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Study on feeding management practices of dairy animals in Tarai region of Maharajganj district of U.P. (India)

Vijay Chandra and DP Singh

Abstract
A field survey was conducted during February'2018 to January'2021, on the feeding management practices of dairy animals owners in Maharajganj district of Uttar Pradesh. The data were collected from 200 dairy animal owners randomly selected from two Tehsil (Nichlaul & Maharajganj Sadar) of Maharajganj district through personal interview with the help of pre-tested structured schedule. The present study revealed that majority (83.50%) of respondents followed stall feeding as well as grazing system while, only 16.50% of the respondents followed stall feeding system. The 80.50% and all respondents fed green non-leguminous and grass to their milking animals, respectively, wheat straw was major ingredient (95%) used as dry fodder. About (41.50%) of respondents fed compound cattle feed as concentrate to their milking animals based on milk production (36%), mainly after milking (52.50%). Majority of Respondents (95%) practiced to feed green / dry fodders as such to their Dairy animals. Majority of the respondents (50.50%) practiced to feed concentrates to their advance pregnant heifers last 2 months of pregnancy and majority of the respondents (85%) followed special feeding after calving. Only (36.50%) of respondents provided mineral mixture supplements to their Dairy animals and 83.50% respondents did not provide extra salt to their Dairy animals. All of the respondents followed practices colostrum feeding to newborn calves but only (44.50%) of the respondents fed colostrum to the newborn calf before expulsion of placenta. All of the respondents allowed the calves to suckle only one teat of their dams for an average five minutes.

Keywords: dairy animals, feeding, management, practices

Introduction
Uttar Pradesh is the highest milk producing State in India contributing around 18% to the total milk production followed by Rajasthan, Andhra Pradesh, Gujarat and Punjab contributing 11%, 10%, 8% and 7% respectively. As per the livestock census 2007, total livestock population is 529.7 million. In 2011-12, the production of milk was estimated at
127.9 million tones. Per capita availability of milk has also increased from 176 gram/day in 1990-91 to 290 gram/day in 2011-12 per capita availability. The production potential of livestock depends mostly on the management practices under which they are reared and these practices very significantly across various agro ecological regions due to many factors understanding of livestock management practices followed by farmers in a region is necessary to identify the strengths and weaknesses of the rearing system and to formulate suitable intervention policies (Gupta *et al*, 2008) [10]. Each component of Management practices interacts either independently or in combination to affect the productivity of the livestock. Feeding is one of the most important practices in animal husbandry. It is generally agreed that all the animal fail to prove their full genetic potential for higher production when fed at low levels.
The underfeeding of young stock leads to poor growth, delay in maturity and lower productivity than optimum after attaining the breed able age. The dairy animals owners must have a thorough understanding of the facts that milk production can be increased by adoption of improved animal feeding practices. Therefore, it is imperative to ascertain the scientific feeding practices of dairy animals followed by Dairy animal owners under village conditions so that need based extension program may be launched to make them aware, to increase their knowledge and adoption of scientific feeding practices for dairy animals in study areas

Materials and Methods
Field survey was conducted is collect the information on feeding management practices

adopted by Dairy animal rearers in Maharajganj District of Uttar Pradesh. The district comprised of 4 Tehsils out of which 2 Tehsils i. e. Nichlaul and Mahrajganj Sadar were selected randomly. Further, five villages (Baijnathpur, Bhujauli, Shohat, Paikauli and Baraipar) from Nichlaul and five villages (Karmahi, Gaunaria Babu, Gopala, Jogia and Karauta) from Mahrajganj Sadar Tehsil were identified and from each villages 20 respondents were selected randomly. The entire sample consisted of 200 respondents the data were collected through personal interview technique from each selected responded. An interview schedule was prepared with help of College of Veterinary and Animal Husbandry, ANDUAT, Ayodhya (U.P.). The selecting respondents due care was taken to ensure that they were evenly distributed in the village and truly representatives animal management practices prevailing in area the selected Dairy farmers were interviewed and the desired information was collected regarding feeding management practices for dairy animals with the help of Pre-designed and pre-tested questionnaire data were tabulated and analyzed as per standard statistical tools (Snedec or and Cochr an, 1989) [20] to draw meaningful interference.

Results and Discussion

The feeding practice followed by the dairy animal owners are presented in Table 1 and revealed that majority of respondents (83.50%) followed stall feeding as well as grazing system while only 16.5% of the respondents followed stall feeding system for their animal presents findings are agreement with the result of Garg *et al* (2005) [9] and Gupta *et al* (2008) [10]. It was observed that majority of respondent (80.50%) provided non-leguminous green fodder to their animals, while only 31% of the respondents provided non leguminous + leguminous green fodder to their animals. However, all of the respondents provided non cultivated green grass and 94.50% of the respondents provided sugarcane tops. Not a single farmer practiced silage making because of shortage of green fodder and lack of knowledge about silage making in study areas. These result are supported by to the results of Chawdhary *et al* (2006) [5] and Hodshil *et al* (2007). It was further observed that 95% respondents fed their animal only wheat straw as dry fodders and rest fed dry grasses + wheat straw 25.50% and wheat straw + paddy straw 16.50% respectively. Majority of farmers fed straw to their animals as by product available from wheat (Triticum aestivum) crop. The environmental conditions of favour the cultivation of paddy (Oriza Sativa L.) than wheat (Triticum aestivum) and sugar cane (Saccharum Officinrum). The finding are supported by the Sinha *et al* (2009) and Rathore *et al* (2010) [16].

