Immunoassays In Food And Agriculture

Immunoassays in Agricultural BiotechnologyIrish Journal of Agricultural and Food ResearchILRAD Highlights 1986, 19876, 1988, 1989, 1990, 1991, 1992, 1993Index of Conference ProceedingsImmunoassays for Veterinary and Food AnalysisJournal of the Association of Official Analytical ChemistsFood AnalysisBiosensors for Direct Monitoring of Environmental Pollutants in FieldRecombinant Microbes for Industrial and Agricultural ApplicationsProgress in Food Contaminant AnalysisFood Toxicants AnalysisBibliography of AgricultureNew Diagnostics in Crop SciencesResidue Analysis in FoodAnalytical Methods for Pesticides, Plant Growth Regulators, and Food Additives: Advanced analytical techniquesImmunoassays in Food and AgricultureFood Contaminants and Residue AnalysisFood Identity Preservation and TraceabilityFood and Agricultural SecurityEnzyme ImmunoassaysEncyclopedia of Food MicrobiologyImmunoassays for Trace Chemical AnalysisBibliography of Agriculture Annual Cumulative IndexesAdvances in Stored Product ProtectionSpoilage and Mycotoxins of Cereals and Other Stored ProductsImmunoassaysAgriculture, Food Chemistry and the Consumer: The consumer and food, analytical food chemistry and agricultural production, biotechnology and bioassaysBibliography of Agriculture with Subject IndexBioaffinity ChromatographyFood ImmunoassayImmunology in Plant Health and Its Impact on Food SafetyEncyclopaedia of Food Science, Food Technology, and Nutrition: Fumigants-MalnutritionOpportunities and Threats From Nanotechnology in Health, Food, Agriculture and the EnvironmentApplied Biotechnology to Agriculture, Foods, Pharmaceuticals and BiomedicineNovel Biotechniques & Processes for the Food IndustryDiagnostics in the Year 2000FungiMicrobiological Control for Foods and Agricultural ProductsImmunoassay and Other Bioanalytical TechniquesAtlas of Human Infectious Diseases

Immunoassays in Agricultural Biotechnology

An overview of the development and application of diagnostic methods in crop sciences; Varietal identification of crop plants; Monoclonal antibody technology; Antibody probes in cereal breeding for quality and disease resistance; The interface between RFLP techniques, DNA amplification and plant breeding; Nucleic acid techniques in testing for seedborne diseases; Fungal immunodiagnostics in plant agriculture; Antibody approaches to plant viral diagnosis; Nucleic-acid-based approaches to plant virus and virosis diagnostics; Monitoring safety of plant foods: immunodiagnostics for mycotoxins and other bioactives compounds; Diagnostics for plant agrochemical: a meeting of chemistry and immunoassay; Measurement of polysaccharide-degradins enzymes in plants using chromogenic and colorimetric substrates; Iozyme variation and analysis in agriculturally important plants; The use of carbon isotope discrimination analysis plant improvement.

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Index of Conference Proceedings

Immunoassays for Veterinary and Food Analysis

This book systematically covers immunoassays for food, presenting detailed approaches such as antigen design, food matrix pre-treatment and detection format optimization for 9 classes of food hazards and nutrition constituents. Offering ideas on how to improve the efficiency of recognized xenobiotics and food contents, this practical book also describes the discovery and utilization of novel immune agents like aptamer and molecular imprinted polymers in food analysis. It is intended for a broad range of areas, including biologists and food chemists, and is sure to become a key reference resource for students and professionals alike.

Journal of the Association of Official Analytical Chemists

A Practical Roadmap to IPT Integration From baby formula and peanut butter, to E. coli-tainted peppers and salmonella-tainted pistachios, no food product or means of its production is immune to risks. And while these risks may never be fully eliminated, identity preservation and traceability (IPT) systems make it easier to determine the source and extent of contamination, thereby reducing the often deadly consequences. With a core emphasis on grain, this encyclopedic reference documents the state-of-the-science throughout the entire food chain in both domestic and international markets as it relates to food safety and economics. The book provides a cohesive introduction to IPT systems and summarizes the programs currently available, in effect developing a conceptual model of IPT at the producer level. Addresses the History, Theory, and Design Components Beginning with an informative history of IPT, the book continues with examples of IPT programs and standards of official seed organizations. It then provides a sampling of government, industry, and company approaches toward IPT systems throughout the past two decades. For ease of use as a reference, most chapters begin with a brief description of the essentials necessary to understand the chapter’s contents allowing readers to jump right in, rather than having to read chapters in sequential order. Providing an in-depth understanding of the complexity of IPT systems, the rules they function under, and how they are shaped and modified, this valuable resource effectively demonstrates why IPT is a critical practice for food safety.

