



OIE reference laboratory

European Union Reference Laboratory for honeybee health

Marie-Pierre Chauzat &
Magali Ribière

**OIE – Regional workshop on honeybee diseases
Ezulwini, Swaziland – June 14-17, 2011**

Introduction

EU RL are essential tools in the framework of risk management in the field of animal health

Scientifically sound and uniform testing is a fundamental element for appropriated disease diagnosis and for control and eradication measures

EU RLs largely support the activities of Commission and the Member States (MS) in relation to animal surveillance, control and eradication.

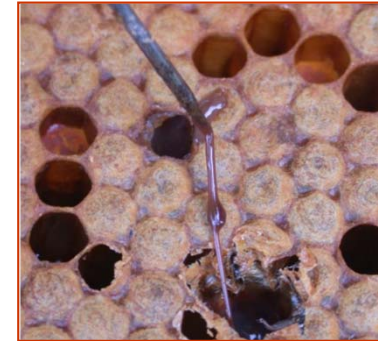
Setting up of EU RL honeybee health would address scientific needs outlined in the EFSA report: “Bee mortality and bee surveillance in Europe” published in December 2009.

www.efsa.europa.eu/en/scdocs/scdoc/27e.htm

Legal framework

Council Directive 92/65/EEC of 13 July 1992

Annexe A list notifiable diseases American foulbrood, in the context of the Directive



Commission Regulation (EC) No 1398/2003 amending Annex A to include *Aethina tumida* and Tropilaelaps mite

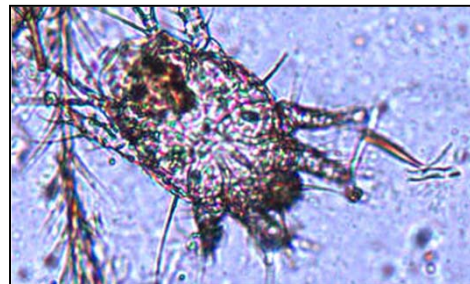
***A. tumida* and Tropilaelaps mite are subject to compulsory notification (Directive 92/65/EEC)**



Legal framework

Council Directive 92/65/EEC of 13 July 1992

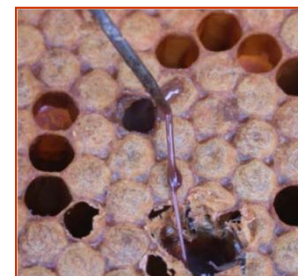
Annexe B list European foulbrood, varroosis and acariosis as disease for which national programs may be recognized under the Directive.



Legal framework

Regulation (EU) No 206/2010 lays down animal health and certification conditions for **introduction** into the Union of certain species of bees (*A. mellifera* and *Bombus spp.*)

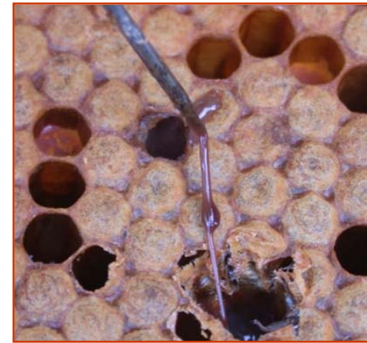
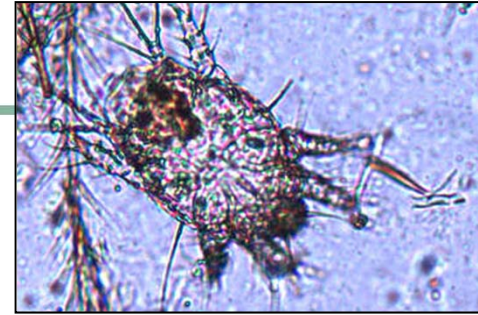
- the presence of the **American foulbrood**, the **small hive beetle** (*Aethina tumida*) and the **Tropilaelaps mite** (*Tropilaelaps spp.*):
subject to compulsory notification throughout the whole territory of the third country or territory concerned.
- Amended by the Commission Regulation (EU) No 144/2011 of 17 February 2011 laying down lists of third countries, territories or parts thereof authorized for the introduction into the European Union



OIE has declared

- Acariosis
- American foulbrood
- European foulbrood
- Varroosis
- Small hive beetle
- *Tropilaelaps* spp.

