

*Original Research***Study on Cattle Feeding Practices in Relationship to Herd Size in Non-Tribal Area of Udaipur District of Rajasthan****Shweta Choudhary¹, M.L. Gurjar², Vikas Choudhary³, Padma Meel⁴ and Subha Ganguly^{5*}**

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Abstract

The present investigation was conducted in Mavli and Vallabhnagar tehsils of Udaipur district of Rajasthan. The study group included 160 cattle rearers from which were selected randomly from four villages of above two tehsils. Regarding feeding practices, combined grazing and stall feeding was followed by 58.13 per cent of the respondents and 45.63 per cent cattle keepers used harvested/fallow field as grazing site. Only 45.00 per cent of the respondents use to chaff the dry fodder before feeding. Home prepared concentrate mixture was given by 61.25 per cent of the respondents in the study area. Practice of soaking and boiling concentrate mixture was followed by 88.13 per cent of cattle keepers before feeding. Only 50 and 44.38 per cent of the respondents fed common salt and mineral mixture, respectively.

Key words: Cattle feeding, Herd size, Non-Tribal Area, Udaipur, Village

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Introduction

Livestock are highly proficient users of available biomass as they consume grasses and other plants that cannot otherwise be consumed by humans and convert it to a range of valuable products viz. milk, meat, wool, leather, manure and draught power. The integration between crops and animals not only enhances agricultural production, but also improves household food intake and income and provides a buffer against climate risks (Thorton, 2010). A symbiotic relationship exists between men, land and livestock. Livestock is an economic enterprise and can also be considered as a 'survival enterprise' for millions of people in

India (Premchand *et al.*, 2014). Dairy farmers are encountered with several new challenges to sustain the growth and profitability. This calls for an analysis on the existing livestock feeding policy and infrastructure needed to optimize their productivity (Hegde, 2010). The main handicaps in the promotion of dairying along with the adverse climatic conditions are lack of green fodder, inadequate and unbalanced feeding, poor management, low genetic potential, inadequate veterinary aid and lack of market facilities. Even though the Rajasthan state is rich in the total animal population yet, the progress of animal husbandry does not seem to be satisfactory. This is mainly due to lack of detailed information on existing animal management especially the feeding practices adopted for different categories of livestock as a result of which it has not been possible for the policy planners to give full attention to these important aspects of cattle production. The present research was focused giving due priority to the lack of detailed information on existing feeding practices adopted for different categories of livestock, it has not been possible for the policy planners to give full attention to these important aspects of cattle production (Rajendran and Prabhakaran, 1998; Garg *et al.*, 2005; Sinha *et al.*, 2009; Rathore *et al.*, 2010; Ramchandra, 2012; Choudhary *et al.*, 2017)

Materials and Methods

The study was conducted to collect the information on feeding management practices adopted by cattle rearers in Udaipur district of Rajasthan. The district comprised of 11 tehsils, out of which only these two selected tehsils Mavli, and Vallabhnagar were Non-tribal and rest nine are tribal. Further, four villages (Gadoli, Garda ki Bhagal, Golwara, Rahmi) from Mavli four villages (Ranchhorpura, Siyakheri, Roopawali, Netawala) from Vallabhnagar tehsil were identified and from each village 20 respondents were selected randomly. Thus, the entire sample consists of 160 respondents from selected eight villages in two tehsils of the district. The data was collected through personal interview technique from each selected respondent. An interview schedule was prepared with the help of Department of Livestock Production Management, College of Veterinary and Animal Science, Navania, Vallabhnagar, Udaipur, District Animal Husbandry Department and experts of the subject.

The respondents were categorized on the basis of herd size of cattle possessed by them. The adult cattle units were calculated as either milch, dry, pregnant cattle or bull assumed one adult unit and heifer and calf will be assume as 0.5 and 0.25 adult unit, respectively and respondents were classified as small (up to 1.5 units) medium from (1.6 to 4.5 units) and large (above 4.5 units) group. Six traits i.e. age, education level, herd size, land holding, family size and annual income of respondents were identified and statistically correlated with existing feeding management practices by using Chi Square (χ^2) (Snedecor and Cochran, 1994).

