

Contents

Preface	5
Contents	6
Introduction to the 11th Symposium of the ICPBR Bee Protection Group	10
Pieter A. Oomen	
Opening speech of the 11th Symposium	12
Wim H. van Eck	
EFSA and bees	14
Robert Luttik	
I. Regulatory issues: honey bee risk assessment for pesticides in Europe	17
Bee health in Europe – Facts & figures. An Opera document	17
Anne Alix, Laurie Adams, Mike Brown, Peter Campbell, Ettore Capri, Amalia Kafka, Konstantinos Kasiotis, Kiki Machera, Christian Maus, Mark Miles, Petru Moraru, Lisa Navarro, Jens Pistorius, Helen Thompson, Alexandru Marchis,	
Pollinators, pesticides and agriculture: developing regulatory tools for the future	18
A. Alix, M. Miles	
Exposure of honey bees and other pollinating species to pesticides	19
Anne Alix, Mark J. Miles	
Assessing the comparative risk of plant protection products to honey bees, non-target arthropods and non-Apis bees	30
Mark J Miles, Anne Alix	
Risk assessment of pesticides on bees: evaluating risk coefficients for assessing acute and chronic toxicity	39
Noa Simon-Delso, Janine Kievits, Jose-Anne Lortsch, Coralie Mouret	
Assessment of pesticides risk for bees: methods for PNEC measurements	45
Janine Kievits, Martin Dermine, José-Anne Lortsch, Coralie Mouret, Noa Simon-Delso	
Towards the comparative ecotoxicology of bees: the response-response relationship	55
James E. Cresswell, Ian Laycock	
Neonicotinoids and bees: an overview on concentrations, side effects and risk assessment	61
Tjeerd Blacquière, Guy Smagghe, Cornelis A.M. van Gestel, Veerle Mommaerts	
Effects of neonicotinoid dust from maize seed-dressing on honeybees	62
Fabio Sgolastra, Teresa Renzi, Stefano Draghetti, Claudio Sciò, Piotr Medrzycki, Marco Lodesani, Stefano Maini, Claudio Porrini	
Risk mitigation measures for seed treatments using neonicotinoids	63
Rolf Forster	
About the recent re-evaluation of neonicotinoids regarding bee risks in the Netherlands	69
Jacoba Wassenberg, Martine Lans	
Guttation and the risk for honey bee colonies (<i>Apis mellifera</i> L.): a worst case semi-field scenario in maize with special consideration of impact on bee brood and brood development	71
Malte Frommberger, Jens Pistorius, Ina Joachimsmeier, Detlef Schenke	

Guttation and risk for honey bee colonies (<i>Apis mellifera</i> L.): Use of guttation drops by honey bees after migration of colonies - a field study	76
Ina Joachimsmeier, Jens Pistorius, Detlef Schenke, Wolfgang Kirchner	
Thiamethoxam in the cultivation of hop – does it pose a threat to honey bees?	80
Ingrid Illies, Verena Gottschalch, Klaus Wallner, Bernhard Engelhard, Jens Pistorius, Gabriela Bischoff	
Effects on honey bee colonies following a granular application of Santana® containing the active ingredient clothianidin in maize in 2010 and 2011	81
Ingrid Illies, Stefan Berg, Jens Pistorius, Gabriela Bischoff	
Water collection by honey bees – How far will foragers fly to use water sources like guttation drops? A first distance trial using cereals and oilseed rape	82
Ina Joachimsmeier, Jens Pistorius, Udo Heimbach, Detlef Schenke, Wolfgang Kirchner	
Frequency and intensity of guttation events in different crops in Germany	87
Ina Joachimsmeier, Jens Pistorius, Udo Heimbach, Detlef Schenke, Wolfgang Kirchner, Peter Zwerger	
Review on activities in Germany to assess the occurrence, residues and possible risk of guttation for honey bees	91
Pistorius, J., Wallner, K., Joachimsmeier, I., Reetz, J., Schenke, D., von der Ohe, W., Illies, I., Maus, C., Block, T., Becker, R.	
Orientating experiments on guttation fluid of seed treated maize (<i>Zea mays</i> L.) in relation to the water collecting behaviour of honey bees (<i>Apis mellifera</i> L.)	92
Klaus Wallner, Hans-Martin Wied, Jana E. Reetz	

