

Specific management with reference to A. I. and vaccination on Murrah buffaloes in western region of Uttar Pradesh

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Abstract

The present study was carried out in four districts of western region of Uttar Pradesh. The information was collected from 240 buffaloes rear farmers from western region of Uttar Pradesh according to questionnaire. It was analysis that all the farmers in the western region were rearing Murrah buffaloes extensively. The performance of quality of an animal is influenced as environmental land factors. An intensive study was made for evaluation of Managemental practices on Murrah buffaloes in western region of Uttar Pradesh during the year 2022-23 in different villages of districts Agra, Aligarh, Hathras and Kasganj .the investigation was made for four months (November, December 2022, January, February, 2023) in respect of six villages each of districts western region of Uttar Pradesh. The total sample consisted of 240 households four districts western region of Uttar Pradesh. The result of awareness about artificial insemination and vaccination among the farmers of western region of Uttar Pradesh it was percentage of artificial insemination (55%, 51.66%, 30%, and 40%) and vaccination (26.96%, 34.02%,33.60%, and 29.83) in Agra, Aligarh, Hathras and Kasganj of western region of Uttar Pradesh respectively Murrah buffaloes were mostly maintained on stall feeding with fully balance ration and concentrates. However small number of buffaloes, maintained by farmers were fed little amount of concentrate.

Key words: vaccination, artificial insemination, Murrah buffalo, and western region of Uttar Pradesh

Introduction

Murrah is one of the best buffalo breed in India. The success of Indian dairy industry is much dependent on productivity and efficient reproduction performance of Murrah buffaloes. The environmental factors are generally influenced the Murrah performance as well as other breeds. The performance traits reviewed were first lactation 305-days or less milk yield, first lactation length, first lactation average daily milk yield, dry period, growth, age at first calving, first service period, calving

interval, age at maturity, age at calving, days to first service, number of services per conception, breeding interval, breeding efficiency, conception rate and daughter pregnancy rate of Murrah buffalo. All the productive and reproductive traits were affected by herd, year and season of calving. Animal Husbandry and Dairy Development sector plays an important role in the socio economic development of India. Besides providing cheap nutritional food to millions of people, it is helpful in generating gainful employment in the rural sector, particularly among the landless laborers, small and marginal farmers and women by supplementing their family incomes. Murrah buffalo has massive body frame with short, broad back and a 4 comparatively light neck and head. It has short, tightly curled horns, well developed

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udder and a long tail with a white switch reaching to the fetlock. Popular color is jet black with white markings on the tail, face and extremities. Murrah buffalo is a breed of water buffalo (*Bubalus bubalis*) mainly kept for milk production. It originates in Punjab and Haryana states of India, where it is kept in the districts of Bhiwani, Hisar, Rohtak, Jind, Jhajhar, Fatehabad, Gurgaon and the capital region of Delhi. Both buffalo and cow's milk are highly nutritious and provide a great amount of vitamins and minerals, but buffalo milk packs more nutrients and calories per serving. The world buffalo population is estimated at 185.29 million, spread in some 42 countries, of which 179.75 million (97%) are in Asia (Figure 1, FAO, 2008). India has 105.1 millions and they comprise approximately 56.7 percent of the total world buffalo population and accounts for 14.2% of the total milk production in the world including that from cows, goats and other species current population. The current projected population will be 105 m. This population growth in Buffalo is high up then in any other specie. Buffalo production and development will provide scope to figure out area of priority, emphasis or thrust of investigation and research which will best suit for the rearing of buffaloes in different agro-climate regions of the country. There is a need to regionalization of buffalo development programmed. Given the variation in climate and soil the crop and grass composition varies from region to region. Livestock are the best insurance against the vagaries of nature like drought, famine and other natural calamities.

Material and Methods

The study was carried out in randomly selected four districts of western region of Uttar Pradesh, four from rural areas (beyond approximately 100 km from metrology station) the four representative districts of western of Uttar Pradesh will be Agra, Aligarh, Hathras, Kasganj, for this study. The study will be carried on the basis of practical investigation in the western Uttar Pradesh. 1. Agra district farmers: 60 2. Aligarh district farmers: 60 3. Hathras district farmers: 60 4. Kasganj district farmers: 60 Total Respondents: 240. The appropriate statistical analysis has been done to compile and analyzed the data like Mean, Percentage and average of the data

(2) Method of study: - The following type of schedule was prepared for collection of data during the course of investigation. District 1 Village, 2 House Hold, 3 Name of The Farmer S/o Shri, 4 Age, 5 Education, 6 Main Occupation, 7 Subsidiary Occupation, Health and other practices (1) A.I. Yes/ No (2) Vaccination (3) Dehorning / Marking Yes/ No (4) Specific Disease.

