Traditional feeding practices adopted by professional breeders of Kankrej cattle in Banaskantha district of Gujarat state

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Journal of Livestock Science (ISSN online 2277-6214) 7: 49-53
Received on 18/1/2016; Accepted on 25/1/2016

Abstract

A field survey was conducted to acquire the first hand information on traditional feeding practices adopted by professional breeders of Kankrej cattle in Banaskantha district. The information on feeding practices was collected using structured schedule from 150 professional breeders rearing Kankrej cattle. Majority (72.7%) of the professional breeders were landless and marginal. They had kept an average of 34 animals in which 4 animals were provided stall feeding (Calf, Old and Sick). All (100%) professional breeders supplied the concentrate (average 1.53 Kg) to their lactating cattle. Majority (61.8%) of respondents fed fodder as such to their animals. The animals were sent to grazing for more than 9 hours and sometimes 1 to 2 hours rest was provide to prevent heat stroke. Almost all (98.7%) respondents did not supply the mineral mixture and they were not aware about its importance. The water ponds and Village Lake were used by all respondents to provide water to their animals twice a day.

Key word: Professional breeder; feeding practices: Kankrej breed; cattle; Gujarat; India

Introduction

India is a vast country with diversified agro-climatic conditions. Majority of farmer families are engaged in agricultural operations for about 8-9 months in a year, however it is accepted that agriculture sector alone is unable to provide necessary employment and income to the farmers. At the same time, livestock sector is well acknowledged as an important source for employment generation and animal husbandry constitutes an important activity of the rural population, mostly a subsidiary occupation (Kumawat and Yadav, 2012).

Feeding is one of the important practices in animal husbandry as it holds great importance in health and productivity of animals. It is generally agreed that the animals fail to prove their full genetic potential of higher production when fed at low levels. Sub optimal feeding of young animals lead to poor growth, delayed maturity and lower productivity after attaining breedable age. Professional breeders maintain the local cattle & buffalo breeds since centuries as traditional animal keepers in India. They follow their own feeding, breeding and shelter practices for their herd (Sheikh et al., 2011).

The Kankrej cattle is the heaviest and most priced breed of the Indian breeds of cattle and reared from the district of Banaskantha in the state of Gujarat in India, north of Mumbai (Bombay) on the west coast of India (Source: https://en.wikipedia.org/wiki/ Kankrej_cattle_and_Guzerat_cattle). The unique characteristics like yielding good quantity of milk with high fat content even in these extreme climatic conditions as well as resistant to tick fever, heat stress, very little incidence of contagious abortion and tuberculosis made Kankrej a very popular one among these countries (Lateef et al., 2014). The profesional breeders have evolved and are still breeding Kankrej in Banaskantha region of Gujarat state. The professional breeders of Kankrej cattle are grazing their animals in post harvested field and "gochar land" (common land for grazing cattle) of their villages. However, very few systematic studies on traditional feeding practices adopted by the poor and resource less breeders of Banaskantha region are available. Keeping this in view, the present study was planned to delineate the information on feeding management practices adopted by professional breeders of Kankrej cattle in Banaskantha District of Gujarat state.

Methodology

Area of the study

The present study was conducted among the professional breeders of Kankrej cattle in Banaskantha district of Gujarat state. The district is situated between longitude: 71.03˚ to 73.02˚east, latitude: 23.33˚to 24.25˚ north, with maximum temperature 45˚ C, 5˚C minimum, average rainfall 1550 mm.

Methods of sampling

Present study was carried out in Banaskantha District. Five (5) talukas (Amirgadh, Bhabhar, Deesa, Deodar and Vav) of the District were selected purposively on the basis of density of population of the professional breeders. Six (6) villages were randomly selected from each taluka and accordingly five (5) respondents were randomly selected from each village.

Selection of the respondents

The study sample consisted of 150 (N=150) professional breeders of Kankrej cattle.

Tools and techniques of data collection

The data was collected by personal interview technique through a structural schedule. The data was tabulated and interferences were drawn.

Data analysis

The results were statistically analyzed using chi square (X^2) test as per method of Snedecor and Cochran (1994).