II. Bee health issues - country specific experiences including Varroa and varroacides **93**

Efficacy of selected acaricides on <i>Varroa destructor</i> and evaluation of their environmental risks on <i>Apis mellifera</i>	93
W. Loucif-Ayad, N. Aribi, G. Smaghe, N. Soltani	

III. Test methodology - laboratory, semi field, field, etc. **94**

Assessment of brood development and index calculations	94
Hervé Giffard, Thierry Dupont	
Comparison between EPPO and CEB field methodologies	96
Hervé Giffard, Christine Vergnet	
Scanning & analysing individual bee (<i>Apis mellifera</i> L.) behavior using RFID	99
Jacob P. van Praagh, Egbert Touw	
Digital image analysis tool to improve the assessment and evaluation of brood development in higher tier honey bee studies	102
Lukas Jeker, Thomas Meschberger, Marco Candolfi, Josef P. Magyar	
Introduction to the BEEBOOK, a manual of honeybee research methods	103
Piotr Medrzycki, Jamie Ellis, Vincent Dietemann, Peter Neumann	
Influence of some experimental conditions on the results of laboratory toxicological tests on honeybees	104
Piotr Medrzycki, Fabio Sgolastra, Gherardo Bogo, Simone Tosi, Simone Venturi	
A new experimental method for studying trophallaxis as an additional determining factor in the effects of chemicals on foraging bees (<i>Apis mellifera</i>)	105
Simone Venturi, Piotr Medrzycki, Gherardo Bogo, Simone Tosi, Fabio Sgolastra, Marco Lodesani	

Role of food quality in bee susceptibility to fipronil and clothianidin	106
Simone Tosi, Piotr Medrzycki, Gherardo Bogo, Laura Bortolotti, Francesca Grillenzoni, Giuseppe Forlani	
Effects of spinosad on honey bees (<i>Apis mellifera</i>): Findings from over ten years of testing and commercial use	107
Mark J. Miles, Anne Alix, Chloe Bourgouin, Stephan Schmitzer	
Effectiveness of method improvements to reduce variability of brood termination rate in honey bee brood studies under semi-field conditions	115
Pistorius, J., Becker R., Lückmann, J., Schur, A., Barth, M., Jeker, L., Schmitzer, S., von der Ohe, W.	
Statistical evaluation of regulatory honeybee trials - a pragmatic approach	121
R. Becker, S. Schmitzer, M. Barth, H. Bargen, H.-H. Kaatz, H. T. Ratte, A. Schur	
IV. Honey bee poisoning incidents and monitoring systems	123
Monitoring effects of pesticides on pollinators – a review of methods and outcomes	123
Anne Alix, Aurelien Cocoraju, Jean-Michel Laporte, Christian Maus, Mark Miles, Noa Simon, Helen Thompson	
Bee poisoning incidents in the Pomurje region of Eastern Slovenia in 2011	124
Bert van der Geest	
Quantitation of neonicotinoid insecticide residues in experimentally poisoned honey bees	125
Daniela Laurino, Aulo Manino, Augusto Patetta, Andrea Romano, Marco Porporato	
Project 'APENET: monitoring and research in apiculture'	133
Marco Lodesani, Piotr Medrzycki, Laura Bortolotti	
Dust drift during sowing of maize - effects on honey bees	134
Pablo-Th. Georgiadis, Jens Pistorius, Udo Heimbach, Matthias Stähler, Kristin Schwabe	
Dust drift during sowing of winter oil seed rape - effects on honey bees	140
P.-Th. Georgiadis, J. Pistorius, U. Heimbach, M. Stähler, K. Schwabe	
Do residues of imidacloprid in surface water cause honeybee colony losses?	141
Adindah Visser, Tjeerd Blacquièrè	
V. Bumblebees and other pollinators	142
Aspects determining the risk of pesticides to wild bees: risk profiles for focal crops on three continents	142
Harold van der Valk, Irene Koomen, Roberta C.F. Nocelli, Márcia de F. Ribeiro, Breno M Freitas, Stephan Carvalho, John M. Kasina, Dino Martins, Martha Mutiso, Christopher Odhiambo, Wanja Kinuthia, Mary Gikungu, Paul Ngaruiya, Gladys Maina, Pamela Kipyab, Tjeerd Blacquièrè, Jozef van der Steen, Ivo Roessink, Jacoba Wassenberg, Barbara Gemmill-Herren	
Losses of Brazilian bees: an overview of factors that may affect these pollinators	159
Stephan Carvalho, Thaisa Roat, Andriago Pereira, Elaine Silva-Zacarin, Roberta Nocelli, César Carvalho, Osmar Malaspina	
Bees require protection for sustainable horticultural crops production in Kenya	167
Muo J. Kasina	
Side-effect of acetamiprid in adult Africanized honeybee	173
Andriago M. Pereira, Roberta C. F. Nocelli, Osmar Malaspina, Odair C. Bueno	
Determination of fipronil LD₅₀ for the brazilian bee <i>Melipona scutellaris</i>	174
Clara T. Lourenço, Stephan M. Carvalho, Osmar Malaspina, Roberta C. F. Nocelli	

