

## **Adoption of Improved Dairy Management Practices by the Women Dairy Farmers in Deoghar District of Jharkhand**

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### **ABSTRACT**

Study was conducted in Deoghar district of Santhal region of Jharkhand state to ascertain the extent of adoption of improved dairy management practices by the women dairy farmers. Five villages with maximum women dairy farmers from Deoghar block and from each village 24 women dairy farmers were selected randomly. It was observed that majority of the respondents (93.30%) ensure the sufficient supply of clean and fresh water to the animal, 75.83 per cent having awareness of heat symptoms, 86.60 per cent segregation of sick animals from healthy ones and 80.83 per cent aware about keeping of animal loose in the shed. It was also observed that majority (56.66%) of respondents have medium level of adoption of improved dairy management practices followed by (22.5%) respondents have low level of adoption and 20.83 per cent have high level of adoption about improved dairy management practices.

**Keyword:** Adoption, Breeding, Feeding, Improved practices, Management

### **INTRODUCTION**

India has the largest bovine population in the world and is also the single largest milk producing country but the productivity per animal is very poor. Livestock sector contribute around 3.2 per cent value of total GDP, whereas agriculture contribution in total GDP is 13.90 per cent (National Accounts Statistics, Central Statistical Organisation, GoI, 2013). In India, milk and milk product contributes around 30 per cent of the household income, its contribution categorized from 19 per cent in the case of large farmers and about 53 per cent in case of landless category (Shukla and Brahmankar, 1999). India has witnessed a rapid increase in milk production during the last two and half decades and now holds the first position in the world by producing about 86 million metric tons of milk per annum. Livestock and dairy has been one of the sectors in India where female work force participation has been high. Majority of rural women are involved in animal husbandry, but the nature and extent of their

involvement varies widely and is strongly influenced by their economic status, caste and ethnic background. Women are the prime decision makers in dairy production activities such as utilization of milk, care of pregnant animals and calves, brining of fodder and feeding of concentrate. Present investigation is an effort to ascertain the adoption of improved dairy management practices by the women dairy farmers.

### **METHODOLOGY**

The data were collected from Santhal region of Jharkhand. From Santhal region one district namely Deoghar was selected purposively due to large number of people doing dairy farming and the presence of milk procurement union of state. Then Deoghar block was selected purposively on the basis of maximum number of dairy farmers and top five villages with maximum women dairy farmers were selected purposively. From each village 24 women dairy farmers were selected randomly

to make a total of 120 women dairy farmers as the respondents for this study. Data were collected with the help of structured interview schedule divided in sub heads viz; feeding, breeding, health care and management practices. The response of the respondents were taken against each of the practice on a three point continuum representing Adoption, Partial adoption and Not adoption with scores of 2, 1 and 0 respectively. The respondents were categorized into low, medium and high categories of adoption on the basis of mean and standard deviation of score in different aspects of adoption as well as overall adoption of improved dairy management practices. The following formula was used to measure the adoption level of different aspects of improved dairy management practices.

$$\text{Adoption Index} = \frac{\text{Score obtained by an individual}}{\text{Maximum obtainable score}} \times 100$$

## RESULT AND DISCUSSION

Adoption of improved feeding management practices by women dairy farmers plays a key role in increasing production and productivity of dairy animals. Table 1 indicate that majority of respondents i.e. 81.60, 67.5 81.6, 80.00, 90.00 and 76.67 per cent were found adopting the regular grazing, feeding advance pregnant animal with extra concentrate, feeding of prepared hay/silage, feeding colostrums to newborn calf, feeding concentrate to

animals on the basis of milk production, regular feeding of recommended dose of green fodder to the animal respectively.

In case of breeding practices, it was found that practicing pregnancy diagnosis between 60-120 days after service was the main breeding practice which was adopted by 60.00 per cent of farmers. 54.16 per cent of respondents were taking help from veterinarian during parturition of animals. Regular watching on estrous cycle and heat symptoms of dairy animals was adopted by 60.00 per cent of respondents. Inseminating the animals when it is in peak heat period was adopted by 51.66 per cent women dairy farmers. 75.83 per cent respondents have adopted AI with improved germplasm because the availability of improved germplasm is very good.

