International Advances in Pesticide Application

9-11 January 2008

to be held at Robinson College, Cambridge, UK

PROGRAMME
(16 BASIS points have been awarded for this conference)

Wednesday 9 January 2008

08.45 - 09.20 Coffee and conference registration
09.25 Welcome from AAB Pesticide Application Group Convener
RICHARD GLASS

SESSION A: SPRAY DRIFT R&D (Chaired by Richard Glass and Philip Carpenter)

09.30 A two-year experimental study on airborne drift using active and passive sampling techniques
HEIN STALLINGA, H J HOLTERMAN, J M G P MICHEISEN & P VAN VELDE

09.45 Factors influencing the risk of spray drift from nozzles operating on a boom sprayer
PAUL C H MILLER, A G LANE, C M O’SULLIVAN, C R TUCK & M C BUTLER ELLIS

10.00 Assessing spray-drift potential and two ‘reference’ nozzles
GEOFF M RICHARDSON

10.15 Spray drift reducing effects of natural windbreaks in orchard spraying
MARCEL WENNEKER & J C VAN DE ZANDE

10.30 Site specific assessment of spray drift hazard for avocados in New Zealand
JOHN-PAUL PRAAT & S WOODWARD

10.45 Comparison of different drift risk assessment means
DAVID NUYTTENS, M DE SCHAMPHELEIRE, K BAETENS & B SONCK

11.00 Progress in the development of a bystander and resident exposure assessment model (BREAM)
CLARE BUTLER ELLIS & P C H MILLER

11.15 Coffee
11.45  A reduced order model for fast prediction of field drift based on validated CFD simulations
KATRIJN BAETENS, A MELESE ENDALEW, M A DELELE, D NUYTTENS, M DE SCHAMPHELEIRE, B NICOLAI, H RAMON & P VERBOVEN

12.00  Minimising drift while maintaining efficacy – the role of air-induction nozzles
CLARE BUTLER ELLIS, P C H MILLER & J H ORSON

12.15  Availability and use of low drift nozzles for herbicide application in Central and Southern EU Member States
RICHARD GARNETT & W A TAYLOR

12.30  A development drift model for ground application systems
ANDREW J HEWITT

12.45  The Cascade Drift Module: a GIS-based study on regional pesticide deposition
HENK HOLTERMAN & J C VAN DE ZANDE

13.00  Application of a Spray Deposition Drift Model to a wide range of weather conditions
ANDREW CHAPPLE & P C H MILLER

13.15  Lunch

SESSION B: SPRAY DRIFT POLICY AND REGULATION (Chaired by Paul Hamey)

Invited Speaker

14.15  Challenges in using spray drift buffer zones for protecting environmental habitats
TED C KUCHNICKI

14.40  Encouraging the use of drift reduction technologies in the United States
F A KHAN, J S ELLENBERGER, M KOSUSKO, K BULLOCK & NORMAN B BIRCHFIELD

15.05  Spray drift mitigation measures and the authorisation of pesticides – The Dutch Approach
YNZE STIENSTRA

15.30  Setting unsprayed buffer zones in the UK
NEIL BYRON & P Y HAMEY

15.45  Tea

DISCUSSION SESSION (Chaired by Andrew Hewitt)

16.15  What is a driftable droplet?
17.00  PESTICIDE VOLATILISATION SESSION

Volatilisation of pesticides computed with the PEARL model for different initial distributions within the crop canopy
ERIK VAN DEN BERG, C BEDOS & M LEISTRA

DISCUSSION SESSION  (Chaired by C. Bedos, E. van den Berg, P. Walklate, & H.J. Holterman)
Pesticide volatilisation after application to crops: which input data are required to describe the initial distribution within the canopy, and how can these data be derived?

