

STUDIES ON MILKING BEHAVIOUR OF MEHSANA BUFFALOES

H.A. Patel, J.B. Patel, S.R. Thaker, R.P. Solanki and R.J. Modi

Livestock Research Station
Sardarkrushinagar Dantiwada Agricultural University
Sardarkrushinagar (Gujarat)
E-mail: rjmodi@aau.in

Abstract: Milk yield and milking behaviour are inter-related. The study was conducted on twenty four Mehsana buffaloes to know milking behaviour on a four point scale as (1) Docile (2) Restless (3) Nervous and (4) Let down and milking time as well as milk yield and milk flow rate were noted. Results revealed that docile buffaloes were highest (55.56%) followed by nervous (26.74%), aggressive (9.25%) and restless (8.45%). The effect of milking behaviour on milking attributes was highly significant ($P < 0.01$). The best milking ability was performed by docile buffaloes followed by restless, nervous and aggressive.

Keywords: Milking behaviour, Milkability, Mehsana buffalo.

Introduction

Milking behaviour affects milk yield as they are inter-related [1]. High yielding dairy animals possess the maximum the maximum productive and minimum survival impulses, while reverse is true for the low yielders. Dairy animals are classified as per their milking behaviour temperament [2]. The temperament of animal is important in the handling of animals and improving their productive and reproductive abilities. The information of buffaloes is scanty due to this study has been undertaken to measure the let down and milking time as well as milk yield and milk flow rate according to temperament in Mehsana buffaloes.

Material and Methods

The study was conducted on 24 Mehsana buffaloes at Livestock Research Station, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar (Gujarat). Buffaloes were selected before 10 days to 2 months of calving and milked by hand twice a day. The buffaloes were kept under the uniform routine feeding and management condition of the farm. The temperament was recorded at the time of milking by adopting score card [2] as Docile-1, Restless-2, Nervous-3, and Aggressive-4. Timings were recorded with the help of stop watch. Let down time was recorded from touching of teat by a calf to the first drop of milk drawn in the pail. Milking time was recorded from starting of milking to end of milking

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(last drop of milk). Milk yield at each milking was recorded by the electronic weighing balance with an accuracy of 1 gm. Milk flow rate was obtained by dividing total milk yield by total milking time. The observations were recorded two times in a month for sixth month. And statistical analysis was carried out using factorial completely randomized design (FCRD) with six replications.

Result and Discussion

The findings (Table 1) revealed that number of docile buffaloes were the highest (55.56%) followed by nervous (26.74%), aggressive (9.25%) and restless (8.45%). The percentage of buffaloes with nervous temperament was more than Murrah buffaloes [3] and Karan swiss cows [2]. This difference may be due to change in place and time of experiment. The other reason may be that Murrah buffaloes are more docile in temperament and that is why, it is preferred by city milk producers.

The results on let down time, milking time, milk yield and milk flow rate in relation to temperament is presented in Table 2. The differences were recorded in all milking attributes due to dairy temperament were highly significant ($P < 0.01$), which is in accordance with findings of other authors in cattle [2, 4, 5, 6] and in buffaloes [7].

It was revealed from Table 2 that the docile buffaloes had the highest milk yield per milking and milk flow rate. The aggressive animals took longer time in let down and milking with the lowest milk yield, followed by nervous and restless buffaloes. The descending order of milk yield and milk flow rate from docile to aggressive, may be due to the fact that under the optimum condition of milking, the docile animals did not hold up any milk, while the other categories held up milk in increasing order. The highly significant differences in all milking attributes due to temperament suggested that docile buffaloes took less time for letting down and milking with maximum milk yield. Similar finds were recorded earlier in Kankrej cows [8] and buffaloes [3].

Conclusions

The milkability of docile animals was better than restless, nervous and aggressive animals. It is therefore desirable to select the docile ones within a breed or species of dairy animals for achieving higher lactation yield and to facilitate quicker letdown and complete removal of milk from udder in shorter duration.

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Table 1: Dairy temperament of Mehsana buffaloes

Temperament score	1 (Docile)	2 (Restless)	3 (Nervous)	4 (Aggressive)	Total
Frequency	480	73	231	80	864
Percentage	55.56	8.45	26.74	9.25	100
Average score	1.0	2.0	3.0	4.0	1.89
Whole herd (no. of animals)	16	3	6	5	30
Percentage	53.33	10	20	16.67	100

Figures in parenthesis indicate no. of observations

Table 2: Milking attributes in different temperament

Temperament	Letting down time	Milking time	Milk yield per milking (Kg)	Milk flow rate Kg/Min
Docile	51.45	316.13	5.19	1.43
Restless	62.83	346.85	4.15	0.99
Nervous	67.69	361.20	4.08	0.93
Aggressive	77.36	379.0	2.90	0.59
SEM	4.476	7.114	0.257	0.053
CD values	13.792**	21.921**	0.793**	0.162**

** P<0.01