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Breeding and health cover practices followed for livestock fodder camps during drought in Washi tehsil of Osmanabad district

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Abstract

To ascertain breeding and health cover practices followed by livestock owners in livestock fodder camps. Data regarding with breeding and health cover were collected from 160 livestock owners from Washi tehsil of Osmanabad district. It was observed in camp that fodder and concentrate provided to animal in equal quantities to large animals and equal quantities to small animals. Sugrass is a source of concentrates was common in all four camps. Sugarcane and maize was provided to animal as green fodder and Jowar kadbi as dry. All of the livestock owners in camp adopted stall feeding. A wide gap was noticed in feeding of concentrates i. e. -1.50 per cent gap (milking animals) at camp level. Majority i. e. 83.75 per cent of the livestock owners followed grazing + stall feeding at farm level. All the farmers i. e. 100.00 per cent livestock owner adopted individual feeding and in camp. It was observed that only 08.12 per cent of livestock owners provided extra salt to their milch animal. In camp during survey it was observed that in all camps there were free assess of water as per need of their animal. The findings of present study indicated that majority of livestock owner's i. e. 100 per cent of livestock owners were aware about detection of animals in heat and was based on signs and symptoms. Majority of livestock owner's i. e. 55.62 per cent used natural service at farm level and in camp 33.12 per cent livestock owners adopted A. I. service. The overall livestock owners in selected fodder camp did not kept breeding record. 100 per cent of livestock owners followed vaccination against FMD and HS and 78.12 per cent of livestock owners at farm level. In camp 100 per cent of livestock owners treated sick animal from veterinary doctor.

Keywords: Drought, livestock fodder camps, breeding, health cover

1. Introduction

Livestock plays major role in the rural economy of the state. More than 70 % of rural people depend upon animal husbandry activity for their daily income and livestock rearing is way of life in rural areas in the state. According to NDDDB figure per capita availability of milk in India had gone up to 322 gm per day in 2014-15. Good milking practices also enhance productivity, assist in keeping teat and udder in healthier condition and contribute significantly in clean milk production. Livestock plays a central role in the natural resource based livelihood of the vast majority of the population especially in developing countries. Livestock in these countries are the poor people's ATM. In good times people build up their herds and in bad time they sell livestock to generate cash. In India it contributes 27 % share in agriculture and allied gross domestic product (GDP) and provides stability to family income especially in the arid and semi arid region of the country ^[1].

A major gap exists between the demand and supply of conventional feed resources for feeding livestock in the world. In order to manage this problem of demand and supply, it is essential to increase the availability of conventional feed resources for the different livestock production and management systems. One method is to exploit the use of non-conventional feed resources (NCFR) in livestock production systems ^[2].

Livestock are the best insurance against the vagaries of nature due to drought, famine and other natural calamities. But nature is not free of calamities and affects both human as well as animal's life. Animals who survived from these calamities are threatened by non-availability of feed and shelter like other agricultural crops; fodder fields are also completely destroyed. Every year natural disasters challenge agricultural production. Agricultural impacts from natural events and disasters most commonly include: contamination of water bodies, loss of harvest or livestock, increased susceptibility to disease and destruction of irrigation system and

other agricultural infra-structure. These impacts can have long lasting effects on agricultural production including crops, forest growth and arable lands, which require time to mature. Nonconventional feed resources generally refer to all those that have not been traditionally used for feeding livestock and are not commercially used for feeding livestock and not commercially used in the production of livestock feed. The non-conventional feed resources can be looked at as covering a wide diversity of feeds and their nutrients contents.

In India the drought situation is common annual occurrence in one or other part of country. It may be due to less than required rainfall or the floods. Drought has always caused losses to livestock productivity and wealth. It affects biological system of animals in terms of no thriftiness, reproductive compromise, reduced immunity, greater disease attacks and poor quality feed availability ultimately leading to drop in production and health of animal. Therefore, drought mitigation strategies are centralized around ensuring survival of livestock (Critical body weight loss reported up to 20 %) by minimizing the loss of productivity and lives of animal for optimizing available resources. Preventing the loss of reproduction efficiency and recommencement of production of this animal remain ultimate aim. Optimization of feeding practices for efficient use of scarce resources becomes essential [3].

2. Materials and Methods

2.1 Description of the area of the study

The present study was conducted in Washi tehsil of

Osmanabad district in marathawada region during December, 2015 to June, 2016. For the present study, four livestock fodder camps were selected randomly from selected Washi tehsil of the Osmanabad district.

