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A Pilot Survey on Feeding Practices Followed in Lactating Dairy Cattle Under Field Conditions

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Abstract

Data regarding the feeding practices followed in lactating dairy cattle at Puzhal and Kadirvedu Villages of Tiruvallur District was recorded and categorized into four groups. The categorized groups were Group I- high yielders, group II- medium yielders, group III- average yielders and group IV- low yielders. The DMI of group I, II, III and IV was deficit by 8.5, 24, 25 and 40 % respectively. The DCP given for group I, II, III & IV was also deficit by 22, 30, 34 and 16%, respectively. The TDN given for all four groups was also deficit than ICAR standard.

Key words: Feeding practices, nutrient analysis, lactating dairy cattle.

Majority of milk obtained is from small, marginal farmers and landless dairy farmers (DAHD &F, 2019). Most of the farmers feed the cattle with agricultural by products. The production record of these animals is far below their genetic potential, due to the deficiency in critical nutrients. Hence, the present research work was carried out to assess the feeding practices followed in lactating dairy cattle under field conditions.

Materials and Methods

Data was collected about the feeding practices followed for 50 dairy cattle at Puzhal and Kadirvedu Villages of Tiruvallur District. The data regarding the breed of cattle, age, body weight, physiological status and milk yield were recorded. Data regarding the feeding pattern viz., quantity of dry fodder, green fodder, grains, oil cakes, concentrates and other feed additives given to dairy cattle were also recorded. Feed samples commonly fed to the dairy cattle were collected from the farmers and analysed for their nutrient composition as per AOAC 2005. Dairy

Table I : Feeding practices and milk yield in 50 dairy cattle under field conditions

No. of dairy cattle	Feeding Practices (intake in Kg)							Milk yield per day per animal (L)
	Paddy straw	Green Fodder	Grains	Oil cakes	DORB / Wheat bran	Gram Husk	Others/ Concentrates	
1	Ad lib	12	0.5	0.5	1	0.5	1	20
1	Ad lib	10	0.5	1	1	0.5	1	18
10	4	8	0.5	0.5	0.5	-	-	10
8	4	8	0.5	0.5	0.5	-	-	8
12	3	5	-	0.3	0.5	0.5	-	6
16	3	5	-	0.3	0.5	0.5	-	5
1	2	2	-	-	0.5	0.5	-	3
1	2	2	-	-	0.5	0.5	-	2

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Table II : Categorization of the feeding practices followed in lactating dairy cattle under field conditions

Group	No. of dairy cattle	% of dairy cattle	Ratio of Roughage : Concentrate feeding	Milk yield (litre/day/ Dairy cattle)	Remarks
I	2	4	71 : 29	18-20	High yielders
II	18	36	76 : 24	8-10	Moderate yielders
III	28	56	80 : 20	5-6	Average yielders
IV	2	4	88 : 12	< 4	Low yielders

Table III : Nutrients provided to dairy cattle under field conditions vis-o-vis with actual calculated requirement

Group	Body weight (Kg) /Milk yield(L)	Nutrients	DMI (Kg/d)	DCP (Kg/d)	TDN (Kg/d)
I (High yielder)	400	Provided	9.15	0.93	9.12
	18	Required	10	1.2	9.3
II (Medium yielder)	350	Provided	6.65	0.49	5.46
	8	Required	8.75	0.7	5.9
III (Average yielder)	300	Provided	5.57	0.33	4.26
	5	Required	7.5	0.5	4.3
IV (Low yielder)	250	Provided	3.7	0.25	3.01
	2.5	Required	6.25	0.3	3.04

cattle were categorized into four groups based on milk yield and feeding practices. The nutrients provided to the lactating dairy cattle under field and the actual requirement was compared as per ICAR (2013). The data was statistically analysed using SPSS software (version 20.0).

Results and Discussion

From the present study (Table I), it was noted that, most of the dairy cattle were fed predominantly on paddy straw with a fair amount of green grass as roughages. De-oiled wheat bran, oil cakes, pearl millet and gram husk were the main concentrate feeds, fed to the lactating dairy cattle. The feeding practices followed in lactating dairy cattle were categorized into four groups based on the milk yield and quantity of feed given under field conditions. (Table II).

The present study was similar to that of Garg *et al*. (2013) who studied the feeding strategy of cattle and categorized them based on the milk yield as low(<8 Kg/d), medium (8-12 kg/d) and high (>12 Kg) yielders.

The nutrients provided to the dairy cattle of all the groups were calculated and it was observed that, they were deficient in DMI, TDN and DCP compared to actual requirement (ICAR *loc cit*). The details were given in Table III. The DMI, TDN and DCP were deficient by 8.5, 1.9 and 22 % respectively in high yielding animals. The DMI, TDN and DCP were deficient by 24, 7 and 30 % respectively in medium yielding dairy cattle. The DMI, TDN and DCP were deficient by 25, 1 and 34 % respectively in average yielders. The DMI, TDN and DCP were deficient in 40, 1 and 16 % respectively in low yielders.

The present study was similar to that of Meenalochini *et al.* (2015) who have reported, 10, 12 and 30 % deficit of DMI, TDN and CP respectively in early lactating Jersey cross breed cattle. Garg *et al.* (2013) also reported that out of 12,518 cattle 13 % animal received deficit in CP and ME.

Summary

The present survey highlights the need of balanced ration, necessary knowledge and skills training of dairy farmers for feeding balanced ration to the lactating dairy cattle for good production and reproduction records.

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Cost Effective Replacement of Antibiotics by MonoBlok-ECS as Eubiotic Feed Additive on the Performance of Commercial Layers

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Abstract

A trial was conducted using BV 300 commercial layers in two flocks from 25-40 weeks. The gut acting antibiotic growth promoter (Bacitracin Methylene Disalicylate) and acidifier (organic acidsand coated sodium butyrate) in control (T_0) are replaced with 0.5 kg of MonoBlok-ECS per ton of feed in treatment (T_1). The daily egg production, feed intake and mortality are recorded in both the groups. The production performance, mortality percentage and overall economics in terms of feed intake per egg and feed cost per egg are advantageous to the treatment group fed with MonoBlok-ECS at the level of 0.5kg per ton of feed.

Key words: Production performance, MonoBlok-ECS, Commercial layers.

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Antibiotics in poultry feed raised a huge outcry towards the topic of Antibiotic Resistance among consumers. Many alternativeshave been explored for over a decade. The usage of medium chain fatty acids as Eubiotic feed additives to replace antibiotics in feed has already gained significance in EU due to its bactericidal property and as an energy source to enterocytes (Dierick *et al*., 2002). The phytogenic compounds are recognized as replacement of antibiotics and their antibacterial activity is the result of cumulative effect on many different targets in various parts of the cell (Burt, 2004).The usage of diformate salts as a feed additive is approved and its usage is increasing due to their effective antimicrobial effect, enhanced secretion of digestive enzymes and sustained release action (Christian and Mellor, 2011). The present trial has been conducted to evaluate the performance ofa Eubiotic Feed Additive, MonoBlok-ECSin commercial layer birds.