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## Studies on feeding and management practices adopted in livestock fodder camps during drought in Wadwani and Dharur Tahsil of Beed district

**TD Sabale, DS Chauhan and VY Jagdale**

**Abstract**

The present investigation entitled “Studies on Management Practices Followed for Livestock Fodder Camps during Drought in Wadwani and Dharur Tahsil of Beed District” was undertaken to study the different package of practices followed for livestock. Four livestock fodder camp from Wadwani and Dharur tahsil of Beed district were selected with the objectives to study the feeding, breeding, housing and health cover practices of livestock, to record the production performance and to study the constraints faced by the livestock owner. The data was collected from the 400 respondents in four livestock fodder camp. The study revealed that 25.50 per cent of the respondents were marginal farmers, 33.25 per cent of the respondents were small farmers, 38.25 per cent of the respondents were medium farmers, 3.00 percent of the respondents were large farmers while there is no respondents landless laborers respectively. All the farmers in fodder camp provide feed and fodder as decided by state government i.e. large animals were fed with 15 kg green fodder, 6 kg dry fodder and 0.500 gm concentrates whereas small animals were fed with 7.5 kg green fodder, 3 kg dry fodder and 0.250 gm concentrates respectively. In management practises vaccination and health checking of animal were followed 100 per cent, while cleaning and sanitation of camp and animal practiced by 97.00 per cent. Artificial insemination technique was followed by 78.25 per cent farmers, whereas 25.25 per cent of respondent followed mating of animals. In production performance, the majority of cow i.e. 35.49 per cent were yielding 2.1 to 4 liters milk per day whereas majority of buffalo i.e. 32.23 per cent were yielding 4.1 to 6 liters milk per day. In constraints, feeding constraints, production and marketing constraints, technical constraints and health related constraints were faced by farmer in livestock fodder camp. Hence it may be concluded that there is need to demonstrate scientific feeding and management practices, also management of fodder and water for summer season which is need for exploiting optimum production and proper management of livestock.

**Keywords:** feeding, breeding, management, constrains, livestock fodder camp

**Introduction**

Animal Husbandry and Dairying activities, along with agriculture, continue to be an integral part of human life since the process of civilization started. These activities have not only contributed to the food basket and draught animal power but also by maintaining ecological balance. Livestock sector is an important sub-sector of the agriculture of Indian economy. It contributes 3.46 per cent to total GDP where as in case of agriculture sector 29.20 per cent during 2012-2013 (Anonymous 2014) [1]. In Maharashtra state, the total number of livestock population is about 32.49 millions in which bovine (Cattle and Buffalo) population is about 21.07 million numbers which accounts to 65% of total livestock of Maharashtra (Anonymous 2012) [2]. Drought can refer to “an extended period of months or years when a region notes a deficiency in its water supply whether surface or underground water, results in water shortage for vegetation, animals and human being.” Drought conditions can negatively affect agriculture, water supplies, energy production, and many other aspects of society. The impacts vary depending on the type, location, intensity, and duration of the drought. Feeding strategies during drought depend on the specific condition prevailing in any particular area. (Udmale *et al.* 2014) [3]. In general the farmer has to make decision based on economics, knowledge of nutrition, the availability of feed resources and his calculated guess on the length of drought. Livestock camps are the areas where the livestock are reared collectively under the control of either government or private agency to overcome the problem of drought. In India, generally livestock camps are controlled by state government.

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Livestock camp is the best measure to sustain in drought condition. Now a day there is severe water scarcity in Maharashtra especially in Beed, Osmanabad and Latur district of Marathwada region due to low rainfall and long interval in rainfall which resulted into very low availability of feed and fodder. By considering this situation, Govt. of Maharashtra has taken decision to provide feed and fodder in low cost for livestock of these district. For this purpose with the permission of District Collector, co-operative sugar factory, other factory, Agriculture Produce Marketing Committee, Gram Panchayat, NGOs, SHGs, etc. can open livestock fodder camp in these district.

