

The Examination And Assurance Of The Microbiological Safety Pertaining To Raw Milk And its Derived Processed Products

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Abstract : The production of dairy holds significant importance in the sustenance of billions of individuals worldwide, as they rely on milk and its derived products for daily consumption. In addition to being a source of essential nutrients crucial for human well-being, such as proteins, fats, vitamins, and minerals; dairy items are witnessing an increasing demand worldwide. Amongst all the factors contributing to the quality and safety assurance of dairy products, the strong focus lies on maintaining high standards in raw milk procurement. Raw milk serves as an externally nutritious medium for various microorganisms due to its inherent properties. This poses a considerable challenge for the dairy industry in ensuring that microbial contamination is minimized throughout every stage of the value chain. Despite implementing diverse process technologies—both conventional and innovative—the occurrence of microbial spoilage still results in substantial losses within this industry context. Moreover, milk and dairy products have been associated with numerous cases of foodborne illnesses across the globe. Various pathogens such as Salmonella serovars, Campylobacter spp., Shiga toxin-producing Escherichia coli, Listeria monocytogenes, and enterotoxin producing Staphylococcus aureus are commonly identified as the culprits behind these outbreaks in the dairy industry. The effective management of food safety within this sector necessitates a proactive and risk-based approach to reform. However, this strategy presents difficulties for developing nations where informal value chains dominate the dairy sector. Whether operating on a small or large scale or falling within formal or informal realms, it is imperative that the dairy industry adheres to principles of good hygiene practices and good manufacturing practices. Additionally, identifying and managing potential sources of contamination is crucial in mitigating challenges pertaining to quality and safety precautions.

Keywords : dairy value chain, microbial contamination, food safety, hygiene

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