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Studies on feeding & breeding practices of dairy animal in western Uttar Pradesh

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Abstract
The present study was conducted to analyses the feeding practices and breeding practices by the dairy farmers in Saharanpur district of Western Uttar Pradesh. This study was conducted in five villages of five blocks of Saharanpur district by personally interviewing 200 respondents selected randomly. Mostly majority of the farmers used in stall feeding and both (stall and grazing) feeding. Two third majority of the respondent are cultivation of green fodder and also availability of green and dry fodder of the animal. Majority of the respondents fed green and dry fodders with chaffing. Almost two third of the respondents fed concentrate Homemade + compounded cattle feed. Two third of concentrate feeding time are before of milking and one third of after milking of the dairy animal. Above two third of the respondents each fed concentrate during the last two month of pregnancy or confirmed pregnancy to calving and majority provided special feed after calving. Two third of the respondents provided mineral mixture while majority did not provide salt along with feed. Highly majority of the respondent is breeding of female animals through artificial insemination. Almost two third of the respondent are uses Breeding after calving and great majority of the respondents allowed mid heat insemination. The village level dairy farmers need to be provided knowledge and skill through training (KVK) in scientific feeding & breeding practices.

Keywords: fenugreek, hematological, *O. niloticus*, serum

Introduction
Livestock sector is significant contribution to the national economy and its growth rate is increasing. Due to lack of detailed information on existing breeding practices adopted for different categories of livestock, it has not been possible for the policy planner to give full attention to these important aspect of cattle production. An efficient management needs a strong database. Efforts should be aimed to collect and correlate all available information. Few efforts are known to have been made to study systematically the cattle management practices in rural areas by Verma AK. (1989) [44].

India has had a continual shortage of feed and fodders, with ineffective feed quality control as well as feed of poor quality constituting major problems (Staal *et al.*, 2008) [41]. India is therefore considered to have a significant potential of increased milk yield through the use of improved feeding, where better use of concentrate in the feed (Duncan *et al.*, 2013) [7] and usage of roughage of better quality (Patil & Udo, 1997) [27] are considered to be essential parts. Usage of concentrate in the feed in India has been associated with more intense farming, with stall feeding at the expense of grazing, as well as with proximity to well-developed market sites (Duncan *et al.*, 2013) [7]. Improving and ensuring an effective infrastructure is therefore imperative for intensified dairy production. The low average milk production by the Indian cattle and buffaloes can be attributed to several reasons. However, inadequate nutrition is the single largest factor responsible for low milk production in animals of well-defined breeds. Several sources indicated that there is scarcity of, green fodder, dry fodder and commercial concentrates in the country due to which animals do not get adequate feeding for expression of their genetic potential for milk production (NCA, 1976; Ranjan, 1994; NDRI, 1996) [25].

Methods & Materials

Saharanpur district attained the status as Saharanpur division in 1997 of Uttar Pradesh. As regards its physical features the north and the north east of the district is surrounded by Shivalik hills and separates it from the Dehradun district in the recently created state of Uttaranchal. The river Yamuna forms its boundary in the west which separates it from Karnal and Yamunanagar districts of Haryana. In the East lies the district of Haridwar which was the part of district Saharanpur before 1989 and in the south lies the district Muzafarnagar. At the time of the British Rule District Muzafarnagar was also a part of district Saharanpur. The district is in a rectangular shape and it lies between 29 degrees 34 minutes 45 seconds and 30 degrees 21 minutes 30 seconds north lattitude and 77 degrees 9 minutes and 78 degrees 14 minutes 45 seconds east longitude. Its total area is 3860 square Kilometers.