### Materials and Methodology

The data for the present investigation entitled "Studies on Management Practices Followed for Livestock Fodder Camps During Drought in Wadvani and Dharur Tahsil of Beed District" will be collected from different livestock fodder camps in Wadvani and Dharur tahsil of Beed district namely Bhagyanbaba Sewabhavi Sanstha At- Wadvani, Tal- Wadvani Dist- Beed Jai Mataji Bahu'uddyasiya Sewabhavi Sanstha, At- Pusra, Tal-Wadvani Dist-Beed Navjivan Gramin Bigarsheti Sahakari Patsanstha At-Devla, Tal-Wadvani Dist-Beed Marathwada krushi pashu SanvardhanVikas Sansodhan Vidyan Mandal At-Sonimoha, Tal-Dharur Dist-Beed. 100 respondents were randomly selected from each livestock fodder camp. Thus, the total sample size comprised of 400 farmers. The data in respect of enumeration of breed, existing feeding, management practices of cattle and constrains faced by farmer in camp by personal interview method from the well designed and pre-tested schedules.

### Results

#### Socio-economic status of farmer

##### A) Distribution of farmers according to size of farm

It is observed from table 1 that 25.50 per cent of the respondents were marginal farmers, 33.25 per cent of the respondents were small farmers, 38.25 per cent of the respondents were medium farmers, 3.00 percent of the respondents were large farmers while there is no respondents in the category of landless labourers respectively

##### B) Distribution of farmers according to social class

It is observed from table 2 that 30.25 per cent of respondents were from open category, 16.00 per cent from OBC category, 06.25 per cent from VJNT category, 01.00 per cent from NT (B) category, 14.50 per cent from NT (C) category, 19.25 per cent from NT (D) category, 08.25 per cent from SC category, 03.50 per cent from ST category and 1.00 per cent from SBC category.

##### C) Distribution of farmers according to Types of Animal

It is observed from table 3 that 92.75 per cent of the farmers having indigenous animals there was no exotic animal present in camps. 27 per cent respondents had cross breed animals, while 04.25 per cent of respondents possessed non-descript animals, respectively on livestock fodder camp.

#### Adoption of feeding, breeding, housing and health cover practices of livestock

##### A) Feeding practices adopted by farmer in livestock fodder camp

It is need to emphasis the importance of feed and fodder for production and body maintenance. Apart from the genetic capabilities of the animals, the milk production in cattle and

buffalo goes in response with nature and the quantities of the feeds and fodder allowed to them, so that it is essential to evaluate the present status of feeding practices adopted by the farmer in Livestock Fodder Camp. It is observed from table 4 that green fodder consists of sugarcane tops and maize, dry fodder consist of *kadbi* that are tied in bundles and soybean straw etc. In addition to all these above mentioned, pellets (*sugras*) was also utilized as a concentrate feed for livestock. It is observed that, all the farmers in all categories adopted stall feeding because of non availability of grazing land in Livestock Fodder Camp. Information about different feeds and fodder used by farmers to his animal are given in table 5. Survey revealed that all the farmers provide feed and fodder as decided by state government. In the fodder camp adult animals were fed with 15 kg green fodder, 6 kg dry fodder and 0.500 gm concentrates whereas growing animals were fed with 7.5 kg green fodder, 3 kg dry fodder and 0.250 gm concentrates respectively. Patange *et al.* (2002) <sup>[4]</sup> and Bainwad *et al.* (2007) <sup>[5]</sup> reported that maximum 6.00 kg and 5.22 kg dry fodder were supplied during summer season.

