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## Milking management practices followed by buffalo milk producers in rural and urban areas of YSR Kadapa District, Andhra Pradesh

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### Abstract

The present study was undertaken to document and compare the milking management practices followed by buffalo milk producers in rural and urban areas of YSR Kadapa district of Andhra Pradesh. Data were collected from selected buffalo milk producers using a pre-tested structured interview schedule. Information pertaining to milking method, frequency, milking hygiene, pre- and post-milking practices, utensil sanitation and milk handling was analyzed using descriptive statistics. The results revealed marked differences between rural and urban respondents in adoption of scientific milking practices. While traditional practices predominated in rural areas, comparatively better adoption of hygienic and recommended milking practices was observed among urban buffalo milk producers. The findings highlight the need for targeted extension interventions to improve clean milk production through scientific milking management, particularly in rural areas of the district.

**Keywords:** YSR Kadapa district, buffalo, milking management, rural and urban, clean milk production

### 1. Introduction

Buffaloes constitute an integral component of the Indian dairy sector and contribute a major share to the national milk production owing to their higher fat content and adaptability to diverse agro-climatic conditions. Efficient milking management practices play a decisive role in determining milk yield, milk quality and udder health in dairy animals (Dang and Singh, 2006; Rohit and Kamboj, 2010) <sup>[1, 2]</sup>. Adoption of scientific milking practices such as proper milking method, hygienic handling of milk and post-milking teat care is essential for prevention of mastitis and for ensuring clean milk production (Patange *et al.*, 2011; Sabapara *et al.*, 2015) <sup>[3, 4]</sup>.

Several studies conducted in different parts of India have revealed that dairy farmers largely depend on traditional milking practices, with limited adoption of recommended scientific methods, particularly in rural areas (Garg *et al.*, 2005; Rathore *et al.*, 2010; Patabandha *et al.*, 2014) <sup>[5-7]</sup>. Inadequate awareness regarding clean milk production practices such as teat dipping, proper utensil sanitation and correct hand milking techniques has been reported as a major constraint affecting milk quality (Jacob and Anu, 2013; Kishore *et al.*, 2013) <sup>[8, 9]</sup>.

YSR Kadapa district of Andhra Pradesh has a sizeable buffalo population managed under both rural and urban production systems. Management practices adopted by farmers are influenced by factors such as education, access to veterinary and extension services and level of urbanization (Sinha *et al.*, 2009) <sup>[10]</sup>. However, systematic documentation and comparison of milking management practices followed by buffalo milk producers in rural and urban areas of this district are limited. Hence, the present study was undertaken to assess and compare the milking management practices followed by buffalo milk producers in rural and urban areas of YSR Kadapa district, Andhra Pradesh.

### 2. Materials and Methods

The study was conducted in YSR Kadapa district of Andhra Pradesh. A suitable research design was adopted as described in the thesis.

Buffalo milk producers from rural and urban areas were selected following the sampling procedure detailed in the original study. Primary data were collected through personal interviews using a structured and pre-tested interview schedule developed specifically for the study.

### **The schedule elicited information on various aspects of milking management practices, including:**

- Method of milking
- Frequency and time of milking
- Person involved in milking
- Washing of udder and teats before milking
- Use of clean utensils
- Method of milk let-down stimulation
- Post-milking teat care practices
- Milk handling and storage practices

The data collected were coded, tabulated and analyzed using appropriate descriptive statistical tools such as frequencies and percentages, as followed in the thesis.

## **3. Results and Discussion**

### **Method of milking**

All the buffalo milk producers in both rural and urban areas practiced hand milking, with none of the respondents adopting machine milking. A higher proportion of farmers followed wet hand milking as compared to dry hand milking in both rural and urban areas. Similar observations were reported by Patange *et al.* (2011) <sup>[3]</sup> and Sabapara *et al.* (2015) <sup>[4]</sup>, who documented predominance of wet hand milking among buffalo farmers. However, dry hand milking is considered superior from the standpoint of udder health and milk quality, and the low adoption observed in the present study indicates lack of awareness among farmers.