Saharanpur district possess Eleven Blocks namely BalliaKhedi, Deoband, Gangoh, Muzaffarabad, Nagal, Nakur, Nanauta, Puwarka, Rampur Maniharan, Sadauli Qadeem and Sarsawan. This district is spread over an area of 3860 sq. km and has 1219 villages (Msme 2012-13) [4]. The cattle and buffalo population of Saharanpur district is 260352 and 633988, respectively. This district contributed around 354.74 thousand tonnes of milk during 2011-12.This volume of milk was contributed by a milch herd of 307983 dairy animals (51185 crossbreds, 35630 indigenous cows and 221168 buffaloes) (Annual Report, BAHFS, 2017) [2]. Due to the various schemes of Government of Uttar Pradesh for dairy development in rural area and subsidies extended for purchase of animals, rearing of crossbred heifers and distribution of fodder mini kits, etc., this district has taken stride in enhancing milk production.

The study was purposively conducted in, Saharanpur district of Western Uttar Pradesh. Out of the eleven blocks under Saharanpur district of Uttar Pradesh, Baliakhedi, Puwarka Nanauta, Gangoa and Rampur Maniharan block were selected randomly for the present investigation. From each block, five villages were selected randomly, and from each village 8 respondents were selected, making a total of 200 respondents. The farmers were personally interviewed with the help of semi-structured interview schedule, to enlist the feeding practices and breeding practices of the farmers. The respondents were asked to rank, all the feeding and breeding relevant to them, according to the degree of importance as perceived by them. The ranks given to constraints, were analyzed by (Snedecor and Cochran, 1989) [39].

Percentage

Simple comparison was made on the basis of percentage.

$$\text{Percentage} = \frac{\text{Frequency}}{\text{Number of respondent}} \times 100$$

Results & Discussion

Feeding Practices: Feeding is one of the most important practices in animal husbandry. It is generally agreed that all the animals fail to prove their full genetic potential for higher production when fed at low levels. The under feeding of young stock leads to poor growth, delay in maturity and lower productivity than optimum after attaining the breedable age. The dairy animal owners must have a thorough understanding of the facts that milk production can be increased by adoption of improved animal feeding practices. The data regarding the feeding practices followed by the dairy animal owners are presented in Table 1.

Table 1: Distribution of the dairy animal owners according to feeding practices followed. (200**)**

Sr. No.	Feeding Practices	Frequency	Percentage
1.	**Feeding system**		
a	Stall feeding	172	(86.00%)
b	Grazing	00	00
c	Both	28	(14.00%)
2.	**Feeding of milch animal**		
a	Individual	178	(89.00%)
b	Group feeding	22	(11.00%)
3.	**Cultivation of green fodder**		
a	Yes	134	(67.00%)
b	No	66	(33.00%)
4.	**Fodder availability**		
(i)	**(i) Green**		
a	Non-legume	168	(84.00%)
b	Non - legume + Legume	74	(37.00%)
c	Not cultivating but feeding grass/ Grasses from bunds	127	(63.50%)
d	Sugarcane top	161	(80.50%)
(ii)	**(ii) Dry**		
a	Paddy straw	178	(89.00%)
b	Paddy straw +Jowar straw	83	(41.50%)
c	Any other, Specify	167	(83.50%)
5.	**Types of concentrate feeding**		
a	Home made	55	(27.50%)
b	Compounded cattle feed	11	(05.50%)
c	Homemade + compounded cattle feed	134	(67.00%)
6.	**Feeding criteria followed**		
a	Body weight	00	00
b	Milk production	175	(87.50%)
c	Age	00	00
d	Flat rate	21	(10.50%)
e	No criteria	04	(02.00%)

