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Feeding management practices of dairy cows in Villupuram district of Tamil Nadu

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Abstract
Majority (78 per cent) of the dairy farmers were following individual feeding and fed their animals with green fodder, dry fodder and concentrate. Majority of dairy farmers (61 per cent) were feeding green fodder as whole and 82.20 per cent of dairy farmers were using common property resources as source of fodder. All the dairy farmers were following purchased and home mixing of concentrate. That majority of the dairy farmers (78.60 per cent) were using common salt during concentrate feeding, whereas, salt and mineral mixture usage was 81.40 per cent. Majority (80.40 per cent) of the dairy farmers allowed their animals for grazing (for a mean of 5 hours).

Keywords: Dairy cows, villupuram, feeding, Tamil Nadu, grazing

Introduction
Livestock derive their nutrient requirement by consuming a variety of feedstuffs. Feed cost is estimated that the 60-70 per cent of total cost in livestock production. Feeding and management during the transition period has a significant bearing on the lactation length and total milk yield. Feeding green fodder is the key to economic milk production (NDDB, 2016)

Methodology
Pilot study
The semi-structured interview schedule was designed to obtain data on the various parameters of the study. It was pre-tested among 20 dairy cattle owners. Based on the pilot study, some questions were modified, some deleted and some added.
The pilot study also gave an idea on the time taken to interview each respondent.

Sampling design and size
The sampling procedure followed for this study was random sampling and the sample size was 1000.

Feeding systems: It refers to the system followed in feeding like individual / group / grazing / stall feeding.

Type of feed given: It refers to the type of feed given to the animals like green fodder / silage / hay / straw / concentrate / others.

Grazing time: It refers to the duration of time allowed for grazing of cattle in a day.

Source of fodder: It refers to the source of fodder like purchased / collected from field / cultivated / common property resources.

Quantity of feed provided: It refers to the amount of feed given in a day (measured in kilograms)

Result and Discussion
Feeding of milch cow
Majority (78 per cent) of the dairy farmers were following individual feeding and herd feeding (22 per cent) to their milch cows in Villupuram District. This finding is almost similar with Jadav *et al.,* (2014) [1] who reported that dairy farmers followed individual (85.00 per cent) and

group feeding (15.00 per cent) in Surat district in Gujarat and, Rathore *et al*., (2010) [5] who reported that majority of the farmers followed group feeding (68.75 per cent) in Rajasthan.

Quantity of feed given

Majority (85 per cent) of the dairy farmers were following their animals with green fodder, dry fodder and concentrate to their milch cows in Villupuram District. Majority (89 per cent) of the dairy farmers were following green fodder as well as dry fodder in the morning and evening. The quantity of fodder given was almost similar in the morning and evening with minor variations. The mean green fodder offered to individual animal was 12.88 kg and the quantity of dry roughage was 4.76 kg. This may be due to more availability and access to the field areas in the Villupuram District.

Table: 1: Quantity of feed given

Quantity of Feed given (in kg)	Minimum	Maximum	Mean	Std.Error
Green fodder morning	3.00	10.0	6.36	0.10
Green fodder evening	3.50	10.0	6.52	0.11
Dry fodder morning	1.50	3.50	2.20	0.03
Dry fodder evening	1.50	3.50	2.56	0.03
Concentrate morning	0.50	4.00	2.64	0.03
Concentrate evening	0.50	4.50	2.47	0.02

This finding is almost similar to that of Paramasivam (2012) [3], Senthilkumar *et al*., (2010) [7] and Reddy *et al*., (2013) [6] who reported that 95.25 per cent of dairy farmers fed concentrate and some of them fed brewery waste as concentrate, Majority of the farmers were feeding dry fodder *ad libitum*. While majority of the farmers (81 per cent) were feeding restricted concentrate feed all the dairy farmers (100%) were feeding green fodder to their animals and also feeding paddy straw, sugarcane tops and groundnut haulms. The result of the present study indicated that dairy farmers were not aware of balanced feeding.

Chaffing of green fodder

Chaffing of green fodder was practiced only by 39 per cent of dairy farmers in Villupuram District. Majority of dairy farmers (61 per cent) were feeding green fodder as whole. From our observation and personnel interview most of the dairy farmers harvested the green grass from the agricultural fields which grows as weed. This may be the reason that chaffing was not practiced.

This finding is in contradiction with Jadav *et al.,* (2014) [1] who reported that dairy farmers followed chaffing of green fodder (76.00 per cent) in Surat district in Gujarat.

Source of green fodder

Majority of the dairy farmers used to cultivate (66 per cent) followed by common property resources (22 per cent) to collect green fodder followed by private field (12 per cent). Majority of the type of fodder were weeds and grasses grown on their own. Because of availability of private and government land, dairy farmers used this resource as the source of fodder.

This observation is almost similiar with that of Jadav *et al.,* (2014) [1] who found that two third of the respondents (63 per cent) grew and fed non-leguminous green fodder throughout the year while remaining 30 and 2 per cent of them grew and fed mixture of non–leguminous & leguminous fodders and leguminous fodder respectively. Only 5% of the respondents did not cultivate green fodder and fed uncultivated grasses. Farmers of Surat district, in order to minimize the cost of milk production preferred to cultivate some amount of green fodder for feeding dairy animals.

Source of concentrate

All dairy farmers purchased feed ingredients from market and rice mill and mixed them to formulate own feed This observation is similiar with Jadav *et al.,* (2014) [1] that the dairy farmers fed concentrate to their animals - (homemade mixture 4.00 per cent, compounded cattle feed 77.00 per cent and homemade + compounded cattle feed 19.00 per cent) in Surat district in Gujarat.

Additional supplementation

That majority of the dairy farmers (78.60 per cent) were using common salt during concentrate feeding, whereas, salt and mineral mixture usage was 81.40 per cent.

This observation is similar with Rathore *et al.,* (2010) [5] reported that 17.25 and 32.25 per cent of the respondents incorporated mineral mixture and common salt in concentrate mixture, respectively in Rajasthan. This observation is in contrast with Jadav *et al.,* (2014) [1] that 64 per cent of dairy farmers fed mineral mixture and 26 per cent of farmers fed salt to their dairy animals in Surat district of Gujarat and Patel *et al.,* (2016) [4] reported 98.7 per cent respondents did not supply the mineral mixture and they were not aware about its importance. Reddy *et al.,* (2013) [6] revealed that feeding of mineral mixture was practiced by 63.7% of the dairy farmers only.

Grazing

Grazing of dairy cattle was found to be common (80.40 per cent) in Villupuram District. Grazing was more commonly noted in Villupuram District due to availability of common land. Majority of the dairy farmers allowed more than 5 hours for grazing. This observation is similiar with Sinha *et al*., (2009) [8], Paramasivam (2012) [3] and Patel *et al.,* (2016) [4] who found that majority of the dairy farmers allowed more than 7 hours for grazing.

Conclusion

All the dairy farmers provided different types of feed to their animals like concentrate, green fodder and roughage depending on availability. Majority of farmers not fed chaffed green fodder. Main source of drinking water for animals was bore well.

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