In case of improved health care practices it was found that treatment of sick animals/repeat breeders and anoestrus by veterinary doctors was mainly adopted by 85.00 per cent of respondents followed by segregation of sick animals from healthy ones was adopted by 86.67 per cent of respondents. Nearly half of the respondents were using only veterinary medicines as prescribed by veterinarians, protection of animals from severe disease, applying of pesticides for prevention of ticks and mites.

Majority of respondents (79.66%) were adopting different practices like de-horning in calf on proper time,

**Table 1: Respondents' level of adoption of improved dairy practices**

S. No.	Practices	A		PA		NA	
		f	%	f	%	f	%
<b>a) Feeding</b>							
1	Regular grazing	88	73.33	32	26.66	0	0
2	Feeding advance pregnant animal with extra concentrate	78	65.00	42	35.00	0	0
3	Feeding of mineral mixture for fertility improvement	53	44.16	67	55.83	0	0
4	Cultivation of high yielding varieties of fodder	55	45.83	65	54.16	0	0
5	Feeding of prepared hay/silage	72	60.00	48	40.00	0	0
6	Feeding colostrums to newborn calf.	96	80.00	22	18.30	0	0
7	Feeding concentrate to animal on the basis of milk production	81	67.50	39	32.50	0	0
8	Regular feeding of recommended dose of green fodder to the animal	74	61.66	46	38.33	0	0
9	Application of recommended dose of manure and fertilizers in the fodder crops	52	43.30	68	56.60	0	0
10	Ensuring appropriate storage conditions to avoid feed spoilage or contamination	58	48.30	62	51.60	0	0
11	Ensuring a sufficient supply of clean and fresh water	112	93.30	8	6.66	0	0

Table 1 contd...

S. No.	Practices	A		PA		NA	
		f	%	f	%	f	%
<b>b) Breeding</b>							
1	Practicing pregnancy diagnosis between 60-120 days after service	72	60.00	48.00	40.00	0	0
2	Help taken from veterinarian during parturition	65	54.16	55	45.83	0	0
3	Practicing AI with improved germplasm	51	42.50	69	57.50	0	0
4	Inseminating the animals when it is in peak heat period (i.e. after 8 hrs of onset of heat)	62	51.66	58	48.33	0	0
5	Having awareness of heat symptoms	91	75.83	29	24.16	0	0
6	Regular watching on estrous cycle and heat symptoms	72	60.00	48.00	40.00	0	0
7	Drying of animals 2 months before parturition	53	44.16	67	55.83	0	0
<b>c) Health care</b>							
1	Treatment of sick animals/repeat breeders and anoestrus by veterinary doctors	102	85.00	18	15.00	0	0
2	Immediate care of sick animals and follow-up	73	60.30	47	39.16	0	0
3	Segregation of sick animals from healthy ones	104	86.60	16	13.30	0	0
4	Applying of pesticides for prevention of ticks and mites etc.	62	51.60	52	43.30	6	5.00
5	Timely vaccination of FMD and H.S.	68	56.60	49	40.30	3	2.50
6	Timely treatment of sick and weak animal by Veterinary Doctors	73	60.30	42	35.00	5	4.16
7	Using only veterinary medicines as prescribed by veterinarians	62	51.60	58	48.33	0	0
8	Protection of animals from severe disease	61	50.300	59	49.16	0	0
9	Segregation of diseased animals suffering from contagious diseases	67	55.83	48	40.00	5	4.16
10	Help taken from veterinarians during the sickness of animals	82	68.30	38	31.66	0	0
<b>d) Improved management practices</b>							
1	Practicing de-horning in calf on proper time	74	61.66	46	38.33	0	0
2	Keeping the animal and newly born calf at warm place just after calving	92	76.66	28	23.33	0	0
3	Keeping of animal loose in the shed	97	80.83	23	19.16	0	0
4	Separation of pregnant animal from the herd	92	76.66	28	23.33	0	0
5	Practicing weaning in calves	95	79.16	25	20.83	0	0
6	Keeping of animals in ventilated house	77	64.16	43	35.83	2	1.60
7	Adequate open space for the animal	72	60.00	48	40.00	0	0
8	Wallowing of animal in pond	75	62.50				
9	Practicing de-worming in calf	92	76.66	28	23.33	0	0
10	Keeping the animal on a concrete floor	91	75.83	29	24.16	0	0
11	Maintaining clean housing and milking area	72	60.00	48	40.00	0	0
12	Ensuring milking utensils are cleaned before and after each milking	71	59.16	49	40.83	0	0
13	Ensuring milking utensils are cleaned before and after milking	68	56.66	52	43.33	0	0
14	Maintaining clean housing and milking area	81	67.50	39	32.50	0	0
15	Arranging adequate milk storing containers	82	68.33	38	31.66	0	0
16	Practicing full hand method of milking	71	59.16	49	40.83	0	0

