1. Record Nr. UNISA996198802103316

Autore	Richter O (Otto)
Titolo	Environmental fate modelling of pesticides [[electronic resource]] : from the laboratory to the field scale / / O. Richter, B. Diekkruger, P. Nortersheuser
Pubbl/distr/stampa	Weinheim ; ; New York, : VCH, c1996
ISBN	1-281-75847-7 9786611758479 3-527-61479-6 3-527-61478-8
Descrizione fisica	1 online resource (296 p.)
Altri autori (Persone)	DiekkrugerB (Bernd) NortersheuserP (Peter)
Disciplina	363.7396 577.279
Soggetti	Pesticides - Environmental aspects - Mathematical models Dynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. [267]-275) and index.
Nota di contenuto	Environmental Fate Modelling of Pesticides; Contents; 1 Introduction; 2 Mathematical Preliminaries; 2.1 Ordinary Differential Equations; 2.2 Partial Differential Equations; 2.3 Geostatistics; 3 Kinetics; 3.1 Linear Models; 3.1.1 The Compartment Concept; 3.1.2 Simple Linear Systems; 3.1.3 Solution by Matrix Methods; 3.1.4 Solution by Laplace Transformation; 3.2 Nonlinear Models; 3.2.1 The Limits of Linear Models; 3.2.2 Nonlinear Kinetics due to Adsorption; 3.2.2.1 Equilibrium Approach; 3.2.2.2 Kinetic Approach; 3.2.3 Nonlinearities due to Spatial Heterogeneity 3.2.4 Nonlinearities Encountered in Biological Degradation3.2.4.1 Capacity Limited Degradation; 3.2.4.2 Substrate Inhibition; 3.2.4.3 Population Dynamic Effects; 3.2.4.4 Long Term Persistence of Activity; 3.2.4.5 Stochastic Approach for Activity Life Times; 3.2.4.6 Shift of Population Composition; 3.2.4.7 Interactions; 3.3 Kinetics of Dose-Response; 3.3.1 Linking Concentration and Effect; 3.3.2 Mathematical Form of Dose-Response-Curves; 3.3.3 Time Courses of the Response;

Sommario/riassunto

This book is concerned with modelling the fate of organic substances in the soil. Once a chemical enters the soil it is subject to various transformation processes. It partitions between the liquid, solid and gaseous phase, it is sorbed to different binding sites with a different strength of bonding, it may decay by a simple chemical process or it may be transformed by microorganisms. Solute transport through soil and subsurface is mediated by water flow and is strongly influenced by solute sorption. To complicate matters, soil structures are heterogeneous. All these processes are embedded in