The climate of the washi tehsil is generally dry. The mean minimum temperature is 8.5^oc mean maximum temperature is 42.5 ^oC. The rainy season starts from mid of June and remains still end of September. From October to November climate is humid. From February the climate is dry. The average rainfall of this district is 765.5mm. The highest rainfall recorded during the year 2010-12 is 951.1mm. Out of all tehsil Bhoom, Paranda, Washi and Kallam are declared as DPA. Major *kharif* crops are Soyabean, Pigeon pea, and Sunflower whereas, Major crops grown in rabbi are Sunflower, Gram, Wheat and Jowar, Mungbean, Urdbean. The major cash crops grown are Sugarcane, Cotton, Grape, Mango and vegetables in some parts of tehsil.

2.2 Selection of the district and tehsils

In year 2015-16 Govt. Of Maharashtra started livestock fodder camp in Osmanabad, Beed and Latur District. For the present study, Out of the eight tehsils of Osmanabad district Washi tehsil was selected for the present investigation.

2.3 Selection of Livestock fodder camps

For the present study, four livestock fodder camps were selected randomly from selected Washi tehsil of the Osmanabad district.

Table 1: Selection of livestock fodder camps of Washi tehsil of Osmanabad district

Sr. No.	Camps	Livestock fodder camp	Number of cases investigated
1	C ₁	Sahyogi bahuudeshiy samajik mandal chara chavni At. Nandgaon Tq. Washi, Dist. Osmanabad	40
2	C ₂	Dr. Babasaheb ambedkar bahuudeshiy samajik sanstha chara chavni. At. Sarul Tq. Washi, Dist. Osmanabad	40
3	C ₃	Vividh seva sahkari chara chavni. At. Pargaon Tq. Washi, Dist. Osmanabad	40
4	C ₄	Deepshobha sevabhavi sanstha. At. Pargaon Tq. Washi, Dist. Osmanabad	40
Total	4		160

2.4 Selection of the respondents

A list of forty livestock owners were selected randomly from each livestock fodder camp. Thus, random sample of 160 livestock owners was selected. The selected respondents were interviewed and the information as per the questionnaires and personal interview was collected. While selecting respondents due care was taken to ensure that they were evenly distributed in the livestock fodder camp and they must reared at least one milking animal.

2.5 Tools and techniques used in data collection

The data were collected through the personal interview, personal interview schedule has been considered to the most important tool through which the investigator can get most authentic first hand information. A questionnaire (schedule) was prepared by keeping in view the objectives of the study and was common for all respondents. In formulating the questions and statements of the schedule, the investigator sought the opinion and guidance of the major advisor and minor advisor, consulted animal husbandry experts as well as experts of Departments of Animal Husbandry, College of Agriculture, Latur, Vasantrao Naik Marathwada Krushi Vidhyapith, Parbhani.

The interview schedule was divided into six major parts

which includes.

- Personal, social and economical characteristics
- Existing daily livestock management practices
- Existing livestock management practices adopted in livestock fodder camp
- Extent the record of production performance
- Constraints faced by livestock owners
- Suggestions for overcome the drought situation

2.6 Collection of data

The interview schedule developed for the study was used for collecting the information by personal interview. Before actual interview, the investigator introduced himself to the respondents and the objectives of the study were explained to the with a view to convincing them to give proper response. The questions/ statements of the interview schedule were read out one by one and their responses were recorded. Every possible care was taken to get unbiased response. After collection, all the data were compiled and tabulated in master sheet.

2.7 Analysis of data and interpretation of results

The data thus collected, were compiled, coded and tabulated. After tabulation of data frequency and percentage of different

manage mental practices were worked out.

3. Results and Discussion

3.1 Herd size

The information regarding herd size of livestock owners are presented in Table 1.

