



E-ISSN: 2320-7078

P-ISSN: 2349-6800

www.entomoljournal.com

JEZS 2021; 9(2): 329-331

© 2021 JEZS

Received: 27-12-2020

Accepted: 25-02-2021

A Paramasivam

Livestock Farm Complex,
Veterinary College and Research
Institute, TANUVAS,
Orathanadu, Tamil Nadu, India

P Vijayakumar

Livestock Farm Complex,
Veterinary College and Research
Institute, TANUVAS,
Orathanadu, Tamil Nadu, India

A Singaravadivelan

Livestock Farm Complex,
Veterinary College and Research
Institute, TANUVAS,
Orathanadu, Tamil Nadu, India

A Allwin Nishanth

P.G scholar, Livestock
Production Management,
Veterinary College and Research
Institute, TANUVAS,
Orathanadu, Tamil Nadu, India

V Vinitha

P.G scholar, Livestock
Production Management,
Veterinary College and Research
Institute, TANUVAS,
Orathanadu, Tamil Nadu, India

T Vasanthakumar

Livestock Farm Complex,
Veterinary College and Research
Institute, TANUVAS,
Orathanadu, Tamil Nadu, India

Corresponding Author:**A Paramasivam**

Livestock Farm Complex,
Veterinary College and Research
Institute, TANUVAS,
Orathanadu, Tamil Nadu, India

Managerial practices followed by the dairy farmers in Tamil Nadu state

A Paramasivam, P Vijayakumar, A Singaravadivelan, A Allwin Nishanth, V Vinitha and T Vasanthakumar

DOI: <https://doi.org/10.22271/j.ento.2021.v9.i2e.8499>

Abstract

The study was conducted in 23 districts of Tamil Nadu state to find out the general management practices followed by dairy farmers on feeding, breeding, health care, production performance of the dairy animals, and also the constraints involved in dairy farming. The majority of the farmers had a medium herd size of 5- 8 animals with cross-bred Jersey cattle as the choice of dairy animal. The average daily milk yield of crossbred HF, cross-bred Jersey, and the non-descript cow was 11.83, 8.57, and 5.2 liters per day respectively. The average sale price of milk per liter was Rs. 31. 18 and it ranged from Rs. 22 to 50 depending upon the availability of marketing demand. The majority of dairy farmers (64%) fed green fodder 15- 20 kg/day/animal and the remaining farmers fed 20-30 kg per day per cattle. The majority of respondents (41.33%) fed 2.5-3.5 kg of concentrate feed per day followed by 33.33 % of farmers fed 1-2kg of concentrate feed per day. The majority of the respondents (above 90 %) were aware and regularly following of vaccination and deworming practices. All of the farmers following the artificial insemination method to breed animals. The low cost for milk sale price, low milk yield, and high occurrence of reproductive disorders were the major constraints faced by the dairy farmers. The present study will help the policy developers to propose any modifications or improvements needed for the dairy farming production system in Tamil Nadu for the dairy farming community's betterment.

Keywords: dairy farmer, managerial practices, feeding, breeding, herd size, milk production

Introduction

Tamil Nadu, the Southernmost State of India, is one of India's most agriculture progressive States (ANS, 2020). Agriculture continues to be the backbone of this State economy. The Animal Husbandry sector is emerging as an important sector leveraging the rural economy of Tamil Nadu. A majority of Tamil Nadu farmers including the small, marginal farmers and landless laborers depend on animal husbandry for their livelihood (Karthikeyan *et al.* 2018)^[3]. Further, livestock rearing provides supplementary employment as well as a sustainable source of income. Besides, this livestock sector provides a continuous flow of essential livestock products like milk, meat, eggs, draught power, wool, hides, and manure (ANS, 2020). As per the 20th Census, the total livestock population increased to 244.51 lakhs showing a growth of 7.6%. The contribution of the livestock sector to the Gross State Value Added (GSVA) is 5.29% and that to the Agriculture and allied activities is 42.05% (ANS, 2020). The estimated milk production, during the 2005-06 year was 54.74 lakh Metric Tonnes (LMT) in Tamil Nadu and milk production increased to 83.62 LMT during 2018-19. The per capita availability of milk per day increased from 231 gm to 268 gm during 2005-06 to 2017-18 (ANS, 2020). To assess the feeding, breeding, disease control, milk production performance, and other managerial practices followed by Tamil Nadu farmers and also major constraint involved in the dairy farming in Tamil Nadu, this study has been undertaken in 23 districts of Tamil Nadu.

