

## KNOWLEDGE LEVEL OF FARMERS IN DAIRY CATTLE FARMING SYSTEMS IN TAMIL NADU, INDIA

**A. Manivannan and P. Mathialagan**

Directorate of Distance Education, Tamil Nadu Veterinary and Animal Sciences University, Chennai,  
Tamil Nadu, India.

### ABSTRACT:

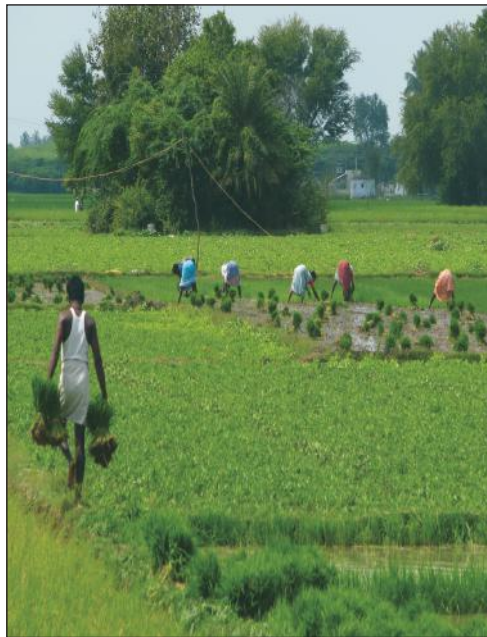
Dairy farming is an important livelihood avenue in rural India. Owing to the changing trend in dairying, awareness on the current dairy farming systems would be much helpful to the stakeholders involved in livestock development. Keeping this in mind, the study was carried out to find out the scientific knowledge level of farmers in dairy cattle farming systems in Tamil Nadu, India. A sample size consisting of 50 farmers in Cattle farming system and 50 farmers in Buffalo farming system belonging to three villages each in Villupuram and Namakkal districts of Tamil Nadu, India had been selected by using multistage sampling methods. The results indicated that all the respondents (100%) in both cattle and buffalo farming systems had full knowledge on allowing newborn calf for colostrum feeding, deworming of calf, right time of AI, testing for pregnancy, optimum time of feeding, sanitary practices in milking, out of 25 scientific dairy farming practices. Under crop cultivation practices, all the respondents (100%) possessed scientific knowledge on irrigation management and plant protection measures in both cattle and buffalo farming systems. Further the farmers at buffalo farming system had better knowledge than farmers in cattle farming system due to availability of technological resources in their location.

### KEYWORDS:

Scientific-Knowledge-Dairy Cattle- Buffalo-Farming Systems-Tamil Nadu-India

### INTRODUCTION

Dairy farming has a crucial role to play in sustaining the livelihood of rural farmers in India.



Farmers of marginal, small and semi-medium operational holdings own majority of the livestock in the country (DAHD, AR2012-13). During the past two decades, the country has witnessed augmented milk production which resulted in India achieving the tag of "Top milk producer" in the world. This increase in milk production is consequent to the various technological interventions like, breeding policy, introduction of exotic dairy breeds, mass adoption of artificial insemination, scientific husbandry practices, vaccination etc., which further led to increase in strength of crossbred cows and

also overall milk production. Now most of the farmers in rural areas rear crossbred cows and graded buffaloes in their locality. Unlike the native cattle, which require less management practices and caring, crossbred cows demand utmost care in feeding, breeding and health practices in order to tap their maximum genetic potential. In this context, dairy farmers must have adequate knowledge on scientific dairy farming practices for adopting such practices. Hence knowledge becomes a crucial factor in adoption or non-adoption of recommended practices in dairying. By studying the existing system,

it will enlighten us about the pros and cons in the present situation. Keeping this in view, the study was conducted with the objective of ascertaining the scientific knowledge level of farmers in dairy cattle farming systems in Tamil Nadu, India.

**METHODOLOGY**

In order to select the respondents for the study, a multistage sampling procedure was followed. First, the districts and blocks having maximum number of cattle / buffaloes available in Tamil Nadu were identified. Again three villages in the selected blocks were identified for selection of respondents, by using proportionate random sampling technique. Thus a sample consisting of 50 cattle farmers from three villages, viz., Pakkam, R.R.Kulam, and R.Pakkam in Kandamangalam block of Villupuram district and 50 buffalo farmers from three villages, viz., Oruvanthurpudhur, Ayyakalpudhur, and Odakattur in Mohanur block of Namakkal district in Tamil Nadu were finally chosen for the study. Based on the related literature available and discussion with researchers to measure the knowledge on scientific dairy farming practices, a teacher-made test was developed and used in the study. Dairy farmers possessing cultivable land were assessed for scientific crop cultivation practices, so as to get a whole picture on knowledge level. The data were collected through a well structured and pre-tested interview schedule by the researcher.

**RESULTS & DISCUSSION**

**a) Knowledge level of respondents on scientific dairy farming practices**

It could be observed from the table 1 that all (100 per cent) the respondents in cattle farming system and buffalo farming system had full knowledge about the following scientific practices, viz., allowing the new born calf for colostrum feeding which is essential to provide immunity, deworming of calf which is one of the important husbandry methods, practice of AI, right time of inseminating the animals after showing heat signs which play a crucial role in conception, testing the animal for pregnancy, feeding the animal based on milk

production, optimum time of feeding the animals and washing the hands before and after milking, out of 25 dairy farming practices. Further majority of the respondents in both cattle and buffalo farming systems had enough knowledge about quantity of milk to be fed to calves, periodical vaccination, and washing the udder with antiseptic solution. It underlines that fact that dairy farmers in the study areas have been more familiar with scientific dairying which could have resulted due to attending training programmes, demonstrations, exhibitions and frequent contact with veterinarians.

