

Contents

	Page
PREFACE	vii
PROGRAMME COMMITTEE	viii
ABBREVIATIONS	ix
1. INTRODUCTION	1
Interpretation of environmental fate and behaviour data for regulatory purposes T. E. TOOBY and P. K. MARSDEN	3
Using soil residue data to assess the environmental safety of pesticides D. RILEY	11
2. MICROBIAL ASPECTS OF PERSISTENCE	21
Enhanced degradation of pesticides: Its biochemical and molecular biological basis R. B. CAIN and I. M. HEAD	23
Enhanced biodegradation of soil insecticides in the USA – significance and management A. S. FELSOT	41
Isolation of a bacterial culture capable of degrading linuron S. J. ROBERTS, A. WALKER, M. J. WADDINGTON and S. J. WELCH	51
Some factors affecting the accelerated biodegradation of carbofuran in sugar beet cultivations of central Belgium L. PUSSEMIER	59
Degradation of fluazifop-butyl by soil microorganisms M. GENNARI, M. NEGRE, V. ANDREONI and R. AMBROSOLI	67
Effects of soil treatments with aldicarb, carbofuran and chlorfenvinphos on the size and composition of microbial biomass A. L. JONES, D. B. JOHNSON and D. L. SUETT	75
3. CHARACTERISATION AND CONSEQUENCES OF PERSISTENCE	83
The characterisation of herbicide persistence M. J. DUFFY	85
Soil properties affecting the carry-over of a herbicide J. HAZELDEN	93
The investigation of degradation and metabolism of clopyralid in two standard and three agricultural soils R. I. BALOCH and R. K. GRANT	101
Collaborative bioassays to monitor the behaviour of metsulfuron-methyl and metribuzin in the soil B. KRAUSKOPF, I. WETCHOLOWSKY, R. R. SCHMIDT, A. M. BLAIR, G. ANDERSON-TAYLOR, D. J. EAGLE, H. FRIEDLÄNDER, E. HACKER, W. IWANZIK, P. KUDSK, C. LABHART, B. M. LUSCOMBE, G. MADAFIGLIO, T. D. MARTIN, P. C. NEL, W. PESTEMER, A. RAHMAN, G. RETZLAFF, J. ROLA, H. O. SCHMIDT, L. STEFANOVIĆ, H. J. M. STRAATHOF, J. C. STREIBIG, E. P. THIES, S. B. WAKERLY and A. WALKER	109
Quantification and location of triasulfuron in the soil after three or four annual applications in the winter or spring P. J. RYAN, A. G. DU RIEU and D. W. CORNES	117

Effects of metsulfuron-methyl on following crops of sugar beet and potatoes M. E. UPSTONE	123
Concept, structure and validation of the expert system HERBASYS (Herbicide Advisory System) for selection of herbicides, prognosis of persistence and effects on succeeding crops B. GOTTESBÜREN, W. PESTEMER, K. WANG, M.-B. WISCHENOWSKY and J. ZHAO	129
4. MOVEMENT IN SOILS: METHODOLOGY	139
Experimental methods for measuring movement of pesticides in soil J. A. GUTH and J. MANI (NO WRITTEN SUBMISSION)	141
Methods of monitoring soil water regimes and the interpretation of data relevant to pesticide fate and behaviour A. D. CARTER	143
The use of lysimeters to study the behaviour of pesticides in the environment: Some practical considerations D. A. YON	151
Factors influencing rates of degradation of an arylamide in subsoils A. T. CAMPBELL, P. H. NICHOLLS and R. H. BROMILOW	155
5. MOVEMENT BEYOND THE ROOT ZONE	163
Mapping the vulnerability of aquifers and surface waters to pesticide contamination at the national/regional scale J. M. HOLLIS	165
The potential for atrazine degradation in aquifer sediments M. J. WOOD, J. HAROLD, A. JOHNSON and R. J. HANCE	175
The occurrence of synthetic pyrethroid and selected organochlorine pesticides in river sediments W. A. HOUSE, I. S. FARR, D. R. ORR and ZIQING OU	183
Pesticides in a chalk catchment: Inputs and aquatic residues G. G. FISHER, L. CLARK and P. M. RAMSAY	193
6. RESIDUES IN WATER: OCCURRENCE AND RISK	201
Pesticides in groundwater: Some preliminary observations on behaviour and transport S. S. D. FOSTER and P. J. CHILTON	203
Pesticide residues in water – imaginary threat or imminent disaster J. K. FAWELL	205
Pesticides in water – an environmentalist's perspective B. LEE-HARWOOD	209
7. POSTERS	211
Herbicide movement and persistence in soil: Comparison between experimental data and predictions of a mathematical model A. A. M. DEL RE, E. CAPRI, E. BERGEMASCHI and M. TREVISAN	213
Photochemical studies on pesticides A. PUSINO and C. GEZZA	221
Preliminary results of an experimental soil core microcosm as a flexible screening method N. MACKAY and W. B. BETTS	227