Materials and Methods

For this study, the dairy farmers from 23 districts of Tamil Nadu such as Ariyalur, Chennai, Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Kallakurichi, Krishnagiri, Nagapattinam, Namakkal, Perambalur, Pudukkottai, Salem, Sivagangai, Thanjavur, Thirupathur, Thirupur, Thiruvallur, Thiruvannamalai, Trichy, Vellore and Villupuram were

randomly selected. The selection of farmers based on the criteria that the selected farmers should have the milch animal either a cow or a buffalo in lactating condition. Thus, a total of 75 respondents were randomly selected from 23 districts of Tamil Nadu for this study. The data were collected by personal interview method using a pre-tested interview schedule with the respondents in November 2020. The data pertaining to general management practices on feeding, breeding, and health care management of dairy animals were collected. Similarly, data related with breeds of dairy animals hold by farmers, per day milk production and sale price of milk also collected. Further, the constraints involved in dairy farming and type of breeding methods followed by the dairy farmers were also collected. The collected data were analyzed using appropriate statistical procedures and presented.

Results and Discussion

Herd size and milk production performances

The majority of the respondents were medium size (48%) followed by small size herd size (28%) and large size herd (0.24%). The range of herd size is from 2 to 37 number and the mean value of herd size was 7.12 (Table 1). The medium herd size had by farmers is indicative of the fact that dairying is an important component of households' income-generating activities (Karthikeyan *et al.* 2018) [3]. Our results were similar to the results of Senthilkumar *et al.* (2005) [9] and contradicting the results of Ramkumar *et al.* (2001) [8], Tamizhkumaran and Rao, (2012) [11] and Rajadurai *et al.* (2020) who found that dairy farmers had a small herd size of cattle. The majority of respondents had crossbred Jersey cattle (85.33%) as the choice of breed followed by Holstein-Friesian crossbred cattle (44%) as the second-choice breed for milk production because of the less occurrence of reproductive disorders, better withstanding of heat stress, high fat and SNF and ease of handling the animals (Vijayakumar *et al.* 2019) [14]. The average daily milk yield of crossbred HF, cross-bred Jersey, and the non-descript cow was 11.83, 8.57, and 5.2 liters per day respectively. The milk production per day of cross-bred Jersey and cross-bred HF were 4- 15 liters and 6- 20 liters respectively (Table 2). Similar results were also found by Karthikeyan S., *et al.*, 2018 [3]; they reported that the majority of farmers' total milk production in the household was 5 to 22 liters per day. The average sale price of milk per liter was Rs. 31. 18 and it ranged from Rs. 22.00 to 50.00 depending upon the availability of marketing demand. Akila and Sakthivel, (2012) [1] reported that the Rs.15/- for cow milk and Rs. 20/ - for buffalo milk were sale price. However, compared to the previous study the milk price per liter has been increased substantially.

Feeding management

Feeding management in dairy enterprise plays an important component because its accounts for 75% of production cost. Hence, having current knowledge of feeding management in dairy farming is highly essential. The dairy farmers of Tamil Nadu offered green fodder with varying quantities like 15- 20 kg and 20-30 kg per day per adult cattle. Among these two categories, the majority of respondents (64%) offered 15-20 kg green fodder per day. Similarly, 72 % of farmers fed their adult cattle with 2-3 kg of dry fodder per day. The remaining, 28 % of farmers fed their cattle 4-5 kg dry fodder per day (Table 1). Previous literature says that the majority of the farmers fed their animals with the agriculture byproducts like

sugarcane tops and hay to their animals; whereas 41 percent of the farmers fed cultivated the green fodder for their dairy animals (Akila and Sakthivel, 2012) [1]. The cost of concentrate feeds plays a very vital in the expenditure of dairy farming. The quantity of concentrate fed to dairy animals was categorized into three types, 1-2 kg, 2.5-3.5 kg, and 4 -7 kg per day. The majority of respondents (41.33%) fed 2.5-3.5 kg of concentrate per day followed by 33.33 % of farmers fed 1-2kg of concentrate per day and the remaining 25.33% farmers fed 4 -7 kg per day depending upon milk production performances of animals and availability of feed resources (Table 1).