Data in Table 1 revealed the majority (41.50%) of the respondents fed homemade concentrate mixture to their animals followed by readymade (37.50%) and mixture of homemade and readymade (21.00%). Homemade concentrated mixture constituted crushed grain of Wheat, Maize, Wheat Choker, Lentil Chuni and Mustard oil cake.

Similar findings were observed by Garg *et al* (2005) [9] and Kumar and Mishra (2011) [11].

The present study indicated that majority of the respondents (64.00%) fed concentrate to their animals on a flat rate basis, while 36% of the respondents fed concentrates to their animal on the basis of their milk production.

Malik *et al* (2005) [13] and Sheikh *et al* (2011) [18] reported that 89% and 74% of the respondents adopted milk production criteria for feeding their animals respectively

Majority of the respondents (88%) fed green/dry fodder as chaffed, while 12.00% of the respondents offers as such green/dry fodder to their animals (Table – 1). These finding are in agreement with the result of Gupta *et al* (2008) [10], who reported that 79.3% farmers adopted chatting of green and dry fodder practice. It was absorbed that 52.50%, 31.50 and 16.00% respondents practiced to feed concentrate after milking, during milking and before milking respectively. Practices of feeding concentrates after milking was done to inculcate in them the habit of milk let down without concentrate being offered during milking. These findings are supported by the finding of Saba para et. al. (2010) [17].

However, present finding are contradictory of the result of of Divekar and Saiyed (2008) [7] Rathore *et al*. (2010) [16], Sheikh *et al* (2011) [18] and Rangamma *et al* (2013) [15]. Who reported that majority of the respondents practiced to feed concentrates at milking time.

It was observed that 50.50% of the respondents practiced to feed concentrates to their advanced pregnant heifers during last 2 month of pregnancy followed by 36.50 and 13.00% of the respondents practiced to feed concentrates to their advanced pregnant heifers during last one month and confirmed pregnancy to calving respectively. This is good practice adopted by respondents because maximum development of foetus occurs during last 6-7 weeks of pregnancy. The digestive system of high yielders become well acquainted to concentrate digestion which results in body weight gain and improvement of body condition of animals too. The results are supported by Chowdhry *et al* (2006) [5], Sabara *et al* (2010) [17] and Kumar and Mishra (2011) [11]. However, Madk *et al* (2006) [12] and Rangamma *et al* (2013) [15] reported very low i. e. 44.67 and 8% respondents provided concentrates to their advanced pregnant animals, respectively. The present finding are suggestive of successful communication by the technical agencies working in this area resulted in proper adoption by the farmers.

Table 1: Distribution of the dairy animals owners according to feeding practices followed

Variable	Category	Frequency	Percent
Feeding of milch animal	Stall feeding	33	16.50
	Stall feeding + Grazing	167	83.50
Green fodder availability	Non-legume	161	80.50
(Multi - choice)			
	Non-legume + legume	62	31.00
	Not cultivating best	191	95.50
	feeding bunds		
	Sugarcane top	189	94.50
Dry Fodder Availability	Wheat straw	190	94.50
(Multi-choice)			
	Wheat straw + Paddy	33	16.50

	Straw		
	Dry grasses+ wheat	51	25.50
	straw		
Types of concentrate feeding	Home made	83	41.50
	Ready made	75	37.50
	Home made + Ready	42	21.00
	made		
Feeding criteria followed	Milk production	72	36.00
	Flat rate	128	64.00
Green and dry fodder fed	As such	24	12.00
	Chaffed	176	88.00
Time of feeding concentrate	During milking	63	31.50
	After milking	105	52.50
	Before milking	32	16.00
Feeding of concentrate to advanced pregnant heifers	For last one month	73	36.50
	For last two months	101	50.50
	Confirmed pregnancy to calving	26	13.00
Special feeding after calving	Yes	171	85.00
	No	29	14.50
Feeding of mineral mixture	Yes	73	36.50
	No	127	63.50
Feeding of salt	Yes	33	16.50
	No	167	83.50
Frequency of watering in summer	2 times	69	34.50
	3 times	131	65.50
Frequency of watering in winter	2 times	167	83.50
	3 times	33	16.50
Source of water	Borewell	145	72.50
	Borewell + Pond + Canal	55	27.50
Feeding of the colostrum to new born calf	Yes	200	100.00
	No	0	0.00
Feeding of the colostrum to new born calf before expulsion of placenta	Yes	89	44.50
	No	111	55.50
Number of teats allowed for sucking	One teats	200	100.00
	Two teats	0	0.00

