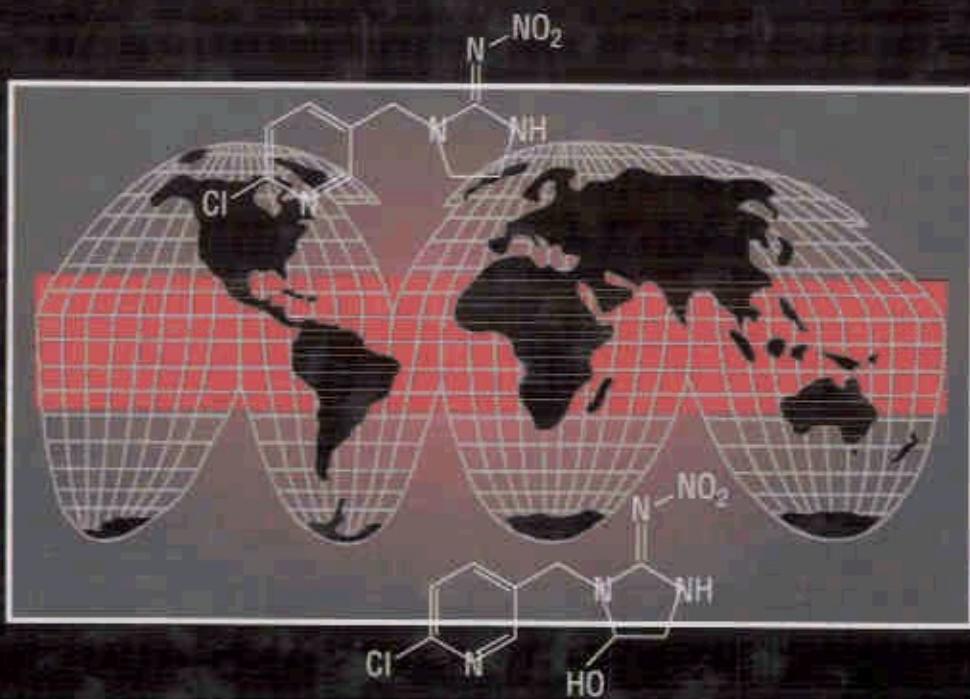


ACS SYMPOSIUM SERIES 853

# Environmental Fate and Effects of Pesticides



EDITED BY

**Joel R. Coats and Hiroki Yamamoto**

# Contents

Preface .....	xi
<b>1. The Lysimeter Concept: A Comprehensive Approach to Study the Environmental Behaviour of Pesticides in Agroecosystems .....</b>	<b>1</b>
F. Führ, P. Burauel, W. Mittelstaedt, T. Pütz, and U. Wanner	
<b>2. Improved Enzyme-Linked Immunosorbent Assay for the Insecticide Imidacloprid .....</b>	<b>30</b>
Hee Joo Kim, Shangzhong Liu, Young Soo Keum, Eul Chul Hwang, and Qing X. Li	
<b>3. Fate of the Insecticide Imidacloprid Treated to the Rice-Grown Lysimeters during Three Consecutive Cultivation Years .....</b>	<b>46</b>
J. K. Lee, F. Führ, K. C. Ahn, J. W. Kwon, J. H. Park, and K. S. Kyung	
<b>4. Metabolism of Ethaboxam in Soil .....</b>	<b>65</b>
Jeong-Han Kim, Yong-Sang Lee, Young-Soo Keum, Min-Kyun Kim, Seung-Hun Kang, and Dal Soo Kim	
<b>5. Environmental Fate: Development of an Indoor Model Test for Runoff .....</b>	<b>79</b>
Yoshiyuki Takahashi	
<b>6. What Do We Know about the Fate of Pesticides in Tropical Ecosystems? .....</b>	<b>96</b>
Kenneth D. Racke	

7. Simple Determination of Herbicides in Rice Paddy Water by Immunoassay .....	124
Shiro Miyake, Yasuo Ishii, Yuki Yamaguchi, Katsuya Ohde, Minoru Motoki, Mitsuyasu Kawata, Shigekazu Ito, Yojiro Yuasa, and Hideo Ohkawa	
8. Translocation and Metabolism of Pesticides in Rice Plants after Nursery Box Application .....	139
Shin Kuroguchi	
9. The Use of Native Prairie Grasses to Degrade Atrazine and Metolachlor in Soil .....	157
Shaohan Zhao, Ellen L. Arthur, and Joel R. Coats	
10. Persistence, Mobility, and Bioavailability of Pendimethalin and Trifluralin in Soil .....	167
J. B. Belden, T. A. Phillips, K. L. Henderson, B. W. Clark, M. J. Lydy, and J. R. Coats	
11. Evaluation and Effective Extraction Method of Paraquat Residue of Soil in Korea .....	178
Kyu Seung Lee and Jin Wook Kwon	
12. Air–Soil and Air–Water Exchange of Chiral Pesticides .....	196
Terry F. Bidleman, Andi D. Leone, Renee L. Falconer, Tom Harner, Liisa M. Jantunen, Karin Wiberg, Paul A. Helm, Miriam L. Diamond, and Binh Loo	
13. Distributional Risk Assessment for Agrochemicals: Triazine Herbicides .....	227
Keith R. Solomon	
14. Deposition of Pesticides in Riparian Buffer Zones Following Aerial Applications to Christmas Tree Plantations .....	241
Allan S. Felsot, Steve L. Foss, and Jianbo Yu	
15. Pesticide Use and World Food Production: Risks and Benefits .....	261
Gerald R. Stephenson	

- 16. Probabilistic Assessment of Pesticide Risks to Birds ..... 271**  
Andy Hart

## **Indexes**

- Author Index ..... 289**  
**Subject Index ..... 291**