1. Record Nr. UNINA9910137712303321

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Titolo Pesticides in the modern world: trends in pesticides analysis / / edited

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Pubbl/distr/stampa IntechOpen, 2011

Rijeka, Croatia:,:InTech,,[2011]

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ISBN 953-51-5154-1

Edizione [1st ed.]

Descrizione fisica 1 online resource (528 pages)

Disciplina 632.9

Soggetti Pests - Control

Lingua di pubblicazione Inglese

Formato Materiale a stampa

Livello bibliografico Monografia

Sommario/riassunto

The book offers a professional look on the recent achievements and emerging trends in pesticides analysis, including pesticides identification and characterization. The 20 chapters are organized in three sections. The first book section addresses issues associated with pesticides classification, pesticides properties and environmental risks, and pesticides safe management, and provides a general overview on the advanced chromatographic and sensors- and biosensors-based methods for pesticides determination. The second book section is specially devoted to the chromatographic pesticides quantification, including sample preparation. The basic principles of the modern extraction techniques, such as: accelerated solvent extraction, supercritical fluid extraction, microwave assisted extraction, solid phase extraction, solid phase microextraction, matrix solid phase dispersion extraction, cloud point extraction, and QuEChERS are comprehensively described and critically evaluated. The third book section describes some alternative analytical approaches to the conventional methods of pesticides determination. These include voltammetric techniques making use of electrochemical sensors and biosensors, and solid-phase spectrometry combined with flowinjection analysis applying flow-based optosensors.