Table 2: Distribution of livestock owners according to herd size (N=160)

S. N	Size of herd	Frequency	Per centage
1.	Small (up to 5)	95	59.37
2.	Medium (6 to 10)	47	29.37
3.	Large (above 10)	18	11.25

Table 3: Distribution of livestock owners according to type of animal in livestock fodder camps

S. N	Particulars	Camp1	Camp2	Camp3	Camp4	Frequency	Per centage
1.	Indigenous	17	19	21	18	75	46.87
2.	Indigenous + crossbred	11	13	09	14	47	29.37
3.	Indigenous + crossbred + buffalo	09	05	03	05	22	13.75
4.	Buffalo	03	03	07	03	16	10.00
	Total	40	40	40	40	160	100

It was observed from Table 3 that 46.87 per cent livestock owners possessed only indigenous animals followed by Indigenous + crossbred 29.37 per cent, Indigenous + crossbred + buffalo 13.75 per cent and where as 10.00 per cent buffaloes possessed by farmer [6]. Observed that 34.17 per cent of respondents possessed only Buffalo followed by Indigenous cows 28.33 per cent, Indigenous cows + Buffalo 18.33 per cent, Indigenous + Crossbred cows 09.17 per cent,

It is apparent from the Table 2 that majority of the livestock owners 59.37 per cent had small herd size followed by medium size 29.37 per cent and large size 11.25 per cent. The present study results observed were supported by [4] who showed that 51.67 and 16.67 per cent of the respondents had medium herd size and large herd size, respectively [5]. Also supported that 55.00 per cent of the respondents had medium herd size.

3.2 Type of animal

The information regarding types of animal in fodder camp are presented in Table 2.

Indigenous cows+ Crossbred cows + Buffalo 07.50 per cent and Crossbred cows 02.50 per cent, respectively.

3.3 Breeding practices followed in different livestock fodder camps

The information regarding breeding practices followed in different livestock fodder camps are presented in Table 4.

Table 4: Breeding practices followed in different livestock fodder camps

S. N	Breeding management practices	C-I	C-II	C-III	C-IV
1	Provision of AI facility	Yes	Yes	Yes	Yes
2	Availability of breeding bull	No	No	No	No
3	Availability of buffalo bull	No	No	No	No
4	Provision of pregnancy diagnosis	Yes	Yes	Yes	Yes
5	Provision of adequate exercise to pregnant animal	No	No	No	No

It is apparent from Table 4 that provision of AI facility had available in all camps. Breeding bulls of cattle's and buffaloes were not available in camps. Provisions of pregnancy diagnosis adequate space for exercise to pregnant animal's facilities were not available in all selected livestock fodder camps. Government of Maharashtra provided all veterinary aids in livestock fodder camps. Due to unavailability of breeding bull's camp organizer provide A.I. facility in Camps. For artificial insemination the semen of deoni, red Khandhari,

murrah, pandharpuri, marathwadi and Crossbred (50% semen of HF and Jersey) were provided by Veterinary officers during drought in livestock fodder camps.

3.4 Housing practices followed in different livestock fodder camps

The information regarding housing practices followed in different livestock fodder camps are presented in Table 5

Table 5: Housing practices followed in different livestock fodder camps

SN	Housing management practices	C-I	C-II	C-III	C-IV
1.	Provision of type of shelter	Shade net	Shed net and partial thatching	Shed net and partial thatching	Shed net
2.	Provision of ventilation	Yes	Yes	Yes	Yes
3.	Provision of sufficient space	No	No	No	No
4.	Provision of manger	No	No	No	No
5.	Provision of manure disposal	Yes	Yes	Yes	Yes
6.	Cleaning of shed	Yes	Yes	Yes	Yes

Table 5 shows the housing facilities provided by livestock fodder camps. In all selected camps there was provision of shelter to protect the animals from extreme weather. Green shed nets were provided for shelter in camp 1 and camp 2 and shed net with partial thatching was observed in camp 2 and camp 3. Ventilation in house and sufficient space per animal

was provided in all selected fodder camps. Table 5 shows that in selected fodder camps there were no provision of manger for feeding of animals but some farmers used wooden type of manger its own. Facilities for manure disposal were provided in all selected fodder camps. There were provisions of labour for manure disposal in all selected camps.

3.5 Health cover practices followed in different livestock fodder camps

The information regarding Health cover practices followed in different livestock fodder camps are presented in Table 6
It is apparent from Table 6 that all health cover practices were

followed by selected fodder camps. But the isolation of sick animals and disinfection of animal shade were not done in any selected fodder camps. Animal health care services such as deworming, control of lice and ticks and vaccination against FMD and HS were followed. For deworming of animals they used Albendazol or Z tax @ 2ml in one litre of water.