Food Analysis

Includes the Proceedings of the 30th-57th (1913-40) annual convention of the association. Earlier proceedings were issued as Bulletins of the U.S. Dept. of Agriculture, Bureau of Chemistry.

Biosensors for Direct Monitoring of Environmental Pollutants in Field

'Analysis of Food Contaminants' was published in 1984 by Elsevier Applied Science Publishers and 10 years later I was asked to consider producing an updated second edition. Surprisingly little has really changed in a decade in terms of the public

interest in food safety and the continued vigilance of Government in monitoring the food supply for contaminants. This means that food contamination in itself is still a very relevant topic. However, much has changed in terms of the techniques now employed in trace analysis. The 1984 book used a combination of an analytical technique and a specific food contaminant problem area per chapter (each written by a specialist) which resulted in a multi-authored text which was mostly application based but provided a good introduction to the 'how' in terms of applying techniques to real problems. Rather than producing a second edition of this text, it seemed on reflection more sensible to produce a new and complementary book, using the same formula as before of application plus technique, but to concentrate on contaminant areas of current interest and to highlight recent advances in techniques. Thus, the present book 'Progress in Food Contaminant Analysis' has originated as a follow-up to 'Analysis of Food Contaminants'.

Recombinant Microbes for Industrial and Agricultural Applications

A very broad range of professionals are using immunoassay technology daily to analyze genetically engineered (GE) crops and related areas, and many of these professionals are completely new to this technology. There is a great need for users to have a book containing technical and practical guidance, and describing limitations and pitfalls of applying immunoassay in agricultural biotechnology. This book focuses on the application of immunoassays to GE plants and related areas. A group of international experts from government agencies, academics and industries, who have many years of related experience, contribute high quality chapters in their areas of expertise. This book covers topics including principles of immunoassay, antibody engineering in AgBiotech, current technologies (formats, kit development, manufacturing and quality control), method validation, applications in trait discovery and product development, applications in grain products and food processing, applications in environmental monitoring, automation and high throughput, reference materials, data interpretation and source of error, and future perspectives and challenges. In addition, to meet the practical needs for a variety of readers from different backgrounds, methods and protocols are included as well.

Progress in Food Contaminant Analysis

Food Toxicants Analysis

The past decade has seen the growth of analytic methodologies based on antibody and DNA probe technologies. In fact, these two technologies have revolutionized the whole field of human, veterinary, and agriculture diagnostics. The emphasis has been to develop tests that are fast, reliable, and user-friendly, and that can be performed on site by attending individuals or patients. The tests should also be amenable to automation for high throughput for use in commercial and hospital laboratories. The mushroomed growth of such diagnostics has created a niche for a book that can bring together the perspective of the upcoming technologies that

are otherwise in their infancy. The intent of this book is to present readers with these state-of-the-art futuristic methods, which will be the hallmark of diagnostics in the twenty-first century. These new technologies have lain the foundation for a plethora of new diagnostic companies whose products are still not fully accepted because of practical challenges and the newness of their ideas. The chapters in this book have been written by world-renowned authorities in their fields of expertise. All aspects of diagnostics are covered: clinical, agricul ture, veterinary, and environmental. State-of-the-art immunodiagnostic methods such as nephelometric immunoassay, time-resolved fluoroimmunoassay, and threshold immunoassay are discussed. Chapters on DNA-probe-based diagnostics and PCR technology are also included, since they are finding their ways rapidly because of their specificity and ease of probe production. A chapter on biosensors discusses the latest development on this topic and its possible potential in modem-day diagnostics.