##### B) Breeding practices adopted by farmer in livestock fodder camp

Breeding is the selective mating of animals to increase the possibility of obtaining desired traits in the offspring and also most important management practice followed for producing genetically better animals. It is observed from table 6 that artificial insemination technique was followed by 78.25 per cent respondent, whereas 25.25 per cent of respondent followed mating of animals. Availability of breeding bull and breeding buffalo bull 1.25 and 0.75 respectively in livestock fodder camps. Nagrale (2016) <sup>[6]</sup> reported similar results about artificial insemination 75.00 per cent and mating of animals 46.50 per cent.

##### C) Health cover practices adopted by farmer in livestock fodder camp

It is said that management is the art and science of combining idea, facilities, processes, materials and labour to produce and market a worthwhile product for service successfully. In order to determine existing health cover practices followed by different categories of farmers were calculated by simple method of number of farmers followed each health cover practice in each category of farmers by percentage and frequency. It is observed from table 7 that sanitation of camp and animals practiced followed by 97.00 per cent while vaccination and health checking of animal were followed 100 per cent in all categories of respondents, no respondent had made livestock insurance in camp. Nagrale (2016) <sup>[6]</sup> reported similar results about sanitation of camp and animals, vaccination and health checking of animals.

#### Production Performance

The milk production is important factor which directly affect the economics of the farmer. The milk production varies according to several factors like species, breed, type feed provided, environment condition and genetic makeup of animals.

##### A) Classification of animals in livestock fodder camps according to their age group

It is observed from table 8 that among the four livestock fodder camps (i.e. B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub> and B<sub>4</sub>), had 87.99 per cent were adult animals while 12.01 per cent were growing animals.

### B) Classification of animals in livestock fodder camps according to species

From table 9 it is observed that the four livestock fodder camps (i.e. B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub> and B<sub>4</sub>), had 03.21 per cent growing cow and 22.83 per cent adult cow, 03.49 per cent growing buffalo and 29.46 per cent adult buffalo, 05.23 per cent growing bullocks and 35.74 per cent adult bullocks, while 0.06 per cent growing He buffalo and 0.20 per cent adult He buffalo.

### C) Classification of animals in livestock fodder camps according to lactation

From table 10 it is observed that the four livestock fodder camps (i.e. B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub> and B<sub>4</sub>), had 70.64 per cent lactating cow and 29.35 per cent dry cow, while 64.69 per cent lactating buffalo and 35.30 per cent dry buffalo.

### D) Classification of animals in livestock fodder camps according to milk production

It is observed from table 11 that the four livestock fodder camps (i.e. B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub> and B<sub>4</sub>), had 231 lactating cows from which 35.49 per cent had given 2.1 to 4 liters milk per day followed by up to 2 liters (28.57 per cent), 4.1 to 6 liters (10.38 per cent), 6.1 to 8 liters (06.92 per cent), 8.1 to 10 liters (06.06 per cent), 12.1 to 14 liters (05.19 per cent), 14 liters and above (03.89 per cent) and 10.1 to 12 liters (03.46 per cent). The total 273 lactating buffalos were present in four livestock fodder camps from which 32.23 per cent had given 4.1 to 6 liters milk per day followed by 2.1 to 4 liters milk (30.03 per cent), 6.1 to 8 liters (15.01), 8.1 to 10 liters (13.18 per cent), up to 2 liters (05.12) and 10.1 to 12 liters (04.39 per cent).

### Constraints faced by farmer in livestock fodder camp

One of the objectives of the study was to identify the short falls in feeding and management practices. The constraints in feeding and management practices experienced by livestock

