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Descrizione fisica	1 online resource (300 p.)
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	High-Throughput Analysis for Food Safety; Contents; Preface; Contributors; Chapter 1: Introduction: Basic Principles of Assays to be Covered, Sample Handling, and Sample Processing; 1.1 Introduction; 1.1.1 Current Situation and Challenges of Food Safety and Regulations; 1.1.2 Residues and Matrices of Food Analysis and High-Throughput Analysis; 1.1.3 Food Safety Classifications; 1.1.4 "High Throughput" Definition; 1.1.5 Scope of the Book; 1.2 Advanced Sample Preparation Techniques; 1.2.1 Automation of Weighing and Preparing Standard Solutions; 1.2.2 QuEChERS 1.2.3 Swedish Extraction Technique (SweEt) and Other Fast Sample Preparation Methods 1.2.4 Turbulent Flow Chromatography; 1.2.5 Pressurized Liquid Extraction; 1.2.6 Automated 96- and 384-Well Formatted Sample Preparation as well as Automated SPE Workstations; 1.2.7 Solid-Phase Microextraction; 1.2.8 Microextraction by Packed Sorbent; 1.2.9 Liquid Extraction Surface Analysis; 1.2.10 Headspace GC; 1.2.11 Summary; 1.3 Future Perspectives; Acknowledgment;

References; Chapter 2: Survey of Mass Spectrometry-Based High-Throughput Methods in Food Analysis; 2.1 Introduction
2.2 Techniques Employing Chromatographic Separation 2.2.1 Gas Chromatography-Mass Spectrometry; 2.2.2 Liquid Chromatography-Mass Spectrometry; 2.3 Direct Techniques; 2.3.1 Matrix-Assisted Laser Desorption/ Ionization-Mass Spectrometry; 2.3.2 Headspace (Solid-Phase Microextraction)- Mass Spectrometry E-Nose; 2.3.3 Ambient Desorption/Ionization-Mass Spectrometry; 2.4 Concluding Remarks; Acknowledgments; References; Chapter 3: Quality Systems, Quality Control Guidelines and Standards, Method Validation, and Ongoing Analytical Quality Control; 3.1 Introduction; 3.1.1 Quality System Design
3.1.2 Procedures 3.1.3 Roles and Responsibilities; 3.1.4 Quality Manual; 3.1.5 Document Control; 3.1.6 Control of Records; 3.1.7 Audits; 3.1.8 Validation of Methodology; 3.1.9 Staff Competency; 3.1.10 Internal Quality Control; 3.1.11 Method Performance Criteria; 3.2 Qualitative Screening Methods; 3.2.1 Selectivity of Mass Spectrometry-Based Methods; 3.2.2 Confirmatory Methods; 3.2.3 Validation of Qualitative Screening Multiresidue Methods for Pesticide Residues in Foods; 3.3 Elements of the Analytical Workflow; 3.3.1 Sample Preparation; 3.3.2 Effects of Sample Processing
3.3.3 Extraction Efficiency 3.4 Initial Method Validation; 3.5 Ongoing Analytical Quality Control; 3.5.1 Internal Quality Control; 3.5.2 Proficiency Testing; 3.6 Validation of Qualitative Screening Multiresidue Methods for Veterinary Drug Residues in Foods; 3.6.1 EU Legislation Covering Method Validation for Veterinary Drug Screening; 3.6.2 Determination of Specificity/Selectivity and Detection Capability (CC β) Using the Classical Approach; 3.6.3 Establishment of a Cutoff Level and Calculation of CC; 3.6.4 Determination of the Applicability; 3.7 Conclusions; References
Chapter 4: Deliberate Chemical Contamination and Processing Contamination

Sommario/riassunto

This book focuses on high-throughput analyses for food safety. Because of the contributors domestic and international expertise from industry and government the book appeals to a wider audience. It includes the latest development in rapid screening, with a particular emphasis on the growing use and applicability of a variety of stand-alone mass spectrometry methods as well as using mass spectrometry in hyphenated techniques such as gas chromatograph mass spectrometry (GC-MS) and liquid chromatography mass spectrometry (LC-MS). Readers will be educated to the field of food safety and rapid test