Results and Discussion

1. Insemination:

Insemination is very important aspect to existence of any species, buffaloes are very prolific and mainly produce single. Data has been collected and tabulated to know the insemination in two categories viz. Natural service, and artificial insemination in the rural area of Agra, Aligarh, Hathras and Kasganj districts of western region of Uttar Pradesh. Advantages of artificial insemination (Table 1). There is no need of breeding bull for a heard. Hence the cost of maintenance of breeding

Table 1: Exhibit the insemination of buffaloes in Agra, Aligarh, Hathras and Kasganj districts

No. of villages	No. of house hold	District-Agra		District-Aligarh		District-Hathras		District-Kasganj	
		Natural Service	A.I.	Natural Service	A.I.	Natural Service	A.I.	Natural Service	A.I.
1	10	5	5	5	5	8	2	7	3
2	10	4	6	4	6	7	3	6	4
3	10	6	4	6	4	8	2	7	3
4	10	5	5	5	5	6	4	5	5
5	10	4	6	4	6	7	3	6	4
6	10	3	7	5	5	6	4	5	5
Total	60	27	33	29	31	42	18	36	24

male (bull) is saved it prevents the spread of genital diseases contagious abortion, vibriosis. Genetic improvement, Selective breeding, Disease control, Disadvantage of artificial insemination requires well-trained operation and special material. More time than natural services. Improper cleaning of instruments and in sanitary conditions may lead to lower fertility. Result shows from Table 1 that there was only natural service in practice in four districts for breeding of the animals the natural service was slightly high in Hathras and Kasganj district (42% and 36%) however it was found to (27% and 29%) in Agra and Aligarh

The aim of the present investigation was to determine the optimum time of artificial insemination after the beginning of standing estrus in Murrah buffaloes. Artificial insemination has played a major role in genetic selection, disease control and cost effectiveness of breeding in dairy buffalo (Table 2). Present study was found natural service 70% and Artificial Insemination 30% in Hathras district but in case of Kasganj district was found Natural service 60 percent and Artificial insemination 40%

respectively. Agra district were superior in Artificial Insemination comparison of Aligarh, Hathras and Kasganj districts of western of Uttar Pradesh.

2. Vaccination:

They are efficient in preventing the transmission and spread of contagious animal diseases (Zoonotic diseases) from animals to people and from animal to animal. A vaccine is a cost effective method used in preventing animal diseases they are generally safe efficient and are associated with few severe side effects. Vaccines do have some risk for adverse reaction the most common being redness and soreness at the injection site or fever and allergic reactions. For centuries, vaccinating animals has been the most cost-effective and sustainable measure to prevent and control infections emerging and reemerging diseases. A prominent examples of the merit of vaccination practices in eliminating major infectious animal epizootics is that of rinderpest, which was declared to have been eradicated in 2011 veterinary vaccines can also help protect the health of people from zoonotic diseases. Data was collected in connection of vaccination of

Table 2: Insemination of buffalos in Agra, Aligarh, Hathras and Kasganj districts western region of Uttar Pradesh

Category	Agra (60)		Aligarh (60)		Hathras (60)		Kasganj (60)	
	F	%	F	%	F	%	F	%
Natural Service	27	45	29	48.33	42	70	36	60
Artificial Insemination	33	55	31	51.66	18	30	24	40

F = Frequency, % = Percentage () = Number of sample

Table 3: Exhibit the vaccination of buffalos in Agra, Aligarh, Hathras and Kasganj districts western region of Uttar Pradesh

No. of villages	No. of house hold	District-Agra			District-Aligarh			District-Hathras			District-Kasganj		
		Inact-ivated	Recom-binant	Virus- vectored	Inact-ivated	Recom-binant	Virus- vectored	Inact-ivated	Recom-binant	Virus- vectored	Inact-ivated	Recom-binant	Virus- vectored
1	10	7	4	3	2	4	4	4	3	7	9	6	5
2	10	5	3	5	4	5	6	9	7	6	8	5	6
3	10	4	6	4	5	4	8	7	5	5	7	8	7
4	10	6	5	3	6	5	5	6	9	8	6	6	4
5	10	5	7	3	8	7	6	10	6	9	9	9	9
6	10	8	5	6	5	9	4	7	8	6	8	6	6
Total	60	35	30	24	30	34	33	43	38	41	47	40	37

Table 4: vaccination of buffalos in agra, aligarh, hathras and kasganj districts wester region of uttar pradesh

Category	Agra (60)		Aligarh (60)		Hathras (60)		Kasganj (60)	
	F	%	F	%	F	%	F	%
Inactivated	35	39.32	30	30.92	43	35.24	47	37.90
Recombinant	30	33.70	34	35.05	38	31.14	40	32.25
Virus- vectored	24	26.96	33	34.02	41	33.60	37	29.83

F = Frequency, % = Percentage () = Number of samplee

the farmers of the four districts of western region of Uttar Pradesh, data collected on various aspects viz. inactivated, recombinant and virus vectored. Result have been presented in Table 3. The result show that is much more differences in the vaccination status of the animal of the four districts.

According to the present study the vaccination of Buffaloes were found in Agra district 39.32 percent Inactivated vaccination and recombinant vaccination were found 33.70 percent in some district but virus-vectored vaccination was found 26.96 percent in Agra district (Table 4). In Aligarh and Hathras was found three category vaccination such as, Inactivated, Recombinant virus – vectored, 30.92 percent, 31.14 percent, 33.60 percent respectively. Kasganj district was found superior of Inactivated vaccination comparison to Hathras districts of western region of Uttar Pradesh.

Conclusion

The farmers of the four districts possess good knowledge on various aspects artificial insemination and vaccination management. The farmers are more concern about artificial insemination and vaccination of Murrah buffaloes. The highest numbers of vaccinated related to vaccine followed by inactivated, recombinant, virus-vectored. Distribution of vaccination cases recorded was highest in Kasganj districts and lowest in Hathras, Aligarh, and Agra districts of western region of Uttar Pradesh.

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