7.	**Green fodder fed**		
a	As such	49	(24.50%)
b	Chaffed	151	(75.50%)
8.	**Dry fodder fed**		
a	As such	38	(19.00%)
b	Chaffed	133	(66.50%)
c	Chaffed+ soaked in water/mixed with	29	(14.50%)
9.	**Time of feeding concentrate**		
a	During milking	08	(04.00%)
b	After milking	65	(32.50%)
c	Before milking	127	(63.50%)
d	No feeding	00	00
10.	**Concentrate feeding to young calves**		
a	Yes	39	(19.50%)
b	No	161	(80.50%)
11.	**Concentrate feeding to heifers**		
a	Yes	170	(85.00%)
b	No	30	(15.00%)
12.	**Pretreatment of concentrate**		
a	Dry	31	(15.50%)
b	After soaking	160	(80.00%)
c	After soaking and boiling	09	(04.50%)
13.	**Feeding of concentrate to advanced pregnant heifers**		
a	No special feeding	12	(06.00%)
b	For last 15 days	09	(04.50%)
c	For last one month	15	(07.50%)
d	For last two months	164	(82.00%)
14.	**Special feeding after calving**		
a	Yes	177	(88.50%)
b	No	23	(11.50%)
15.	**Feeding of mineral mixture**		
a	Yes	164	(82.00%)
b	No	36	(18.00%)
16.	**Feeding of salt**		
a	Yes	23	(11.50%)
b	No	177	(88.50%)
17.	**Frequency of Watering**		
a	2 times	09	(04.50%)
b	3 times	170	(85.00%)
c	free assess of water	21	(10.50%)
18.	**Source of water**		
a	Well	13	(06.50%)
b	Pond	00	00
c	Canal	05	(02.50%)
d	River	00	00
e	Hand Pump	182	(91.00%)

Feeding system: The majority of respondents (86.00 percent) followed stall feeding system, while only 14.00 percent of the respondents followed stall feeding as well as grazing system for their animals. These findings are in accordance with the results of Patel *et al.,* (2005) [26], Katariya (2007) [13] and Gupta *et al*., (2008) [8] and Manohar *et al.,* (2014) [21]. Feeding of milch animal: The majority of respondents (89.00 percent) followed individual feeding system, while only 11.00 percent of the respondents followed Group feeding. This is a good practice to feed the milch animals according to their production level and also to save docile animals being harassed by vicious animals during feeding. Adoption of this practice showed full awareness of dairy animal owners in the study areas. Present findings are in conformity with the results of Modi (2003) [22], Chowdhry *et al*., (2006) [5] and Sabapara *et al.,* (2015) [33]. Cultivation of green fodder: The majority of the respondents (67.00 percent) cultivated green fodder crops, while remaining 33.00 percent of the respondents did not cultivated green fodder crops. These findings are in accordance with the findings of Rangamma *et al*., (2013) [28] and encouraging than reported by Rathore *et al*., (2010) [31], Sabapara *et al*., (2010) [35], Aulakh *et al*., (2011) [3], Akila & Senthilvel (2012) [1] and Manohar *et al.,* (2014) [21].

Green and dry fodder availability. The majority of the respondents (84.00 percent) provided non-leguminous green fodder to their animals, while only 37.00 percent of the respondents provided non-leguminous + leguminous green fodder to their animals. However, 63.50 percent of the respondents provided non-cultivated green 'shedha' grass and 80.50 percent 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. These results are contrary to the results of Modi (2003) [22], Patel *et al*. (2005) [26], Chowdhry *et al*., (2006) [5] and Hodshil *et al.,* (2007) [9]. Further observed that 89.00 percent respondents fed their animals only paddy straw as dry fodder and rest fed paddy straw + jowar (41.50 percent). Majority of farmers fed straw to their animals as by-product available from paddy (*Oriza sativa* L.) crop. The environmental conditions favour the cultivation of paddy crop than jowar

(*Sorghum bicolor* L.) and maize (*Zea mays* L.). In addition to paddy straw and paddy straw with jowar 83.50 percent of the respondents provided the dry bund grasses to their animals as dry fodder. Present findings are similar to the results of Rathore and Kachwaha (2009) [30], Rathore *et al*., (2010) [31] and Sabapara *et al*., (2010) [35].