On the other hand, field level mastitis detection test, criteria of feeding young calf, providing mineral blocks to animals, day old weaning of calf, following a schedule to control mortality, using chaff cutter and providing lime water and feeding balanced diet, have been known only to very less no. of respondents. Since these are essential practices in successful dairying, awareness on these aspects will be helpful to the farmers. Almost similar findings were reported by Umarani and Thangamani (2000), Gosain(2004), and Nishi et al (2006).

Table-1. Knowledge level of respondents on scientific dairy farming practices

S.No.	Items	Cattle farming system (n=50)		Buffalo farming system (n=50)	
		Known	%	Known	%
1	Allowing the new born calf for colostrum feeding	50	100	50	100
2	Ligating navel chord of new born calf	21	42.00	36	72.00
3	Quantity of milk fed to calves	40	80.00	45	90.00
4	Criteria of feeding a young calf	1	2.00	15	30.00
5	Day old weaning of calf	6	12.00	25	50.00
6	Following a schedule of activities to control calf mortality	7	14.00	19	38.00
7	Dehorning of calf	14	28.00	28	56.00
8	Deworming of calf	50	100	50	100
9	Practice of AI	50	100	50	100
10	Right time of inseminating the animals after showing heat signs	50	100	50	100
11	Testing the animal for pregnancy	50	100	50	100
12	Right time of inseminating the animal after calving	15	30.00	30	60.00
13	Feeding the animal based on milk production	50	100	50	100
14	Optimum time of feeding the animals	50	100	50	100
15	Quantity of concentrates, green fodder and dry fodder fed to the animal	9	18.00	30	60.00
16	Adding salt regularly in the cattle feed	17	34.00	36	72.00
17	Using chaff cutter to cut grass and feed the animals	8	16.00	31	62.00
18	Cutting the green fodder manually and feed the animals	16	32.00	31	62.00
19	Providing calcium in the form of lime water to avoid milk fever	8	16.00	27	54.00
20	Providing mineral blocks to animals	6	12.00	34	68.00
21	Feeding the cow/buffalo immediately after milking	10	20.00	37	74.00
22	Conducting field level mastitis detection test (strip cup test)	0	0	26	52.00
23	Washing the hands before & after milking	50	100	50	100
24	Washing the udder with antiseptic solution	27	54.00	36	72.00
25	Periodical vaccination	30	60.00	44	88.00

**b) Knowledge level of dairy farmers on crop**

cultivation practices

The knowledge level of respondents on crop cultivation practices of cattle and buffalo farming systems are given in the table 2.

**Table 2 Knowledge level of dairy farmers on crop cultivation practices**

S.No.	Items	Cattle farming system (n=27)		Buffalo farming system (n=34)	
		No.	%	No.	%
1	Improved variety	21	77.77	30	88.23
2	Season	25	92.59	33	97.05
3	Optimum seed rate	26	96.29	33	97.05
4	Seed treatment with biofertilizer	6	22.22	20	58.82
5	Seed treatment with fungicide	11	40.74	14	41.17
6	Optimum spacing	23	85.18	20	58.82
7	Optimum space for intercrop	3	11.11	11	32.35
8	Weedicide application	2	7.40	14	41.17
9	Optimum dose of organic manure	21	77.77	31	91.17
10	Optimum dose of chemical fertilizer	23	85.18	20	58.82
11	Optimum dose of fertilizer for basal	22	81.48	19	55.88
12	Application of bio-fertilizer	2	7.40	13	38.23
13	Application of micro-nutrient mixture	21	77.77	14	41.17
14	Irrigation management	27	100	34	100
15	Plant protection measures	27	100	34	100
16	Post harvest technologies	22	81.48	28	82.35

The results show that 100 per cent of the respondents possessed knowledge about irrigation management and plant protection measures in both farming systems. On the contrary poor awareness could be noticed about application of bio-fertilizer, weedicide application (each 7.40 per cent) and providing optimum space for intercropping (11.11 per cent) in cattle farming system, whereas in buffalo farming system, the above mentioned items had 38.23 per cent, 41.17 per cent and 32.35 per cent respectively.

On comparison, the respondents belonging to buffalo farming system at Mohanur block of Namakkal district, Tamil Nadu, possessed better knowledge than farmers at Kandamangalam block of Villupuram district in cattle farming system.

The possible reason that could be described to such difference is, the buffalo farmers are traditionally agriculture oriented and the perennial Cauvery River passes through the Mohanur area which could have acted as a good source of irrigation and encouraged the farmers to involve themselves in agriculture and dairying activities. Extension activities like, training programmes, exhibitions, demonstrations etc., have been regularly organized by Veterinary College and Research Institute, Namakkal for the members of Milk Cooperative

Society, State Agriculture Department and Sugarcane Factory located at Mohanur area, which could be a major factor in increasing the awareness of farmers. Hence it is suggested that institutional resources have to be boosted up in the Villupuram study area for organizing extension activities regularly.

**CONCLUSION**

On the overall, the respondents belonging to cattle and buffalo farming systems had sufficient knowledge on vital dairy farming and crop cultivation aspects. But the farmers in buffalo farming system had better knowledge than their counterparts in cattle farming system. The extension agencies should take cognizance of these aspects and accordingly organize integrated transfer of technology programmes for the benefit of farmers. Further, the dairy farmers are also to be motivated to attend the dairy farming training programmes regularly, since new techniques / methods are evolved continuously for augmenting individual dairy farmers’ income and also for increasing overall productivity.

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