



## Mineral status of normal and subclinical mastitic milk of cross-bred cow

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### ● ABSTRACT ●

The study were conducted in the year 2005-2006 with an objective to observe the effect of subclinical mastitis disease on composition of minerals in milk selecting twelve subclinical mastitic cows from Dairy Farm, College of Agriculture, Nagpur, Cattle Breeding Farm, Nagpur Veterinary College, Nagpur and Veterinary Polyclinic, Nagpur. The milk samples were tested by modified California Mastitis Test (MCMT) and Draminski Electronic Mastitis detector. The fore (first few strips of milk) milk samples were collected and calcium, magnesium, chloride, phosphorus, potassium and sodium were estimated on the basis of data collected. The minerals *i.e.* calcium, magnesium, phosphorus and potassium contents of subclinical mastitic milk decreased however, sodium and chloride contents of subclinical mastitic milk found to be increased.

**KEY WORDS :** Mastitis, Composition of minerals, Cross bred cow

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### ● INTRODUCTION ●

Animal Husbandry, in our country is closely interwoven with agriculture and plays an important role in rural economy mostly in terms of milk and milk products and draft power. Milk plays a pivotal role in stabilizing agrarian economy of the country, because it has become an integral part of the human diet. India of late, ranks the first producer of milk in the world as a sequel to the recent developments in dairy science.

Milk is the normal physiological secretion of udder. It is a biological fluid containing a large number of different constituents (Davies *et al.*, 1983; Kennelly, 1996). Sound health of the udder is therefore of most importance in production of milk, safe and suitable for human consumption. Ill health of the udder reduces the quality and quantity of milk which can pose potential zoonotic

problems to the consumers and incur substantial economic losses to the herd owners.

Mastitis is not only responsible for great economic losses to the dairy industry but also acts as one of the biggest obstacles in achieving the 'White Revolution'. In mastitis, the economic losses are due to reduced milk production, poor quality, cost of veterinary services and drugs, shortened productive life of animal and finally its replacement cost. The term mastitis refers to inflammation of the mammary gland regardless of the cause. The most important changes in the milk include discoloration, the presence of clots and the presence of large numbers of leucocytes.

The quality of milk is mostly affected by subclinical mastitis. Milk composition depends on the level of its constituents which also vary significantly with alteration in physiological conditions of udder. Obviously, the constituents of milk alone can not gain reliable insights into the mechanism of milk synthesis unless its most accurate threshold level is established to distinguish the composition of normal milk from abnormal one.

### ● MATERIALS AND METHODS ●

#### Selection of animals:

For studying the mineral status of normal and subclinical mastitic milk of cross-bred cow, twelve subclinical mastitic cows were selected from Dairy Farm,

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