

**RESEARCH ARTICLE :**

A study on knowledge and adoption level of improved animal husbandry practices by milk producer in Vadodara district of Gujarat

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ARTICLE CHRONICLE :**Received :**

13.03.2015;

Revised :

26.03.2015;

Accepted :

11.04.2015

KEY WORDS :

Knowledge, Adoption level, Animal husbandry practice, Milk producer/ Livestock rearers

SUMMARY : Present study was carried out in Vadodara district of middle Gujarat. The animal husbandry is one of the important sources of livelihood of rural people. For data collection two blocks Waghodiya and Sankheda were selected from the district. Five villages of each selected block and 10 livestock rearer's families from each selected village were randomly selected. It can be inferred that great majority (98%) of milk producers have good knowledge of regular cleaning of cattle shed and 96 per cent of the farmer have good knowledge regarding water to be given to a dairy animals. More than 80 per cent farmers have knowledge about heat detection and A. I. to their animals. Lowest number of surveyed famers (26%) have knowledge of regular de-worming to the calf and 30 per cent farmer have knowledge of purchasing animals after veterinary check up followed by knowledge of enrichment of poor quality roughages by urea treatment (34). 36 per cent farmers have knowledge of cutting and disinfections of naval cord with tincture iodine. Also revealed that majority of the milk producers (94%) are adopting hygienic disposal of placenta followed by quick delivery of milk to the village Co-operative immediately after milking (96%). Lowest number of the framers (2%) showed adoption of the regular grooming and enrichment of poor quality roughages by urea treatment (2%) and 4 per cent farmers followed maintenance of breeding, feeding, health care and production records.

How to cite this article : Dhayal, B.L., Meena, J.P., Patel, M.L. and Mehta, B.M. (2015). A study on knowledge and adoption level of improved animal husbandry practices by milk producer in Vadodara district of Gujarat. *Agric. Update*, 10(2): 144-148.

BACKGROUND AND OBJECTIVES

Livestock are an integral part of agriculture in India and are likely to be the instruments of future growth and development of the agricultural sector. They generate employment, provide draught power, manure and earn foreign exchange through exports. Additionally, livestock make substational

contributions to environmental conservation and providing domestic fuel to save on the use of petro-products. Although the per capita consumption of foods of animal origin is low in India, demand has been rising due to the growing human population, sustained growth in per capita incomes and increasing urbanization. This demand driven growth besides improving food and nutritional security

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Table 1: Knowledge of improved low cost animal husbandry practices of dairy farmers**(n=100)**

Sr. No	Practices	Per cent
General management		
1.	Provide proper ventilation and sufficient light in cattle shed.	82
2.	Provide hard, non slippery, impervious, well slopped floor in cattles shed.	88
3.	Provision of manger in cattle's shed.	82
4.	Regular cleaning of cattle shed.	98
5.	Provision of tree shade around the shed.	80
6.	Provision of dry fodder on roof.	90
7.	Control of external parasite by proper and regular spraying in shed.	72
8.	Bathing the dairy animals twice daily in summer.	72
9.	Regular grooming.	44
10.	Purchasing animals after veterinary check up only.	30
11.	Maintaining breeding, feeding, health care and production records.	46
12.	Taking active participation in animal treatment camp, pashupalanmela, krushimahotsav and dairy farmwomen training etc.	78
Feeding and watering practices		
1.	Cultivation of green fodder using high yielding seeds.	72
2.	Feeding of chaffed green fodder and dry fodder.	76
3.	Enrichment of poor quality roughages by urea treatment.	34
4.	Regular feeding of mineral mixture along with concentrate.	46
5.	Providing adequate fresh and clean drinking water.	96
Calf rearing practices		
1.	Cutting and disinfections of naval cord with tincture iodine.	36
2.	Cleaning of calf nostrils and mouth immediately after birth.	88
3.	Feeding adequate quantity of colostrum to the calf at proper time.	58
4.	Provision of bedding materials and its regular replacement.	50
5.	Dehorning of calf.	38
6.	Regular deworming to the calf.	26
Breeding practices		
1.	Accurate and timely heat detection.	81
2.	Artificial Insemination (AI) /Natural service at proper time of heat.	90
3.	Pregnancy diagnosis at 60- 90 days after AI /natural service.	72
4.	AI /natural service after 60-90 days of calving.	36
Clean milk practices		
1.	Cleaning and washing of floor before milking.	88
2.	Washing and drying of udder, teat and hind quarter before milking.	90
3.	Washing and drying of hands before milking.	84
4.	Adoption of clean habits by milker (Nail trimming and head covering with cloth, not smoking, spitting and talking while milking).	38
5.	Cleanliness of milking utensils.	94
6.	Quick, regular and accurate milking with full hand and dry hand.	22
7.	Remove two strips of milk from each teat before milking.	64
8.	Complete milking and stripping at the end of milking.	34
9.	Milking sick and treated animal at last and keep their milk separate.	74
10.	Avoid feeding roughages at milking	84
11.	Filtering fresh milk with clean, dry cloth and covering the milk container with lid.	74
12.	Quick disposable/delivery of milk to the village co-operative immediately after milking.	96
Health care practices		
1.	Timely and regular vaccination against contagious diseases – H S, F M D, B Q.	70
2.	Proper care and post bite vaccination in case of dog bite.	84
3.	Early identification and Isolation of sick animals.	76
4.	Prompt reporting of contagious diseases to Govt. agency	54
5.	Regular deworming of dairy animals at least once in a year.	52
6.	Hygienic disposal of placenta and dead body.	94

