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## Study of dairy animals feeding management practices in erode districts of Tamil Nadu

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### Abstract

A field survey was conducted to collect the first hand information on dairy animal management practices followed by the dairy animal owners of Erode district of Tamil Nadu. Existing feeding management practices were studied through predesigned and pretested questionnaire from 100 dairy animal owners. As far as feeding of green fodder is concerned, leguminous and non-leguminous fodders used by farmers were 75.00 & 25.00 percent respectively. About 25.00 percent farmers used to feed merely compounded cattle feed, while 75.00 percent farmers used mixture of home-made concentrate with compounded feed. Concentrate feeding was significantly ( $P<0.01$ ) different with land holding of farmers. Feeding of mineral mixture was significantly ( $P<0.01$ ) different among the Talukas.

**Keywords:** feeding practices, dairy cattle, erode district

### Introduction

Livestock sector play a very crucial role in shaping the economy of rural peoples. It is continuous income generating source for rural house hold. Farmers of Erode district is progressive and keeping Kangayam cattle, Crossbred cows and Buffaloes for milk production, feeding management play a very significant role in exploiting real potential of dairy animals. A comprehensive study was designed to find out existing management practices followed by owners in respect of feeding by the progressive farmers of the Erode district of Tamil Nadu.

### Materials and Methods

A field study was conducted in Erode District of Tamil Nadu using multistage random sampling technique for selecting the respondents. The survey study was conducted in five talukas, which has well developed dairy co-operative network and truly represent the whole district with even distribution. Modakkurichi, Kodumudi, Perundururai, Gobichettipalayam and Sathyamangalam were selected randomly for study. Two villages were selected from each Taluka, which were geographically located apart and truly represent the animal practices. Ten farmers of each villages who keep the elite dairy animals producing at least 10 kg or more milk/animal/day were selected. The selected farmers were interviewed regarding their education, total land holding and adopting feeding management practices with help of questionnaire. The data recorded were analyzed (Snedecor *et al.*, 1994)<sup>[11]</sup>.

### Results and Discussion

Study area was totally irrigated by LBP (Lower Bhavani Project) and bore wells and farmers were used to grow 2-3 crops annually. There were adequate grazing facilities for animals (Yadav *et al.*, 2002)<sup>[13]</sup>. Feeding practices prevalent in villages under study was observed that all respondents (100.00%) adopted individual feeding system to their milch animals as well as others. This was a good practice to feed the milch animals according to their production levels. Adoption of this practice showed full of awareness farmers (Chowdhry *et al.*, 2006; Modi, 2003)<sup>[1, 6]</sup>. The large farmers used to feed more leguminous fodders as compared to small and medium farmers. Not a single farmer practiced silage making because green fodder might be available throughout the year. Feeding of dry fodder was significantly ( $P<0.01$ ) different between the Talukas; which might be due to variation in cultivation time of grain crops. Majority of farmers fed jowar straw to their animals because environmental conditions of this area were more suitable for the cultivation of the grain crop like jowar (*Sorghum vulgare*).

The sources of concentrate differed significantly ( $P < 0.01$ ) with land holding of the owners. The large farmers fed more homegrown concentrate as compared to medium and small farmers (Modi, 2003; Patel *et al.*, 2007) [6, 7]. It might be due to surplus production of grains and the easily and chiefly availability of the industrial by products like husks and brans to the large farmers, which were diverted to feeding milch animals economically (Divekar *et al.*, 2008; Mallik *et al.*, 1992; Sahu *et al.*, 2001) [3, 5, 8]. The chaffed green and dry fodder was offered to the animals by only 8.00 and 32.00 percent of respondents respectively, trend was similar as reported earlier (Chowdhry *et al.*, 2006; Modi, 2003) [1, 6]. Adoption of less chaffing practices might be due to lack of manger facilities, labour availability or inadequate knowledge of efficient utilization of feeds and fodders. The practice of feeding concentrate was significantly different between Talukas. It might be due to variation in practices adopted for letdown of milk in dairy animals with respect to localities and species of the dairy animals. About half (42.00 per cent) of the farmers used to supplement ration of their milch animal with mineral mixture. Feeding of mineral mixture differs significantly ( $P < 0.01$ ) between the Talukas. It might be due to variation in type of milch animals (cattle/ buffalo or both) they reared. The farmers, keeping crossbred cattle, offered mineral mixture regularly (Patel *et al.*, 2007; Sohane *et al.*, 2004) [7, 12]. In contrast to this (Sinha *et al.*, 2009; Yadav *et al.*, 2002) [10, 13] it was observed that mineral mixture was not at all fed by most of the farmers whereas very few of them fed mineral mixture to their animals (Deoras *et al.*, 2004; Madke *et al.*, 2006; Singh *et al.*, 2007) [2, 4, 9]. Majority of farmers (72.00%) practiced to feed extra concentrate to their dairy animals during last 2-4 weeks of pregnancy. This is a good practice adopted by farmers because maximum development of foetus occurs during last 6-7 weeks of pregnancy and the digestive system of high yielder become well acquainted for concentrate digestion and also increased body condition of