The study revealed that majority of the respondents (85.00%) followed special feeding after calving and only 14.5 0% respondents did not follow the practice of special feeding after calving to their animals. Majority of the respondents had adequate knowledge about feeding care after calving. They fed energy and protein rich ration. These findings are in agreement with the result of Divekar and Saiyed (2008) [7]. Subpara *et al* (2010) [17] and Seikh *et al* (2011). It was observed that 36.50% of the respondents provided mineral supplements to their milch animals, while 63.50% respondents did not mineral supplement to their milch animals. Similarly, result reported by Chowdhry *et al* (2006) [5] and Subpara *et al* (2010) [17]. Contrary to these findings Madke *et al* (2011) reported that mineral mixture supplement to their milch animals was very low i.e. 6.67, 9 and 6% respectively. The findings of all workers of the studies indicate that there was very low level of awareness regarding feeding extra mineral mixture in their respective survey areas. It was also observed that only 16.50% respondents provided extra common salt to their Dairy animals, whereas 83.50% respondents did not provide extra salt to their dairy animals. It might be due to lack of knowledge of dairy animals owners. The farmers who reared crossbreed cows, supplied extra salt regularly. These findings are well supported by the findings of Sabapara *et al* (2010) [17]. However, in contrary to present finding Malik *et al* (2005) [13] and Kumar and Mishra (2011) [11] observed supplementation of common salt followed by 88 and 95% respondents, respectively. Very low percent of followers of feeding extra salt may be due to the practice of feeding compound cattle feed followed by the respondents to the extent of 64% in the present study.

Compound cattle feed contains nearly 3-4% of salt. Therefore, only those who do not feed compound cattle feed is probably advocating extra salt feeding.

The study revealed that all of the respondents provided water to their milch animals adlibitum in quantity but restricted in frequencies in which two times (34.50% respondents) to three times (65.50% respondents) a day were common in summer. About 83.50% respondents offered two times water in winter. Tanmay *et al* (2002) [22] reported that water is provide twice a day in summer and once a day in winter to their buffaloes and is a common practice followed by most of the animals keepers.

Similerly, Chowdhry *et al* (2006) [5] and Sabapara *et al* (2010) [17] reported 72 and 98% of the respondents provided water three times a day, respectively. Thus the importance of water is known practically to all formers, who provided water to their animals depending upon their resources. It was observed that majority of the respondents depended on Bore wells (72.50%) followed by Bore wells + Pond + Canal (27.50%) as a sources of drinking water to their dairy animals. The present findings are comparable with the results of Malik *et al* (2005) [13], Singh *et al* (2007) [19] and Sabapara *et al* (2010) [17]. Thus the resources seem to be common and available to same extent to the respondents of Rajasthan, Gujarat and Uttar Pradesh.

Data in Table - 1 indicated that all of the respondents followed practice of colostrum feeding to new born calves. Present results are accordance with the results reported by Malik and Nagpaul (1999) [14], Malik *et al* (2005) [13], Divekar

and Saiyed (2008) [7], Sabapara *et al* (2010) [17] and Kumar and Mishra (2011) [11]. Further, the data revealed that only 40% of the respondents fed colostrum to new born calf before expulsion of placenta while, 55.50% of the respondents fed colostrum to new born calf after the expulsion of placenta. It might be due to the low level of awareness regarding importance of timely colostrum feeding. Colostrum is the sole resource of immunity to the new born calves, hence, more efforts are required to educate the farmers for timely feeding of colostrum. These findings are similar to findings of Deshmukh *et al* (2009) [6], Swaroop and Prasad (2008) and Sreedhar and Sreenivas (2015). However, present findings are contrary to the results of Sabapara *et al* (2010) [17]. All of the respondents allowed the calves to suckle only one teat of their doms for an average five to six minutes. These findings are supported by findings of Swaroop and Prasad (2009) [22], Sabapara *et al* (2010) [17] and Sheikh *et al* (2011) [18].

Conclusion

It can be concluded that majority (83.50%) of respondents followed stall feeding as well as grazing system. The 80.50% and all respondents fed green non-leguminous and grass to their milking animals, respectively. Wheat straw was major ingredient used as dry fodder. About 41.50% of respondents fed homemade cattle feeds as concentrate to their milking animals, based on milk production (36%), mainly after (52.50%). Majority of respondents practiced to feed green/dry fodders as chaffed to their dairy animals. Majority of respondents practiced to feed concentrates to their advanced pregnant animals last 2 month of pregnancy and followed special feeding after calving. Only 36.50% of respondents provided mineral mixture supplements to their dairy animals and 83.50% respondents did not provide common salt to their dairy animals. All of the respondents followed practice of colostrum feeding to new born calves but only 44.50% the respondents fed colostrum to new born calf before expulsion of placenta. In some of aspects dairy animal owners followed feeding management practices rightly to certain extent, however most of the feeding management practices need to be improved using scientific interventions in survey area. Feeding management practices can be further improved by organizing awareness camps, training and demonstration to peoples for adoption of scientific feeding management practices.

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