

STUDY ON THE DAIRY CATTLE, DRY FODDER FEEDING PRACTICES IN MILKSHED AND NON-MILKSHED AREAS OF BIKANER DISTRICT (RAJASTHAN)

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SUMMARY

Dry fodder was fed to dairy cattle when sufficient quantity of green fodder was not available. Bajra Kadbi, Sewen Kutar, bhurut Kutar, Pala, Moth phalgati and groundnut bhusa were given in winter season. In summer season, wheat straw and dry grasses of sewen and bhurut were usually provided *ad libitum* to all the categories of dairy cattle. There was no variation in the type of dry fodder fed to the dairy cattle in milkshed and non-milkshed areas. Majority of the farmers (91.11% in milkshed area and 74.44% in non-milkshed area) reported that they chopped the dry fodder before feeding it to the dairy cattle. No method of enriching the dry fodder by biological treatment has been practised by the dairy cattle owners. However, chopping and soaking practices were prevalent in milkshed area (65.55%) and in non-milkshed area (50%). There was statistically significant ($P < 0.05$) difference between the two areas.

Key words : Dry fodder, dairy cattle, milkshed areas

Feeding is an important component of livestock production and management. Dairy cattle are known to be the most efficient producers of food for man. They can utilize large quantities of food much of which is inedible in the natural state. Efficient cattle are the result of inheritance and improved feeding. Its productivity, however, depends upon the availability of feeds and fodder throughout the year. Thus, this investigation provides the data of dry fodder feeding practices followed by the livestock owners of milkshed and non-milkshed areas and analyses the effect of operation flood programme in milkshed area of Bikaner district (Rajasthan) with respect to dry fodder feeding practices.

MATERIALS AND METHODS

In order to achieve the objectives of this study, a field survey was conducted. The information required to complete the study was collected from milkshed and non-milkshed villages of Bikaner district. The data were collected by using the pretested interview schedule by visiting their farm to take visual observations and actual measurements of the various desired aspects. The collected data were tabulated and subjected to various

statistical methods to draw meaningful inferences.

Selection of the Locale of Research

The study was conducted in Bikaner district of Rajasthan because this district is considered as the Denmark of Rajasthan, moreover, the operation flood programme was also going on in this district through Uttari Rajasthan Milk Union Limited (URMUL).

Selection of Villages

A list of villages where operation flood programme had been running was prepared with the help of Uttari Rajasthan Milk Union Limited and census reports. Three villages out of these were selected randomly, where operation flood programme was running in milkshed area of URMUL denoted as villages of milkshed area. The villages so selected were Norangdesher, Palana and Barsingsar. Three villages from non-milkshed area in contiguity with the milkshed area which has similar social agro-climatic environment were selected for comparison. The villages so selected were Udasar, Nal and Udyamsar.

Selection of Respondents

A list of livestock owners who possessed dairy animals in each of the selected villages was prepared with the help of Village Level Worker (VLW) and Secretary of the co-operative milk societies. Out of this list, 30 livestock owners were selected randomly for the study from each of the villages thereby making a sample of 180 dairy cattle owners (90 from milkshed area and 90 from non-milkshed area).

Construction of Interview Schedule

The required information was collected using a specially developed questionnaire (schedule) keeping in view the objectives of investigation. The questionnaire was designed to get information on feeding practices being followed for different categories of dairy animals. Pre-testing of the schedule was done on two respondents of one village each from milkshed and non-milkshed areas. Pre-testing helped in altering the contents and sequence of certain places and finalizing the procedure of filling the schedule.

Analysis of Data and Statistical Test Applied

The study being of an exploratory nature, it was desirable to collect the data fairly exhaustively. Only the data directly pertaining to dairy cattle dry fodder feeding practices rather than to the peripheral aspects were analyzed. Basic statistical tool like frequency distribution, percentage, ratio, range, mean and standard error were calculated to draw inferences. Chi-square test was applied for significant difference between two areas studied and significant difference between two means was tested by applying 't' test.