owners in livestock fodder camp was discussed and recorded critically and presented in table 20. It was divided into feeding constraints, production and marketing constraints, technical constraints and health related constraints. From table 12 it is observed that the majority of problems faced by farmers was inadequate availability of the green fodder 100 per cent. This was more in case of all farmers in Livestock Fodder Camp. Whereas use of antibiotics and mineral mixture in feed i.e. 18.75 per cent and 13.75 per cent respondent respectively. In case of production and marketing constraints, 83.00 per cent respondents faced the problems of irregular milking of the cattle and buffaloes. Whereas 68.25 per cent of respondents faced problem of long dry spell in animal. 90.50 per cent respondents faced the problem of low rate of milking. As the summer temperature is higher, 74.75 per cent of respondent faced the problem of comfortless in summer season. In case of technical constraints, there was no problem in availability of veterinary aids because of weekly visit of veterinary doctor in each livestock fodder camp. 64.50 per cent of respondent had problem in artificial insemination; there was non availability of improved feed material in livestock fodder camp all 100 per cent respondent had problem of improved feed material. 62.00 per cent of the farmers have lack of knowledge about sterilization and hygienic condition of camp. The problem of availability of labour was faced by 42.00 per cent respondents. Because of unhygienic condition in camp In case of health related constraints 5.75 per cent of respondent's animals had suffered from disease, whereas 89.75 per cent of respondent didn't clean or filter the water which is used for drinking of animal. There is no problem of disposal of dung because dung was collected by livestock fodder camp owner for their own use or to handover the Government. 93.25 percent of respondents did not use any method to maintain body temperature of their animals. Nagrale (2016) [6] reported similar results about constraints faced by farmers in feeding, management practices, production and marketing.

**Table 1:** Distribution of the farmers according to size of farm

S. No	Category	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>	Total	Per cent
1	Marginal farmers (up to 1 ha)	27	15	40	20	102	25.50
2	Small farmers (1 to 2 ha)	22	41	22	48	133	33.25
3	Medium farmers (2 to 10 ha)	48	42	33	30	153	38.25
4	Large farmers (more than 10 ha)	03	02	05	02	12	03.00
5	Landless labourers	-	-	-	-	-	-
	Total	100	100	100	100	400	100

**Table 2:** Distribution of farmers according to social class (N=400)

S. No	Particular	Marginal farmer	Small farmer	Medium farmer	Large Farmer	Per cent
1.	Open	28 (27.45)	39 (29.32)	51 (33.33)	03 (25.00)	121 (30.25)
2.	OBC	14 (13.72)	29 (21.80)	19 (12.42)	02 (16.67)	64 (16.00)
3.	VJNT	07 (06.86)	06 (04.51)	12 (07.84)	-	25 (06.25)
4.	NT(B)	-	-	04 (02.62)	-	04 (01.00)
5.	NT(C)	16 (15.68)	12 (09.02)	29 (18.95)	01 (08.33)	58 (14.50)
6.	NT(D)	20 (19.60)	32 (24.06)	21 (13.73)	04 (33.33)	77 (19.25)
7.	SC	12 (11.76)	13 (09.77)	06 (03.92)	02 (16.67)	33 (08.25)
8.	ST	03 (02.94)	02 (01.50)	09 (05.88)	-	14 (03.50)
9.	SBC	02 (01.96)	-	02 (01.31)	-	04 (01.00)

(Figures in parenthesis shows percentage of respective farmers)

**Table 3:** Distribution of farmers according to types of animal (N=400)

S. No	Component	Marginal Farmer	Small Farmer	Medium Farmer	Large Farmer	Per cent
1.	Indigenous	98 (96.07)	124 (93.23)	138 (90.19)	11 (91.66)	371 (92.75)
2.	Exotic	-	-	-	-	-
3.	Cross-bred	26 (25.49)	34 (25.56)	45 (29.41)	03 (25.00)	108 (27.00)
4.	Non-descript	06 (5.88)	02 (1.50)	09 (5.88)	-	17 (04.25)

(Figures in parenthesis shows percentage of respective farmers)

**Table 4:** Source of feed and fodder in livestock fodder camp

S. No	Category	Source
S1	Green Fodder	Sugarcane tops, Maize
2	Dry Fodder	Kadbi, Straw
3	Concentrate	Pellets (Sugras)
4	Other	-