19.00  END

19.30  DINNER

POSTERS ON DISPLAY DURING CONFERENCE

iDRIFT, a new versatile tool to compute off-target deposits of spray drift
H J HOLTERMAN & J C VAN DE ZANDE

Current state and perspective of glyphosate desiccant application in Ukrainian agro-industrial complex
N KOVALCHUK & SERGIY OMELCHUK

Field spray drift data in support of environmental risk assessments
C R GLASS, J J MATHERS, A J GILBERT & P HARRINGTON

Field results of mating disruption technologies for the control of codling moth, Cydia pomonella (L.), and oriental fruit moth, Grapholita molesta (Busck) in Pennsylvania apple orchards
N K JOSHI, L A HULL, G KRAWczyk & E G RAJOTTE

Evaluation of the performance of the voluntary initiative for pesticides in the UK
C R GLASS, N D BOATMAN, C B BROWN, D GARTHWAITE & M THOMAS

Thursday 10 January 2008

SESSION C: EQUIPMENT (Chaired by Tom Robinson and Ben Magri)
Invited Speaker

08.30  Spraying Robots
SVEND KRISTENSEN, I LUND & H J OLSEN

08.55  Control of spraying equipment in practical use in greenhouses in Norway
NILS BJUGSTAD & P HERMANSEN

09.10  Advances in application of pesticides in date palm trees
ABRAHAM GAMLIEL, Y RIVEN, M AUSTERWEIL, B STEINER, R BEN ZVI & S STEREN
9.25 The impact of international and European standards on German legislation on chemical application
ANDREAS HERBST

9.40 Volumes of residual of sprayers and their International Standards: impact on farm water treatment systems
CHRISTOF DEBAER, D SPRINGAEL, J RYCKEBOER, P SPANOGHE, P BALSARI, W A TAYLOR & P JAEEKEN

09.55 Performance tests on sprayer induction hoppers
PAOLO BALSARI, D GHIGO, P MARUCCO & M TAMAGNONE

10.10 Assessment of the efficiency of systems and procedures for the internal cleaning of sprayers
PAOLO BALSARI, P MARUCCO, E NILSSON, H J WEHMANN & H GANZELMEIER

10.25 Motorised mistblowers: their performance and rationale in developing countries
ROY BATEMAN & N H JESSOP

10.40 Coffee

SESSION D: BIOPESTICIDE AND FORMUALTION INTERACTIONS (Chaired by David Stock)

11.10 Development of an image processing technique for the evaluation of the effect of spray application techniques on the viability of Steinernema coupocapsae nematodes
E BRUSSELMAN, W STEURBAUT, W MESSENS, J BAERT, J VANGEYTE & B SONCK

11.25 Spray droplet size and how it is affected by pesticide formulation, concentrations, carriers, nozzle tips, pressure and additives
ROBERT KLEIN, J GOLUS & A COX

11.40 Spreading of spray droplets and liquid on foliage
DUNCAN A WEBB

SESSION E: SENSING TECHNIQUES (Chaired by Tom Robinson and Ben Magri)

11.55 Towards more target oriented crop protection
JAN C VAN DE ZANDE, V T J M ACHTEN, J M G P MICHIELEN, M WENNEKER & A Th J KOSTER

12.10 Putting new technology into practice
ROB WILLEY
12.25 Detection and spraying strategy against fungal foliar diseases in winter wheat
CEDRIC BRAVO, R OBERTI, D MOSHOU, L BODRíA & H RAMON

12.40 A review of factors influencing the technical feasibility and potential commercial uptake of the patch spraying of herbicides in arable crops
PAUL C H MILLER & P J W LUTMAN

12.55 Lunch

13.50 Aspects of spraying small geometric cells
IVAR LUND, P K JENSEN & H J OLSEN

14.05 Real-time crop sensing for canopy treatment
CLIVE BLACKER

SESSION F: TECHNIQUES AND APPLICATION TECHNOLOGY (Chaired by Simon Cooper)

14.20 Invited Speaker
Aerial adulticiding to control adult mosquitoes in Florida: 10 years of improvements in understanding and technology
MARK D LATHAM

14.45 Characterization of pesticide dispersion from aerial applications of mosquito adulticides: Meteorological effects and canopy penetration
JANE A S BARBER, MIKE GREER, MARK LATHAM & GAIL STOUT