A=Adopted, PA=Partial adopted, NP=Not adopted, f= Frequency, %= Percentage

**Table 2: Categories of respondents according to their adoption level of improved dairy management practices**

Level of adoption	Adoption level of different IDMPs									
	Breeding		Feeding		Health care		Management		Overall IDMPs	
	f	%	f	%	f	%	f	%	f	%
Low	25	20.83	31	25.83	33	27.50	41	34.16	29	24.16
Medium	72	60.00	63	52.50	70	58.33	67	55.83	64	53.33
High	23	19.16	26	21.66	17	14.16	12	10.00	27	22.50

f= Frequency, %= Percentage

keeping the animal and newly born calf at warm place just after calving, keeping of animal loose in the shed, separation of pregnant animal from the herd, practicing weaning in calves among improved management practices 76.66 per cent of respondents followed the practices of keeping of animals in ventilated house, adequate open space for the animal, wallowing of animal in pond, practicing de-worming in calf, keeping the animal on a concrete floor, maintaining clean housing and milking area.

Table 2 displays the result of overall level of adoption of improved dairy management practices, classified into low, medium and high adoption categories on the basis of mean and standard deviation. The data show that among women dairy farmers the majority of the respondents (60.00%) had medium level of adoption of breeding practices. In case of feeding practices majority of the respondents (52.50%) were in medium level, followed by low (25.83%) and high (21.66%) level of adoption. Regarding healthcare practices most of the respondents (58.33%) were observed in medium category, followed by low (27.50%) and high (14.16%) level of adoption of improved healthcare management practices whereas the management practices were adopted by majority of the respondents (55.83%) in medium category, followed by low (34.16%) and high (10.00%) level of adoption. Majority of the respondents (53.33%) had medium level of overall adoption of improved dairy management practices, whereas, 24.16 per cent in low and 22.50 per cent high level of adoption of overall improved dairy management practices. The findings are in conformity of Singh *et al.* (2017) whereas it was reported that majority had medium level of knowledge about animal management and health care.

## CONCLUSION

It can be concluded that majority of respondents have medium level of adoption about improved dairy management practices. Extent of adoption of the improved dairy management practices viz, Breeding Feeding, Healthcare and Management were found to be of medium category. Minimum adoption level was found in case of breeding practices and maximum adoption level was found in case of feeding practices. Therefore, recommendation on the basis of findings and observations can be made that efforts should be made to encourage the women dairy farmers for the adoption of record keeping, artificial insemination, timely pregnancy diagnosis, de worming, providing fresh water, timely vaccination, feeding mineral mixture and concentrate, castration of male calves and other selected improved dairy management practices. Besides, women dairy farmers should be motivated for attending vocation training on improved dairy management practices, educational programs like demonstrations. Simultaneously, government needs to focus on efficient marketing channel for procuring milk at appropriate price.

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