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Introduction

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Milk and the range of dairy products derived from milk have long been central to diet in both developed and developing countries. Some dairy processing technologies such as fermentation have been used for thousands of years. Building on this long lasting foundation, the dairy processing industry continues to be at the forefront of innovation in the food industry. This important new collection sums up some of the most important recent developments.

Part I considers key aspects of safety and quality. Chapter 2 provides a foundation by summarising current knowledge about the major constituents of milk. The following chapter discusses how factors such as breed and husbandry practices on the farm influence milk composition. The next three chapters focus on safety, covering hygienic practices on the farm, developments in pasteurisation and sterilisation technologies, and the growing use of modelling to improve these techniques whilst retaining milk quality. A final group of chapters in Part I consider key aspects of dairy product quality. There are discussions of the latest research on the control of flavour in milk and other dairy products, improving texture in fermented dairy products, controlling stability and shelf-life, and testing the authenticity of milk and milk products. Building on the traditional nutritional importance of milk, the final two chapters consider the new generation of functional dairy products.

The second part of the book reviews the range of new technologies that have emerged recently to improve dairy product quality. The first two chapters look at on-line techniques to monitor and control various aspects of milk safety and quality. They are then followed by chapters on extending the shelf-life of dairy products through such techniques as high pressure processing, the

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production of powdered dairy products and the use of carbon dioxide. There is also a chapter on developments in separation techniques to maximise returns by producing a wide range of dairy ingredients. The final part of the book considers key developments in improving flavour and other qualities in cheese manufacture.

The quality of dairy products, e.g. taste, texture, health and safety, as perceived by the consumer should be the prime and ultimate driver for the dairy industry. The new developments described in this book will certainly add to their achievement.