



ISSN (E): 2277- 7695

ISSN (P): 2349-8242

NAAS Rating: 5.23

TPI 2021; SP-10(5): 37-40

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Received: 20-03-2021

Accepted: 25-04-2021

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## Managerial practices of buffalo rearing in north coastal region of Andhra Pradesh

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### Abstract

This current study was conducted by doing widespread survey to collect the information on the buffalo managerial practices in rural areas of Rambilli mandal in Visakhapatnam district which was located in north coastal region of Andhra Pradesh through a designed questionnaire on buffalo managerial practices followed by farmers to improve the productivity. Total number farmers selected for the study was 60. Each village carries 10 farmers from 6 villages. Most of the farmers have the small herd size (<6).

**Keywords:** Buffalo, managerial practices, north coastal region of Andhra Pradesh, productivity

### Introduction

The Andhra Pradesh state ranks seventh in milk production in the country with buffalo production contributes major share as it is one of the major marketable surplus milk in the state. Feeding management is the one of the factor that plays a major role in utilize maximum potential of dairy animals (Sinha *et al.*, 2009) <sup>[11]</sup>. Other managerial practices like breeding and healthcare practices like deworming, deticking, vaccination and timely treatment to diseases also improves the milking productivity of the animal. As the livestock grazing is one of the major sources of productive employment in village areas in India. Although most of rural areas in Andhra Pradesh may or may not use the scientific and technical knowledge properly in buffalo dairy management to improve the productivity. But, if we use properly can improve the buffalo productivity and buffaloes can be emerged as the more suitable animal for milk production than Holstein (Kurian, 1998) <sup>[2]</sup>. Dairying is considered to be a remunerative enterprise which gives income throughout the year; the dairy farmers might have accustomed to spend more time on animal husbandry practices (Sreedhar and Ranganadham, 2010) <sup>[13]</sup>. By keeping above factors as base a wide-ranging study was conducted in Rambilli mandal of Visakhapatnam district which was located in north coastal region of Andhra Pradesh how managerial practices followed by buffalo farmers regarding feeding, breeding and health care aspects.

### Materials and Methods

This current study was conducted in six villages in Rambilli mandal of Visakhapatnam district. Each village with 10 farmers randomly, thus final sample of 60 farmers randomly in total population. The data collected by certain techniques like personal interview schedule by administrating a developed questionnaire and direct observation. Most of the buffalo herds are Graded Murrah. The collected data consists of current managerial practices followed regarding the feeding, breeding and other managerial practices separately. The data were subjected to basic statistical analysis as per Snedecor and Cochran (1989) <sup>[12]</sup>.

### Results and Discussion

#### Feeding managerial practices

The following data represents the feeding managerial practices followed by the buffalo farmers presented in table no 1. These results depicts that majority of the buffalo farmers follows the grazing (80%) followed by semi stall feeding (20%), 70% farmers allow animals grazing on common pasture land, forage on the road side and individual feeding about 83.33% farmers to maintain uniform plane of nutrition in milch animals. This finding was in conformity with that of Modi (2003) <sup>[5]</sup>; Patel *et al.* (2005) <sup>[6]</sup>; Chowdhary *et al.* (2006) <sup>[11]</sup> and Sabapara *et al.* (2010) <sup>[9]</sup>. Most of the farmers (73.33%) fed dry fodder as such and green

fodder by chaffing (76.67%) and also fed commercial concentrate mixture (41.67%) to their milch animals as they were supplied from dairy cooperative societies and panchayats on subsidy price, followed by homemade + commercial and homemade. These are against the results of Chowdhary *et al.* (2006) [11] and Sabapara *et al.* (2010) [9]. As they were offering as such concentrate mixture to the animals which are against the findings of Malik *et al.* (2005) [3]; Kumar *et al.* (2006) and Rathore *et al.* (2010) [8]. They will give the concentrate mixture before milking, during milking and after milk 25%, 41.67% and 33.33% respectively. These findings were conformity with Rathore *et al.* (2010) [8]. Most of the farmers didn't fed concentrates to their young ones; it

indicates that lack knowledge of concentrates on improvement of growth rate in young ones. Very low percent 8.33% farmers gave extra salt to animals and occasionally (33.33%). These results are in harmonical with results of Singh *et al.* (2007) [10]; Rathore *et al.* (2010) [8] and Sabapara *et al.* (2010) [9]. Regular feeding of mineral mixture by 8.33% farmers, 58.33% farmers fed occasionally and remaining doesn't feed to animals. It might be due to lack of awareness of advantages of mineral mixture and cost of it Modi (2003) [5]; Sohane *et al.* (2004); Patel *et al.* (2005) [6]; Chowdhary *et al.* (2006) [11]; Rathore *et al.* (2010) [8] and Sabapara *et al.* (2010) [9]. Majority of the farmers offering water ad libitum and thrice a day (41.67%) than twice a day (16.67%).

