

APPRAISAL OF CALF REARING PRACTICES FOLLOWED BY FARMERS IN HISAR DISTRICT OF HARYANA

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ABSTRACT

The present study was conducted to know the calf rearing practices pertaining to feeding, housing, health and general management followed by the farmers of Hisar district in Haryana state. Seven villages were randomly selected and information was collected from 100 dairy farmers through a developed questionnaire. Regarding general health care practices, the results revealed that all the respondents attended their animals at the time of calving while 59 percent of respondents didn't cut naval cord of the calf. Only 26 percent of respondents performed regular deworming of calves. Majority of respondents (90%) followed practices to control ecto-parasites; furthermore, around 54% of these respondents used insecticidal soaps mainly as control measure. There was less awareness about timing and quantity of colostrum to be fed to the newly born calves. About 71 percent respondents allowed adlib feeding of colostrum to calf. Housing practices followed by farmers indicated that more than half of the respondents has brick paved floor. Isolation of sick animals from healthy animals was followed by 45 percent of farmers. It was noticed that more awareness especially regarding 'Cutting and disinfection of navel cord after birth' and 'feeding of colostrum' is required among farmers to reduce calf mortality.

Keywords: Calf rearing practices, Feeding, Health, Housing, Socioeconomic

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The future of livestock industry is quite dependent on the well-being of calves as their survival and rapid growth count among most important factors responsible for the propagation of the dairy herd (Kochewad *et al.*, 2013). Besides, higher survival rate in a dairy farm further increases the selection pressure and is one of major factors controlling genetic gain and profitable returns (Sreedhar *et al.*, 2010). Calf rearing is an important aspect of dairy farming which is often neglected by people (Mahla *et al.*, 2015) and it must be given full attention for better growth, health and productivity. Overall performance (production, reproduction and growth) of livestock mainly depends upon the management practices regarding feeding, housing, health and breeding. These management practices differ from place to place due to number of factors and studying livestock management practices followed by farmers in a particular region is necessary to know the respective strengths and weaknesses of the rearing systems (Gupta *et al.*, 2008) and helps in formulating relevant policies. Every component of management practices either independently or in combination affects the overall performance of the livestock. Keeping in view, the present study was designed to appraise the existing calf rearing practices adopted by dairy farmers in rural area of the Hisar district of Haryana state.

MATERIALS AND METHODS

The study was conducted in seven nearby villages (Gangwa, Kaimri, Kharar-Alipur, Khanpur, Dhani

Mohabbatpur, Siswal and Modakhera) of Hisar district which were selected randomly. Responses from a total of 100 respondents (dairy farmers) were recorded about the calf rearing practices with help of a well-developed questionnaire and it comprised of 12-15 respondents from each village. The farmers were rearing either cattle, buffalo or both. The data were collected by asking questions to the farmers and also by direct observation in the farmer's herds. The existing management practices relating to feeding, housing, and general health care were studied.

RESULTS AND DISCUSSION

Socio-economic and personal profile of respondents:

Majority of the respondents belonged to age group of 31-60 years (77%), while 21% respondents were young (18-30 years) (Table 1). Half of the respondents belonged to general category while 23% and 27% respondents belonged to scheduled caste and backward caste category, respectively. Around 47% respondents belonged to nuclear family while remaining 53% were from joint families. More than half respondents (57%) had medium family size of 5-8 members while only 8% of the respondents had large family size. Majority of respondents (84%) were married. Farming was the main occupation of maximum number of respondents (59%). Only about one fourth of respondents (22%) were having education above high school. Majority of the farmers (58%) had medium herd size, while 27% had small herd size. About two-third of farmers were rearing only buffaloes while 27% were keeping both cattle and buffaloes.