**Table 5:** Feed and fodder provided by farmer in livestock fodder camp.

S. No	Feed	Adult animal	Growing animal
1.	Green fodder (kg.)	15	7.50
2.	Dry fodder (kg.)	6	3
3.	Concentrate (gm.)	0.500	0.250
4.	Other (kg.)	-	-

**Table 6:** Breeding practices followed in livestock fodder camp (N=400).

S. No	Component	Marginal Farmer	Small Farmer	Medium Farmer	Large Farmer	Per cent
1.	Use of artificial insemination	86(84.31)	105(78.94)	113(73.85)	09(75.00)	313 (78.25)
2.	Mating	28(27.45)	25(18.79)	45(29.41)	03(25.00)	101 (25.25)
3.	Availability of breeding bull	01(1.02)	02(2.66)	02(3.06)	-	05(1.25)
4.	Availability of breeding buffalo bull	-	02(0.54)	01(0.28)	-	03(0.75)

(Figures in parenthesis shows percentage of respective farmers)

**Table 7:** Health cover practices followed by farmer in livestock fodder camp (N=400)

S. No	Component	Marginal Farmer	Small Farmer	Medium Farmer	Large Farmer	Per cent
1.	Sanitation of camp and animal	98(96.07)	129(96.99)	150(98.03)	11(91.66)	388 (97.00)
2.	Vaccination schedule followed	102(100)	133(100)	153(100)	12(100)	400 (100)
3.	Health checking of animal	102(100)	133(100)	153(100)	12(100)	400 (100)
4.	Insurance of livestock	-	-	-	-	-

(Figures in parenthesis shows percentage of respective farmers)

**Table 8:** Classification of animal according to age group

S. No	Category	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>	Per cent
1.	Adult animals	339 (88.05)	316 (85.40)	298 (86.37)	307 (92.46)	1260 (87.99)
2.	Growing animals	46 (11.94)	54 (14.59)	47 (13.62)	25 (07.53)	172 (12.01)
3.	Total	385	370	345	332	1432

(Figures in parenthesis shows percentage of respective camps)

**Table 9:** Classification of animal according to species

Animal	Age	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>	Total
Cow	Growing	10(02.59)	12(03.24)	17(04.92)	07(02.10)	46(03.21)
	Adult	91(23.63)	86(23.24)	79(22.89)	71(21.38)	327(22.83)
Buffalo	Growing	15(03.89)	16(04.32)	11(03.18)	08(02.40)	50(03.49)
	Adult	121(31.42)	95 (25.67)	90 (26.08)	116 (34.93)	422 (29.46)
Bullocks	Growing	21(05.45)	25(06.75)	19(05.50)	10(03.01)	75(05.23)
	Adult	127 (32.98)	133 (35.94)	128 (37.10)	120 (36.14)	508 (35.47)
He buffalo	Growing	-	01(0.27)	-	-	01(0.06)
	Adult	-	02(0.54)	01(0.28)	-	03(0.20)

(Figures in parenthesis shows percentage of respective camps)

**Table 10:** Classification of lactating and dry animal

Animal	Type	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>	Total
Cow	Lactating	68(20.79)	59(18.04)	55(16.81)	49(14.98)	231(70.64)
	Dry	23 (07.03)	27 (08.25)	24 (07.33)	22 (6.72)	96 (29.35)
Buffalo	Lactating	78(18.48)	62 (14.69)	57 (13.50)	76 (18.00)	273 (64.69)
	Dry	43 (10.18)	33 (07.81)	33 (07.81)	40 (09.47)	149 (35.30)

(Figures in parenthesis shows percentage of respective camps)