Bibliography of Agriculture

New Diagnostics in Crop Sciences

Residue Analysis in Food

The Atlas of Human Infectious Diseases provides a much needed practical and visual overview of the current distribution and determinants of major infectious diseases of humans. The comprehensive full-color maps show at a glance the areas with reported infections and outbreaks, and are accompanied by a concise summary of key information on the infectious agent and its clinical and epidemiological characteristics. Since infectious diseases are dynamic, the maps are presented in the context of a changing world, and how these changes are influencing the geographical distribution on human infections. This unique atlas: Contains more than 145 high quality full-color maps covering all major human infectious diseases Provides key information on the illustrated infectious diseases Has been compiled and reviewed by an editorial board of infectious disease experts from around the world The result is a concise atlas with a consistent format throughout, where material essential for understanding the global spatial distribution of infectious diseases has been thoughtfully assembled by international experts. Atlas of Human Infectious Diseases is an essential tool for infectious disease specialists, medical microbiologists, virologists, travel medicine specialists, and public health professionals. The Atlas of Human Infectious Diseases is accompanied by a FREE enhanced Wiley Desktop Edition - an interactive digital version of the book with downloadable images and text, highlighting and note-taking facilities, book-marking, cross-referencing, in-text searching, and linking to references and glossary terms.

Analytical Methods for Pesticides, Plant Growth Regulators, and Food Additives: Advanced analytical techniques

Ubiquitous in nature, fungi have, for centuries, provided us with a variety of useful

products from cheese to alcoholic beverages, organic acids, pigments, enzymes, food and lately antibiotics and small molecular weight compounds with a variety of pharmacological applications. Highlighting the crucial role fungi play in many ecological processes, Fungi: Multifaceted Microbes explores a wide range of topics in fungal biochemistry and biotechnology. The book's sweeping coverage explores the wide range of features that give fungi their multifaceted properties. Topics explored include fungal biochemistry and biotechnology and targets for drug discovery, classical and molecular taxonomy, evolutionary aspects, secondary metabolites from marine resources, applications as mycoinsecticides and immunodiagnostics, to name just a few. The book also contains a chapter on the emerging area of fungi in nanoparticle synthesis. Given the enormous scope and dimensions of this subject, it is difficult for any single book to address every aspect of fungal biochemistry and biotechnology. The editors, each an expert in his own right, draw on articles from as wide a spectrum of international scientists as possible to provide a highly authoritative survey of the literature.

Immunoassays in Food and Agriculture

Food Contaminants and Residue Analysis

"The Encyclopedia of Food Microbiology covers all areas of microbiology as it relates to food and food preparation."--Database information screen.

Food Identity Preservation and Traceability

Food and Agricultural Security

This unique reference provides a pragmatic approach to the development of successful commercial immunodiagnostic products based on enzyme immunoessay technology. Presenting both the basic and applied principles, Enzyme Immunoassays gathers information on all aspects of this process, from the initial conceptualization to the introduction of the product to the market.

Enzyme Immunoassays

Biosensors offer clear and distinct advantages over standard analytical methods for the direct monitoring of environmental pollutants in the field, such as real-time detection with minimum sample preparation and handling. The present book highlights recent advantages that will be of great value to a range of scientists, researchers and students dealing with analytical and environmental chemistry and biosensor technology. It presents recent trends in analytical methodology for the determination of indoor and outdoor pollutants, advances in DNA, biological and recognition-based sensors, examples of biosensors for use in field and water analysis, biosensors based on non-aqueous systems, and recent advances in the miniaturisation and micromachining of biosensors.

Encyclopedia of Food Microbiology

Residue analysis in food is an essential science in terms of the number of laboratories and analysts involved worldwide and the range of analytical techniques available. This text uniquely combines the principles and applications of the various techniques employed in residue analysis, so as to provide the reader with a thorough understanding and practical demonstration of the science of residue analysis in food. The various techniques employed in residue analysis are described in detail in this book. Each chapter deals with the principles underlying the techniques and illustrates practical applications of the technique through examples from the scientific literature. Written by established scientists working in the areas of technique development and application to residue analysis, the text describes the sequence of the analytical procedure, from sample treatment through to residue determination. Of interest to all scientists in the field of residue analysis and food safety, this text is an essential reference for practising residue analysts and researchers.