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Table 1

**Socio-Economic and Personal Profile of Respondents
(N=100)**

| Socio-Economic and Personal Profile | | |
|-------------------------------------|---|-----|
| (1) | Age | (%) |
| | (1) 18-30 years | 21 |
| | (2) 31-60 years | 77 |
| | (3) Above 60 years | 02 |
| (2) | Sex | |
| | (1) Male | 96 |
| | (2) Female | 04 |
| (3) | Caste | |
| | (1) SC | 23 |
| | (2) BC | 27 |
| | (3) General | 50 |
| (4) | Family Type | |
| | (1) Nuclear | 47 |
| | (2) Joint | 53 |
| (5) | Family Size | |
| | (1) Small (upto 4 members) | 35 |
| | (2) Medium (5-8 members) | 57 |
| | (3) Large (above 8 members) | 08 |
| (6) | Marital Status | |
| | (1) Unmarried | 15 |
| | (2) Married | 84 |
| | (3) Widow/Widower | 01 |
| | (4) Divorced | 00 |
| (7) | Occupation of the Respondent | |
| | (1) No wage earner | 02 |
| | (2) Labourer | 29 |
| | (3) Farming | 59 |
| | (4) Artist/Craftsman | 01 |
| | (5) Service/Retired | 06 |
| | (6) Business | 03 |
| (8) | Average annual income of the family | |
| | (1) Upto 50,000 | 11 |
| | (2) 51,000 to 1,00,000 | 35 |
| | (3) Above 1,00,000 | 54 |
| (9) | Education of the Respondent | |
| | (1) Illiterate/can read and write | 22 |
| | (2) Primary School | 17 |
| | (3) Middle School | 16 |
| | (4) High School | 23 |
| | (5) 12 th /Post-matric diploma | 18 |
| | (6) Graduate and above | 04 |
| (10) | Landholding | |
| | (1) No land | 26 |
| | (2) Less than 1 acre | 04 |
| | (3) 1 to 2.5 acres | 30 |
| | (4) 2.6 to 5 acres | 28 |
| | (5) 5.1 to 10 acres | 11 |
| | (6) More than 10 acres | 01 |

General calf management practices: All the respondents attended the animal at the time of calving. Similar findings were reported by Mahla *et al.* (2015), Choudhary *et al.* (2017) and Singh *et al.* (2018). Most of the respondents (88%) replied in affirmative for the practice of cleaning of calf immediately after birth (Table 2). These findings are supported by findings of Choudhary *et al.* (2017), Godara *et al.* (2017) and Singh *et al.* (2018). Majority of respondents (83%) took veterinary staff help when the placenta was not released in proper time while remaining took quack help or no help. The respondents were well aware about vaccination. All the respondents got their calves vaccinated against foot and mouth disease and haemorrhagic septicaemia. Though only 26 percent of respondents performed regular deworming of calves while others (74%) were either not practicing it or doing it occasionally. These findings are in close conformity with the reports of Mahla *et al.* (2015), Choudhary *et al.* (2017) and Singh *et al.* (2018). However, Godara *et al.* (2017) reported comparatively higher use of deworming practice by farmers in Sirsa and Bhiwani districts of Haryana, while Rathore *et al.* (2010) reported that only about 4% of cattle keepers followed deworming practice in Churu district of Rajasthan.

More than half number of respondents (59%) didn't cut and disinfect the navel cord after birth. These findings are in close conformity of the observations of Rathore *et al.* (2010), however, Khadda *et al.* (2010), Godara *et al.* (2017) and Singh *et al.* (2018) reported higher number of respondents not following the practice of cutting and disinfection of navel cord whereas contrary findings were reported by Divekar and Trivedi (2017). Majority of respondents (90%) followed practices to control ecto-parasites, furthermore around 54% of these respondents used insecticidal soaps mainly as control measure. These findings about the tick/lice eradication measures are in line with the observations reported by Choudhary *et al.* (2017), Godara *et al.* (2017) and Singh *et al.* (2018).

