The promotion of a high level of food safety and quality is of major importance world-wide. Aspects of food quality such as genetically modified organisms (GMOs), food allergens and food authentication have become increasingly important while food-borne diseases caused by bacteria, viruses and parasites continue to be a significant problem. The application of real-time PCR is one of the most promising advances in food safety and quality providing rapid, reliable and quantitative results. In recent years real-time PCR has become a valuable alternative to traditional detection methods in the agricultural and food industries. The advantages of quantitative real-time PCR include speed, an excellent detection limit, selectivity, specificity, sensitivity and the potential for automation.

Written by experts in the field, this book is an indispensable manual for scientists in the food industry. The first section, *Real-Time PCR Basics*, provides an introduction to real-time PCR, discusses the use of PCR diagnostics in food science, describes the principles and methods of sample preparation, and covers the verification and control of PCR procedures. The eleven chapters in the second section, *Food Microbiology*, cover the use of real-time PCR to detect various pathogens including *Salmonella*, *Listeria*, *E. coli*, *Campylobacter*, *Yersinia*, *Staphylococcus*, *Clostridium*, viruses and parasites. Also included is a chapter on the standardisation of real-time PCR methods in food microbiology. The final section, *Food Quality*, covers the use of real-time PCR for the analysis of GMOs, food allergens and for the identification of animal or plant species.

An invaluable book for anyone involved in food science or the detection of foodborne pathogens and a recommended volume for all microbiology laboratories.

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