**Table 11:** Classification of total lactating animals according to milk production

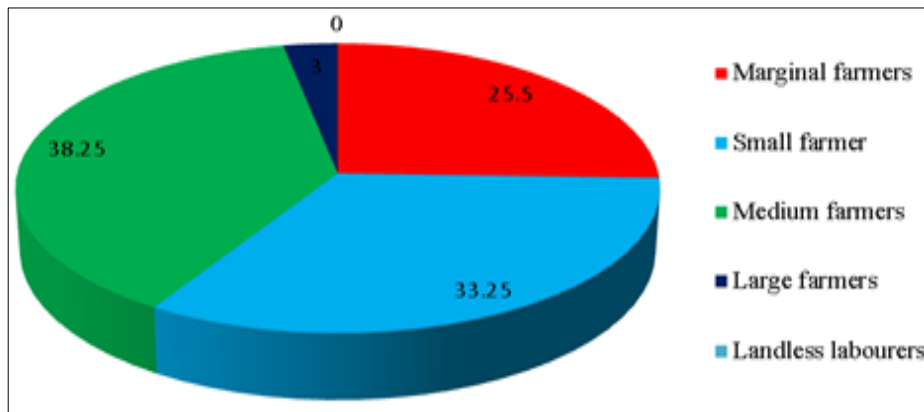
S. No	Milk (lit/Day)	Cow	Buffalo
1	Up to 2 lit	66 ( 28.57 )	14 (05.12 )
2	2.1 to 4 lit	82 (35.49 )	82 (30.03 )
3	4.1 to 6 lit	24 (10.38 )	88 (32.23 )
4	6.1 to 8 lit	16 (06.92 )	41 (15.01 )
5	8.1 to 10 lit	14 (06.06 )	36 (13.18 )
6	10.1 to 12	08 (03.46 )	12 (04.39 )
7	12.1 to 14	12 (05.19 )	-
8	14 lit and above	09 (03.89 )	-
	Total	231 (100)	273 (100)

(Figures in parenthesis shows percentage of respective camps)

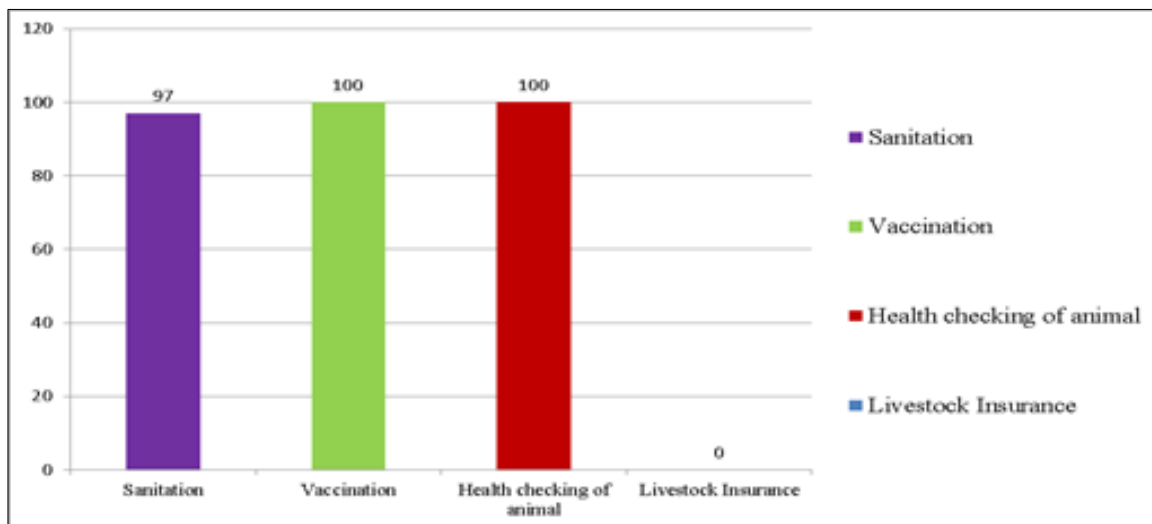
**Table 12:** Constrains faced by farmer in livestock fodder camps (N=400)