**Table 1:** Feeding practices (n = 60)

Particulars	Frequency	Percent
<b>Feeding system of animals</b>		
Grazing only	48	80
Semi stall feeding	12	20
Stall feeding	00	00
<b>Grazing area</b>		
Common pasture land	42	70
Harvested/fallow land	18	30
<b>Method of feeding</b>		
Individual feeding	50	83.33
Group feeding	10	16.67
<b>Method of dry fodder feeding</b>		
Chaffed	16	27.67
As such	44	73.33
<b>Method of green fodder feeding</b>		
Chaffed	46	76.67
As such	14	23.33
<b>Green fodder production</b>		
Seasonal	40	66.67
Around the year	20	33.33
<b>Type of concentrate mixture</b>		
Home prepared	15	25.00
Commercial	25	41.67
Home prepared + commercial	20	33.33
<b>Method of concentrate mixture feeding</b>		
As such	40	66.67
Soaking	15	25.00
Boiling	5	8.33
<b>Mode of concentrate feeding to lactating animal</b>		
Before milking time	15	25.00
At milking time	25	41.67
After milking time	20	33.33
<b>Concentrate feeding to young calf</b>		
Yes	15	25.00
No	45	75.00
<b>Feeding of common salt</b>		
Regularly	5	8.33
Occasionally	20	33.33
Not at all	35	58.33
<b>Feeding of mineral mixture</b>		
Regularly	5	8.33
Occasionally	35	58.33
Not at all	20	33.34
<b>Frequency of watering</b>		
2 times/day	10	16.67
3 times/day	25	41.67
Free access to water	25	41.67

### Breeding managemental practices

The results of buffalo breeding managemental practices are followed by the buffalo farmers are presented in the table no

2. The study shown that majority of the farmers followed the heat detection based on estrus signs or symptoms. Among them shown signs like mucus discharges + bellowing

(41.67%), mucus discharges (33.33%), mounting (16.67%) and frequent urination (8.33%). These results are similar with findings of Patel *et al.* (2005) [6]; Chowdhary *et al.* (2006) [11] and Sabapara *et al.* (2010) [9]. Although good infrastructure facilities and availability of artificial semen most of them are preferred for natural service, this indicates that most of the farmers having the poor knowledge on Artificial Insemination and transmitted diseases through coitus. These are unlinear to findings of Chowdhary *et al.* (2006) [11] and Sabapara *et al.* (2010) [9]. 83.33% farmers followed the pregnancy diagnosis practice and remaining is not. In pregnancy diagnosis 40% by qualified veterinarian, AI worker and followed by self (Sabapara *et al.* (2010) [9]. Calving interval is around 12-15 months, 15-18 months and more than 18 months in 16.67%, 25% and 58.33% populations respectively. These findings are against the findings of Patel *et al.* (2005) [6]; Chowdhary *et al.* (2006) [11] and Sabapara *et al.* (2010) [9]. This might be due to poor feeding practices like not offering concentrates during heifer stage or during pregnancy especially last few days prior to calving.

**Table 2:** Breeding managemental practices

Particulars	Frequency	Percent
<b>Heat detection</b>		
Yes	60	100
no	0	0
<b>Methods of heat detection</b>		
Teaser	0	00
Symptoms	60	100
<b>Symptoms of heat detection</b>		
Mucus discharge	20	33.33
Mucus discharge + bellowing	25	41.67
Frequent urination	5	08.33
Mounting	10	16.67
<b>Method of breeding</b>		
Natural service	35	58.33
Artificial insemination	25	41.67
<b>Pregnancy diagnosis</b>		
Yes	50	83.33
No	10	16.67
If yes by whom		
Self	10	20.00
Qualified vet	20	40.00
AI worker	20	40.00
<b>Calving interval</b>		
12-15 months	10	16.67
16-18 months	15	25.00
More than 18 months	35	58.33

