Prin 2017 Safe Milk

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SAFE MILK: OMICS SCIENCE FOR MILK SAFETY AND QUALITY

Milk safety and quality and their associated risks pose a major concern worldwide regarding not only the relative economical losses but also the potential danger to consumer's health. Customer's confidence in the integrity of the milk supply could be hampered by inappropriate milk safety measures. A lack of measures and reliable assays to evaluate and maintain a good control of milk characteristics may affect the milk industry economy started from animal welfare and shatter consumer confidence. It is imperative to create and to establish fast and reliable analytical methods that allow a good and rapid analysis of milk and dairy products during the whole food chain. Proteomics, metaproteomics and metabolomics can represent powerful tools to address this issue, due to their proven excellent quantitative and qualitative drawbacks in protein analysis. This field is rapidly emerging and there are many applications of proteomics in the past few years in milk science from food processing, allergies, and possible contaminants like bacteria, fungi, and other pathogens. This project will address new rapid systems for the monitoring of adulteration- biotic and abiotic- of milk to improve also dairy products along the food chain.