S. No	Component	Marginal Farmer	Small Farmer	Medium Farmer	Large Farmer	Per cent
<b>A. Feeding constraints</b>						
1.	Availability of ample quantity of green fodder	102(100)	133(100)	153(100)	12(100)	400 (100)
2.	Use of feeding antibiotics of calf feed	21(20.58)	30(22.55)	18(11.76)	06(50)	75 (18.75)
3.	Use of mineral mixture in feed	13(12.74)	08(6.01)	30(19.60)	04(33.33)	55 (13.75)
<b>B. Production and marketing constraints</b>						
4.	Irregular milking	85(83.33)	112(84.21)	129(84.31)	06(50.00)	332 (83.00)
5.	Long dry spell of animals	74(72.54)	85(63.90)	109(71.24)	05(41.66)	273 (68.25)
6.	Low rate of milk	96(94.11)	121(90.97)	133(86.92)	12(100)	362 (90.50)
7.	Comfortless of animal in summer season	88(86.27)	106(79.69)	97(63.39)	08(66.66)	299 (74.75)
<b>C. Technical constraints</b>						
8.	Availability of veterinary aids	00(00.00)	00(00.00)	00(00.00)	00(00.00)	00 (00.00)
9.	Artificial insemination	76(74.50)	93(69.92)	81(52.94)	08(66.66)	258 (64.50)
10.	Availability of improved feed material	102(100)	133(100)	153(100)	12(100)	400 (100)
11.	Knowledge about sterilization, hygienic condition in camp	69(67.64)	96(72.18)	73(42.71)	10(83.33)	248 (62.00)
12.	Availability of labour for management practices	61(59.80)	45(33.83)	58(37.90)	04(33.33)	168 (42.00)
<b>D. Health related constraints</b>						
13.	Occurrence of disease in animal	07(6.86)	04(3.0)	12(7.84)	0(00.00)	23 (05.75)
14.	Cleaning / filtration of water	86(84.31)	118(88.12)	144(94.11)	11(91.66)	359 (89.75)
15.	Proper disposal of dung	00(00.00)	00(00.00)	00(00.00)	00(00.00)	00 (00.00)
16.	Maintenance of animal body temperature	96(94.11)	118(88.72)	149(97.38)	10(83.33)	373(93.25)

(Figures in parenthesis shows percentage of respective farmers)



