

## RELATION BETWEEN FEEDING PRACTICES AND DISEASE INCIDENCE IN DAIRY ANIMALS OF PUNJAB

KRISHANDEV<sup>1</sup>, H.K. VERMA<sup>2\*</sup>, R. KASRIJA<sup>3</sup> AND J. SINGH<sup>4</sup>

*Department of Veterinary and Animal Husbandry Extension Education  
Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana-141 004*

Received: 03.10.2016

Accepted: 20.12.2016

### ABSTRACT

Dairy farmers (30 from each of the six different agro-climatic zones of Punjab state) rearing >5 dairy animals each were randomly selected and interviewed. In different zones of Punjab, there was variation ( $p < 0.05$ ) in feeding of green fodder and dry fodder to dairy animals. The concentrate feeding of lactating buffalo and pregnant-dry buffalo was also different ( $p < 0.05$ ). The green fodder, mineral mixture and concentrate feeding had negative and dry fodder feeding had positive correlation ( $p < 0.05$ ) with common diseases like mastitis, anestrus, repeat breeding and retention of placenta. In brief, appropriate feeding practices should be followed at a dairy farm for reducing the incidence of common diseases.

**Keywords:** Anestrus, Dairy, Feeding, Punjab, Repeat breeding

India is the largest milk producer in the world with the production of 132.4 million tonnes (NDDB, 2016). But the milk production per animal is too less as compared to the developed and dairy primed countries. However, dairying as a subsidiary enterprise has great importance, since it helps in improving the socio-economic status of rural population. In dairy farming, about 70% of the expenditure is on animal nutrition which forms the basis of production (Verma *et al.*, 2011). However, at a dairy farm, the most common disorders like mastitis, anestrus, repeat breeding and retention of placenta lead to poor milk production, thus causing huge economic losses. Therefore, a field study was planned to assess the relation between incidences of diseases at a farm with the feeding practices being followed by farmers.

On the basis of agro climatic conditions, Punjab has been divided into six different zones namely sub-mountainous undulating region (SMU), undulating plain region (UP), central plain region (CP), western plain region (WP), western region (WR) and Flood

plain region (FPR; Mahi and Kingra, 2013). From each zone, 30 respondents rearing >5 dairy animals were selected by random sampling technique. The data regarding feeding practices and health disorders was collected by personally interviewing the respondents with the help of pre-tested interview schedule. The data was subjected to F-ratio and correlation analysis.

Between the zones, there was variation ( $p < 0.05$ ) in green fodder feeding. However, mean green fodder fed per animal per day by the dairy farmers was  $20.47 \pm 2.23$  kg in Punjab state, which was much less as compared to daily requirement of 40 kg. Similarly, the average green fodder feeding per day by dairy animals round the year was reported as 28.5 kg (Handa and Gill, 1989) and 20 kg (Babu and Rao, 2013). This is suggestive of less green fodder availability probably due to less area under fodder crops.

Also, between the zones, there was variation ( $p < 0.05$ ) in dry fodder feeding. Mean dry fodder fed per animal per day by the dairy farmer was  $5.79 \pm 1.12$  kg in Punjab state. In previous reports, average dry fodder fed per day to dairy animals round the year was 5.6 kg (Handa and Gill, 1989).

<sup>1</sup>Veterinary officer, Bilaspur, Himachal Pradesh; <sup>2</sup>Director Extension Education, <sup>3,4</sup>District Extension Specialist (Veterinary Science); \*hkvpaugmail.com

**Table 1: The correlation between feeding practices and the common disease incidence in Punjab**

Feeding practices	r value			
	Mastitis	Anestrus	Repeat breeding	Retention of Placenta
Green Fodder	-0.269*	-0.179*	-0.121	-0.265*
Dry Fodder	0.158*	0.102	0.187*	0.199*
Mineral Mixture	-0.351*	-0.224*	-0.332*	-0.345*
Concentrate	-0.106	-0.178*	-0.054	-0.147*

