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Constraints Perceived by the Buffalo owners in Adoption of Scientific Breeding, Feeding and Healthcare Management Practices

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Abstract

The present study was conducted in Hanumangarh district of Rajasthan to ascertain the various constraints perceived by the buffalo owners in adoption of scientific breeding, feeding and healthcare management practices. The data collected were purposively selected from four blocks of the district and 320 respondents from 16 villages, through personal interview with the help of structured interview schedule. It was revealed from the present study that distant location and poor services at A.I. centers (1.78), low conception rate of A.I. in buffaloes (1.70), high cost involved in calling veterinary staff for treatment of breeding related problems (163), lack of pure breed breedable bulls (1.54) and lack of knowledge about right time of conception (1.49) were major constraints in adoption of scientific breeding management practices. Lack of awareness about green fodder conservation as hay and silage (2.00), lack of knowledge about preparation of balance concentrate mixture at home (1.61), non-availability of balance concentrate and mineral mixture in village (1.58), high cost of feed & fodder (1.57)and lack of knowledge about balance feeding of animals (1.43) were the main constraints in feeding management practices. Non-availability of timely veterinary services (1.71), distant location of veterinary hospitals (1.66), High cost of veterinary medicines (1.63), lack of knowledge about first aid of sick animals (1.57) and inadequate & untimely supply of vaccines (1.51) were the major constraints in scientific health care management practices.

Key words: Constraints, adoption, buffalo owners, scientific management practices

Introduction

Livestock rearing and crop husbandry are the two important component of mixed farming system which influence agricultural economy leading to sustainable agriculture, both are complementary to each other. On an average animal husbandry contributes 25.74% to agricultural gross domestic product (GDP) of the country, whereas, the contribution is much higher in hot semi-arid and arid region where conventional crop production is always a gamble due to uncertain and scanty rainfall. A symbiotic relationship exists between man, land and livestock. India is endowed with largest livestock population in the world. The country has 57% of world's total buffalo population and famous breed of the world. Rajasthan state ranks second in animal wealth after Uttar Pradesh in the country. Livestock is the second most important enterprise for the farmers of Hanumangarh district and the population of buffalo species was in second position (buffalo-302203, cow-544264) in large dairy animals (Livestock Census-2019).

Scientific research in the field of animal husbandry is moving very fast. There is no dearth of technical knows- how in these days of advanced technology, but the most complex and significant problem is dissemination of new technologies and its utilization by the animal keepers. The buffalo owners have to face several problems of finance, social and technical in adoption of scientific breeding, feeding and health care management practices. As a result of these problems, an adoption gap is created. The buffalo owners selected for the present study had a wide range

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of experience and therefore, problems perceived and reported by them would be of worth consideration.

There may be innumerable constraints before the buffalo owners and consequently they are not adopting the recommended buffalo management practices to the desired extent. Keeping the point in view, attempts have been made to study the various constraints perceived by buffalo owners in the selected study area.

Materials and methods

The present study was carried out in Hanumangarh district of Rajasthan. Out of seven blocks of Hanumangarh district, four were selected i.e. Sangaria, Tibbi, Pilibanga and Hanumangarh block. Four villages from each block and 20 buffalo owners from each village were selected randomly. Thus, the entire sample consisted of 320 respondents from selected sixteen villages in four blocks of the district. The data were collected by personal interview techniques through an interview schedule. The constraints related to breeding, feeding and healthcare were separately enlisted. To measure the intensity of constraints intervening in the adoption of recommended buffalo management practices, three point continuum scales was used. These three points were very serious, serious and not serious comprising scores as 2, 1 and 0, respectively. The recorded responses were counted and converted into mean scores of each practices.

Results and discussion

An attempt has been made to find out the various constraints in adoption of scientific buffalo management practices *viz.* breeding, feeding and health care management practices. The results have been tabulated and presented under following sub-sections.

Constraints in adoption of scientific breeding management practices:

The findings presented in Table 1 revealed that distant location & poor services at A.I. center obtained highest constraint mean score (1.78) and it was ranked first. The second rank was awarded to low conception rate of A.I. in buffaloes with the constraint mean score of 1.70, hence more than third-fourth of the buffalo owners faced very serious problem of low conception rate of A.I. in field conditions, which is the subject of attention for researcher and animal husbandry department. Third rank was obtained by high cost involved in door step services of veterinary staff for breeding related problem treatment (1.63) in table hierachy. It was concluded that more than two-third respondents perceived constraints in lack of pure breed breedable bulls (1.54) and lack of knowledge about right time of conception (1.49), hence it was ranked forth & fifth, respectively. Sixth rank was awarded to large number of villages under the veterinary hospital with the constraint mean score 1.47. Wrong belief about pregnancy diagnosis (1041) and ancestress & repeat breeder problem (1.40) ranked seventh & eighth in table hierachy. More than half of the buffalo owners faced scrub bulls' presence in the study area with the constraint mean score (1.33) and it was ranked second cost. The last rank was awarded to scarcity of resources to maintain superior breed milch buffalo (1.08). The present results are also supported by the earlier findings of Chakravarthi et al. (2017), Murai & Singh (2011), Rathore & Tanwar (2013), Singh et al. (2015) and Singh et al. (2012). However these findings are in contrary to the findings of Bulbul et al. (2015), Dhindsa et al. (2014), Sharma et al. (2010) and Tanwar et al. (2010) , who reported less constraints in their study area in comparison to present field study. The present findings are encouraging than observed by Dhaka et al. (2011), Rathore et al. (2009), Sabapara (2016).

