Ind. J. Extn. Educ. & R.D. 22 : 67-71, 2014

ADOPTION OF IMPROVED MANAGEMENT PRACTICES BY BUFFALO OWNERS

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ABSTRACT

The present study was conducted in Jhunjhunu district of Rajasthan to find out the adoption level of improved buffalo management practices. A random sample of 400 buffalo owners were selected from five blocks of the district and adoption level of recommended breeding, feeding and health care management practices was studied. It was revealed that keeping watch on oestrus cycle and heat symptoms of buffaloes (90.13%), keeping record of service, calving and heat (64.63%), natural service with superior breed bulls (63.50%) and insemination of buffalo after 12-18 hours since onset of heat (60.63%) were more adopted in breeding practices. The overall adoption of breeding practices was 52.18 percent. Regarding improved feeding practices, chaffing of dry fodder (86.25%), feeding of green fodder (81.50%), extra concentrate mixture feeding to advance pregnant buffaloes (68.75%) and incorporation of common salt in concentrate mixture (64.75%) were more adopted by the respondents. The overall adoption of feeding management practices was 56.08 percent. In health care management practices, it was concluded that regular cleaning of buffalo shed (74.38%), control of external parasites (69.63%), daily observation for signs of sickness (60.63%) and isolation of sick buffaloes from healthy animals (47.88%) were moderately more adopted by the buffalo owners. The overall adoption in health care management practices was 48.95 per cent.

INTRODUCTION

In India livestock rearing and crop production are the two major components of mixed farming system which are complementary to each other. On an average livestock contributes about 30 percent to agricultural gross domestic production (GDP) of the nation. 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. In large dairy animals buffalo is not less than gold for small and marginal farmers and landless labours of our country. The buffalo is a triple purpose animal, which provides fat rich milk, meat and traction power.

The country has 57 per cent of world's population and single major milk producing species in our country. Rajasthan state ranks second in animal wealth after Uttar Pradesh in the country. Livestock is the second most important enterprise for the farmers of Jhunjhunu district. According to the Livestock Census-2007, the population of buffalo species was in leading position (buffalo -370248 & cow - 174918) in the district. Looking towards the importance and leading position of buffalo population, an attempt has been made to study the adoption of improved breeding, feeding and health care management practices by the buffalo owners.

RESEARCH METHODOLOGY

The present study was carried out in Jhunjhunu district of Rajasthan. Out of eight blocks of Jhunjhunu district, five were selected i.e. Jhunjhunu, Chirawa, Khetri, Navalgarh and Udaipurwati block. Four villages from each block and 20 buffalo keepers from each village were selected randomly. Thus, the entire sample consisted of 400 respondents from selected twenty villages in five blocks of the district. The data were collected by personal interview techniques through an interview schedule. In the present study for the selection of improved buffalo management practices, a list of various improved practices were collected and divided into breeding, feeding and health care management practices. The most important seven improved practices in each aspect were selected on the basis of highest score points obtained in order of

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merit.

According to selection of improved practices, an interview schedule was developed. The respondents were asked to give opinion about adoption on three point continuum scale i.e. always, some times and never adopted the practices. These three points were scored as 2, 1 and 0, respectively. Thus, the adoption score of each improved practices varied within the range of 0 to 3 and in each aspect ranges from 0 to 14. The recorded responses were counted and converted into mean score and percentage of each practices.

RESULTS AND DISCUSSION

Adoption of improved buffalo management practices in the aspects of breeding, feeding and health management practices was determined. Total adoption score, mean score and adoption of each item were calculated. The ranks were also assigned to each item with in the management aspects. The results have been tabulated and presented under the following sub – sections.

Adoption of breeding practices

The data presented in table 1 indicated that keeping watch on oestrus cycle and heat symptoms of buffalo got the highest mean score (1.80) and percentage (90.13) of adoption. Hence it was ranked first. Similarly, keeping record of service, calving and heat (1.30), natural service with improve breed bulls(1.27), Insemination of buffalo after 12-18 hours since onset of heat (1.22) and treatment of anoestrus and repeat breeder buffaloes(1.13) occupied the ranks of II, III, IV, and V, respectively. Pregnancy diagnosis between 60-90 days after service (0.41) was awarded VI rank, while the last rank was awarded to artificial insemination with bulls of improved breed (0.20). The overall adoption of improved breeding practices was 52.18 per cent with the mean score of 1.05.

It was concluded that adoption of A.I. practice was only 9.63 per cent. The finding of A.I. adoption was less as compare to earlier observation reported by Arora *et al.* (2006) and Rathore *et al*. (2008). It may be due to the unbelieveness in A.I. Animal owners of the study area prefer A.I. in cattle and natural service for buffalo. Buffalo owners had wrong belief that A.I. is not success in buffalo. The observation of overall adoption of improved breeding practices was similar with the findings of Joshi *et al*. (2012).

The table indicates that keeping watch on oestrus cycle and heat symptoms of buffalo, keeping record of service, calving and heat, natural service with improved breed bull, proper time of insemination after onset of heat and treatment of anoestrus/ repeat breeder buffaloes practices were more adopted by the respondents. These improved practices were adopted more than 50 per cent i.e. 56.50 to 90.13 per cent by the respondents.

