipat district on its south. The climate ranges from dry and hot summers to cold winters. Average annual rainfall is about 766 mm. Net irrigated area is about 1,97,000 hectares and forms 2,20,000 of the net cultivated area. Out of the 22 districts in Haryana State, Kamal district was selected purposively in this study.

Total eight village were selected randomly from two different block for present

investigation purpose namely, Subri, Churni, Landora and Sanghoi from Karnal block Whereas from Indri Block, Gorgarh and Deepo, Norta and Dhamenheri. A list of farmers from each randomly selected villages was prepared who were having at least one milch dairy animal at the time of investigation and more than five years of experiences of dairy farming on the basis of pilot survey. The first hand information was gleaned by personal interview method from 15 respondents from each village, who were selected from the prepared list by applying simple random sampling technique. So, all total it consists 120 farmers were the main contributors of primary information to see the present scenario of Breeding and Feeding practices of dairy farming in Karnal district.

Results and Discussion

Breeding and feeding practices are the two pillar of animal husbandry management. By effective management of different animal husbandry management practices can harness maximum production by reach the genetical potentiality of animal. Delay in maturity, long dry period, poor conception rate etc. might be the result of inadequate breeding and feeding practices followed by the dairy farmers. It is impossible to get better yield from dairy animals without having the first-hand knowledge of effective management practices of dairy farm. Awareness of these practices not only for obtaining maximum output but also sustaining the scares resources.

Existing breeding practices of dairy animals

All the dairy farmers (Table 1) preferred A.I for upgradation and Pregnancy diagnosis at 60 days by either veterinary or paravet (as per the availability), for their animals like Indigenous cattle, Crossbreed cattle and Buffalo etc. with supporting of these findings, Satyarthi *et al.*, (2003) revealed that 76.67 per cent of

respondents were following A.I. for their animals. Another report, Sabapara *et al.*, (2010) found that 96.50 per cent of respondents used to practice A.I for breeding purpose of their animals. Rectal palpation was followed by all the respondents as a method of pregnancy diagnosis in the study area. Repeat breeding and anestrus were also found in study area whereas indigenous breed was found more repeat breeding as compared to crossbreed and buffalo.

In overall Karnal district the respondent farmers were well aware of different method of heat detection like bellowing, mucus discharge, frequent urination, mounting etc. About 11.67 per cent respondents were following late heat stage (after 18 hrs.) for insemination which was a cause of increased service period, with adding more than one uterus cycle. Whereas, 88.33 per cent respondents were following the standard recommendation that is mid heat stage (12-18 hrs.) for insemination.

The results of Patel *et al.*, (2005), Chowdhry *et al.*, (2006), Gupta *et al.*, (2008), Rathore and Kachwaha (2009), Rathore *et al.*, (2010), Sabapara *et al.*, (2010), Menon (2009) and Hole (2016) are also referring the same phenomenon.

Menon (2009), stated that 95.83 per cent of respondents recognized the onset of heat in animal by vaginal discharge and bellowing (29.16%), 88.33 per cent were inseminating within 12 hours of heat stage.

Rathore *et al.*, (2010) found that 61.75 per cent farmers inseminate at early stage of heat identification. They preferred para-vet mostly as an inseminator because of their availability at any time of requirement. With supporting of above-mentioned findings, the results of Sabapara *et al.*, (2010), Gupta *et al.*, (2008) and Singh *et al.*, (2009b).

Feed and fodder offered to a lactating animal

Feed and fodder intake of animals were also calibrated by weighing method during the data collection researchers' himself recorded that how much quantity of feed and fodder were offered by farmers to their animals (Table-2). For green fodder, they used to cultivate sorghum and maize in summer and Berseem in winter for their animal.

For dry fodder, they used to give paddy straw (parali), wheat straw, and rice husk, etc. in general. Overall in Karnal district farmers were feeding 18.32 kg in green fodder, 6.05 kg in dry fodder, 3.44 kg in concentrate, 28.91 gram in mineral mixture, and 14.45 gram in common salt in a daily basis. With supporting of this findings Mandal *et al.*, (2004), Kumar *et al.*, (2017), Kumar *et al.*, (2006), Divekar (2016), Patel *et al.*, (2005), Katariya (2007), Gupta *et al.*, (2008) and Manohar *et al.*, (2014).