Disease prevention and control

The prevention of disease occurrence in dairy farming is a very important aspect of biosecurity measures. Most of the respondents (98.66%) were aware of Foot-and-Mouth disease vaccination and regularly doing vaccination twice in the year thereby effectively utilizing the nationwide FMD vaccination program. Besides, farmers also do area-specific vaccination schedules against contagious diseases like Anthrax, and hemorrhagic septicemia. Similar findings were also reported by Tiwari *et al.* (2009) [13], Thirunavukarasu & Kathiravan, (2010) [12], and Akila and Sakthivel, (2012) [1]. The majority of farmers (90.66%) regularly doing deworming to control parasitic disorders and improve growth in the young calves and the remaining 9.34 % of farmers not aware of the importance of deworming in dairy farming (Table 1). Our results were almost similar to the findings of Akila and Sakthivel, (2012) [1]; they found that majority (88 percent) of the dairy farmers were utilizing the facilities of deworming and vaccination against contagious diseases in the livestock camps organized by the State Animal Husbandry Department.

Almost all farmers involved in this study were following artificial insemination (AI) techniques to breed their animals. However, our result was contracting with Akila and Sakthivel, (2012) [1] they reported that 60% of the farmers followed AI, 16% practiced both AI and natural service and 22 % of the respondents practiced natural service alone to breed the animals. Of 75 respondents included in the study, 42.67% of farmers utilized cow dung as manure for their agricultural uses. The remaining 57.33 % of farmers sell the manure at Rs. 1000 to 3000 depending upon market demands (Table 1). Further, the majority of the farmers (72%) utilize their family members for daily routines of dairy farming activities and the remaining farmers engage the casual labour range from 1 to 8 labours depending upon herd size and season of works.

Constraints faced by the dairy farmers

The majority of farmers felt that the low cost for milk sale price, low fat and SNF content in milk, low milk yield, and high cost of concentrate, anestrus the major constraints faced by the dairy farmers. The next major constraints faced by the respondents were non-availability of green fodder and grazing land, high occurrence of reproductive disorders like silent oestrus, late puberty, repeat breeder and postpartum anestrums, frequent occurrence of mastitis, and ectoparasitic infestation, water scarcity, and high cost of paddy straw. A similar kind of results was reported by Akila & Sakthivel, (2012) [1]; Karthikeyan *et al.* (2018) [3] and Kavithaa *et al.* (2020) [4]. Karthikeyan *et al.* 2018 [3] reported that low milk price was ranked as the topmost constraint followed by non-availability of subsidized feed, fodder, and other supplements

as other constraints faced by the dairy farmers. Similarly, previous literature found that the high cost of the feed, absence of organized milk marketing channels, and lack of veterinary services are other major constraints faced by the farmers (Ganai *et al.* 2008; Patil *et al.* 2009; Meganathan *et al.* 2010) [2, 6, 5].

In conclusion, our study results showed the general management practices followed by dairy farmers on feeding, breeding, health care, and animal production performances of dairy animals of Tamil Nadu. Further, our study also highlighted the major constraints like the low cost for milk sale price, low fat and SNF content in milk, low milk yield, high cost of concentrate feed, and high occurrence of reproductive disorders are the constraints faced by the dairy farmers of Tamil Nadu. To overcome these problems, we have to carry out the extension activities in dairy farming in such a way to teach farmers on the recent interventions and technical knowledge on scientific dairy farm management to develop dairy farming into a profitable dairy enterprise.