\*p&lt;0.05

Mean concentrate feeding by the dairy farmers to each cattle heifer, buffalo heifer, lactating cattle, lactating buffalo, pregnant lactating cattle, pregnant lactating buffalo, pregnant-dry cattle and pregnant-dry buffalo per day was 0.70±0.27, 0.66±0.29, 3.02±0.96, 2.91±0.96, 3.98±1.09, 3.84±1.11, 2.15±0.66 and 2.10±0.60 kg, respectively in Punjab state. There was a distinct variation (p<0.01) in concentrate feeding of lactating buffalo and pregnant-dry buffalo in different agro-climatic zones of Punjab. A previous study in central plain zone reported the concentrate feeding to dairy animals as 1-5 kg/head/day (Kaushal *et al.*, 2007).

The dairy farmers feeding mineral mixture regularly to their animals were 50.6% in Punjab state. In fact, 29.5% farmers in Punjab state fed the chelated mineral mixture. None of dairy farmer was feeding by-pass fat to their animals. Majority of dairy farmers of Punjab (97.2%) were not feeding silage to their animals. In a previous study, 96% dairy farmers were not feeding silage to their animals (Devi, 2013). Moreover, 34.4% farmers in Punjab state fed the paddy straw. In earlier studies, dairy farmers feeding paddy straw to dairy animals were 36-48% (Babu and Rao, 2013).

In present study, green fodder and mineral mixture feeding had negative correlation (p<0.05) with incidence of mastitis, anestrus and retention of placenta (Table 1). Moreover, concentrate feeding had negative correlation (p<0.05) with the incidence of anestrus and retention of placenta. This indicated that green fodder, mineral mixture and concentrate feeding

are essentially required for decreasing the incidence of these disorders at the farm. Dry fodder feeding has positive correlation (p<0.05) with the incidences of mastitis, repeat breeding and retention of placenta (Table 1), which depicts that disease incidence was increasing as quantity of dry fodder feeding increased. This is due to the reason that dry fodder is deficient in many necessary nutrients that are required for prevention of above incidences. Dairy farmers usually increase dry fodder only when there is green fodder scarcity and also most of the dairy farmers were not feeding silage to their animals that can be used as substitute for green fodder.

It can be concluded that appropriate feeding schedule should be formulated at a dairy farm according to the reared animals for reducing the incidence of common diseases. The awareness about balanced feeding regimen should be disseminated among dairy farmers with the help of extension activities.

#### REFERENCES

- Babu, D.S. and Rao, K.S. (2013). Feeding practices of cattle adopted by the farmers in four mandals of Chittoor district of Andhra pradesh. *Internat. J. Res.*, **2**(6): 567-568.
- Devi. (2013). Adoption of dairy farming technologies by livestock owners. *Indian Res. J. Ext. Edu.*, **13** (2): 57-61.
- Handa, M.C. and Gill, R.S. (1989). Nutritional status of dairy animals kept by different categories of farmers in Punjab state. *Indian J. Anim. Nut.*, **6**

- (1): 38-43.
- Kaushal, S., Sharma, R.K., Kaur, K., Wadhwa, M. and Bakshi, M.P.S. (2007). Nutritional status of animals of central plain zone of Punjab. *Compendium on International Tropical Animal Nutrition Conference, NDRI, Karnal*, Vol. II: 81-82.
- Mahi, G.S. and Kingra, P.K. (2013). Agroclimatic regions of Punjab. *Fundamentals of Agrometrology*. Kalyani Publishers. pp 236-240.
- National Dairy development Board (2016). <http://www.nddb.org/information/stats/milkprodstate>
- Verma, H.K., Singh. J., Sharma, R.K. and Sahota, R.S. (2011). Management factors affecting reproduction of dairy animals. *Compendium on XIX Annual Convention of Indian Society of Animal production and Management*, pp 177-186.