to achieve equilibrated structures. Minimization calculations are constrained to fit known secondary structures determined by the spectroscopic techniques listed above. Twenty-four beautiful color plates of computer generated molecular images also grace the book. Other modeling formalisms include topics in discrete systems approaches such as petri nets to model biological pathways and integration of biochemistry molecular models to modeling biological organisms.

Although the examples in the book are directed toward proteins and related biomacromolecules, the approaches used are of direct interest to researchers in the environmental sciences. The challenge of environmental cleanup is learning the information necessary to develop both environmentally sound, yet cost effective, redemption strategies and realistic environmental risk assessment. Chemical speciation of a contaminant in the environment controls its mobility, bioavailability, and ultimately its toxicity to organisms, including humans. Transport models for environmental contaminants have continually failed because of an incomplete understanding of the physicochemical controls regulating the chemical speciation of both inorganic and organic contaminants. The techniques discussed within this book are applicable to these concerns at the interface of structure determining function and speciation of contaminants and the mechanisms controlling their interactions with critical abiotic and biotic compartments in the environment. —DOUGLAS B. HUNTER, Advanced Analytical Center for Environmental Sciences, University of Georgia, Drawer E, Aiken, SC 29802 (hunter@srel.edu).

Transformation of Plants and Soil Microorganisms


Transformation technology for microorganisms and plants has progressed rapidly over the past decade. Advances in the areas of molecular biology and gene introduction along with an increase in our understanding of the response of cells and tissues to manipulation are responsible for this progress. The development of this technology has been fueled by the huge potential of the application of genetic engineering known as biotechnology.

This hardcover book covers various aspects of transformation of microorganisms and plants. The book is divided into three parts; the first part covers transformation of microorganisms; the second part covers cereal crops; and the third part addresses transformation of (other) important crops. The microorganism transformation part of this book is straightforward and thorough and describes conjugal transfer, electroporation, and particle bombardment (for filamentous fungi). The section on cereal transformation includes a very well-written and comprehensive presentation on maize transformation along with an outdated and biased view on rice transformation. In the last part on transformation of industrially important crops, the chapter on transformation of leguminous plants includes a great deal of useful information on the various transformation methods as well as the use of these methods on a large number of leguminous plants. The inclusion of a “Recent Developments” section by some of the authors at the end of the chapters has allowed the presentation of new information where most of the references in this book are from 1992 and earlier.

For those working or considering working in the area of transformation of plants and soil microorganisms and those who are simply interested in this field, this book will be an invaluable reference. This book contains a unique collection of transformation information that is simply not accessible elsewhere. —J.J. FINER, Horticulture and Crop Science Department, OARDC/The Ohio State University, Wooster, OH 44691 (finer.1@osu.edu).

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ERRATA

Soil Depth and Temperature Effects on Microbial Degradation of 2,4-D


The above paper appeared by mistake in the Reviews and Analyses section of the journal. It should have appeared as a Technical Report under the subject heading "Organic Chemicals in the Environment." We apologize to the authors and readers for any inconvenience this may have caused.