animal. All respondents (87.00) had adequate knowledge about feeding care after calving. They fed energy rich feed mixed with ecboic ingredients to prevent stress and to provide sufficient energy for freshening. Majority of farmers (95.00%) provided water to their milch animals ad libitum but restricted in frequencies in which two times (21.00% respondents) and three times (74.00 respondents) watering were common in summer. About 91.00 per cent respondents offered two times water in winter only 9.00 per cent farmers had free access to watering due to automatic water supply attached with manger.

**Table 1:** Details of the respondents

Taluka	Number of respondents
Modakkurichi	20
Kodumudi	20
Perundurai	20
Gobichettipalayam	20
Sathyamangalam	20
Total	100
<b>Herd size:</b>	
1-5 animals	17
6-10 animals	55
>10 animals	28
<b>Land holding size:</b>	
<5 Acres	26
5-10 Acres	36
>10 Acres	38
<b>Source of income</b>	
Dairying	69
Cropping	31
<b>Education</b>	
Lliterate	9
Primary	54
Secondary (metric)	20
Above metric	17

**Table 2:** Feeding practices followed by the respondents of different categories

Particulars	Categories according to Taluka					Categories according to land Holding size			Categories according To herd size		
	Modakkurichi	Kodumudi	Perundurai	Gobichettipalayam	Sathyamangalam	<5 acres	5-10 acres	>10 acres	1-5 animals	6-10 animals	>10 animals
<b>Green fodder availability</b>											
Non-legume	3 (15.00)	2 (10.00)	7 (35.00)	8 (40.00)	4 (20.00)	10 (38.46)	6 (16.67)	8 (21.05)	7 (36.84)	11 (20.37)	6 (22.22)
Legume + Non legume	17 (85.00)	18 (90.00)	13 (65.00)	12 (60.00)	16 (80.00)	16 (61.54)	30 (83.33)	30 (78.94)	12 (63.16)	43 (79.63)	21 (77.78)
X <sup>2</sup>	6.956					5.3297			0.4127		
<b>Dry fodder availability</b>											
jowar straw	10 (50.00)	8 (40.00)	18 (90.00)	17 (85.00)	17 (85.00)	19 (73.08)	23 (63.89)	28 (73.68)	10 (52.63)	46 (85.19)	14 (51.85)
jowar straw + paddy straw	6 (30.00)	7 (35.00)	2 (10.00)	3 (15.00)	3 (15.00)	4 (15.38)	10 (27.78)	7 (18.42)	7 (36.84)	5 (9.26)	9 (33.33)
jowar straw + paddy straw + Groundnut stalks	4 (20.00)	5 (25.00)	0 (0.00)	0 (0.00)	0 (0.00)	3 (11.54)	3 (8.33)	3 (7.89)	2 (10.52)	3 (5.55)	4 (14.82)
X <sup>2</sup>	22.26741**					1.9241			17.6412**		
<b>Source of concentrate</b>											
Compounded Cattle feed	4 (15.00)	6 (30.00)	3 (20.00)	5 (20.00)	5 (20.00)	14 (53.85)	4 (11.11)	5 (13.16)	6 (31.58)	9 (16.67)	8 (29.63)
Home prepared + Compounded Cattle feed	16 (85.00)	14 (70.00)	17 (80.00)	15 (80.00)	15 (70.00)	12 (46.15)	32 (88.89)	33 (86.84)	13 (68.42)	45 (83.33)	19 (70.37)
X <sup>2</sup>	1.3781					12.1382**			0.7135		
<b>Method of feeding</b>											
<b>Green fodder</b>											

