

Adoption of Improved Dairy Management Practices by Dairy Owners of Meghalaya

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ABSTRACT

Dairy farming is the main enterprise for migrated landless Bihari and Nepali farmers residing in different villages of Ri-Bhoi district in Meghalaya. The study revealed that 50% of the farmers belonged to middle age category, 40% of the farmers were having high school level of education and above, 53 % of the farmers belonged to joint family and the major occupation was agriculture with dairy. The majority of the farmers (86.66%) were having small land holding. 36.66 % were having medium herd size and produce more than 10 litres of milk. With regard to adoption level of breeding management practices, 80% of the farmers could detect the estrus symptoms of animal and timely inseminated, 70% of the farmers were taking their animals for natural or A.I. within three months after calving. The stopping of milking of pregnant animals before calving (3 months) was followed by 83.33% of the respondents. All the farmers followed stall feeding method and fed their animals thrice a day. 86.66% of the farmers fed adequate quantity of concentrate.

Dairy farming is the main enterprise for the migrated, landless Bihari and Nepali farmers residing in different villages of Ri-Bhoi district of Meghalaya. Usually dairy farming is considered as secondary occupation for progressive farmers but dairying is primary enterprise for migrated and landless Bihari and Nepali farmers in Meghalaya. They depend on dairy farming for their livelihood. It provides them income as well as employment. Adoption of improved dairy management practices leads to increase in the milk production and thereby raise the living standard of the farmers. Keeping these factors in view the present investigation was taken up 1) to study the socio-economic profile of dairy farmers, 2) to study the adoption level of improved dairy management practices by the dairy farmers and 3) to find out the relation between socio-economic variables and adoption of improved dairy management practices by the dairy farmers.

METHODOLOGY

This study was conducted in two selected villages of Umsning block of Ri-Bhoi district, Meghalaya. These two villages are having 160 households out of which 60 are non-tribal families. (Nepali and Bihari) and they are rearing crossbred cattle. So the data were collected from the entire population of those two villages. For this purpose a questionnaire was developed and pre-tested. The data were collected through interview method. The collected data were analyzed by using frequency, percentage and correlation for logical conclusions.

SOCIO-ECONOMIC PROFILE OF DAIRY FARMERS

Table 1 indicates that the majority (50%) of the farmers belonged to the middle age

category followed by old (25%) and young (10%) . With regard to the educational status, 40% of the farmers were educated upto High school level and above followed by primary (33.33%) and middle school (26.66%). About 53% of the farmers belonged to the joint family. Agriculture with dairy was major occupation for 66.66% of the respondents. Majority of the respondent (86.66) had small land holding followed by 11.66% medium and 1.66% large. Half of the respondents got more than 10 litres of milk. Nearly one third (30%) and one fifth (20%) of the farmers used to obtain only 5 and 6-10 litres of milk per day respectively.

ADOPTION LEVEL OF BREEDING PRACTICES

It is observed from the Table 2 that 83.33% of the respondents stopped milking of the pregnant animals before 3 months of calving. Whereas, 80% of the respondents did timely heat detection and insemination. 70% of the farmers took animals for natural service/ AI within three months after calving. Almost 66.66% maintained records for date of service, only 60% of the respondents had done pregnancy diagnosis for their animals after three months. The treatment for repeated breeding and method of mating (AI) were adopted only by 36% and 16.66% of the respondents respectively.

ADOPTION LEVEL OF FEEDING PRACTICES

Stall feeding, schedule and time of feeding were practised by all the respondents. The adequate quantity of concentrate was fed by 86.66% of the farmers and 73.33% of the farmers used salt/mineral mixture. The special feeding of pregnant animals and proper water arrangement were adopted by 50.00% and 63.33% of the farmers respectively. Some of the farmers purchased water also for their animals (Table 2).

HOUSING MANAGEMENT PRACTICES

78.33% of the farmers constructed the wooden wall. Rest were having walls with thatched roof. 60% of the farmers used G.I. sheet and others thatches. The optimum ventilation was given by 56.66% of the respondents and alternative arrangement for the inclement weather conditions was done only by 46.66% farmers. (Table 2).

ADOPTION LEVEL OF HEALTH CARE PRACTICES

Timely treatment of sick animals was done by 93.37% farmers. Treatment of sick animals by Veterinary officer was done by 80% of the farmers. Vaccination and deworming were done by 60% and 40% farmers. Postpartum care and method of drying milch animals (Incomplete milking) was practised by almost all the farmers. The dehoofing (cutting of hoof) was done by the 33.33% farmers only. Since the animals were being fed by stall feeding method and they were not moving outside, the hoofs size increased and it was cut by self or by quacks.

ADOPTION LEVEL OF CALF CARE PRACTICES

70% percent of the farmers reported that the navel cord was broken itself and mustard oil with neemleaf was used by almost all the farmers. Colostrum feeding immediately after birth was practised only by 40% of the farmers. Some farmers reported that sometimes the calves were facing diarrhoea etc. due to Colostrum feeding.