RESULTS AND DISCUSSION

Dry fodder was fed to the dairy cattle in summer and winter seasons when the availability of green fodder was either less or not at all. In rainy season when green fodder is available all round the year, farmers do not feed dry fodder to the dairy cattle. In winter season bajra, seven kutar, bhurut kutur, pala, moth phalguti and groundnut bhusa are main fodder resources, whereas in summer season wheat straw or dry grasses of seven and bhurut usually are fed to the dairy cattle. Dry fodder is usually provided *ad libitum* to all categories of dairy

animals. No variation in the type of feed given to the animals was observed from milkshed and non-milkshed areas. No farmer reported the average quantity of different types of dry fodder consumed/day by different categories of dairy cattle. Majority of the farmers (91.11% in milkshed area and 74.44% in non-milkshed area) reported that they chopped the dry fodder before feeding it to the dairy cattle. However, it was observed that 6.67 per cent in milkshed and 20.00 per cent in non-milkshed areas of cattle keepers chop the dry fodder some time. It revealed statistically significant difference ($P < 0.05$) between two areas under observation. Largely (82.22 and 67.78%) both types leguminous and non-leguminous dry fodder were fed to the dairy cattle in milkshed and non-milkshed areas, respectively. In no case feeding of only leguminous dry fodder was reported. Statistically not significant differences were found in these parameters studied. Green fodder was mixed with dry fodder by 30.00 and 18.89 per cent of the milkshed and non-milkshed dairy cattle owners, respectively, for feeding it to the cattle. Owners fed their animals dry fodder without mixing any green fodder. It is clear that milkshed and non-milkshed areas had statistically not significant difference. Respondents were asked about the ratio of mixing green fodder with dry fodder per day. They reported that it varied from availability of the green fodder. Those who mixed the green fodder with dry fodder the variation of the ratio 1 : 1 to 1 : 4 was in both the areas. No method of enriching the dry fodder by biological treatment was practised by the dairy cattle owners. However, as reported in Table 1, farmers only chopped the dry fodder 30.00 and 44.44 per cent, both (chopping and soaking) practices used 65.55 and 50 per cent in milkshed and non-milkshed areas, respectively. Among these, only 2.22 per cent in milkshed area was practised treating wheat straw by urea molasses followed while in non-milkshed area no such practices of enriching the wheat straw and poor quality fodder by urea molasses followed. There was statistically significant ($P < 0.05$) difference between the two areas.

The observations regarding consumption of dry fodder in the present study suggested that dry fodder in winter season was mainly bajra sewen kutar, bhurut kutur, pala, moth phalguti and groundnut bhusa. Whereas in summer season wheat straw, as well as dry grasses viz., sewen, bhurut were the main dry roughages for feeding to dairy cattle. Dry fodder was provided *ad libitum* but some time green fodder was also mixed.

TABLE 1
Feeding practices of dry fodder in milkshed and non-milkshed areas

S. No.	Parameters/Categories	Milkshed area		Non-milkshed area	
		Frequencies	Percentage	Frequencies	Percentage
1. Chaffing practices of dry fodder					
	Always	82	91.11	67	74.04
	Sometimes	06	06.67	18	20.00
	Never	02	2.22	05	5.56
	Total	90	100	90	100
	X ² = 8.795*				
2. Type of dry fodder fed to dairy cattle					
	Non-leguminous only	16	17.78	25	27.78
	Leguminous only	00	00	00	00
	Both (leguminous and non-leguminous)	74	82.22	65	67.78
	Total	90	100	90	100
	X ² = 2.718 ^{NS}				
3. Practices of mixing dry fodder with green fodder					
	Mixing	27	30	17	18.89
	Not mixing	63	70	73	81.11
	Total	90	100	90	100
	X ² = 3.008 ^{NS}				
4. Treatment given to dry fodder					
	Chaffing only	27	30.00	40	44.44
	Soaking only	00	00	00	00
	Chaffing & Soaking	59	65.55	45	50.00
	Urea molasses supplements	02	2.22	00	00
	None	02	2.22	05	5.56
	Total	90	100	90	100
	X ² = 7.692*				

*Significant at P=0.05. NS—Non-significant.

These findings are in line with the results of Heinriche *et al.* (1984) and Panwar *et al.* (1994). Regarding improvement of poor quality dry roughage no chemical or biological methods were practised in any of the areas only physical processing like chaffing and soaking was observed to be in practice in both the areas. The present findings were also supported by Mahesh Chandra *et al.* (2011), who reported that urea treatment of straw was not popular among the farmers due to several reasons. However, Sharma and Sharma (2011) concluded that adoption of enrichment of dry roughages was 13.33 per cent by KVK benefited farmers of Dausa district. Singh and Sharma (2011) concluded that a significant difference was found in the level of adoption between members and non-members of dairy cooperative societies regarding feeding practices of dairy animals. The physical processing of roughages was more frequent in milkshed area (65.55%) as compared to non-milkshed area (50%). There was statistically significant (P<0.05) difference between the milkshed and non-milkshed areas.

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