Adoption of feeding practices

It was apparent from the analyzed data that the practice of chaffing dry fodder had obtained the highest mean score (1.73) which revealed that the respondents had more awareness about the importance of dry fodder, hence it was ranked first. The second rank was occupied by green fodder feeding with the mean score of 1.63. Extra concentrate mixture feeding to advance pregnant buffalo (1.40), incorporation of common salt in concentrate mixture (1.30) and concentrate mixture feeding on the basis of milk production (1.03) were awarded third, fourth and fifth ranks, respectively. More than one third (37.75%) of the buffalo owners fed mineral mixture to their buffaloes and the practice occupied sixth rank in descending order.

The last rank was awarded to preservation of surplus green fodder as hay and silage with mean score of 2.50. The overall adoption of improved feeding practices was 56.08 per cent with the mean score of 1.13.

It was concluded that the buffalo owners had good awareness about saving of fodder through chaffing of dry fodder and importance of green fodder feeding to the animals. Other improved practices viz. extra concentrate mixture feeding to advance pregnant buffalo, common salt feeding and concentrate mixture feeding ratio according to milk production were also better adopted by the respondents. The findings of present study were higher than reported by Chaudhary and Sharma (2006), Madke *et al.* (2006) and Rathore *et a*l. (2008). The same observation were observed by Madke *et a*l. (2006) and Rathore *et al.* (2008) for mineral mixture feeding and preservation of surplus green fodder as hay and silage in their study area.

Table 1: Adoption of improved breeding management practices **n -400**

S. No.	Breeding Practices	Always	Some times	Never	Total adoption score	Mean score	% age	Rank order
		2	1	0				
1.	Keeping watch on oestrus cycle and heat symptoms of buffalo	321	79	0	721	1.80	90.13	I
2.	Insemination of buffalo after 12-18 hours since onset of heat	85	315	0	485	1.22	60.63	IV
3.	Keeping record of service, calving and heat	155	207	38	517	1.30	64.63	II
4.	Natural service with bulls of improved breed	129	250	21	508	1.27	63.50	III
5.	Artificial insemination with bulls of improved breed	16	45	339	77	0.20	9.63	VII
6.	Pregnancy diagnosis between 60-90 days after service	45	72	283	162	0.41	20.25	VI
7.	Treatment of anoestrus and repeat breeder buffaloes	121	210	69	452	1.13	56.50	V
	Overall adoption	872	1178	750	2922	1.05	52.18	

Table 2: Adoption of improved feeding management practices **n - 400**

S. No.	Breeding Practices	Always	Some times	Never	Total adoption score	Mean score	% age	Rank order
		2	1	0				
1.	Concentrate mixture feeding on the basis of milk production	117	179	104	413	1.03	51.63	V
2.	Extra concentrate mixture feeding to advance pregnant buffalo	187	186	27	560	1.40	70.00	III
3.	Mineral mixture feeding	55	192	153	302	0.76	37.75	VI
4.	Incorporation of common salt in concentrate mixture	178	162	60	518	1.30	64.75	IV
5.	Chaffing of dry fodder	290	110	0	690	1.73	86.25	I
6.	Green fodder feeding	265	122	13	652	1.63	81.50	II
7.	Preservation of surplus green fodder as hay and silage	0	20	380	20	0.05	2.50	VII
	Overall adoption	1092	956	752	3140	1.13	56.08	

Table 3: Adoption of improved health care management practices **n – 400**

S. No.	Breeding Practices	Always	Some times	Never	Total adoption score	Mean score	% age	Rank order
		2	1	0				
1.	Timely and regularly vaccination	42	103	255	187	0.47	23.38	VII
2.	Daily observation for signs of sickness	174	137	89	485	1.22	60.63	III
3.	Isolation of sick buffalo from healthy animals	139	105	156	383	0.96	47.88	IV
4.	Control of external parasites	201	155	44	557	1.40	69.63	II
5.	Deworming of buffalo	58	92	250	208	0.52	26.00	VI
6.	Regular cleaning of buffalo shed	232	131	37	595	1.49	74.38	I
7.	Proper treatment of sick animals by veterinarians	73	180	147	326	0.82	40.75	V
	Overall adoption	919	903	978	2741	0.98	48.95	

Adoption of health care practices

The corresponding data indicated that out of seven improved practices included in health care, regular cleaning of buffalo shed got highest mean score (1.49) and awarded rank first. The second and third positions were occupied by control of external parasites (1.40) and daily observation for signs of sickness (1.22) with the mean percentage of 69.63 and 60.63, respectively. Isolation of sick buffalo from healthy animals (0.96) and proper treatment of sick animals (0.82) obtained fourth and fifth ranks, respectively. The adoption of deworming and vaccination schedule were least adopted by the buffalo owners having mean score 0.52 and 0.47, which were ranked sixth and seventh in hierarchy table. The overall adoption of improved health care practices was about 50 per cent (48.95%) with mean score 0.98. It can be concluded from the table that the practice of deworming and vaccination were least adopted which is very essential for health point of view. These practices are very cheap and control maximum seasonal diseases as well as improve the production and productivity of animals. The results of the present study were well corroborated with the findings of Choudhary and Sharma (2006) and Rathore *et al*. (2008). However these findings are in contrary to the findings of Joshi *et al*. (2012) and Meena *et al*. (2012) who reported less adoption of improved health care practices in their study area.

CONCLUSION

It may be concluded from the study that artificial insemination, pregnancy diagnosis, mineral mixture feeding, concentrate according to milk production, timely vaccination and deworming practices were least adopted by the buffalo owners. None of the respondents prepare hay and silage. A collaborative effort of KVK scientists, veterinary officers, co-operative dairy and other development departments are required to boost up the adoption level of improved buffalo management practices.

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Received : February, 2014
Accepted : April, 2014