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1.4.3 In/online monitoring of bulk tank milk quality; 1.5 Conclusions; References; 2 Properties and Constituents of Cow's Milk; 2.1 Introduction; 2.2 Milk composition; 2.3 Milk constituents; 2.3.1 Lactose; 2.3.2 Milk salts; 2.3.3 Lipids; 2.3.4 Proteins; 2.3.5 Indigenous milk enzymes; 2.4 Heat-induced changes in physicochemical properties of milk; 2.4.1 pH; 2.4.2 Buffering capacity; 2.4.3 Creaming; 2.5 Heat-induced changes in processing characteristics of milk; 2.5.1 Rennet-induced coagulation; 2.5.2 Acid-induced coagulation; 2.5.3 Heat-induced coagulation; 2.6 Relationship between the quality of raw milk and that of products; 2.7 Conclusions; References; 3 Microbiology of Raw and Market Milks; 3.1 Introduction; 3.2 Microflora of raw milk; 3.2.1 Spoilage organisms; 3.2.2 Pathogenic organisms; 3.3 Microflora of pasteurised milk; 3.3.1 Spoilage organisms; 3.3.2 Pathogenic organisms; 3.4 Microflora of UHT milk; 3.4.1 Heat-resistant spore-formers; 3.4.2 Post-sterilisation contaminants; 3.5 Microflora of ESL milk; 3.6 Sources of contamination; 3.6.1 Raw milk; 3.6.2 Pasteurised milk; 3.6.3 UHT milk; 3.7 Measures to reduce bacterial contamination of raw and market milks; 3.7.1 Cleaning and sanitation; 3.7.2 Cooling the milk during storage; 3.7.3 Addition of carbon dioxide; 3.7.4 Applications of bio-preservatives; 3.7.5 Thermal treatments; 3.7.6 Non-thermal treatments; 3.7.7 Multitarget attack/integrative approaches; 3.8 Conclusion; References; 4 Quality Control; 4.1 Introduction; 4.2 Quality control of raw milk; 4.3 Quality control of processed milk; 4.4 Methods of analysis; 4.4.1 Analysis of abnormal milk; 4.4.2 Microbial analysis; 4.4.3 Mastitic milk - somatic cell count (SCC); 4.4.4 Testing for residues compounds; 4.5 Major components analysis; 4.5.1 Protein composition analysis; 4.5.2 Fat composition analysis; 4.5.3 Analysis of other milk components; 4.5.4 Analysis of degradation products formed during milk storage; 4.5.5 Evaluation of heat load; 4.6 Analysis of fraudulent addition of ingredients and authentication; 4.6.1 Addition of water; 4.6.2 Addition of whey proteins; 4.6.3 Addition of non-dairy proteins

Sommario/riassunto

The Society of Dairy Technology (SDT) has joined with Wiley-Blackwell to produce a series of technical dairy-related handbooks providing an invaluable resource for all those involved in the dairy industry; from practitioners to technologists working in both traditional and modern large-scale dairy operations. The fifth volume in the series, Milk Processing and Quality Management, provides timely and comprehensive guidance on the processing of liquid milks by bringing together contributions from leading experts around the globe. This important book covers all major aspects of hygienic milk pr