III APITOX workshop – winter 2014

Venue: Centre Apicole de Recherche et d'Information (CARI), Université Catolique de Louvain
Room Eric Duvet, Place Croix du Sud, 4 1348 Louvain la Neuve (Belgium)

Start: Thursday, 20th November 10:30
End: Friday, 21th November 12:00

Hotel: Ibis Styles Hotel (***)
The hotel is at walking distance from the venue and Louvain la Neuve is a pedestrian city.

Aim of the meeting:

- to present the EFSA Guidance Document for risk assessment of pesticides on bees
- to exchange views between the Apitox experts and the risk assessors (EFSA) regarding critical procedural issues related to test methods,
- to discuss about possible solutions and recommendations

Some brief presentations are foreseen but the objective of the meeting is to discuss the different problems and propose common initiatives aimed to find solutions. The members are thus asked to participate actively and not to come to the meeting only with the spirit to be present and eventually learn about the news. The presenting members are asked to keep the talks brief and leave more time for the discussion.

PROGRAM

Workshop on the method for testing the toxicity of pesticides to bees
LLN, Belgium, November 20th-21th 2014

Thursday, 20 Nov 2011

10h30-11h00	Welcome – Coffee
11h00-11h15	Introduction
11h15-12h30	In depth presentation of the EFSA Guidance of Pesticide risk assessment on bees – *Fabio Sgolastra* + *Csaba Szentes*
12h30-13h00	Presentation of the roadmap of implementation of the EFSA Guidance document – *Csaba Szentes*
13h00-14h00	Lunch
14h00-15h00	State of the art of available and missing methodologies – *Piotr Medrzycki*
15h00-15h20	Discussion session - Questions & Answers about the EFSA Guidance document on pesticide risk assessment
15h20 – 16h00	Discussion session – Identification of potential activities for APITOX in the framework of the GD
16h00-16h30	Break
16h30-18h30	Round table – Presentation of expertise of each lab and research priorities. 15' (max) per participant for presentation of ideas on what the activities of APITOX should be, what can expert add to the task
20h30	Dinner

Friday, 21 Nov 2011

08h30-9h00	Welcome - Coffee
09h00-09h45	Update from the latest ICPPR Symposium and ICPPR activities – *Hervé Giffard, Noa Simon*
09h45-10h15	Discussion session - Questions & Answers about the ICPPR
10h15-10h30	Table – Identification of expert groups in which APITOX members are represented
10h30-12h00	Discussion session – Definition of APITOX future activities and calendar
12h00	End of the workshop

Ilustración 1:

ATTENDANCE LIST

Present: Geoffrey Williams (GW), Fani Hatjina (FH), Maria Teresa Renzi (TR), Piotr Medrzycki (PM), Fabio Sgolastra (FS), Ulrike Riessberger-Galle (URG), Etienne Bruneau (EB), Noa Simon (NS), Csaba Szentes (CS), Hervé Giffard (HG), Daniela Laurino (DL), Marco Porportato (MP), Aulo Manino (AM).

Excused: Karl Crailsheim, Ales Gregorc, Tomasz Kiljanek, Job van Praagh, Martin Dermine

INFORMATION SHARING AND DISCUSSION

1. Welcome note by EB

2. Presentation by CS

The representative of EFSA presented the Guidance Document (GD) for the risk assessment of pesticides on bees (annex 1). An exchange of views and question/answer period followed the presentation targeting different subjects: magnitudes proposed for colony strength in the GD, use of the figures linked to colony losses, definition of evaluation parameters: % of colony loss, honey reduction, reduction in colony size,... Field experts stated that in terms of honey production, even small effects (7-15% reduction in colony size) can cause 30% losses in honey production. The participants shared the opinion that the estimation of colony strength varies depending on the person consulted: beekeepers, contractors, assessors, etc., reason why it was not fully clear what "reduction in colony size" means in practice. For example, it was echoed that it was not clear to beekeepers what the figures on impact on the colony stated for: honey reduction potential, % of colony losses, % of forager losses, etc. Also there were difficulties in understanding the translation into practice of the proposed parameters (background mortality of forager bees) because these do not seem to take account of the type of effects observed (lethal/sublethal), the different colony dynamics along the year, other classes or castes of bees, or the period and duration of effects.

It was proposed to use other tools to estimate colony strength like scales or vibration captors. CS clarified that these figures could be used in order to compare observations between controls to treatment groups. Also, the EFSA GD describes the methodology on how to evaluate bee population models.

It was mentioned that it would make sense to consider different magnitudes between seasons.

There was a specific methodological question about the protocol for the evaluation of larvae toxicity: OECD larvae's protocol vs. EFSA GD protocol – EFSA GD proposes repeated exposure of bee larvae to the contaminant from D1 to D6, while OECD proposes exposure from D3 to D6. Experts acknowledged that starting exposure in D3 is a good compromise between practicality of the test and toxicological exposure.

CS informed that the methodology proposed for risk assessment foresees a number of parameters target to refinement, like twa or SV. Trigger values for honeybees should be obtained on the basis of background mortality estimated from bee counters. Trigger values for non-Apis bees are rather conservative due to the lack of scientific knowledge.