Is the European honeybee (<i>Apis mellifera mellifera</i>) a good representative for other pollinator species?	179
Jozef van der Steen, Ivo Roessink, Muo Kasina, Mary Gikungu, Roberta C.F. Nocelli	
Effect of agrochemicals on the pattern of visitation of honey bees (<i>Apis mellifera</i>) in melon (<i>Cucumis melo</i>) flowers in Brazilian Northeast	180
Assessment of lethal and sublethal effects by spinetoram on <i>Bombus terrestris</i>	184
Veerle Mommaerts, Linde Besard, Gamal Abdu-Alla, Guy Smagghe	
Multiplex PCR detection of slowly-evolving trypanosomatids and neogregarines in bumblebees using broad-range primers	185
Ivan Meeus, Dirk de Graaf, Kris Jans, Guy Smagghe	
Detection of viral replication in bees	186
Ivan Meeus, Dirk de Graaf, Guy Smagghe	
VI. Session - Biocontrol methodology using bees	187
Pesticide sprays compromise pollination and biocontrol services on strawberry	187
Heikki Hokkanen, Ingeborg Menzler-Hokkanen, Aino-Maija Mustalahti	
Laboratory miniature dispenser-bioassay to evaluate the compatibility of powder compounds in the entomovectoring with <i>Bombus terrestris</i>	188
Veerle Mommaerts, Kurt Put, Jessica Vandeven, Guy Smagghe	
VII. Plenary discussion on regulatory issues and ICPBR working groups	189
Discussing protection goals for bees – an EFSA approach	189
Robert Luttk	
ICPBR-Working Group Risks posed by dusts: overview of the area and recommendations	191
Rolf Forster, Hervé Giffard, Udo Heimbach, Jean-Michel Laporte, Johannes Lückmann, Alexander Nikolakis, Jens Pistorius, Christine Vergnet	
Assessment of risks to honey bees posed by guttation	199
Jens Pistorius, Tricia Brobyn, Peter Campbell, Rolf Forster, Jose-Ann Lorsch, Franck Marolleau, Christian Maus, Johannes Lückmann, Hiroyuki Suzuki, Klaus Wallner, Roland Becker	
Working Group – Acceptability of effects in the field	209
Gavin Lewis	
Acceptable levels of control and toxic reference mortality from semi-field and field tests - working group 2011 report summary	212
Christine Vergnet	
Working Group - Risk to honey bee larvae	213
Roland Becker	
Summary of discussions regarding the Working Group reports	215
Helen Thompson	
VIII. General	217
List of participants	217
Glossary	220
List of Authors	221