Type of concentrates feeding: The majority (66.50 percent) of the respondents fed to their animals home produced ingredients along with compound cattle feed followed by home produced (28.00 percent) and only compound cattle feed ingredients as concentrates (05.50 percent). It was also observed that the large farmers fed more home grown ingredients as compared to medium or small farmers. It might be due to surplus production of grain and other concentrates (chuni, husk etc.) by large farmers, which were diverted to feeding dairy animals to economise the feeding expenses. Present results are in accordance to the results of Modi (2003) [22], Patel *et al.,* (2005a) and Sabapara *et al*., (2010) [35]. However, the results are contrary to the findings of Gupta *et al*. (2008) [8], Rathore *et al*., (2010) [31], Kumar and Mishra (2011) [16, 17] and Sabapara *et al.,* (2014) [34].

Feeding criteria followed: The majority of the respondents (87.50 percent) fed concentrates to their animals on the basis of their milk production, followed by flat rate (10.50 percent) and only 02.00 percent of the respondents fed concentrates to their animals on a no criteria basis. The findings are supported by Malik *et al.* (2005) [20], Divekar and Saiyed (2008) [6] and Sheikh *et al.* (2011) [36]. This practice of feeding concentrates has been communicated by co-operative dairy while supplying the compound cattle feed by putting one card of instructions regarding feeding. Hence, the extension method is very successful and in the present study and in other studies also respondents are following the same.

Processing of green and dry fodders: The majority of the respondents (75.50 percent) fed green fodders chaffed while only 24.50 percent of the respondents provided as such fodders to their animals. The majority of the respondents (66.50 percent) fed dry fodders chaffed followed by (19.00 percent) as such fed and only 14.50 percent of the respondents provided chaffed+soaked in water/mixed with dry fodders to their animals. Majority of farmers were aware about the importance of using chaffed dry and green fodders. It might be due to availability of manger facilities, adequate knowledge of efficient utilization of feed and fodders. These findings are in agreement with the results of Gupta *et al*., (2008) [8] and Manohar *et al.,* (2014) [21]. However, present findings are contrary to the results of Modi (2003) [22], Patel *et al.,* (2005) [26], Chowdhry *et al*., (2006) [5] and Sabapara *et al*., (2010) [35].

Time of concentrates feeding: That all the respondents fed concentrates two times in a day to their animals. It was observed that 63.50, 32.53 and 04.00 percent respondents practiced to feed concentrates before milking, after milking and during milking, respectively. These findings are supported by the finding of Divekar and Saiyed (2008) [6], Rathore *et al*., (2010) [31], Sheikh *et al.,* (2011) [36] and Rangamma *et al*., (2013) [28]. However, present findings are contradictory to the results of Sabapara *et al*., (2010) [35].Concentrates feeding to young calves: The majority of the respondents (80.50 percent) did not feed concentrates to their young calves, while 19.50 percent of the respondents fed concentrates to their young calves. These results are supported by Rathore *et al*. (2010) [31].Concentrates feeding to heifers: The majority of the respondents (85.00 percent) fed concentrates to their heifers, while 15.00 percent of the respondents did not feed concentrates to their heifers. These findings are similar to the findings of Divekar and Saiyed (2008) [6]. These findings are in contradiction with the results of Rathore *et al*. (2010) [31] and encouraging than Sheikh *et al*. (2011) [36].

Process on concentrates: The majority (80.00 percent) of the respondents fed concentrates to their animals after soaking in water followed by (15.50 percent) as such and only 04.50 percent of the respondents fed concentrates after soaking and boiling. Present findings are supported by Sabapara *et al.* (2015) [33] revealed that majority (65.00%) of the respondents fed concentrates to their animals after soaking in water, while 35.00 percent of the respondents fed concentrates as such and Gupta *et al*. (2008) [8].

