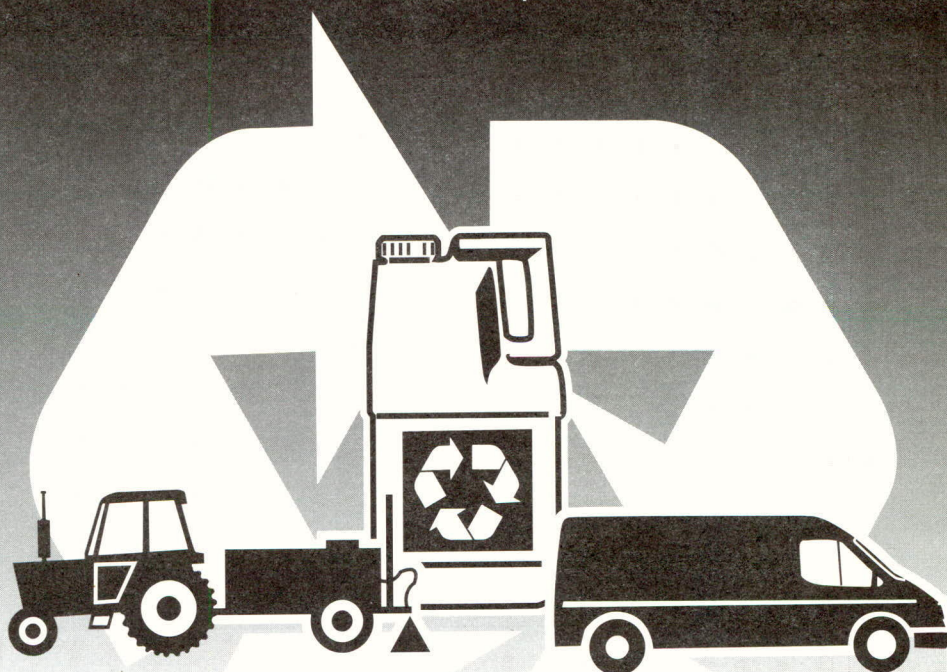


SYMPOSIUM PROCEEDINGS NO. 70

Managing Pesticide Waste and Packaging

Chaired by T H Robinson

Proceedings of a Symposium held at
The University of Kent, Canterbury, UK
30 March – 1 April 1998



BRITISH
CROP
PROTECTION
COUNCIL

CONTENTS

Page

Symposium Organising Committee	VIII
Exhibitors	IX
Abbreviations	X

SESSION 1

SETTING THE SCENE – THE CHANGING FORCES OF LEGISLATION, FARMING NEEDS, INDUSTRY INITIATIVES, MACHINERY AND PACKAGING DESIGN

Packaging waste management – a key issue for the UK agrochemical industry C J Hibbitt	3
Design guidelines, features and performance characteristics and development of current pesticide containers A J Gilbert.....	9
An overview of the development of crop sprayer design during the last decade M D Would.....	17
Crop protection product (CPP) container management – international experience and the manufacturers' strategy R K Smith	21

SESSION 2

GOOD FARM PRACTICE – PREVENTION AND MINIMISATION OF WASTE

The regulatory regime for managing pesticide and packaging waste J C Cooper	33
Good farm practice – prevention, minimisation and treatment of waste through adopting an integrated approach C J Drummond	41
Biobeds: the development and evaluation of a biological system for pesticide waste and washings P Fogg and A D Carter	49
Pesticide waste – practical prevention, minimisation and handling on the farm J R McB Allan.....	59

SESSION 3

ON AND OFF FARM DISPOSAL OF WASTE AND PACKAGING

Off-farm disposal – contaminated packaging and materials P T Jones.....	67
--	----

Effective container cleaning for crop protection products R K Smith	71
The safe disposal of clean agrochemical containers on farm – an interim report P E Goldsworthy and P Carter	85

SESSION 4

REDUCING PESTICIDE WASTE THROUGH IMPROVED MACHINERY DESIGN AND USE (I)

Proper cleaning of sprayers H Ganzelmeier	91
The performance of knapsack sprayers when judged by the British (BS7411) and proposed international standard E W Thornhill and W A Taylor	99
A preliminary investigation into the effectiveness of decontamination methods on the residues of amidosulfuron, used alone and in mixtures from polyethylene sprayer tanks M A Read and W A Taylor	107
The performance of agricultural chemical induction hoppers and their container rinsing systems J D Power and P C H Miller	113

SESSION 5

POSTER PRESENTATIONS

The characteristics of a test liquid formulation for use in evaluating the performance of handling and metering systems U R Antuniassi and P C H Miller	123
Pesticide waste water management in Champagne J Rochard and D Moncomble	129
Packaging innovation: the development of refillables and its impact on the agrochemical sector G Mills-Thomas, A Pigott, T Robinson and A Watt	137
Developing the Ecomatic system E Gussin	141
A survey of spray operators agrochemical container rinsing skills conducted in June 1997 S E Cooper and W A Taylor	145

SESSION 6

MANAGING RECOVERY OF PESTICIDE PACKAGING

Pesticide container recycling in Canada P D Cook.....	151
The idea of the Closed Substance Cycle and Waste Management Act and the implementation by the IVA – packaging disposal concept T Neck.....	159
Managing crop protection and animal health packaging waste in Australia D R McGuffog	167
Managing pesticide waste and packaging S A Hutton	179

SESSION 7

REDUCING PESTICIDE WASTE THROUGH IMPROVED MACHINERY DESIGN AND USE (II)

Validation of a decontamination method for arable crop sprayers following use with the sulphonyl urea herbicide – amidosulfuron W A Taylor and S E Cooper	189
A survey to determine the amount of unused product and disposal methods used in pesticide application P Balsari and G Airolidi.....	195
Some factors that may influence rate of accumulation and final quantity of pesticide deposits on external surfaces of arable crop sprayers S E Cooper and W A Taylor	203
Pesticide injection metering J Handbury.....	211

SESSION 8

THE DESIGN OF PACKAGING SYSTEMS TO REDUCE THE PROBLEM OF PACKAGING WASTE ON FARM

Water soluble packaging as an amenity packaging solution A B Davies, J C Hill, J Murphy, C Mitchell and D Agar	215
Aspects of modern agrochemical packaging D Dohnert	221