With respect to the method of hand milking, knuckling method was predominantly practiced by buffalo milk producers in both rural and urban areas, while only a small proportion adopted the full hand method. These findings are in agreement with earlier reports of Patange *et al.* (2011) <sup>[3]</sup>, who also observed widespread use of knuckling method among buffalo farmers. Knuckling, though easy to perform, is considered a faulty practice as it predisposes animals to teat injuries and mastitis in the long run.

### **Labour involved in milking**

The majority of buffalo milk producers depended on family labour for milking operations in both rural and urban areas. Similar trends were observed in earlier studies reported in the thesis, indicating that medium-sized families were adequate to manage routine dairy operations without hired labour.

### **Use of teat dipping**

None of the buffalo milk producers in the study practiced teat dipping after milking. These findings are in agreement with the observations of Patabandha *et al.* (2014) <sup>[7]</sup>, who reported complete absence of teat dipping practices among dairy farmers. Dang and Singh (2006) <sup>[1]</sup> and Rohit and Kamboj (2010) <sup>[2]</sup> emphasized that post-milking teat dipping plays a vital role in prevention of mastitis and maintenance of udder health, highlighting the need for extension interventions in the study area.

### **Straining of milk**

The practice of milk straining was not commonly followed by buffalo milk producers, with the majority of respondents not

adopting this practice in both rural and urban areas. Similar findings were reported by earlier researchers cited in the thesis, indicating poor awareness regarding clean milk production practices among smallholder buffalo farmers.

### **Hygiene of milkmen**

Most of the buffalo milk producers washed their hands with water before milking, while only a negligible proportion used disinfectants. These findings suggest partial adoption of hygienic milking practices and are in line with observations reported in the reviewed literature included in the thesis.

### **Cleaning of animals before milking**

Cleaning of animals prior to milking was mostly limited to washing of the udder alone in both rural and urban areas. Only a few farmers cleaned the entire animal or hind quarters before milking. Kishore *et al.* (2013) <sup>[9]</sup> also reported low adoption of washing animals before milking, which corroborates the findings of the present study.

### **Cleaning of milking utensils**

Cleaning of milking utensils using disinfectants was practiced by a higher proportion of urban buffalo milk producers as compared to rural producers. However, the use of ash and plain water was still prevalent, particularly in rural areas. Similar trends were reported by Jacob and Anu (2013) <sup>[8]</sup>, while Rathore *et al.* (2010) <sup>[6]</sup> observed contrasting results in other regions, as discussed in the thesis.

### **Floor type and cleaning of animal sheds**

Kutcha flooring was more common in rural buffalo sheds, whereas pucca flooring was predominantly observed in urban areas. These findings partially agree with the reports of Garg *et al.* (2005) <sup>[5]</sup>, who observed predominance of kutcha flooring in animal sheds. Majority of the farmers cleaned animal sheds twice daily, which is consistent with observations reported in the thesis and partially agrees with Gupta *et al.* (2008) <sup>[11]</sup>.

### **Calf suckling pattern**

Allowing calves to suckle one teat at the beginning and all four teats at the end of milking was a common practice among buffalo milk producers in both rural and urban areas. This traditional practice was mainly followed to facilitate milk let-down and was in agreement with findings discussed in the thesis.

## **4. Conclusion**

The study concluded that traditional milking management practices predominated among buffalo milk producers in rural areas of YSR Kadapa district, while urban producers showed comparatively better adoption of hygienic and scientific milking practices. Significant gaps were observed in pre- and post-milking hygiene, utensil sanitation and teat care, particularly in rural areas. Strengthening extension services, organizing hands-on training programmes and promoting clean milk production practices are essential to improve milk quality and productivity in the district.

## **5. Acknowledgements**

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### **Conflict of Interest**

Not available

**Financial Support**

Not available

**Reference**

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