Table 1: Profile of common managerial practices followed by farmers on dairy farming system in Tamil Nadu

Particulars	Category	Frequency	Percentage (%)
Green fodder	15-20 kg	48	64.00
	20-30 kg	27	36.00
Dry fodder	2-3 kg	54	72.00
	4-5 kg	21	28.00
Concentrate	1-2 kg	25	33.33
	2.5-3.5 kg	31	41.33
	4-7 kg	19	25.33
Vaccination	Aware	74	98.67
	Not aware	1	1.33
Deworming	Aware	68	90.67
	Not aware	7	9.33
Herd size	2-4 numbers	21	28.00
	5-8 numbers	36	48.00
	above 9 numbers	18	24.00
Breed	HF cross	33	44.00
	Jersey cross	64	85.33
	Non-descript cow	7	9.33
Manure	Own use	32	42.67
	Sales	43	57.33
Labour engagement	Family members	54	72.00
	Casual labour	21	28.00

Table 2: Milk production performance of dairy animals

Particulars	Category	Frequency	Average	Range
Milk yield (litres)	HF cross	24	11.83	6-20
	Jersey cross	61	8.57	4-15
	Non-descript cow	9	5.2	1-10
Milk sale price (Rs)	Cow milk	75	31.18	22-50

Competing Interests

The authors declare that they have no competing interests.

Acknowledgements

The contributions of the students (B.V.Sc. & A.H. - 2017-18 Batch) of Veterinary College and Research Institute, Orathanadu, in the recording of data are acknowledged.

References

1. Akila N, Senthilvel K. Status of dairy farming in karur district of Tamil Nadu. *Indian J Anim Res* 2012;46(4):401-403.
2. Ganai AM, Maltoo FA, Ahmed HA. Knowledge level

and constraints faced by livestock owners in Kashmir Valley. *Indian Vet. J* 2008;85(3):337-338.

3. Karthikeyan S, Arunmozhi Devi MC, Narmatha N, Uma V, Thirunavukkarasu D. Profile of the Dairy Farmers and the Constraints Faced by them in Utilizing different Dairy Service Delivery Systems. *International Journal of Agriculture Sciences* 2018;10(16):7000-7002.
4. Kavithaa NV, Rajkumar NV, Manokaran S. Constraints in dairy farming: a critical analysis among the dairy farmers of Tamil Nadu. *International Journal of Science, Environment and Technology* 2020;9(3):407-412.
5. Meganathan N, Selvakumar KN, Prabu M, Sermasaravanapandian A, Senthilkumar G. Bottlenecks in livestock rearing among different categories of tribal farmers in Tamil Nadu. *Indian J. Anim. Res* 2010;44(2):118-122.
6. Patil AP, Gawande SH, Nande MP, Gobade MR. Constraints faced by the dairy farmers in Nagpur district while adopting animal management practices. *Veterinary World* 2009;2(3):111-112.
7. Rajadurai V, Rajaganapathy R, Ganesan P, Ponnuvel K, Natchimuthu D. Sreekumar. Socioeconomic profile of the dairy farmers in Puducherry. *Int. J Adv Res Biol Sci.* 2018;5(2):91-95.
DOI: <http://dx.doi.org/10.22192/ijarbs.2018.05.02.010>
8. Ramkumar S, Chris Garforth Rao, Kevin Waldie. Landless livestock farming – problems and prospects, In *Proceedings of workshop held at RAGACOVAS, Puducherry 2001*, 31-35.
9. Senthilkumar T, Sudeepkumar NK, Subramanian. Profile of urban dairy farmers utilising mobile artificial insemination services in Tamil Nadu. *Journal of Extension Education* 2005;16(1, 2):3745-3748.
10. State Focus Paper National Bank for Agriculture and Rural Development, Tamil Nadu Regional Office, Chennai 2020-21.
11. Tamizhkumaran J, Rao SVN. Why cultivation of azolla as cattle feed not sustainable? *Indian Journal of Dairy Sciences* 2012;65(4):348-353.
12. Thirunavukkarasu M, Kathiravan G. Economic losses due to reduced milk output and draught power in FMD affected bovines. *Indian Vet. J* 2010;87(3):273-276.
13. Tiwari R, Sharma MC, Singh B. Animal feeding and management strategies in the commercial dairy farms. *Indian J. Anim. Sci* 2009;79(11):1183-1184.
14. Vijayakumar P, Singaravadivelan A, Silambarasan P *et al.* Production and Reproduction Performances of Crossbred Jersey Cows. *Veterinary Research International* 2019;07(02):56-59.