Table 6: Health cover practices followed in different livestock fodder camps

S. N	Health cover practices	C-I	C-II	C-III	C-IV
1.	Vaccination	Followed	followed	followed	Followed
2.	Animal health care services	Available	Available	Available	Available
3.	Prophylactic measures	Yes	Yes	Yes	Yes
4.	Deworming of animals	Yes	Yes	Yes	Yes
5.	Provision of isolation of sick animal	No	No	No	No
6.	Provision of disinfection of animal shed	No	No	No	No
7.	Control of lice/ticks	Yes	Yes	Yes	Yes

3.5 Feeding practices followed by livestock owners during drought in camp and before drought on farm

The information regarding feeding practices followed by livestock owners during drought in camp and before drought on farm are presented in Table 7.

Feeding is one of the most important practices in animal husbandry. It is generally agreed that all the animals fail to prove their full genetic potential for higher production when

fed at low levels. The under feeding of young stock leads to poor growth, delay in maturity, lower productivity. The livestock owners must have a thorough understanding of the facts that milk production can be increased by adoption of improved animal feeding practices. The data regarding the feeding practices followed by the livestock owners are presented in Table 7.

Table 7: Feeding practices followed by livestock owners during drought in camps and before drought on farm. (N=160)

S. N	Particulars	At farm level (Before drought)		In camp (during drought)	
		Frequency	Per centage	Frequency	Per centage
A.	Feeding practices				
1.	Stall feeding	26	8.12	160	100
2.	Grazing	000	000	000	000
3.	Both	134	83.75	000	000
B.	Feeding of animals				
1.	Group	000	000	000	000
2.	Individual	160	100	160	100
C.	Cultivation of green fodder	96	60.00	000	000
D.	Green or dry fodder fed				
1.	As such	11	6.87	000	000
2	Chaffed	149	93.12	160	100
E.	Feeding of concentrate to animals				
1.	During milking	47	29.37	47	29.37
2.	Before milking	89	55.62	89	55.62
3.	After milking	24	15.00	24	15.00
F.	Feeding of salt				
1.	Yes	13	8.12	08	5.00
2.	No	147	91.87	152	95.00
G.	Type of concentrate feeding				
1.	Home made	24	15.00	000	000
2.	Ready made	62	38.75	147	91.87
3.	Mixture of home prepared and ready made	74	46.25	13	8.12
H.	Pre-treatment of concentrate				
1.	Dry	000	000	000	000
2.	After soaking	160	100	160	100
I.	Frequency of watering				
1.	2 time	63	39.37	000	000
2.	3 time	69	43.12	000	000
3.	Free asses of water	28	17.5	160	100
J.	Urea treatment for improving low quality roughages				
1.	Yes	000	000	000	000
2.	No	160	100	160	100
K.	Feeding of mineral mixture				
1.	Yes	013	8.12	000	000
2.	No	147	91.87	160	100

In order to maintain the production and quality of milk the suitable proportion requirement of green fodder, dry fodder

and concentrate are necessary. From Table 7 it is clear that majority i.e. 83.75 per cent of livestock owners followed the grazing + stall feeding system and only 16.25 per cent livestock owners followed the stall feeding and not a single livestock owners followed the solely grazing system of feeding of animals at farm level before drought. Whereas 100 per cent of the livestock owners followed stall feeding in camp during drought. These observations are similar that of [7] reported that 87.50 per cent of respondents followed both grazing and stall feeding. It is apparent from Table 7 that all respondents (100.00%) adopted individual feeding system to their animals in livestock fodder camp during drought and farm level before camp. Similar trend was observed by [8] revealed that 100 per cent of the respondents followed practise of individual feeding.

Majority i.e. 60.00 per cent of the livestock owner cultivated green fodder crops and remaining 40.00 per cent of the livestock owners did not cultivated green fodder crops the reason behind the not cultivation of green fodder is lack of water in the surveyed area due to drought condition, in camp there is a provision of green fodder so the cultivation of green fodder was not followed. Majority of the livestock owners using chaffed green/dry fodder for feeding of livestock because they are aware about the importance of chaffed fodder that it is more palatable for animals and facilities available for chaffing of fodder. These findings are in agreement with the results of [7] observed that about 70.00 per cent of the respondents chaffed green fodder. Table 7 highlighted that 29.37 per cent of the livestock owner fed concentrate to milch animals during milking and 55.62 per

cent of the livestock owner fed concentrate after milking and remaining 15.00 per cent fed concentrate before milking at farm level as well as in camp. These findings are in accordance with that of [9].