Nine percent of respondents got disbudding/dehorning done for calves (mainly in cattle calves) while majority (91%) didn't. Rathore *et al.* (2010) also reported similar findings in cattle keepers. Regarding treatment of sick calf, it was observed that most of the respondents were taking veterinary staff help (Veterinary doctor (57%) and VLDA (42%)). However, more than half of respondents (55%) didn't isolate the sick calf from healthy ones. These findings about the isolation of sick animals from healthy ones are in conformity with those reported by Rathore *et al.* (2010) and Choudhary *et al.* (2017). When asked about occurrence of calf mortality in past years, 24% owners said it occurred; the reasons of mortality were mostly pneumonia, diarrhoea, paralysis, impaction, etc. Similarly,

Table 2

General calf management practices followed by farmers in Hisar district

| General calf management and health care practices | |
|---|------------|
| Particulars | %(No.) |
| (1) Attended the animal at the time of calving | |
| (1) Yes | 100 |
| (2) No | 0 |
| (2) Cleaning of calf immediately after birth | |
| (1) Yes | 88 |
| (2) No | 12 |
| (3) Cutting and disinfection of navel cord after birth | |
| (1) Yes | 41 |
| (2) No | 59 |
| (4) Measures you take when the placenta is not released in proper time: | |
| (1) Veterinary staff help | 83 |
| (2) Quack help/No help | 17 |
| (5) Deworming of calves first done at age of | |
| (1) 15 days | 38 |
| (2) 1 month | 32 |
| (3) 2 months or more | 17 |
| (4) Not done | 13 |
| (6) Deworming of calves | |
| (1) Regular | 26 |
| (2) Occasional | 59 |
| (3) Not practiced | 15 |
| (7) Vaccination against FMD and HS | |
| (1) Yes | 100 |
| (2) No | 0 |
| (8) Disbudding/Dehorning of calves | |
| (1) Yes | 09 |
| (2) No | 91 |
| (9) Practices to control ecto- parasites | |
| (1) Yes | 90 |
| (2) No | 10 |
| (10) If yes, then | |
| (1) Manual | 13.3 (12) |
| (2) Using Insecticidal soap | 54.4 (49) |
| (3) Spray/Injection | 32.2 (29) |
| (11) Treatment of sick animal by | |
| (1) Veterinary doctor | 57 |
| (2) VLDA | 42 |
| (3) Quacks | 01 |
| (12) Isolate the sick calves from healthy animals | |
| (1) Yes | 45 |
| (2) No | 55 |
| (13) Calf Mortality in past years | |
| (1) Yes | 24 |
| (2) No | 76 |
| (14) If yes, reason of calf mortality | |
| (1) Diarrhoea | 16.66 (04) |
| (2) Ectoparasites | 4.16 (01) |
| (3) Malnutrition/ improper milk feeding | 00 |
| (4) Any other | 79.16 (19) |
| (15) Have you noticed navel cord infection | |
| (1) Yes | 25 |
| (2) No | 75 |
| (16) If yes, what you do | |
| (1) Nothing | 00 |
| (2) Seek veterinary help | 44 (11) |
| (3) Others (home remedy) | 56 (14) |

for navel cord infection, 25% owners noticed it at some time and 56% of these followed home remedy for treatment while 44% sought veterinary staff help. In a study conducted by Sreedhar and Sreenivas (2015) on calf mortality and management practices, most of the calves were found to suffer with navel cord infection. So, about one fourth of animal owners lost calf due to various reasons and certain conditions can be avoided by proper following of calf management practices, especially cutting and disinfection of navel cord after birth, regular deworming and vaccination.

Feeding and housing management practices: About 36 per cent of the owners fed colostrum to calf within 1 hour of birth, while 30% of the respondents fed colostrum only after release of placenta. Similar findings were reported by Godara *et al.* (2017) in Haryana and Sabapara *et al.* (2015) in Gujrat. Similarly, Divekar and Trivedi (2017) reported that about 38% of respondents fed colostrum to calf only after expulsion of placenta. Whereas, Rathore *et al.* (2010) and Singh *et al.* (2018) reported that about half of the respondents were feeding colostrum within two hours of birth while about 1/3rd respondents fed colostrum only after release of placenta. Majority of respondents (74%) started feeding green fodder to calf from age of 20-40 days, while 22% started feeding it before 20 days. Almost all respondents (96%) used to feed chaffed green fodder to animals. Sabapara *et al.* (2015) reported that majority (82.33%) of the respondents provided green fodders to calves two months onwards while only 6% provided from one-month age.