Feeding of concentrates to advance pregnant heifer: The majority of the respondents (82.00 percent) practiced to feed concentrates to their advanced pregnant heifers, while remaining 18.00 percent of the respondents did not follow this practice. Further, it was found that 82.00 percent of the respondents practiced to feed concentrates to their advanced pregnant heifers during last 2 months of pregnancy followed by 07.50, 06.00 and 04.50 percent of the respondents practiced to feed concentrates to their advanced pregnant heifers during last one month, no special feeding and last 15 days of pregnancy to calving, respectively. This is a good practice adopted by respondents because maximum development of fetus 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 Modi (2003) [22], Chowdhry *et al*., (2006) [5], Rathore and Kachwaha (2009) [30], Sabapara *et al*., (2010) [35] and Kumar and Mishra (2011) [16, 17]. However, Madke *et al*., (2006) [19] and Rangamma *et al*., (2013) [28] reported very low i.e. 44.67 and 8.00 percent respondents provided concentrates to their advanced pregnant animals, respectively. The present findings are suggestive of successful communication by the K.V.K. working in this area resulted in proper adoption by the farmers.

Special feeding after calving: The majority of the respondents (88.50 percent) followed special feeding after calving and only 11.50 percent 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 (Guar, Bajara, Wheat or Paddy) feed mixed with echbolic ingredients, (Suva and Methi) to prevent stress and to provide sufficient energy for freshening. These findings are in agreement with the results of Patel *et al.,* (2005) [26], Divekar and Saiyed (2008) [6], Sabapara *et al*., (2010) [35] and Sheikh *et al.,* (2011) [36]. Feeding of extra mineral mixture: The majority (82.00 percent) of the respondents provided mineral supplements to their milch animals, while 18.00 percent respondents did not provide mineral supplements to their milch animals. These findings are supported by Varaprasad *et al*., (2013) and encouraging than that of Modi (2003) [22],

Sohane *et al*., (2004) [40], Patel *et al.,* (2005) [26], Chowdhry *et al*., (2006) [5], Rathore and Kachwaha (2009) [30], Sabapara *et al*. (2010) [35], Aulakh *et al*. (2011) [3] and Rangamma *et al*. (2013) [28]. Contrary to these finding Madke*et al*., (2006) [19], Singh *et al*., (2007a) [37], Sheikh *et al.,* (2011) [36], Kochewad *et al.,* (2013) [14] and Manohar *et al.,* (2014) [21].

Feeding of extra salt: The only 11.50 percent respondents provided extra salt to their milch animals, whereas 88.50 percent respondents did not provide extra salt to their milch animals. It might be due to lack of knowledge of dairy animal owners. The farmers, who reared crossbred cows, supplied extra salt regularly. The present findings are well supported by the findings of Sabapara *et al.,* (2010) [35] and Sabapara *et al.,* (2015) [33]. However, in contrary to present findings Malik *et al.,* (2005) [20], Rathore and Kachwaha (2009) [30] and Kumar and Mishra (2011) [16, 17] observed supplementation of common salt followed by 88.00, 57.50, 55.33 and 95.00 percent 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 96.67 percent in the present study. Compound cattle feed contains nearly 3-4 percent of salt. Therefore, only those who do not feed compound cattle feed are probably advocating extra salt feeding.

Frequency of watering: All of the respondents provided water to their milch animals *ad libitum* in quantity but restricted in frequencies in which two times (04.50 percent respondents), three times (85.00 percent respondents) to four time (10.50 percent respondents) a day were common in summer. About 80.00 percent respondents offered two times water in winter. Tanmay *et al.,* (2002) [42] 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 animal keepers. Kochewad*et al.,* (2013) [14] observed that 23.00 per cent of the respondents provided thrice of water to their animals. Contrary to the present study Chowdhry *et al.,* (2006) [5] and Sabapara *et al*., (2010) [35] reported 72.00 and 98.00 percent of the respondents provided water three times a day, respectively. The earlier reports of Jadav *et al.,* (2014) [11] reported that 24.00 per cent of the respondents provided water as per need of animals. Sabapara *et al.,* (2015) [33] revealed that 37.33 per cent of the respondents provided water twice to their animals. Thus the importance of water is known practically too all farmers, who provided water to their animals depending upon their resources.