chaffed	2	3	0	2	0	3	2	2	2	3	2
	(10.00)	(15.00)	(0.00)	(10.00)	(0.00)	(11.54)	(8.11)	(5.26)	(10.53)	(5.56)	(7.41)
As such	18	17	20	18	20	23	34	36	17	51	25
	(90.00)	(85.00)	(100.00)	(90.00)	(100.00)	(88.46)	(91.89)	(94.74)	(89.47)	(94.44)	(92.59)
X <sup>2</sup>	5.3145					0.3842			1.8724		
<b>Dry fodder</b>											
chaffed	8	6	6	8	5	7	11	15	6	18	9
	(40.00)	(30.00)	(30.00)	(40.00)	(25.00)	(26.92)	(30.56)	(39.47)	(31.58)	(33.33)	(33.33)
As such	12	14	14	12	15	19	25	23	13	36	18
	(60.00)	(70.00)	(70.00)	(60.00)	(75.00)	(73.08)	(69.44)	(60.53)	(68.42)	(66.67)	(66.67)
X <sup>2</sup>	1.5142					2.3251			0.7318		
<b>Concentrate feeding</b>											
Before milking	11	9	5	10	8	11	18	14	10	22	11
	(55.00)	(45.00)	(25.00)	(50.00)	(40.00)	(42.31)	(50.00)	(36.84)	(52.63)	(40.74)	(40.74)
During milking	5	7	13	4	11	13	13	14	8	22	10
	(25.00)	(35.00)	(65.00)	(20.00)	(55.00)	(50.00)	(36.11)	(36.84)	(42.11)	(40.74)	(37.04)
After milking	4	4	2	6	1	2	5	10	1	10	6
	(20.00)	(20.00)	(10.00)	(30.00)	(5.00)	(7.69)	(13.89)	(26.32)	(5.26)	(18.52)	(22.22)
X <sup>2</sup>	21.2401**					4.1563			3.2174		
<b>Feeding care in advance pregnancy</b>											
Concentrate During last 15 days	13	16	16	14	13	19	26	27	14	39	19
	(65.00)	(80.00)	(80.00)	(70.00)	(65.00)	(73.07)	(72.22)	(71.06)	(73.69)	(72.22)	(70.37)
Concentrate during last 30 days	4	3	1	3	0	3	5	3	4	4	3
	(20.00)	(15.00)	(5.00)	(15.00)	(0.00)	(11.55)	(13.89)	(7.89)	(21.05)	(7.41)	(11.11)
No fed concentrate	3	1	3	3	7	4	5	8	1	11	5
	(15.00)	(5.00)	(15.00)	(15.00)	(35.00)	(15.38)	(13.89)	(21.05)	(5.26)	(20.37)	(18.52)
X <sup>2</sup>	11.1240					3.9726			4.3581		
<b>Feeding care after calving</b>											
Energy rich ration for 15 days	16	18	19	17	18	24	30	34	17	48	23
	(80.00)	(90.00)	(95.00)	(85.00)	(90.00)	(92.31)	(83.33)	(89.47)	(89.47)	(88.89)	(85.19)
Energy rich ration for 30 days	4	2	1	3	2	2	6	4	2	6	4
	(20.00)	(10.00)	(5.00)	(15.00)	(10.00)	(7.69)	(16.67)	(10.53)	(10.53)	(11.11)	(14.81)
No fed any special ration	0	0	0	0	0	0	0	0	0	0	0
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
X <sup>2</sup>	2.3517					0.983			0.1924		
<b>Feeding of mineral mixture</b>											
yes	13	9	6	10	3	12	14	15	10	19	12
	(65.00)	(45.00)	(30.00)	(50.00)	(15.00)	(46.15)	(38.89)	(39.47)	(52.63)	(35.19)	(44.44)
No	7	11	14	10	17	14	22	23	9	35	15
	(35.00)	(55.00)	(70.00)	(50.00)	(85.00)	(53.85)	(61.11)	(60.53)	(47.37)	(64.81)	(55.56)
X <sup>2</sup>	16.9574**					0.0793			0.4538		
<b>Frequency of watering (Summer)</b>											
Two time	3	4	5	2	6	6	6	8	7	9	4
	(15.00)	(20.00)	(25.00)	(10.00)	(30.00)	(23.08)	(16.67)	(21.05)	(36.84)	(16.67)	(14.81)
Three time	14	14	15	18	14	19	28	28	12	42	21
	(70.00)	(70.00)	(75.00)	(90.00)	(70.00)	(70.37)	(77.78)	(73.68)	(63.16)	(77.78)	(77.79)
Free asses of water	3	2	0	0	0	1	2	2	0	3	2
	(15.00)	(10.00)	(0.00)	(0.00)	(0.00)	(3.70)	(5.55)	(5.27)	(0.00)	(5.55)	(7.40)
<b>Frequency of watering (Winter)</b>											
Two times	17	18	20	20	20	25	34	36	19	51	25
	(75.00)	(80.00)	(100.00)	(92.00)	(85.00)	(96.16)	(94.44)	(94.74)	(100.00)	(94.44)	(92.59)
Free assess of water	3	2	0	0	0	1	2	2	0	3	2
	(25.00)	(20.00)	(0.00)	(8.00)	(15.00)	(3.84)	(5.56)	(5.26)	(0.00)	(5.56)	(7.40)

Figure in parenthesis indicate percentage

\*Significant at 5% level ( $P < 0.5$ )

\*\*Significant at 1% level ( $P < 0.01$ )

## Conclusion

Present study revealed that most of the respondents had satisfactory knowledge about feeding practices. However, many of them were unaware about the importance of feeding mineral mixture and efficient utilization of fodders. Hence there is a need of educating them through various trainings and practical demonstrations on and off the campus extension activities of SAUs, KVKs, VUTRCs and government line departments.

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