Table 2 : Adoption of improved low cost animal husbandry practices of dairy farmers**(n=100)**

Sr. No.	Practices	Fully adopted	Partially adopted	Not adopted	Ready to adopt in future
General management					
1.	Provide proper ventilation and sufficient light in cattle shed.	26	30	44	26
2.	Provide hard, non slippery, impervious, well slopped floor in cattle shed.	32	38	30	18
3.	Provision of manger in cattle shed.	26	00	74	12
4.	Regular cleaning of cattle shed.	86	2	12	0
5.	Provision of tree shade around the shed.	56	00	44	18
6.	Provision of dry fodder on roof.	15	16	69	54
7.	Control of external parasite by proper and regular spraying in shed.	10	22	68	30
8.	Bathing the dairy animals twice daily in summer.	16	22	62	30
9.	Regular grooming.	2	16	82	26
10.	Purchasing animals after veterinary check up only.	20	14	64	20
11.	Maintaining breeding, feeding, health care and production records.	04	18	78	20
12.	Taking active participation in animal treatment camp, pashupalanmela, krushimahotsav and dairy farmwomen training etc.	60	20	20	10
Feeding and watering practices					
1.	Cultivation of green fodder using high yielding seeds.	20	53	27	4
2.	Feeding of chaffed green fodder and dry fodder.	21	22	57	34
3.	Enrichment of poor quality roughages by urea treatment.	2	4	94	24
4.	Regular feeding of mineral mixture along with concentrate.	24	36	40	18
5.	Providing adequate fresh and clean drinking water.	82	8	10	10
Calf rearing practices					
1.	Cutting and disinfections of naval cord with tincture iodine.	6	8	86	38
2.	Cleaning of calf nostrils and mouth immediately after birth.	86	12	2	0
3.	Feeding adequate quantity of colostrum to the calf at proper time.	36	24	44	32
4.	Provision of bedding materials and its regular replacement.	8	36	56	8
5.	Dehorning of calf.	6	6	88	8
6.	Regular deworming to the calf.	36	18	46	26
Breeding practices					
1.	Accurate and timely heat detection.	42	28	30	17
2.	Artificial Insemination (A.I)/natural service at proper time of heat.	44	18	38	21
3.	Pregnancy diagnosis at 60- 90 days after A I /natural service.	30	20	50	18
4.	A I /natural service after 60-90 days of calving.	12	18	70	16
Clean milk practices					
1.	Cleaning and washing of floor before milking.	24	44	32	10
2.	Washing and drying of udder, teat and hind quarter before milking.	78	14	8	2
3.	Washing and drying of hands before milking.	82	6	12	12
4.	Adoption of clean habits by milker (Nail trimming and head covering with cloth, not smoking, spitting and talking while milking).	16	24	60	12
5.	Cleanliness of milking utensils.	90	4	6	0
6.	Quick, regular and accurate milking with full hand and dry hand.	4	6	90	8
7.	Remove two strips of milk from each teat before milking.	13	18	69	21
8.	Complete milking and stripping at the end of milking.	30	6	64	8
9.	Milking sick and treated animal at last and keep their milk separate.	24	12	64	36
10.	Avoid feeding roughages at milking	76	12	12	4
11.	Filtering fresh milk with clean, dry cloth and covering the milk container with lid.	58	4	38	10
12.	Quick disposable/delivery of milk to the village co-operative immediately after milking.	92	4	4	4
Health care practices					
1.	Timely and regular vaccination against contagious diseases – H S, F M D, B Q.	36	32	32	28
2.	Proper care and post bite vaccination in case of dog bite.	64	8	28	14
3.	Early identification and Isolation of sick animals.	52	12	36	4
4.	Prompt reporting of contagious diseases to Government agency.	23	6	71	10
5.	Regular deworming of dairy animals at least once in a year.	26	14	60	30
6.	Hygienic disposal of placenta and dead body.	98	2	0	0

can benefit million of landless and small landholders who constitute more than 60 per cent of the total rural population and possess about three- fourths of the country's livestock's wealth. Management of growing animals is one of the most important activities at a dairy farm, which require a great deal of skilled application and constant attention.