Source of water: The majority of the respondents depended on Hand pump (91.00 percent) followed by Bore wells (06.50 percent) and only (02.50 percent) canal as a source of drinking water to their dairy animals. The present findings are comparable with the results of Malik *et al.,* (2005) [20], Singh *et al.,* (2007b) [38] and Sabapara *et al*., (2010) [35].

Breeding Practices: The information regarding breeding practices followed by dairy animal owners are presented in Table 2.

Table 2: Distribution of the dairy animal owners according to breeding practices followed.

(200)

Sr. No.	Breeding Practices	Frequency	Percentage
1.	**Methods of heat detection**		
a	Symptoms	200	(100.00%)
b	Teaser	00	00
2.	**Symptoms of heat detection**		
a	Mucus discharge	14	(07.00%)
b	Mucus Discharge + Bellowing	151	(75.50%)
c	Frequent urination	24	(12.00%)
d	Mounting	01	(0.05%)
e	Low milk yield on the day of heat	10	(05.00%)
3.	**Breeding of female animals**		
a	A.I. (Artificial Insemination)	159	(79.50%)
b	N.S. (Natural Service)	41	(20.50%)
4.	**Insemination or mating of female after heat detection**		
a	Early heat	16	(08.00%)
b	Mid heat	170	(85.00%)
c	Late heat	14	(07.00%)
5.	**Breeding after calving**		
a	2-3 months	148	(74.00%)
b	3-5 months	37	(18.50%)
c	After 5 months	15	(07.50%)
6.	**Pregnancy diagnosis**		
a	Yes	161	(80.50%)
b	No	39	(19.50%)
c	Own judgment	28	(14.00%)
d	Qualified veterinarian	35	(17.50%)
e	Any other(LI or AI Worker)	125	(62.50%)
7.	**Treatment of anoestrous/repeaters**		
a	Yes	143	(71.50%)
b	No	57	(28.50%)
8.	**Kept breeding records**		
a	Yes	17	(08.50%)
b	No	183	(91.50%)

Method of heat detection: That the detection of heat in dairy animals was done based on the symptoms of oestrus by all respondents (100.00 percent). These findings are in similar line with the results of Rathore *et al*., (2010) [31], Hole (2016) [10] and Sabapara *et al*., (2016) [32] they reported that 100 per cent of the respondents detect their animals in heat by using symptoms.

Symptoms of heat detection: That the 75.50 percent respondents observed mucus discharge and bellowing as the symptoms of estrus followed by frequent urination (12.00 percent) and 07.00, 05.00 and 0.05 percent mucus discharge, low milk yield on the day of heat and mounting as sole symptom of heat detection, respectively. It was informed by the respondents during personal interview that mostly buffaloes are showing mucus discharge as heat symptom while crossbred cows are showing mucus discharge and bellowing during estrus. The symptoms of estrus were mostly pronounced in morning or during cool hours of day. In winter buffaloes showed more intense heat symptoms as compared to summer. Present findings are comparable with the results of Patel *et al.,* (2005) [26], Chowdhry *et al.,* (2006) [5], Modi and Patel (2010) [23], Sabapara *et al.,* (2014) [34], Tanwar *et al.,* (2012) [43] and Hole (2016) [10].

Breeding of female animals: 79.50 percent respondents used scientific method of artificial insemination (A.I.) for conceiving their dairy animals. While, 20.50 percent respondents used natural service for conceiving their dairy animals. Higher proportion to use of artificial insemination (A.I.) were due to availability of good infrastructure facilities for the preservation and timely A. I. services with satisfactory results provided by A. I. workers in villages. There was no option of proven crossbred bulls for natural services. Present results are similar to the results of Patel *et al.,* (2005) [26], Chowdhry *et al.,* (2006) [5], Modi and Patel (2010) [23]. However, the results are contrary to the findings of Malik *et al*., (2005) [20], Kushwaha *et al*., (2007) [18], Rathore and Kachwaha (2009) [30], Rathore *et al*., (2010) [31] and Kumar *et al*., (2011) [16, 17].

