



Adoption Behavior of Rural Youth towards Dairy Farming Practices

Sandeep Sharma¹, Sanjeev Kumar Singh², Amit Singh³ and Rashmi⁴

1. MVSc Scholar, 2.Prof., 3&4.Asstt. Prof., Department of Veterinary & Animal Husbandry Extension Education

College of Veterinary Science and Animal Husbandry

U.P. Pt. Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya Evam

Go-Anusandhan Sansthan, Mathura, Uttar Pradesh

Corresponding author e-mail : drsanjeevkumarsingh@gmail.com

Revised Paper Received on July19, 2021, Accepted on August 12, 2021 and Published Online on October 01, 2021

ABSTRACT

This study was conducted in Dholpur district of Rajasthan to assess adoption behavior of rural youth involved in dairy farming practices. Data was collected from 120 respondents belonging to five blocks of Dholpur district with the help of structured interview schedule to study improved animal husbandry practices. Findings revealed that majority of respondents (52.50%) were having medium level of adoption, whereas 25.83% had low level and 21.67% had high level of adoption for various animal husbandry practices. High level of adoption was observed in feeding (54.14%) followed by breeding (38.43%), disease control & health care practices (36.79%), management (36.77%) and housing practices (34.08%) while lower level of adoption was seen in milking (24.05%). The lower level of adoption in milking and housing practices reveals regular and continuous training and awareness programmes regarding animal health care and management practices in order to enhance level of adoption for various animal husbandry practices, so that sustainable livelihood security of livestock owners can be attained.

Key words: Adoption; Dairying; Decision making; Rajasthan; Rural youth; Animal husbandry;

Dairying is an integral part of rural economy and is a potential source to provide gainful employment opportunities to the rural poor, particularly the resource deficient landless laborers, small and marginal farmers (Khode et al., 2017). India rank first in milk production in world with about 198.4 million tonnes in 2019-20 with per capita availability of 407 gm per day 2019-20 (NDDB Report, 2019-20). Dairying and animal husbandry is becoming an important source of income and not only provides nutritional security, but also ensures adoption of improved animal husbandry practices like breeding, feeding, management, health care, etc is necessary. Animal husbandry services are rendered by number of

government and non-government organizations at grass-root level, which help dairy farmers to adopt various animal husbandry practices (Yadav and Naager, 2021). Due to low levels of economic activity, high incidence of land degradation and high concentration of rural poor are the basic factors for selecting livestock as the main source of livelihood in Rajasthan (Patidar et al., 2014). Bhende and Kalirajan (2007) reported that the best option to increase livestock productivity is through adoption of improved technologies and efficient utilization of available resources. Improvement in milk production potential within limited resources can be achieved by applicability of latest scientific know-how and awareness

programmes. *Dubey et al. (2013)* reported that highest adoption gap (47.89%) was found in the use of improved management practices, whereas *Akhter et al. (2013)* reported that non-adoption of animal husbandry practices were observed in health & hygiene followed by housing management, feeding of dairy animals, breeding of dairy animals and clean milk production. In view of aforesaid factors, this study was conducted to assess the adoption behavior of rural youth involved in dairy farming practices in Dholpur district, Rajasthan.

METHODOLOGY

The present study was conducted in the Dholpur district of Rajasthan using Expost facto research design. A total of one hundred twenty rural youth were selected as respondents from randomly selected villages (two in number) from all five administrative blocks of Dholpur district. Adoption is a mental process through which an individual passes from hearing about an innovation to finally adopting it. The extent of adoption of dairy farming practices adopted by the youth was measured in terms of breeding, feeding, disease control & health care, housing, management and milking practices. Data was collected through structured interview schedule developed during the study. The respondents were asked to give opinion about the use of improved animal husbandry practices (adoption) on three point continuum viz., fully adopted, partially adopted and not adopted. Thus as score of 2, 1, and 0 was assigned for each level of adoption respectively. Extent of adoption was calculated on the basis of these scores.

$$\text{Adoption index} = \frac{\text{Sum of adoption scores}}{\text{Sum of obtainable adoption score}} \times 100$$

The adoption score obtained by individual respondent was converted into adoption index and the statements were ranked accordingly. The ranks were allotted to each individual practice on the basis of mean per cent scores and adoption score was calculated. The collected data was also analyzed by using correlation coefficient by comparing adoption with the independent variables.

RESULTS AND DISCUSSION

Pooled adoption level : The overall average adoption score of scientific dairy farming practices (Table 1) was 37.38. The highest adoption was observed in feeding practices (54.14) followed by breeding, disease control

& health care, management, housing and milking practices.