RESOURCES AND METHODS

Present study was carried out in Vadodara district of middle Gujarat. The animal husbandry is one of the important sources of livelihood of rural people. For data collection two blocks Waghodiya and Sankheda were selected from the district. Five villages of each selected block and 10 livestock rearer's families from each selected village were randomly selected. Thus, the data for study were collected from total 100 household (50 from each blocks) by adopting the proportionate random sampling method (PRSM). The desired information on livestock management practice was collected from the livestock rearers by developed scheduled questionnaires on animal husbandry practices and also by direct observation in farmers flocks.

OBSERVATIONS AND ANALYSIS

From the Table 1 it can be inferred that great majority (98%) of milk producers have good knowledge of regular cleaning of cattle shed and 96 per cent of the farmer have good knowledge regarding water to be given to a dairy animals. More than 80 per cent farmer has knowledge about heat detection and A. I. to their animals (Sharma and Saini, 2003 and Sharma, 2011). Lowest number of surveyed famers (26%) have knowledge of regular de-worming to the calf and 30 per cent farmer have knowledge of purchasing animals after veterinary check up followed by knowledge of enrichment of poor qualify roughages by urea treatment (34%). 36 per cent farmers have knowledge of cutting and disinfections of naval cord with tincture iodine (Khan *et al.*, 2004; Sankhala and Chand, 2002 and Sankhala *et al.*, 2004).

From the Table 2 It can be revealed that majority of the milk producers (98%) were adopting hygienic disposal of placenta followed by quick delivery of milk to the village Co-operative immediately after milking (92%) (Saxena, 2010). Lowest number of the farmers (2%) showed adoption of the regular grooming and enrichment of poor quality roughages by urea treatment (2%) and 4 per cent

farmer followed maintenance of breeding, feeding, health care and production records (Khan and Chouhan, 2005; Kumar *et al.*, 2001 and Meena, 2008).

From the Table 3, it can be concluded that majority (2.26) of the milk producers reported constraints such as lack of credit facility, high cost of milch animals (2.23),

Table 3 : Constraints faced by the milk producer in adoption of improved low cost animal husbandry practices (n=100)

Sr. No.	Constraints	Degree of constraints
Breeding		
1.	Lack of knowledge about improved breeding practices	1.26
2.	Distant location of AI centers	1.22
3.	Non-availability of timely AI facility at village level	1.36
4.	Low conception rate of AI	2.04
5.	Anestrous and repeat breeding problems	2.20
Feeding		
1.	Non-availability of green fodder throughout the year	1.89
2.	Scarcity of land for fodder cultivation	1.62
3.	Lack of knowledge and unavailability of seeds of HYV of fodder crops	1.38
4.	Lack of irrigation water facility round the year	1.30
5.	Lack of knowledge about urea treatment of poor quality roughages	1.86
6.	Lack of knowledge of mineral mixture feeding	1.68
7.	Unavailability of grazing pasture land	2.12
Health care		
1.	Lack of knowledge about vaccination, deworming and disease control measures	1.42
2.	Unavailability of separate place for isolation of sick animal	1.52
3.	lack of proper veterinary services in time	1.86
General management		
1.	Inadequate knowledge of scientific housing	2.06
2.	High cost of scientific housing	2.10
3.	Unavailability of space/land for providing scientific housing to dairy animals	1.72
4.	Lack of knowledge about clean milk practices and its importance	1.50
5.	Poor knowledge and difficulty in maintaining records due to illiteracy	1.52
6.	Poor knowledge regarding calf rearing practices	1.44
Other problems		
1.	Lack of credit facility	2.26
2.	High cost of milch animals	2.23
3.	Non-availability of reliable source for cattle purchasing	1.74
4.	Poor economic condition	2.02
5.	Low level of education	1.66

which was followed (2.20) by anestrus and repeat breeding problem and non availability of green fodder throughout the year. Dwivedi *et al.*, 2002; Singh, 2009; Verma and Sharma, 2003 and Rahman *et al.*, 2005 also worked on the related topic and the results more or less coincides with the present investigation.

Conclusion :

Majority of milk producers have knowledge about regular cleaning of cattle sheds and water to be given to the dairy animals while majority of milk producers were adopting hygienic disposal of placenta and quick delivery of milk to the village co-operative immediately after milking.

The major problems faced by milk producers were lack of credit facility, non-availability of green fodder throughout the year and breeding problem after calving. They have suggested that there should be availability of credit and irrigation facilities.

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