Field studies are recognised to show a number of limitations (e.g. exposure evaluation), but better methodologies for colony strength evaluation could contribute to solve them.

At this point, the EFSA does not foresee a further development of the Guidance Document (GD). The project Must-B just started to complete the methodology for risk assessment proposed.

A number of gaps were identified by the participants in the GD like (1) the synergistic effects, which are not evaluated; (2) exposure through honeydew, extra floral nectaries, soil or wax; (3) exposure through trunk injection, drip-irrigation, root-bathing, bulb treatment; (4) fertility and fecundity are important traits and should be included in the risk assessment. (5) field test

methodology on solitary bees.

3. Presentation by PM

The presentation of PM can be found in annex 2, which includes the foreseen calendar of implementation of the different tests and risk assessment schemes proposed.

4. Presentation by FS

Points for action included into the table 1

RECOMMENDATIONS FROM THE MEETING, IDENTIFICATION OF ACTIONS

1. Recommendations from Apitox

Evaluation of exposure to honeydew	– In regulatory terms crops/plants with honeydew should be considered as flowering crops – Plants producing honeydew should as well be considered attracted crops
OECD Larvae test standards improvement	– Currently has low statistical power. Apitox members recommend modifying methodology regarding repetitions in order to higher statistical power
Ring-testing	– Members of experts groups participating in ring-testing should be at least 1/3 from independent labs.
HPG test	– Measurement of HPG acini – at least 100 acinis per cage
EFSA GD	– Inaccuracy – point for clarification: Sentence: "The sites should be representative of the region(s) for which authorisation is sought". Proposal: days in the year with temperature above 10ªC?? Information to be included in the GD - GD should indicate how many tests should be run
Exposure evaluation in field trials	– Couple the residue studies done during tests with landscape models

2. Actions

Table 1 summarises potential actions to be developed by the Apitox platform. Table 2 summarises the to do list by the members of Apitox.

FUTURE ACTIONS AND MEETINGS

1. Next meeting

Location	Bologna (Italy)
Date	5-6/05/2015
Proposed points to be included in the agenda of the next meeting:	≅ Presentation by Dr Aupinel - Correlation between head protein content and acini diameter (preferred methodology) ≅ Dr Medrzycki - Possible methodological proposal - Solubility issues

2. Future Apitox actions

- ≅ Promotion of Apitox
- ≅ Inventory of members of Apitox participating to OECD or other international working groups, or registered to EFSA Database
- ≅ Members of Apitox to communicate on international activities
- ≅ Possibility to be checked with COLOSS - Apitox can do Press Releases or public communication - Newsletter of Apitox activities
- ≅ Summary of tasks to be developed by Apitox

Table 1. Identifications of potential actions to be done by Apitox

Subject	Description	Action	Proposal	Methodology development
Colony strength and forager mortality	– transfer to EFSA data/methodologies on evaluation of colony strength and forager mortality	Data gathering and submission to EFSA		x
EFSA GD	– EFSA GD vs Regulation on data requirements on methodology for the evaluation of toxic symptoms when obtaining LD50 – EFSA GD vs OECD standard linked with methodology for determination on chronic toxicity and effects on HPG – feeding pollen in chronic toxicity test	Identification of incoherencies		
HPG test	– Correlation between head protein content and acini diameter (preferred methodology)	More research needed	Potential ring testing of first methodology	?
Cumulative toxicity	– Test for cumulative toxicity	Ring testing		x
Field tests	– Number of colonies minimum per field/ Number of fields: 2-3 sites with 7 colonies each (4 fields)???	Agreement	x	
Higher tier studies for BB and SB	– Recommendation about how to assess mortality based on the parameters that are so far included as toxicological endpoints – Experiments with soil nesting bee species	Agreement + development		x
Field and semi-field tests	– Interpretation of results - Development of user-friendly GD on the evaluation of field and semi-field results	Agreement + development		x
Solid formulations	– Lower tier test for solid formulation – effects on individual bees, potential evaluation of the deposition of dust and the effect on individual bees	Data gathering and submission to EFSA		

Table 2. To do list by the members of Apitox

HG	Contact Dr Aupinel for validation of HPG development + status and planning + collaboration with Apitox (total protein content in the head)
HG	Circulate methodologies CEB 230
HG	Contact the reference contact point of the Pesticide Steering Committee in order to request transfer of knowledge to Commission abut the GD CEB230 (tunnel + field tests) + homing flight
PM	Ask Schmitzer to check the chronic toxicity data for cumulative toxicity
GW	Request Dr Neumann to write a letter to Commission, in order to find potential funding for the ring-testing activities (Innovation Activities under Horizon 2020)
FS	Contact Ivo Roesink in order to get news on ring test of solitary bees, new labs joining
TR	Send document on alternatives to neonicotinoids from PAN-Europe
NS	Send the link of EFSA Database + send document on alternatives to neonicotinoids from Bee Life
NS	Contact Dr Tennekes /Dr Sanchez-Bayo to ask about methodology on cumulative toxicity