### Heath care managemental practices

This current study results describes the health care managemental practices followed by buffalo farmers. The results indicated that there is 83.33% farmers followed vaccination against the FMD and HS. These findings are in concurrence with the findings of Singh *et al.* (2007) [10] and Sabapara *et al.* (2010) [9]. 16.67% farmers regular deworming their buffaloes, occasionally by 33.33% farmers and remaining farmers hadn't been followed the deworming in milch animals; similar findings noticed by Pawar *et al.* (2006) [7] and Sabapara *et al.* (2010) [9]. But 75% farmers followed regular deworming in calves, occasionally by 16.67% farmers and rest 8.33% didn't follow the deworming schedule in their calves. This was a good managemental practice to reduce the internal parasitic load which further improves the growth of the livestock at appropriate stages. Most of the farmers follow

manual method (62.50%) to remove the ecto parasitic load than dusting method. Here most of the farmers did not give any importance to shed sanitation (41.67%), satisfactorily (33.33%) and 25% farmers followed better shed sanitation protocols. The majority of the farmers treat the sick animals by the livestock officer or veterinary assistant (50%) than qualified veterinarians (25%) as primarily available by veterinary assistant than qualified vets. The percentage of respondents regarding veterinary facilities as good, satisfactory and poor was 26.67%, 51.67% and 21.67% respectively.

**Table 3:** Health care practices

Particulars	Frequency	Percent
<b>Vaccination against FMD, HS</b>		
Yes	50	83.33
No	10	16.67
<b>Deworming of milch animals</b>		
Regular manner as per the schedule	10	16.67
Occasional	20	33.33
Not practicing	30	50.00
<b>Deworming of calves</b>		
Regular	45	75.00
Occasional	10	16.67
Not practicing	5	08.33
<b>Practice to control ecto parasites</b>		
Followed	40	66.67
Not followed	20	33.33
<b>If yes</b>		
Manual	25	62.50
Dusting of insects	15	37.50
<b>Sanitary conditions of shed/shelter/standing place</b>		
Good	15	25.00
Satisfactory	20	33.33
Poor	25	41.67
<b>Treatment of sick animals</b>		
Veterinary doctor	15	25.00
Veterinary assistant	30	50.00
Quack	15	25.00
<b>Availability of veterinary facilities</b>		
Good	16	26.67
Satisfactory	31	51.67
Poor	13	21.67

### Milking managemental practices

In the current study observed that 100 percent buffalo farmers followed the regular interval with twice the milking per day following regular milking interval, results are in accordance with the findings of Malik and Nagpaul (1999) [14]. In this 16.67%, 33.33% and 50% of the farmers used stainless steel vessels, iron buckets and plastic buckets as the milking utensils. Few farmers (16.67%) followed the full hand method of milking and remaining 83.33% followed the knuckling method which is not recommended at all. Most of the farmers (75%) not following the sanitary practices before and after milking which may hampered the udder health status by leading to udder infection and finally resulting mastitis. The majority of the farmers did not wash the entire body of their buffaloes before milking even in the summer (Verma and Sastri, 1994) [14]. They allow the calf to suckle the leftover milk so that they cannot wash the udder after milking. The present milking practices implicates that there is need to change the milking practices like knuckling method to full hand method. Most of the farmers are taking less care about sanitation and not followed the mastitis control practices

which results the decreased the quantity of clean milk production which is very essential to the healthy public life.

**Table 4:** Milking practices

Particulars	Frequency	Percent
<b>Method of milking</b>		
Full hand method	10	16.67
Knuklling method	50	83.33
<b>No of times animals are milked</b>		
Twice	60	100.00
<b>Interval between each milking</b>		
Regular	60	100.00
Irregular	00	00
<b>Type of utensils used for milking</b>		
Stainless steel	10	16.67
Iron buckets	20	33.33
Plastic	30	50.00
<b>Sanitary practices followed before and after milking</b>		
Yes	15	25.00
No	45	75.00
<b>Washing udder after milking</b>		
Followed	15	25.00
Not followed	45	75.00

### Conclusion

The present study reveals that most of the managerial practices had considerable effect on the performance of the animal in Visakhapatnam district. Most of the animals are Graded Murrah buffaloes. Due following of certain accurate scientific procedures in breeding, health care system we can improve the performance of the animal further which in turn increases the livelihood of the farmers. Artificial insemination should be easily available at farmers' door step. Educate the farmers about usage of mineral mixture, clean milk production and maintaining the sanitary conditions, this would improve the performance of the animals.

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