MILKING MANAGEMENT

Method of milking with full hand was practised by 55% of farmers. The frequency of milking (three times) and timing of milking (5-6AM) were followed by all the farmers. Udder care was taken by 58.33 of the farmers using mustard oil and turmeric. All the farmers allowed calf to suckle. Only 33.33% farmers applied antiseptic to wash their hand and milking utensil. The rest generally washed with water only.

RELATIONSHIP BETWEEN SOCIOECONOMIC TRAITS AND ADOPTION LEVEL OF DAIRY FARMERS

From the Table 3, it could be observed that the variables education and occupation showed positive and significant association with the adoption level of dairy farmers. Increase in educational level of the farmers resulted in increase in adoption. Herd size showed significant and positive relationship with adoption. This may be due to the fact that those farmers who were having more number of animals might have taken up dairying on commercial basis and in order to increase production and productivity they might have adopted more scientific dairying farming practices. The variable mass media exposure exhibited positive and significant association with adoption level. The higher the mass media exposure, the more the adoption level.

It may be concluded that to help the farmers to attain fullest potential from dairy enterprise, their adoption level has to be increased. To achieve this, the farmers need to be trained time to time regarding improved dairy management practices which will enhance their knowledge level. Artificial insemination, pregnancy diagnosis, treatment and vaccination, need to be strengthened. Farmers should be ensured of timely services. The farmers need to be provided with remunerative price for their milk production so as to encourage them for a profitable enterprise.

Table 1. Socio-economic profile of dairy farmers

Variables	Category	Frequency	Percentage
Age	Young	15	25.00
	Middle	30	50.00
	Old	15	25.00
Education	Primary	20	33.33
	Middle	16	24.67
	High School and above	24	40.00
Family Type	Joint	32	53.33
	Nuclear	28	46.66
Occupation	Agriculture + Dairying	40	66.66
	Service + dairying	20	33.33
Land Holding (Leased in land)	Small	52	86.66
	Middle	7	11.66
	Large	1	1.66
Herd Size	Small	20	33.33

	Middle	22	36.67
	Large	18	30.00
Milk Production	Upto 5 litre	18	30.00
	6-10 litre	12	20.00
	10 litres and above	30	50.00
Mass Media Exposure	Low	9	15.00
	Medium	43	71.66
	High	8	13.34
Social Participation	Low	20	33.33
	Medium	38	63.34
	High	2	3.33

Table 2. Adoption of improved dairy management practices by the Nepali and Bihari farmers in Meghalaya

Dairy management practices	Frequency (N=60)	Percentage
(a) Breeding Management		
1. Heat detection and timely insemination	48	80.0
2. Method of mating	10	16.6
3. Treatment of repeat breeding	12	20.0
4. Taking animals for natural service/AI after calving within three months	42	70.0
5. Record maintenance for date of service	40	66.7
6. Pregnancy diagnosis after three months	36	60.0
7. Stopping of milking of pregnant animals before calving (three months)	50	83.3
(b) Feeding Practices		
1. Method of feeding (stall)	60	100.0
2. Schedule and time of feeding	60	100.0
3. Concentrates regularly in adequate quantity	52	86.7
4. Salt/mineral mixture (regularly)	44	73.3
5. Special feeding of pregnant animals	30	50.0
6. Proper water management	38	63.3
(c) Housing Management Practices		
1. Type of floor (Wooden)	60	100.0
2. Material used in walls (wooden)	47	78.3
3. Type of roof (G.I sheet)	36	60.0
4. Ventilation	34	56.0
5. Arrangement of inclement weather condition	28	46.7

(d) Health Care

1. Timely treatment of sick animals	56	93.3
2. Treatment of sick animal by veterinarian	48	80
3. Vaccination	36	60.0
4. Deworming	24	40.0
5. Postpartum care	55	91.6
6. Method of drying milch animals by incomplete milking method	60	100.0
7. Dehoofing	20	33.3

(e) Calf Care

1. Removal of naval cord	42	70.0
2. Use of antiseptic	54	90.0
3. Colostrum feeding immediately after birth	24	40.0
4. Deworming of calf	30	50.0

G. Milking Management

1. Method of milking	33	55.0
2. Frequency of milking	58	96.7
3. Time of milking (5-6 AM)	57	95.0
4. Washing of udder during milking	35	58.3
5. Allowing calf during milking	60	100.0
6. Washing of hand and milking utensil with antiseptic before milking	20	33.3

Table 3. Correlation co-efficient (r) between socio-economic traits and adoption level of dairy farmers

Traits/Variables	'r' Value
Age	0.1742
Education	0.4250**
Family size	0.0872
Occupation	0.2810*
Land holding	0.0317
Herd size	0.4420**
Mass media	0.3730**
Extension contact	0.0126
Social participation	0.2070

* Significant ($P < 0.05$) level ** Significant ($P < 0.01$) level