Result and discussion

*Rearing system of animals***:** it is evident that on an average professional breeder kept 34 animals of which, 30 animals were going for grazing and 4 animals remained in paddock for stall feeding. Animals that remained in paddock included calves, old and sick animals. Majority of professional breeders were landless and marginal farmers. So, they mainly depend on grazing their animals on common property resources (Gochars). This finding was well supported by Uttamkumar (2003) as he observed that 100 per cent traditional Sahiwal cow keepers grazed their animals in Ludhiana district of Punjab state.

*Time spent for grazing their animals***:** Majority (45.4%) of respondents spent more than 9 hours for grazing followed by 8 to 9 hrs (42.0%) and up to 8 hours / day (12.6%). Time of grazing differed significantly among different talukas. Majority of (93.3%) respondents spent more than 9 hours/day to graze their animals in Vav taluka

because of availability of more grazing area for their animals. This finding is similar as reported by Belli and Manjula (1997). They reported that nearly 51 per cent of Govalis (the tribal farmers of Maharashtra) spent 5 to 8 hours every day for grazing their dairy animals in Dharwad district of Maharashtra.

Table-1 Feeding practices adopted by professional breeders of Kankrej cattle.

S.N.	Particulars	Talukas					Total (N=150)
		Amirgadh (n=30)	Bhabhar (n=30)	Deesa (n=30)	Deodar (n=30)	Vav (n=30)	
1	**Rearing system of animals (Av. Animal per professional breeder)**						
	(a) Grazing	28 (90.0)	31 (89.0)	25 (86.0)	26 (81.0)	39 (86.7)	30 (88.0)
	(b) Stall feeding	3 (10.0)	4 (11.0)	4(14.0)	6 (19.0)	6 (13.3)	4(12.0)
	(c) Total	31	35	29	32	45	34
2	**Time spent for grazing their animals per day**						
	(a) Up to 8 hours	8 (26.7)	1(03.3)	5 (16.7)	5(16.7)	0 (00.0)	19(12.6)
	(b) 8 – 9 hours	13(43.3)	22(73.4)	8(26.7)	18(60.0)	2(06.7)	63 (42.0)
	(c) Above 9 hours	9 (30.0)	7 (23.3)	17 (56.6)	7 (23.3)	28 (93.3)	68 (45.4)
3	**Resting hours while grazing animals per day**						
	(a)No resting period	17 (56.7)	18 (60.0)	17 (56.7)	21 (70.0)	14 (46.7)	87 (58.0)
	(b)Rest period upto 2 h	13(43.3)	12 (40.0)	13(43.3)	9 (30.0)	16 (53.3)	63(42.0)
	(3) No rest period	17 (56.7)	18 (60.0)	17(56.7)	21(70.0)	14(46.7)	87(58.0)
4	**Category of animals those provide stall feeding of total animals**						
	(a) Calves	91(96.0)	131(93.6)	117(96.0)	131(88.0)	172(92.5)	642(92.7)
	(b) Sick	2(02.0)	5 (03.6)	3(02.5)	10(06.7)	3(01.5)	23(03.3)
	(c) Old	2(02.0)	4(02.8)	2(01.5)	8(05.3)	11(06.0)	27(04.0)
5	**Quantity of concentrate and fodder supply to lactating Kankrej cattle (Bracket showing the number of professional breeders)**						
	(a) Concentrate (kg)	1.60(30)	1.57(30)	1.53 (30)	1.48(30)	1.45(30)	1.53(150)
	(b) Green fodder (kg)	3.0(14)	2.57(14)	2.80(5)	3.50(16)	2.40(17)	2.89(66)
	(c) Dry fodder (kg)	3.20(13)	3.00(10)	3.0(7)	3.80(11)	3.20(14)	3.24(55)
6	**Feeding pattern of dry fodder**						
	(a) without chaff	6(60.0)	5(71.4)	9(64.3)	7(63.6)	7(53.8)	34(61.8)
	(b) Cutting by axis	3(30.0)	2(28.6)	5(35.7)	4(36.4)	5(38.5)	19(34.6)
	(c) Chaffing	1(10.0)	0(00.0)	0(00.0)	0(00.0)	1(07.7)	2(03.6)
7	**Supply of mineral mixture**						
	(a) Supplied	0(00.0)	0(00.0)	1(03.3)	1(03.3)	0(00.0)	2(01.3)
	(b) Not Supplied	30(100.0)	30(100.0)	29(96.7)	29(96.7)	30(100)	148(98.7)
8	**Source of water supply to Kankrej cattle**						
	(a) Community water trough	30(100)	29(97.7)	19(63.3)	25(83.3)	28(93.3)	131(87.3)
	(b) Ponds	0(00.0)	1(03.3)	11(36.7)	5(16.7)	2(06.7)	19(12.7)

$p < 0.05$ was considered to be statistically significant.