It is apparent from Table 7 indicated that majority (100%) of the livestock owners did not provided mineral supplements to their animals in camps. While on farm only 08.12 per cent of the livestock owners provided mineral supplements to their animals, whereas majority 91.87 per cent of the livestock owners did not provide mineral supplements to their animals at farm level. These findings are almost similar to the results of [10, 11, 12, 7]. All of the livestock owners provided water to their milch animals *ad libitum* in quantity but restricted in frequencies in which two times by the 39.37 per cent of livestock owners, three times by 43.12 per cent of livestock owners. Thus the importance of water is known practically too all livestock owners, who provided water to their animals depending upon their resources. These findings are in close conformity with the earlier reports of [9] reported that 24.00 per cent of the respondents provided water as per need of animals [8]. Revealed that 37.33 per cent of the respondents provided water twice to their animals [12]. Observed that 23.00 per cent of the respondents provided thrice of water to their animals.

3.6 Breeding Practices followed by livestock owners during drought in camps and before drought on farm

The information regarding breeding practices followed by livestock owners are presented in Table 8.

Table 8: Breeding practices followed by livestock owners during drought in camps and before drought on farm (N=160)

S. N	Particulars	At farm level (Before drought)		In camp (During drought)			
		Frequency	Per centage	Availed		Not availed	
	Breeding practices						
A.	Method of heat detection						
1.	Symptoms	160	100	53	33.12	107	66.87
2.	Teaser	00	00	00	00	000	000
B.	Symptoms of heat detection						
1.	Mucus discharge + bellowing	85	53.12	38	23.75	71	44.37
2.	Low milk yield on the day of heat	08	5.00	08	5.00	07	04.37
3.	Bellowing	46	28.75	09	5.62	16	10.00
4.	Mounting	21	13.12	00	00.00	11	11.87
C	Breeding of female animals						
1.	Natural	89	55.62	00	00	89	55.62
2.	Artificial insemination	71	44.37	53	33.12	107	66.87
D	Insemination/mating of female animals after heat detection						
1.	Early heat	16	10.00	06	3.75	18	11.25
2.	Mid heat	88	55.00	38	23.75	58	36.25
3.	Late heat	56	35.00	09	5.62	31	19.37
E.	Pregnancy diagnosis						
1.	Yes	40	25.00	07	04.37	160	100
2.	No	83	51.87	00	00.00	00	00.00
F.	Kept breeding records						
1.	Yes	00	00	00	00	160	100
2.	No	160	100	160	100	00	00

It is apparent from the Table 8 that at farm level before drought detection of heat in animals was done based on the symptoms by all respondents (100 per cent). Out of 100 per cent of livestock owners 33.12 per cent of farmers availed this practise in camp during drought. These findings are in similar with the results of [13] Data presented in Table 8 indicated that majority i.e. 53.12 per cent of farmers observed mucus discharge + bellowing as the symptoms of heat detection at

farm, whereas, only 23.75 per cent of farmers availed this practise during drought in camps. Artificial insemination was followed by 44.37 per cent of farmers at farm level before drought, while 33.12 per cent of livestock owners use this practise during drought in camps. Because of the camp organizers provided the A.I. facilities in camps.

10.00 per cent of the respondents done breeding to their animal at first heat before drought at farm level, whereas only

03.75 per cent of farmers availed this practise during drought in camps. These findings are supported with the results of [11]. Minimum farmers practiced the pregnancy diagnosis this might be due to the lack of knowledge and misconceivens about pregnancy of female animals and they were under the wrong impression that rectal palpation induces abortion in animals. These findings are supported by the results of [14]. The overall livestock owners in selected fodder camps did not kept breeding record. This might be due to the bulls which are mainly used for breeding were from road side and hence, no breeding record was maintained. In camp also the respondents were not maintained the breeding records. These findings were similar with the findings of [15].

4. Conclusion

It can be concluded that all the livestock owners followed management practices in livestock fodder camp, livestock owners majorly observed mucus discharge and swelling in vulval region as a symptom of heat detection during drought in camp. None of farmers in camp during drought was followed mounting as a practice of heat detection. Only 05.00 per cent of the livestock owners availed this practise in camp during drought. Very few livestock owners practiced the pregnancy diagnosis in camp during drought. Proper health cover practices are required to be followed for maintenance of animals' health, prevention of various diseases and clean milk production.

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