Result and Discussion

Table 1: Feeding practices in cattle

S. No.	Practices	Small herd	Medium herd	Large herd	Overall	χ^2 value
Feeding of Animals						
a	Stall feeding	19(33.93)	35(43.75)	10(41.67)	64(40.00)	6.498
b	Grazing	3(5.36)	0(0)	0(0)	3(1.88)	
c	Both	34(60.71)	45(56.25)	14(58.33)	93(58.13)	
Stall Feeding Type						
a	Group	14(25.00)	22(27.50)	8(33.33)	44(27.50)	0.585
b	Individual	42(75.00)	58(72.50)	16(66.67)	116(72.50)	
Grazing site						
a	Common pasture land	7(12.50)	7(8.75)	3(12.50)	17(10.63)	16.661*
b	Harvested /fallow land	30(53.57)	36(45.00)	7(29.17)	73(45.63)	
c	Own pasture land	0(00)	2(2.50)	4(16.67)	6(3.75)	
d	No grazing	19(33.93)	35(43.75)	10(41.66)	64(40.00)	
Type of dry fodder						
a	Maize+dry grass	3(5.36)	8(10.00)	1(4.17)	12(7.50)	1.613
b	Maize+dry grass+jowar	44(78.57)	58(72.50)	19(79.16)	121(75.63)	
c	Jowar+dry grass	9(16.07)	14(17.50)	4(16.67)	27(16.68)	
Chaffing of dry fodder						
		25(44.64)	35(43.75)	12(50.00)	72(45.00)	0.295
Chopping of green fodder						
		25(44.64)	35(43.75)	12(50.00)	72(45.00)	0.295
Cultivation of green fodder						
		43(76.79)	72(90.00)	20(83.34)	135(84.38)	4.386
Type of concentrate mixture						
a	Home prepared	33(58.93)	54(67.50)	11(45.84)	98(61.25)	6.196
b	Readymade	15(26.79)	17(21.25)	11(45.83)	43(26.88)	
c	Mixture of home prepared & readymade	8(14.29)	9(11.25)	2(8.33)	19(11.88)	
Pretreatment of concentrate mixture						
a	Soaking	7(12.50)	9(11.25)	3(12.50)	19(11.88)	0.059
b	Soaking & boiling	49(87.50)	71(88.75)	21(87.50)	141(88.13)	
Feeding of common salt						
		31(55.36)	40(50.00)	9(37.50)	80(50.00)	2.142
Feeding of mineral mixture						
		29(51.79)	34(42.50)	8(33.34)	71(44.38)	2.545
Preparation of hay & silage						
		0(0)	0(0)	2(8.34)	2(1.25)	11.476**
Time of concentrate feeding						
a	At milking time	46(82.14)	71(88.75)	18(75.00)	135(84.38)	2.973
b	Both at milking time & mixed with fodder	10(17.86)	9(11.25)	6(25.00)	25(15.63)	
Concentrate feeding of advance pregnant cattle						
		53(94.64)	70(87.50)	22(91.66)	145(90.63)	2.014
Concentrate feeding of young calf						
		6 (10.71)	15(18.75)	5(20.84)	26(16.25)	1.998
Concentrate feeding of heifer						
		44(78.57)	67(83.75)	18(75.00)	129(80.63)	1.137
Quantity of concentrate fed to lactating cattle						
a	Balance feeding	45(80.36)	60(75.00)	20(83.34)	125(78.13)	1.001
b	Imbalance feeding	11(19.64)	20(25.00)	4(16.66)	25(21.87)#	

Figure in parenthesis indicate horizontal percentage; *significant ($p < 0.05$); ** significant ($p < 0.01$)

The feeding of the animals governs the overall health and reproductive performance of the animals. In the current study, it was found that combined grazing and stall feeding was followed by 58.13 per cent of the respondents while 40.00 per cent adopted only stall feeding of their animals (Table 1).

Harvested/fallow field was used as grazing site by 45.63 per cent cattle keepers, while 10.63 per cent used common pasture land for grazing. Only 45.00 per cent of the respondents use to chaff the dry fodder before feeding (Table 1). Home prepared concentrate mixture was given by 61.25 per cent of the respondents in the study area. Practice of soaking and boiling concentrate mixture was followed by 88.13 per cent of cattle keepers before feeding. Only 50.00 and 44.38 per cent of the respondents fed common salt and mineral mixture, respectively. Preparation of hay and/or silage was practiced by only 1.25 per cent of the cattle keepers (Table 1). The findings of feeding in the present study are almost similar to that recorded by Garg *et al.* (2005), Kumar *et al.* (2006), Swaroop and Prasad (2007) and Rathore *et al.* (2010). Similar findings regarding cultivation of green fodder and its feeding have also been observed by Dhiman (1988), Garg *et al.* (2005), Swaroop and Prasad (2007) and Sinha *et al.* (2009). The findings about type of concentrate mixture in the present study are in accordance with the findings observed by Garg *et al.* (2005) and these findings are contrary to Singh *et al.* (2004).

The findings of common salt, mineral mixture feeding and preparation of hay and silage are in accordance with the results of Malik and Nagpaul (1998), Mudgal *et al.* (2003), Ganai *et al.* (2004), Singh *et al.* (2004), Garg *et al.* (2005), Kumar *et al.* (2006), Sinha *et al.* (2009), Dixit *et al.* (2010) and Rathore *et al.* (2010). The findings of concentrate feeding to pregnant cattle recorded in present study are in agreement with the reports of Rajendran and Prabhakaran (1992), Kumar *et al.* (2006) and Ramchandra (2012). Regarding quantity of concentrate feeding, the present findings agree well with earlier reports by Intodia (1988, 2001), Singh *et al.* (2004), Garg *et al.* (2005), Malik *et al.* (2005), Kumar *et al.* (2006) and Choudhary *et al.* (2017) respectively.

Conclusion

It is recommended on the observations of present study that cattle keepers should be motivated through training and demonstrations for balanced feeding and preparation of balanced concentrate mixture at home. Subsidies on mineral mixture and urea molasses mineral bricks should be provided to enhance use of these feed additives.

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