Most of the respondents were not aware about the calf starter and milk replacer. Similar findings were reported by Sabapara *et al.* (2015). Almost half of the respondents were not feeding any mineral mixture to calf while only 13% fed it regularly.

Majority of respondents (82%) agreed to feeding of concentrate to calf and majority (83%) of respondents were offering water to calves at home using bucket. Animal shed was attached to home dwelling in case of more than two-third respondents. Sabapara *et al.* (2010) reported that animal shed was attached to home dwelling in case of about half the respondents. Brick paved and earthen floor were the two most common type of floor in animal shed. While in case of roof, 39% respondents had concrete/garter roof in animal shed followed by thatched roof (29%). In a study conducted by Sabapara *et al.* (2010), earthen floor was the most common type of floor whereas for roof, earthen plates with thatched roof was most common. Nine percent of respondents used mats as bedding material, while all others used feed waste/rice straw or wheat straw as bedding material. Most of the respondents (90%) also used measures to protect calves

Table 3

Calf feeding and housing management practices followed by farmers in Hisar district

| Feeding and housing management practices | |
|--|------|
| Particulars | (%) |
| (1) Time of colostrum feeding | |
| (1) Within 1 hour after birth | 36 |
| (2) Between 1-6 hours after birth | 34 |
| (3) After release of placenta | 30 |
| (2) Quantity of colostrum feeding | |
| (1) Adlib suckling | 71 |
| (2) One quarter/Two quarter | 29 |
| (3) According to calf's body weight | 00 |
| (3) Milk given to calf | |
| (1) One teat complete | 12 |
| (2) Only for milk let down | 26 |
| (3) Adlib | 45 |
| (4) Any other | 17 |
| (4) Green fodder feeding from | |
| (1) 20 days | 22 |
| (2) 20-40 days | 74 |
| (3) Above 40 days | 04 |
| (5) Method of green fodder feeding | |
| (1) As such / whole | 04 |
| (2) Chaffed | 96 |
| (6) Have you heard about calf starter? | |
| (1) Yes | 04 |
| (2) No | 96 |
| (7) Have you heard about milk replacer? | |
| (1) Yes | 02 |
| (2) No | 98 |
| (8) Feeding of mineral mixture | |
| (1) Regularly | 13 |
| (2) Occasionally | 38 |
| (3) Not feeding | 49 |
| (9) Concentrate feeding to young calf | |
| (1) Yes | 82 |
| (2) No | 18 |
| (10) Method of water drinking | |
| (1) At pond | 17 |
| (2) Using bucket | 83 |
| (11) Location of shed | |
| (1) Attached to human dwelling | 69 |
| (2) Nearby their dwelling | 31 |
| (12) Type of floor | |
| (1) Pucca (cement concrete) | 08 |
| (2) Earthen floor | 34 |
| (3) Brick paved | 58 |
| (13) Type of roof | |
| (1) Asbestos sheets roof | 12.1 |
| (2) Galvanized iron sheets roof | 19.2 |
| (3) Thatched roof | 29.3 |
| (4) Concrete/garter | 39.4 |
| (14) Floor bedding if used | |
| (1) Feed waste/wheat or rice straw | 91 |
| (2) Mats | 09 |
| (15) Protection against harsh weather conditions | |
| (1) Yes | 90 |
| (2) No | 10 |

from inclement weather conditions.

From the results of present study, it can be concluded that majority of the respondents are taking good care of the new born calves but certain practices, viz., cutting and disinfection of navel cord after birth, feeding of colostrum at proper time and in proper quantity, and regular deworming need to be given more emphasis to increase the survivability of calves and to make dairying more profitable to farmers. One in every four respondent reported calf mortality in last few years and if proper calf management practices are followed then calf mortality can be surely reduced.

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