Insemination or mating of female after heat detection: That the 85.00 percent respondents allowed their female animals for breeding through A.I. or N.S. at mid heat period followed by (08.00 percent) early heat and only 07.00 percent respondents allowed their animals late heat period. This is a good practice adopted by farmers to serve their cows/buffaloes in between 12–18 hrs from onset of estrus for better results of conception. This practice was widely accepted by farmers which might be due to extension work done by A.I. workers in villages. The results are in accordance with the results of Patel *et al.,* (2005) [26], Chowdhry *et al.,* (2006) [5], Gupta *et al*., (2008) [8], Rathore and Kachwaha (2009) [30], Rathore *et al*., (2010) [31], Sabapara *et al*., (2010) [35] and Hole (2016) [10].

Breeding after calving: That the 74.00, 18.50 and 07.50 percent respondents rebred their dairy animal after 2-3 months, 3-5 months and after 5 months of calving, respectively. These findings are supported with the results of Gupta *et al.,* (2008) [8] and Sabapara *et al*., (2010) [35]. It might be due to fairly high level of awareness in respondents as they are under a milk shed of co-operative milk producer union.

Pregnancy diagnosis: That the 80.50 percent of the respondents followed pregnancy diagnosis practice in their dairy animals, whereas 19.50 percent of the respondents did not follow pregnancy diagnosis practice. These findings are supported by the results of Jagdale *et al.,* (2000) [12], Gupta *et al.,* (2008) [8] and Sabapara *et al*., (2010) [35]. However, Contrary to the present findings Rathore *et al*., (2010) [31] and Kumar *et al*., (2011) [16, 17] reported only 4.25 and 7.50 percent of the respondents adopted pregnancy diagnosis practice in Churu district of Rajasthan and mid hills of Uttarakhand area, respectively. Among pregnancy diagnosis practice adopted, 62.50 percent pregnancy diagnosis were done by either livestock inspectors or A.I. workers and 17.50 percent by qualified veterinarians during three months of pregnancy. However, 14.00 percent of the respondents had done pregnancy diagnosis by their own judgments. Present results are in accordance with the results of Yadav *et al.,* (2009) [45] who reported that 15.00 percent cases of pregnancy diagnosis were done by veterinarians.

Treatment of anoestrous/repeaters: 71.50 percent of the respondents followed treatment of anoestrous/repeaters in their dairy herds, whereas 28.50 percent of the respondents did not follow this practice. The present findings are lower than that reported by Rathore and Kachwaha (2009) [30] and Rathore *et al*., (2010) [31] and encouraging than results of Yadav *et al.,* (2009) [45] and Kumar *et al*., (2011) [16, 17]. Majority of the respondents only 08.50 percent for the kept the breeding records of their dairy animals, whereas 91.50 percent of the respondents did not follow this practice. Present findings are encouraging than the results of Kumar *et al*., (2011) [16, 17] and Kumar *et al.,* (2014) [15].

Conclusions

Majority of the respondents fed green and dry fodders with chaffing. Almost two third of the respondents fed concentrate Homemade + compounded cattle feed and majority provided concentrate to Young heifers. Above two third of the respondents each fed concentrate during the last two month of pregnancy or confirmed pregnancy to calving and majority provided special feed after calving. Two third of the respondents provided mineral mixture while majority did not provide salt along with feed. Highly majority of the respondent is breeding of female animals through artificial insemination. Almost two third of the respondent are uses Breeding after calving and great majority of the respondents allowed mid heat insemination. The village level dairy farmers need to be provided knowledge and skill through training (KVK) in scientific feeding& breeding practices.

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