FIGURE 1

Bioactive Components and Elements in Colostrum

- Lactose
- Oligosaccharides

- Vitamin A
- Vitamin B
- Vitamin C
- Vitamin D
- Vitamin E
- Vitamin K

- Hydrogen (H⁺)
- Potassium (K⁺)
- Sodium (Na⁺)
- Magnesium (Mg²⁺)
- Calcium (Ca²⁺)

- Fatty Acids
- Phospholipids
- Sterols

- Carbohydrates
- Vitamins
- Minerals
- Lipids

- Casein
- Immunoglobulins
  - IgG, IgM and IgA
  - β-lactoglobulin
  - α-lactalbumin
- Bovine Serum Albumin
- Lactoferrin

- Enzymes
- Growth Factors
- Cytokines
- Proteins

- Antioxidants: lactoperoxidase, catalase
- Proteinases: plasmin
- Lipases & Esterases: lipoprotein lipase
- Enzyme Inhibitors

- Epidermal Growth Factor (EGF)
- Betacellulin (BTC)
- Transforming Growth Factor (TGF-I & TGF-II)

- Interleukins
- Tumour Necrosis Factors
- Interferons
FIGURE 2

Colostrum Collected at the Dairy Farms → Rapid Cooling & Storage at 4 °C

Heat Treatment
- a) LTLP or Batch Pasteurization
  60-63 °C for 30-120 min
- b) LTST Pasteurization
  63 °C for 15 s
- c) HTST Pasteurization
  72 °C for 15 s

Colostrum for Feeding the Calves

Cooling Phase
- 30 min
- Surplus Colostrum

Further Processing
- Liquid Colostrum
- Colostrum Food Products
  - Colostrum Powder
  - Whey Formulations
  - Additive in Dairy Products