Table 1. Pooled adoption score of the respondents

Category	WMS	Rank
Breeding	38.43	II
Feeding	54.14	I
Disease control & Health care practices	36.79	III
Housing	34.08	V
Milking practices	24.05	VI
Management	36.77	IV
Pooled	37.38	

Table 2. Adoption of feeding practices by rural youth (N=120)

Practices	WMS	Rank
Providing Green fodder	68.75	VI
Provide dry fodder	72.50	V
Feeding chaffed fodder	80.42	IV
Feeding at specific interval	47.50	VIII
Pregnancy allowances given to animal	50.00	VII
Providing mineral bricks	26.67	XI
Feeding compound feed	17.50	XII
Homemade concentrate feed by soaking of oilseed cake	42.92	IX
Azolla production and feeding	14.58	XIII
Preservation of fodder by silage making	9.17	XIV
Feeding colostrum to newly born calves within 1hour of birth	99.17	I
Feeding concentrate mixture on the basis of milk production	42.08	X
Feeding colostrums to newly born calves up to five days of its birth	95.42	II
Clean water provide to animals	91.25	III

Feeding practices : A perusal of data of feeding practices (Table 2) shows that highest adoption was found for feeding colostrums to newly born calves within one hour and upto five days of its birth with adoption index of 99.17 and 95.42 were ranked as first and second respectively. Clean water provided to animals for drinking purposes (91.25) per cent were ranked as third as it is one of the known general practices and followed by all dairy farmers. It was observed that respondents were feeding green fodder (68.75) to their livestock, which might be due to the facts that farmers were having small and marginal land holding and are involved in growing green fodder. Non availability of irrigation facilities for growing green forage crop round the year might be the reason for low adoption along with small

land holding farmers. Similar findings also reported by Choudhari (2006), Meena et al. (2009), Deepanka et al., (2021).

Table 3. Adoption of breeding practices by rural youth

Practices	WMS	Rank
Wait for right age (about 2-3 yr) consider animal for breeding	61.67	I
Keeping watch on estrous cycle(21 days) and heat symptoms of cow/buffaloes	46.25	III
Artificial insemination animals at proper time (12- 14 hrs after end of estrum) of heat	48.33	II
Having buffalo/cow served within 90 days after calving	37.92	V
Treatment of reproductive disease by veterinarian	36.67	VI
Proper disposal of placenta	17.50	IX
Pregnancy diagnosis done 60-90 days after services	38.75	IV
Recommended practice if animal is not come to heat	28.33	VIII
Keeping animals indoor at advanced stage of pregnanc	30.42	VII

Breeding practices : Considering the breeding practices, highest adoption was found (Table 3) for selecting the correct age (about 2-3 year) animals for breeding (61.65) and was ranked as first. Majority of beneficiaries 48.33 per cent had fully adopted the A.I. practice at proper time of insemination was ranked second. It was further observed that 46.25 and 38.75 % of beneficiaries had fully adopted the practice of monitoring estrus cycle, heat symptoms and pregnancy diagnosis between 60 to 90 days of services were ranked as third and fourth. This may be due to the fact that most of the dairy livestock owners had long experience of cattle rearing and they closely observed the heat symptoms of cattle. However, appropriate time for mating within 90 days after calving, treatment of reproductive disease by veterinarian and keeping animals indoor at advanced stage of pregnancy was adopted by 37.90, 36.67 & 30.42 per cent and were ranked as fifth, sixth and seventh respectively. Such aspects reveals that livestock owners know the economic importance of timely mating and in order to avoid missed heat, they take the services of veterinary experts in A.I. and pregnancy diagnosis. A very low level of adoption was observed in adopting a recommended practice, if animal is not coming to heat and proper disposal of placenta was rated as 28.33 per

cent and 17.50 per cent with 8th and 9th ranks respectively. Similar findings also reported by Singh et al., (2017), Singh et al., (2014) and Dhayal et al., (2015).

Disease control and Health care practices : Timely and regular vaccination against contagious diseases (Table 4) like HS, BQ and FMD was adopted by (45.83%) per cent was ranked first, which reveals that government is running door to door vaccination programme for cattle and buffaloes, so that most of the dairy livestock owner's have vaccinated their animals. The vaccination campaign drive is free of cost, hence widely adopted among the farmers. Practice of isolating sick animals was adopted by 45.42 per cent and was ranked second. This may be due to the fact that most of the dairy livestock owners had long experience of cattle rearing and they closely observed the benefits of such practices. Treatment of sick animals only by the qualified veterinary doctor was followed by 44.58 per cent and was ranked third. Rapid reporting of outbreak of a contagious disease to the local veterinarian and providing treatment of umbilical cord to new born calf was adopted least only by 38.75 per cent and by 23.33 per cent of the respondents and were ranked fourth and fifth. This may be due to lack of awareness and low educational status of the respondents. Similar findings reported by Singh (2014) and Meena et al. (2017).