It can be concluded from the findings of the table 1 that distant location & poor services at A.I. center, low conception rate of A.I. in buffaloes, high cost involved in door step services of veterinary staff for breeding related problem, lack of pure breed breedable bulls and lack of knowledge about right time of conception were the very serious constraints in adoption of scientific breeding management practices realized by the respondents. These constraints can be overcome by the strengthening of A.I. centers and need based trainings for awareness among the buffalo keepers.

Constraints in adoption of scientific feeding management practices:

Table 2 reveals that lack of awareness about hay and silage making obtained the highest constraint mean score (2.00) and it was ranked first. This was followed by lack of knowledge about preparation of balance concentrate mixture at home (1.61) and awarded second rank. The third rank was obtained by non availability of balance concentrate and mineral mixture in village (1.58). The fourth to ninth ranks were obtained by high cost of feed and fodder (1.57), lack of knowledge about balance feeding of animal (1.43), lack of awareness about treatment of poor quality roughages to improve its nutritive value (1.39), lack of knowledge about concentrate feeding according to milk production (1.00), inadequate irrigation and small land holding for green fodder cultivation (0.98) and non-

Table 1: Constraints perceived by the buffalo owners in adoption of breeding management practices (n-320)

S.N.	Constraints area	Very serious N	Very serious %	Serious N	Serious %	Not serious N	Not serious %	Total constraint score	Constraint mean score	Rank order
1.	Distant location and poor services at A.I. centre	269	84.06	32	10.00	19	5.94	570	1.78	I
2.	Low conception rate of A.I. in buffaloes	252	78.75	39	12.19	29	9.06	543	1.70	II
3.	Problems of anoestrus and repeat breeders	195	60.94	58	18.12	67	20.94	448	1.40	VIII
4.	Belief that P.D. through rectal palpation is harmful for pregnant buffalo	207	64.69	38	11.87	75	23.44	452	1.41	VII
5.	Lack of knowledge about right time of conception	212	66.25	53	16.56	55	17.19	477	1.49	V
6.	High cost involved in door step services of veterinary staff for treatment of breeding related problems	240	75.00	41	12.81	39	12.19	521	1.63	III
7.	Lack of good breedable bulls	219	68.44	54	16.87	47	14.69	492	1.54	IV
8.	Presence of scrub bulls in the village	176	55.00	75	23.44	69	21.56	427	1.33	IX
9.	Large number of villages under the V.E.O.	203	63.44	66	20.62	51	15.94	472	1.47	VI
10.	Scarcity of resources to maintain superior breed of milch animals	122	38.13	102	31.87	96	30.00	346	1.08	X
	Over all	209.5	65.47	55.8	17.43	54.7	17.09	474.8	1.483	

Table 2: Constraints perceived by the buffalo owners in adoption of feeding management practices. (n-320)

S.N.	Constraints area	Very serious N	Very serious %	Serious N	Serious %	Not serious N	Not serious %	Total constraint score	Constraint mean score	Rank order
1.	Lack of knowledge about balance feeding of animals	191	59.69	74	23.12	55	17.19	456	1.43	V
2.	Lack of knowledge about preparation of balance concentrate mixture at home	233	72.81	49	15.31	38	11.88	515	1.61	II
3.	High cost of feed and folder	218	68.12	65	20.31	37	11.57	501	1.57	IV
4.	Lack of awareness about treatment of poor quality roughages to improve its nutritive value	192	60.00	61	19.06	67	20.94	445	1.39	VI
5.	Non-availability of balance concentrate and mineral mixture in village	220	68.75	66	20.63	34	10.62	506	1.58	III
6.	Lack of knowledge about feeding of advance pregnant buffaloes	32	10.00	201	62.81	87	27.19	265	0.83	X
7.	Lack of knowledge about concentrate feeding according to milk production	92	28.75	135	42.19	93	29.06	319	1.00	VII
8.	Non-availability of green fodder found the year	97	30.31	104	32.50	119	37.19	298	0.93	IX
9.	Lack of awareness about hay and silage making	320	100.00	0	0.00	0	0.00	640	2.00	I
10.	Inadequate irrigation and small land holding for green fodder cultivation	109	34.0	97	30.31	114	35.63	315	0.98	VIII
	Over all	170.4	53.24	85.2	26.62	64.4	20.13	426.0	1.332	