15.00 IPARC 1955 - Contributions to application technology
GRAHAM A MATTEWS, E W THORNHILL & R BATEMAN

15.15 A review of the current spray application techniques in various ornamental plant productions in Flanders, Belgium
PASCAL BRAEKMAN & B SONCK

15.30 A weed growth-rate model to support plant-specific agriculture
R A PILGRIM & ALISTAIR J MURDOCH

15.45 A simple approach to band spraying crops?
MIKE J MAY

16.00 Tea
SESSION G: TROPICAL AGRICULTURE (Chaired by Evan Thornhill)

16.30 Invited Speaker
An overview of pesticide spraying practices in Kenya today and their future challenges and needs
COLLINS WANYANA & H WAINWRIGHT

16.55 A survey on knapsack sprayers and their use in China
ANDREAS HERBST & X HE

17.10 The compression sprayer and its use in vector control
GRAHAM MATTHEWS, EVAN THORNHILL & HANS DOBSON

17.25 Integrated vector control - A pilot trial in the Sanaga Valley Cameroon
GRAHAM MATTEWS, H DOBSON, T WILES AND P B NKOTI

17.40 Aspects of the demands and constraints on crop protection in a developing country such as Nigeria
BEMJAMIN MATANMI

17.55 END

19.45 WELCOME DRINK

20.00 CONFERENCE DINNER

Friday 11 January 2008

SESSION H: PROTECTING THE ENVIRONMENT (Chaired by Bill Taylor)

08.30 UK experiences in developing a catchment scale risk based approach to mitigating all routes for pesticide loss to water
BOB BREACH

08.45 Invited Speaker
Strategies to reduce point source losses of ppp to water focus on ‘behaviour, technique and infrastructure’ results and lessons learned from the topps - project
MANFRED ROETELLE

09.10 Identification and quantification of point sources of surface water contamination in fruit culture in the Netherlands
MARCEL WENNEKER, W H J BELTMAN, H A E DE WERD & J C VAN DE ZANDE

09.25 The cleaning of sprayers after pesticide use; a European perspective
CARMEL RAMWELL, W TAYLOR, & S E COOPER
09.40 Techniques and hardware to reduce point source pollution of water with pesticides; a UK TOPPS perspective on predicted current practice and where future training may need emphasis
SIMON E COOPER & W A TAYLOR

09.55 Techniques and incentives in California for reducing pesticide inputs to mitigate water pollution and air pollution risks in horticultural crops
KEN GILES

SESSION I: TREE AND BUSH SPRAYING (Chaired by Per Gummer Andersen)

10.10 Results of the UK PACE project on orchard spraying
PETER J WALKLATE, J V CROSS, A L HARRIS & G M RICHARDSON

10.25 Innovative technologies for the precise application of pesticides in orchards and vineyards
ANDREW J LANDERS

10.40 Study of optimal air velocities for pesticide application in vineyard
PAOLO BALSARI, P MARUCCO, G OGGERO & M TAMAGNONE

10.55 Using integrated 3D canopy architecture and porous media models for prediction of orchard pesticide applications
AYNEW MELESE ENDALEW, M HERTOG, J VERCAMMEN, KATRIJN BAETENS, M A DELELE, B BLOCKEN, M BAEMLANS, B NICOLAI, H RAMON, P VERBOVEN

11.10 Coffee & Refreshments

SESSION J: EFFICACY (Chaired by Jan van de Zande)

11.40 Using air induction nozzles for direct injection of agrochemicals: A feasibility study
KEN GILES & T K BROCK

11.55 Influence of volume rate and nozzle angling on control of potato late blight with flat fan, pre orifice and air induction nozzles
PETER KRYGER JENSEN & B J NIELSON

12.10 Potato late blight control using Hardi Twin air-assistance or Danfoil Air sprayer
PETER KRYGER JENSEN & B J NIELSON

12.25 Effect of spray quality on spray distribution and biological efficacy of fluazinam in late blight control in potatoes
JEAN- MARIE MICHIELSEN, J C VAN DE ZANDE, H STALLINGA R MEIER, HTAM SCHEPERS, P VAN VELDE & P VERWIJS

12.40 END OF CONFERENCE  (Packed Lunch & Depart)