*Resting hours while grazing***:** Majority (58.0%) of professional breeders did not allow their animals to rest, whereas 42.0 per cent respondents allowed one to two hours rest during grazing time to their animals especially in noon hours.

*Category of animals those provide stall feeding***:** Stall feeding is very essential to balance the feed of animals and play very important role in production performance of animal. Perusal of table 1 indicated that calves were the main animals (92.7%) that remained in paddock. As the calves were unable to graze along with large animals and chance of loss or predation was more.

Feed stuff supply to lactating animals: It was observed that majority of respondent supplied on an average 01.53 kg concentrate, 02.89 kg green fodder and 03.24 kg dry fodder per animal. Concentrate, dry fodder and green fodder is essential to fulfill nutritive value for animals. It was observed that the animals were not supplied proper quantity of feed materials. This finding was in line with Kamboj and Tomar (2000) who reported that the daily

average green fodder and concentrate mixture fed to milking cows were 5.97 Kg and 1.85 Kg, respectively in Nagori cattle.

*Feeding pattern of dry fodder***:** Chaffing and cutting of fodder reduce the wastage and increase the digestibility of animal. It is also beneficial for better storage of fodder. Selectivity of animals for leaves can be removed by chaffing. Majority of professional breeders (61.8%) practiced to feed dry fodders feeding without chaff, while 34.6 percent respondents offered dry fodders after cutting by axe or hand cutter and 03.6 per cent respondents used chaff cutter for their animals. Majority of professional breeders were lacking the knowledge and unaware about the importance of using chaffed dry fodders. It might be due to non-availability of chaff cutter at cheaper rate in hometown, lack of manger facility, inadequate knowledge of efficient utilization of feed and fodders. The findings were in agreement with findings of earlier workers (Modi, 2003, Patel et al., 2005).

*Supply of mineral mixture***:** Feeding of mineral mixture is essential for well-being, production and reproduction of animals. It was found that very meager (01.3%) respondents provided mineral supplements to their milch animals. It might be due to lack of awareness about feeding minerals to animals due to illiteracy and least interest in public communication for training and not ready to pay additional cost. Divekar (2005) also found that most of the (99.0%) Gir owners did not give mineral mixture to their animals.

*Water resources***:** It was found that majority (87.3%) of professional breeder supplied drinking water to their animals through community water trough while 12.7 per cent respondents preferred to supply water through village ponds. No professional breeders had their own facility (trough or tank) for water supply to their animals.

*Source of water supply to Kankrej cattle***:** In Deesa taluka, majority (36.7%) of respondents used community water troughs and ponds for drinking water to their animals. This talukas has more water ponds as compared to other talukas. The results were well supported with Deoras et. al. (2004) who showed 97.00 percent respondents used community water trough.

*Frequency of watering***:** Water supply to animals once in a day is not advocated. For sufficient water supply and for better digestion and metabolism in animals, it is essential to know the trend or frequency of water supply in respondents. All the respondents (100%) had a habit to supply water to their animals for two times in Banaskantha district. However, very few respondents were changing watering frequency e.g. in winter season provision of one time water (04.0%) and in summer season provided (07.0%) thrice a water per day in the district. Thus the importance of water is not known practically to professional breeders. The provision of water for Kankrej cattle was depending upon available resources to them. This finding is in line with Divekar (2005) that all Gir owners used community water tank to provide drinking water two times in a day to their animals.

This field survey was conducted to acquire the first hand information on traditional feeding practices adopted by professional breeders of Kankrej cattle in Banaskantha district. It was concluded that rearing of Kankrej animals on grazing, supplement of concentrate to milking animals and utilization of community water trough for water supply were the common practices adopted by professional breeders in Banaskantha district. Nevertheless, this study helps researchers, technologist and field workers to identify selected, improved and appropriate technologies in the field of animal husbandry. Therefore, the integration of traditional knowledge practices with better technologies is required to establish strong linkage with farmers.

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