Immunoassays for Trace Chemical Analysis

The concept behind this book is to provide a detailed and practical overview of the development and use of immunoassays in many different areas. Immunoassays are analytical tests that utilise antibodies to measure the amount, activity or identity of an analyte. This book is designed to provide a critical and helpful insight into the subject and to give the user practical information that may be of assistance in assay format selection, antibody generation/selection and choice of appropriate detection strategies. It is comprised of 13 chapters written by highly experienced researchers in the fields of antibody-based research, immunoassay development, assay validation, diagnostics and microfluidics. Beginning with a comprehensive survey of antibodies, immunoassay formats and signalling systems, the book elucidates key topics related to the development of an ideal antibody-based sensor, focuses on the important topic of surface modification, explores key parameters in the immobilisation of antibodies onto solid surfaces, discusses the move to ‘lab-on-a-chip’-based devices and investigates the key parameters necessary for their development. Three of the chapters are dedicated to the areas of clinical diagnostics, infectious disease monitoring and food security, where immunoassay-based applications have become highly valuable tools. The future of immunoassays, including next-generation immunoassays, electrochemical-immunoassays and ‘lab-on-a-chip’-based systems, is also discussed. The book also covers the use of optical detection systems (with a focus on surface plasmon resonance) in immunoassays, provides a compilation of important, routinely used immunoassay protocols and addresses problems that may be encountered during assay development.

Bibliography of Agriculture Annual Cumulative Indexes

Taking an interdisciplinary approach that emphasizes the adaptability of immunochemical and related bioanalytical methods to a variety of matrices, Immunoassay and Other Bioanalytical Techniques describes the strength and the versatility of these methods in a wide range of environmental and biological measurement applications. With contribut

Advances in Stored Product Protection

Bridging the gap between laboratory observations and industrial practices, this work presents detailed information on recombinant micro-organisms and their applications in industry and agriculture. All recombinant microbes, bacteria, yeasts and fungi are covered.

Spoilage and Mycotoxins of Cereals and Other Stored Products

Immunoassays

Agriculture, Food Chemistry and the Consumer: The consumer and food, analytical food chemistry and agricultural production, biotechnology and bioassays

Food Toxicants Analysis covers different aspects from the field of analytical food toxicology including emerging analytical techniques and applications to detect food allergens, genetically modified organisms, and novel ingredients (including those of functional foods). Focus will be on natural toxins in food plants and animals, cancer modulating substances, microbial toxins in foods (algal, fungal, and bacterial) and all groups of contaminants (i.e., pesticides), persistent organic pollutants, metals, packaging materials, hormones and animal drug residues. The first section describes the current status of the regulatory framework, including the key principles of the EU food law, food safety, and the main mechanisms of enforcement. The second section addresses validation and quality assurance in food toxicants analysis and comprises a general discussion on the use of risk analysis in establishing priorities, the selection and quality control of available analytical techniques. The third section addresses new issues in food toxicant analysis including food allergens and genetically modified organisms (GMOs). The fourth section covers the analysis of organic food toxicants. * step-by-step guide to the use of food analysis techniques * eighteen chapters covering emerging fields in food toxicants analysis * assesses the latest techniques in the field of inorganic analysis

Bibliography of Agriculture with Subject Index

This book provides information on the techniques needed to analyze foods in laboratory experiments. All topics covered include information on the basic principles, procedures, advantages, limitations, and applications. This book is ideal for undergraduate courses in food analysis and is also an invaluable reference to professionals in the food industry. General information is provided on regulations, standards, labeling, sampling and data handling as background for chapters on specific methods to determine the chemical composition and characteristics of foods. Large, expanded sections on spectroscopy and chromatography are also included. Other methods and instrumentation such as thermal analysis, selective electrodes, enzymes, and immunoassays are covered from the perspective of their use in the chemical analysis of foods. A helpful Instructor's Manual is available to

adopting professors.

Bioaffinity Chromatography

Food Immunoassay

Immunology in Plant Health and Its Impact on Food Safety

Encyclopaedia of Food Science, Food Technology, and Nutrition: Fumigants-Malnutrition