Table 3: Constraints perceived by the buffalo owners in adoption of healthcare management practices. (n-320)

S.N.	Constraints area	Very serious		Serious		Not serious		Total constraint score	Constraint mean score	Rank order
		N	%	N	%	N	%			
1.	Distant location of veterinary hospitals	234	73.12	63	19.69	23	7.19	531	1.66	II
2.	Non-availability of veterinary doctor	245	76.56	57	17.81	18	5.63	547	1.71	I
3.	High cost of veterinary medicines	237	74.06	48	15.00	35	10.94	522	1.63	III
4.	Lack of knowledge regarding first aid of animals	231	72.19	41	12.81	48	15.00	503	1.57	IV
5.	Low awareness about deworming of buffaloes	195	60.94	67	20.94	58	18.12	457	1.43	VI
6.	Lack of knowledge regarding timely treatment of sick buffaloes	106	33.13	89	27.81	125	39.06	301	0.94	IX
7.	Problem of quacks practicing in the village	182	56.88	53	16.56	85	26.56	417	1.30	VIII
8.	Belief that vaccination reduce milk yield in milch buffalo	196	61.25	43	13.44	81	25.31	435	1.36	VII
9.	Inadequate and untimely supply of vaccines	207	64.69	69	21.56	44	13.75	483	1.51	V
10.	Lack of knowledge about cleanliness of buffalo shed and premises	42	13.12	127	39.69	151	47.19	211	0.66	X
	Over all	187.5	58.59	65.7	20.33	66.8	20.87	440.7	1.377	

availability of green fodder round the year (0.93), respectively. The last rank was awarded to lack of knowledge about extra feeding to advance pregnant buffaloes (0.83).

The results of the present study are in line with the earlier study of Chakravarti et al. (2017), Kaur et al. (2011), Patel et al. (2013), Patil et al. (2009), Rajashekhar et al. (2017), Reddy et al. (2017) and Shankar et al. (2009). However these findings are discouraging than reported by Dhindsa et al. (2014), Sabapara (2016) and Tanwar et al. (2010) , who reported less constraints in their study area in comparison to present findings. Present findings are encouraging than observed by Bulbul et al. (2015), Dhaka et al. (2011), Rathore et al. (2009).

The conclusion may be drawn from the above results that lack of awareness about hay and silage preparation, preparation of balance concentrate mixture at home, non availability of balance concentrate and mineral mixture in the villages, high cost of fodder and concentrate, lack of awareness about treatment of poor quality roughages to improve its nutritive value and inadequate irrigation and small land holding for green fodder production were the major constraints in feeding practices which restricted the balance feeding as well as reproduction and production of the buffaloes.

Constraints in adoption of scientific healthcare management practices:

Regarding constraints in healthcare management practices, the data presented in Table 3 indicated that non-availability of veterinary doctor obtained highest constraint mean score (1.71) and it was ranked first. The second and third ranks were obtained by distant location of veterinary hospital (1.66) and high cost of veterinary medicines (1.63). The fourth rank was awarded to lack of knowledge regarding first aid of animals with mean score of 1.57. The constraints related to inadequate and untimely supply of vaccines (1.51), low awareness about deworming of buffaloes (1.43), wrong belief that vaccination reduce milk yield in buffaloes (1.36), problems of quacks practicing in the village (1.30) and lack of knowledge regarding timely treatment of animals (0.94) were ranked as fifth, sixth, seventh and eighth, respectively. The last rank was awarded to lack of knowledge about cleanliness of buffalo shed with mean score of 0.66. Present study was similar with the findings as reported by previous workers Bulbul et al. (2015), Dhindsa et al. (2014), Murai & Singh (2011), Patil et al. (2009), Rathore & Tanwar (2013), and Singh et al. (2012). These results were encouraging than Dhaka et al. (2011), Hamadani et al. (2019), who reported more constraints in their study area in comparison to present

findings. However these findings are discouraging than reported by Sabapara (2016) and Tanwar et al. (2010) , who reported less constraints in their study area in comparison to present findings.

It can be concluded from the table that non-availability of veterinary doctor, distant location of veterinary hospitals, high cost of veterinary medicines and lack of knowledge regarding first aid of animals were the very serious constraints which can be overcome by strengthen the veterinary hospitals and fill up the vacant post of veterinary doctor and other staff for prompt & regular veterinary services. District veterinary mobile unit should be strengthened and held animal treatment camps and *pashupalak* gosthi in village especially in remote area villages. Gopal Yojna should be extended in the district to provide first aid and A. I. facilities at village level.

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