The pattern of different composition of feed and fodder offering to their animals indicating dairy farmers potentiality to enhances their animal's productivity and maintained a balanced diet. Results also encouraged by Modi (2003), Chowdhry *et al.*, (2006) and Sabapara *et al.*, (2015). Cultivation of green crops as a use of green fodder and dry fodder among respondents in study area supported by Rangamma *et al.*, (2013), Rathore *et al.*, (2010), Sabapara *et al.*, (2010), Aulakhet *et al.*, (2011), Akila and Senthilvel (2012) and Manohar *et al.*, (2014).

Existing feeding practices of dairy animals

In different aspects of feeding practices in Karnal district were like most of the respondents were following two times feeding interval in feed, Fodder and water. Within two hours of parturition, they were feeding colostrum to the new-born calf (Table- 3).

Table.1 Existing breeding practices

Variables		Respondents (n=120)	
		f	%
Breeding practice (A.I)	Indigenous Cattle	120	100.00
	CBC	120	100.00
	Buffalo	120	100.00
PD (After 60 days of conception)	Indigenous Cattle	120	100.00
	CBC	120	100.00
	Buffalo	120	100.00
Method of PD (Rectal Palpation)	Indigenous Cattle	120	100.00
	CBC	120	100.00
	Buffalo	120	100.00
No. Anestrus	Indigenous Cattle	1	0.92
	CBC	7	1.20
Repeat breeding incident	Indigenous Cattle	38	35.18
	CBC	52	8.91
	Buffalo	47	11.35
Method of heat detection	Bellowing	120	100.00
	Mucus Discharge	120	100.00
	Frequent Urination	120	100.00
	Decreasing Rumination	120	100.00
	Reduce feed intake	120	100.00
	Mounting	120	100.00
Allowed Stage of Heat for Insemination	Mid Heat (12-18 hrs.)	106	88.33
	Late Heat (after 18 hrs.)	14	11.67
Inseminators	Para-vet	120	100.00
	Veterinarian	31	25.83
Method of PD	By para-vet or Veterinary Doctor	120	100.00
Days of preference for PD	60 Days	120	100.00

Table.2 Feed and fodder offered to a Lactating Animal

Feed and fodder	Respondents(n=120)
	Av. Quantity of feed and fodder for one lactating animal/ day
Green Fodder (kg)	18.32±4.84
Dry Fodder (kg)	6.05±0.65
Concentrate (kg)	3.44±1.02
Mineral mixture (gram)	28.91±22.26
Common Salt (gram)	14.45±11.13

Table.3 Existing Feeding Practices

Variables	Respondents (n=120)		
	f	%	
Feeding Interval			
Fodder	2 Times	111	92.50
	3 Times	9	7.50
feed	2 Times	120	100.00
Water	2 Times	111	92.50
	3 Times	9	7.50
Feeding of colostrum	Within two hours of birth	120	100.00
Quantity of colostrum feeding	One quarter	111	92.50
	Half quarter	9	7.50

A quarter of colostrum was feeding by most of the respondents to new-born calf. With favour of this findings Shinde *et al.*, (2001), Satyarthi *et al.*, (2003), Patel *et al.*, (2005), Divekar and Saiyed (2008), Sabapara *et al.*, (2010) and Sheikh *et al.*, (2011).

Three- or two-times offering water depends of availability of water and season (in summer three times and in winter two times), practically they were well known about importance of water in feeding schedule. With supporting of this evidences Kochewad *et al.*, (2013), Tanmay *et al.*, (2002), Sabapara *et al.*, (2010), Chowdhry *et al.*, (2006) and Jadav *et al.*, (2014).

In conclusion, different breeding and feeding practices have potential influence over the performance of dairy animals. With context of sustainability and profitable venture of dairy

farming, the Karnal district has diverse germplasm with high potentiality in productive and reproductive performances, but that has to be maintained by following the scientific recommended animal husbandry management practices.

Practicing different latest breeding and feeding practices ensures their innovativeness as well as enthusiasm to remain in touch of scientific dairy farming. In Karnal district, farmers were well aware of different breeding and feeding practices and they were on it to enhance more productivity and high income.

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How to cite this article:

Surjya Kanta Roy and Meena, B. S. 2020. Studies on Breeding and Feeding Practices in Karnal District of Haryana: A Descriptive Study. *Int.J.Curr.Microbiol.App.Sci.* 9(02): 3026-3032. doi: <https://doi.org/10.20546/ijcmas.2020.902.348>