Food Contaminants and Residue Analysis treats different aspects of the analysis of contaminants and residues in food and highlights some current concerns facing this field. The content is initiated by an overview on food safety, the objectives and importance of determining contaminants and residues in food, and the problems and challenges associated to these analyses. This is followed by full details of relevant EU and USA regulations. Topics, such as conventional chromatographic methods, accommodating cleanup, and preparing substances for further instrumental analysis, are encompassed with new analytical techniques that have been developed, significantly, over the past few years, like solid phase microextraction, liquid chromatography-mass spectrometry, immunoassays, and biosensors. A wide range of toxic contaminants and residues, from pesticides to mycotoxins or dioxins are examined, including polychlorinated biphenyls, polycyclic aromatic hydrocarbons, N-nitrosamines, heterocyclic amines, acrylamide, semicarbazide, phthalates and food packing migrating substances. This book can be a practical resource that offers ideas on how to choose the most effective techniques for determining these compounds as well as on how to solve problems or to provide relevant information. Logically structured and with numerous examples, Food Contaminants and Residue Analysis will be valuable a reference and training guide for postgraduate students, as well as a practical tool for a wide range of experts: biologists, biochemists, microbiologists, food chemists, toxicologists, chemists, agronomists, hygienists, and everybody who needs to use the analytical techniques for evaluating food safety.

Opportunities and Threats From Nanotechnology in Health, Food, Agriculture and the Environment

Applied Biotechnology to Agriculture, Foods, Pharmaceuticals and Biomedicine

Novel Biotechniques & Processes for the Food Industry

Find out more about convenient immunoassays you can implement in your own

research! From the Foreword, by M. S. Swaminathan, Chairman of the M. S. Swaminathan Research Foundation: “The book provides remedies to the common maladies relating to quality and safety of dietary material. Professor Narayanasamy has compiled and presented with great clarity the latest information on all aspects relating to immunology in plant health and food safety. We owe Professor Narayanasamy a deep debt of gratitude for this labor of love in the cause of improving food and feed quality and safety.” Immunology in Plant Health and Its Impact on Food Safety suggests cost-effective, simple, and sensitive immunological techniques to assess plant health and food safety for the production of desirable foods, feeds, and timbers. This book explores the structure and biochemical constituents of healthy plants and the abiotic and biotic stresses that can cause a marked reduction in quantity and quality of agricultural produce. Researchers, faculty members, and graduate scholars in plant pathology, microbiology, biochemistry, environmental sciences, and food technology will find this text useful for producing healthy plants while maintaining a pollution-free environment. In Immunology in Plant Health and Its Impact on Food Safety, methods to develop stress-resistant cultivars are discussed to enable you to select the most suitable strategies for maintaining production and quality without the use of chemicals. This valuable resource provides detailed instructions for employing immunoassays that are rapid, reproducible, and amenable for large-scale application in place of cumbersome and expensive methods currently in use. With this important tool, you will be able to plan and develop programs to obtain agricultural produce of high quality acceptable for human and animal consumption. With Immunology in Plant Health and Its Impact on Food Safety, you’ll learn more about: agrosystems immunological reactions preparations of antisera immunodetection techniques plant-stress interactions genetic manipulations disease resistance and the production of disease-free plants mycotoxins chemical residues This essential guide provides you with access to a wide spectrum of information never before encompassed in a single book, saving you time and energy. Figures, photographs, and tables with appropriate data supply visual and factual support for the points discussed in the text. Immunology in Plant Health and Its Impact on Food Safety includes a large number of citations (over 1000) for further research and development in your chosen field of study.

Diagnostics in the Year 2000

Bioaffinity chromatography is now the preferred choice for the purification, determination or removal of many biologically active substances. The book includes information on biologically active substances with their affinants, solid supports and methods of coupling, summarized in tables covering classical, high-performance liquid and large-scale bioaffinity chromatography. Optimization of the preparation and the use of highly active and stable biospecific adsorbents is discussed in several chapters. Following a chapter dealing with the choice of affinity ligands, affinity-sorbent bonding is described in detail. Other chapters give information on solid supports, the most common coupling procedures and a general discussion of sorption and elution. Several applications of bioaffinity chromatography are described, e.g. quantitative evaluation of biospecific complexes and many applications in medicine and in the biotechnology industry.

Fungi

This work presents the proceedings of the 8th international Working conference on Stored Product Protection, held in York in July 2002. With contributions from leading experts from around the world, the volume will interest applied entomologists and plant pathologists concerned with the safe storage of durable foodstuffs, particularly cereal grains, pulses, and oilseeds.

Microbiological Control for Foods and Agricultural Products

Immunoassay and Other Bioanalytical Techniques

Washington, D.C. : American Chemical Society, 1991.

Atlas of Human Infectious Diseases