**Fig 1:** Per cent share of farmers according to size of farm



**Fig 2:** Per cent share of farmers according to health cover practices adopted

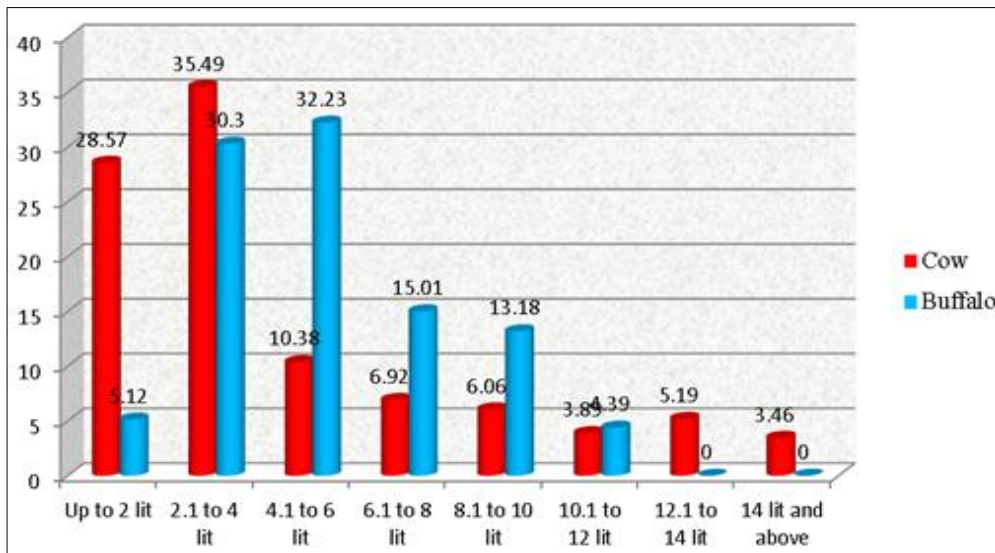


Fig 3: Per cent share of animals according to milk production

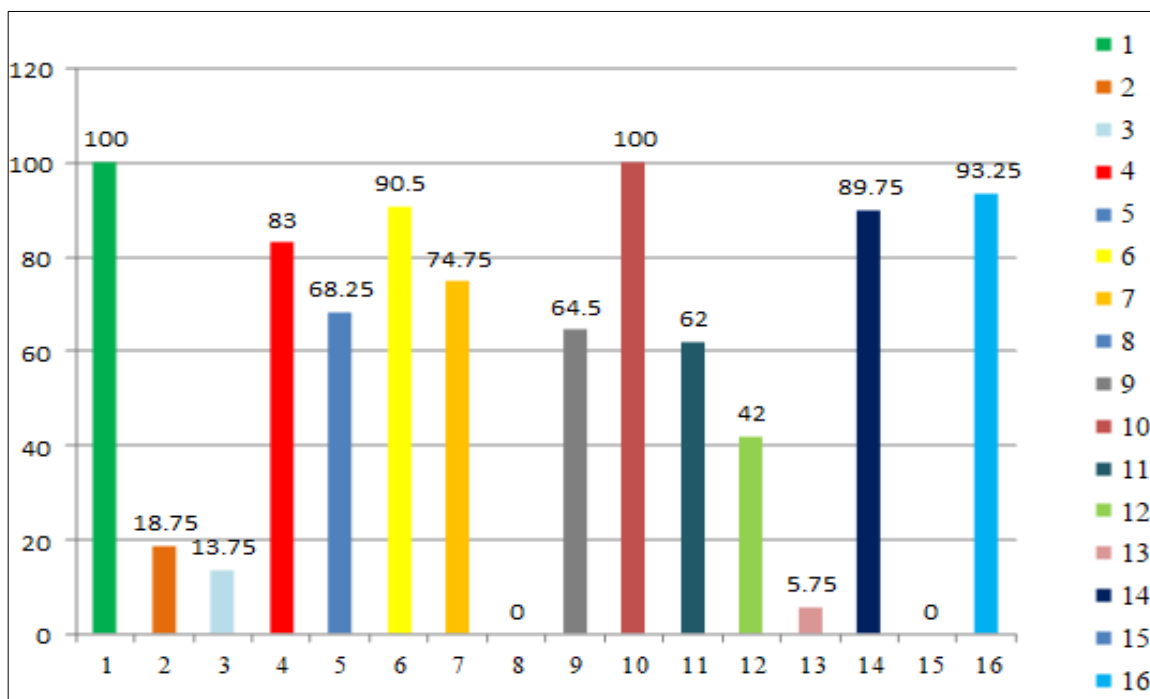


Fig 4: Per cent share of farmers according to constraints faced by farmers

**Discussion**

(Singh *et al.*) [8] reported similar results for green fodder. (Patange *et al.*) [4]. and (Bainwad *et al.*) [5]. reported that maximum 6.00 kg and 5.22 kg dry fodder were supplied during summer season.

**Conclusion**

Stall feeding was adopted as method of feeding due to non availability of grazing land in livestock fodder camp by all respondents. There were very less numbers of farmer who use of antibiotics and mineral mixture in feed. There is no problem in availability of Veterinary Aids and regular health checking because of weekly visit of veterinary Doctor in each Livestock fodder camp. All the farmers were provided feed and fodder as decided by Government of Maharashtra but it was not sufficient. Lack of adoption of scientific feeding and management practices by livestock owners were observed in livestock fodder camps.

Hence it may be concluded that there is need to demonstrate scientific feeding and management practices, also

management of fodder and water for summer season which is need for exploiting optimum production and proper management of livestock.

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