Table 4. Adoption of Disease Control & Health Care practices by rural youth

Practices	WMS	Rank
Practicing vaccination timely and regularly	45.83	I
Rapid reporting of outbreak of a contagious disease to the local veterinarian	38.75	IV
Treatment of sick animals by the only qualified veterinary doctor	44.58	III
Isolation of sick animals from the other healthy animals	45.42	II
Control measures of ecto-parasites	25.83	VI
Practicing deworming in calves for the prevention of parasitic diseases	33.75	V
Providing treatment of umbilical cord to new born calf	23.33	VII

Management practices : Results indicates (Table 5) that highest adoption was revealed in respect to providing clean drinking water to animals with adoption per cent age of 65.00 and was ranked first. However, regular cleaning of animal shed, purchasing animals after

consulting veterinary officers, purchasing animals from reliable source based on scoring on milk production and chemical disinfection of shed had adoption index of 50.00, 48.75, 36.67 and 30.42 ranked second, third, fourth and fifth respectively. Low level of adoption related to management practice was observed in case of record maintaining with adoption index of 18.75 per cent and was ranked eighth. In case of animal health record and expenditure record, they felt that these records did not play an important role in managing dairy enterprise and are the times consuming activities. Hence, they did not maintain these records and have unawareness about importance of record. Similar findings were reported by Chaudhari (2006) and Kumar et al., (2010).

Table 5. Adoption of management practices by rural youth

Practices	WMS	Rank
Providing clean and fresh water for drinking to animals	65.00	I
Purchasing animals from reliable source based on scoring on milk production	36.67	IV
Purchasing animals after consulting veterinary officers	48.75	III
Chemical Disinfection of shed	30.42	V
Use of lime to paint on the walls	21.25	VII
Maintaining the cleanliness of animal shed/houses	50.00	II
Practicing dehorning in calves at the age of about 7-15 days	23.33	VI
Record maintenance in dairying	18.75	VIII

Table 6. Adoption of housing practices by rural youth

Practices	WMS	Rank
Permanent shed	51.67	I
Pakka floor	35.00	VII
Enough height of shed for ventilation	15.00	XIII
Use of bedding material – sand	49.58	III
Use of bedding material – Straw	41.28	V
Tin sheet roof	50.42	II
Cement concrete roof	49.57	IV
Provision of manger in shed	38.75	VIII
water trough in shed	27.92	X
Sufficient space per animal	37.08	VI
Provision of separate pen for calves	25.42	XI
Use of foggers	0.41	XIV
Sufficient open area	32.08	IX
Separate calving pen	22.92	XII

Housing practices : Practice of permanent shed

(Table 6) was adopted by 51.67 per cent and ranked first, tin sheet roof was adopted by 50.42 per cent of respondents and was ranked second, use of bedding material and was adopted by 49.58 per cent and was given rank third respectively. It was observed that 49.57 per cent of the respondent have cement concrete roof (49.57) and only 22.92 of them provides separate calving pen. Because of their low herd size, low annual income and high price of foggers and method to use foggers, it was least adopted by the respondents. Permanent shed not only protect the animals from predator, theft and natural calamities, but also keeps them healthy with proper hygiene standards. Similar findings were also reported by Sreedhar et al. (2017) and Surkar et al. (2014).

Milking practices : Table 7 reveals that Washing hands before milking, washing udder and teats before milking, grooming half hour before milking and maintaining personal hygiene were scored as first, second, third and forth with adoption per cent age of 43.75, 43.74, 40.83 and 34.58 respectively. A very low adoption (2.09%) was seen in full hand method of milking practice as the respondents were habitual to knuckling methods and they perceived that if they had changed the method of milking, milk yield would reduce. Similar research also reported by Chaudhari (2006), Surkar et al. (2014), Singh et al. (2014) and Vekariya et al. (2016).

Table 7. Adoption of Milking practices by rural youth

Practices	WMS	Rank
Washing of hands before milking	43.75	I
Grooming half hour before milking	40.83	III
Personal hygiene	34.58	IV
Washing of udder and teats before milking	43.74	II
Full hand method of milking	2.09	VI
Post milking dipping of teats	3.33	V
Use of milking machine	0.00	VII

CONCLUSION

This study reveals that more than half of the rural youth had medium level of adoption level for improved animal husbandry practices. The probable reasons for above finding might be due to the economic condition and medium level of information seeking behavior. Higher extent of adoption was observed in feeding practices (54.14 %) while lower extent of adoption was seen in milking (24.05%). The lower extent of adoption found in milking and housing practices reveals regular and continuous efforts to educate and train them to adopt

such advanced practices. Most of the dairy livestock owners adopts traditional system of management and lack awareness about different scientific practices related to dairy sector, hence KVK, animal husbandry department, cooperative dairies and state universities

must periodically conduct training and awareness programmes with respect animal health care and management aspect to boost up adoption level for various dairy management practices which would provide sustainable security to dairy livestock owners.

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