as notifiable diseases



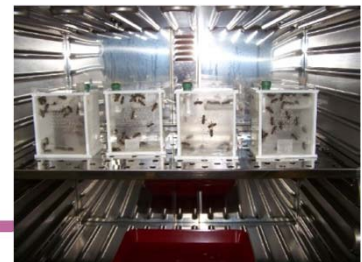
OIE related activities

Test	Matrices	Specificity	Total
Internal method (adaptation OIE standard method)	Adult honeybees	Acariosis	435
OIE standard method PCR (<i>N. apis</i> – <i>N. ceranae</i>)	Adult honeybees	Nosemosis	486
Direct examination, internal method (adaptation OIE standard method) PCR for American foulbrood PCR for European foulbrood	Honeybee brood	American and European Foulbrood	87
			36
			36
Internal method	Adult honeybees /Honeybee brood	Varroase	404
Real time PCR	Adult honeybees	Virus chonical paralysis (CBPV)	498
IDG and/or RT-PCR	Adult honeybees /Honeybee brood	Virus	454
		ABPV	45
		SBV	22
		IAPV	10
		BQCV	16
		DWV	431
		KBV	0

-
- A broad field covered including:
 - creation and coordination of a network of NRLs,
 - main parasitic, bacterial and viral diseases in bees,
 - as well as exotic diseases (insects and mites) threatening bee populations,
 - provide its support to the European Commission (EC) in the area of epidemiology,
 - also address the issue of colony poisoning by conducting research into the pesticide residues that are most harmful to bees, **if asked by the Commission**

Functions and duties (non exhaustive list)

- Standardized, harmonized and coordinated methods employed by MS for diagnosing diseases - OIE methods
- Receiving pathogen isolates for confirmatory diagnosis, characterization and epizootic studies
- Training experts in laboratory diagnosis
- Collaborating with the competent laboratories of third countries
- Conducting courses for national reference laboratories
- Organizing comparative tests of diagnostic procedures at Union level
- Retaining expertise on the Tropilaelaps mites and the small hive beetle (*Aethina tumida*)



Organisation

Honeybee Pathology Unit

M. Chabert Ribière
Head of the Unit

Managers of the EU RL honey bee health

M. Chabert Ribière (Head)
MP. Chauzat (Deputy Head)



Physico-chemical contaminants

- AC. Martel
(Manager of the NRL pesticides)
- S. Zeggane
- P. Mangoni
- M. O'Kombi

Molecular biology and virology

- M. Chabert Ribière
- P. Blanchard
- F. Schurr
- A. Chevin (PhD)
-Technician

General pathology

- S. Franco
(Manager of the NRL Bee diseases)
- M.-P. Chauzat
- P. Drajnudel
- Projet leader in bacteriology and parasitology
- Technician

Pilot Project

- Projet leader in Epidemiology
- M.-P. Chauzat
(Ecopathology)
- P. Hendrikx
(Anses staff, methodological support in epidemiological surveillance)

Recrutements in process for the EU RL

Network of NRLs

- Main task for 2011 : set up the network
- Kickoff workshop : 6-7 June 2011
- Questionnaire to identify the laboratories' fields of expertise, the nature of their activities and the respective standard procedures used
- Needs and expectations of the NRLs
- Collect and summarise all the information into a report
- Organisation of means of communication with the NRLs and if needed annual meeting

General programme on bee diseases

- Coordinating the methods being used
 - Standardization, harmonization and coordination of methods employed by MS for diagnosing diseases – **OIE methods**
 - Establish stock-culture collections to provide isolates and strains of major bee pathogens
 - Produce standardised biological material (needed for ILTs / ILPTs)
 - Training experts (scientists and technicians) of Member States and non-EU countries (organising workshops)
 - Conducting inter-laboratory testing
 - Perform confirmatory diagnoses

Diseases (major pathogens) covered

- Bacteriology:
 - American foulbrood (*Paenibacillus larvae*)
 - European foulbrood (*Melissococcus plutonius* and *Paenibacillus alvei*)
- Parasitology:
 - Varroosis (*Varroa destructor*)
 - Fungal disease: Nosemosis (*Nosema ceranae*, *Nosema apis*)
- Exotic diseases:
 - Small hive beetle (*Aethina tumida*)
 - *Tropilaelaps* spp.
 - Asian hornet (*Vespa velutina*)
- Virology:
 - Paralysis disease (Chronic bee paralysis virus, CBPV)
 - Sacbrood disease (Sacbrood virus, SBV)
 - Viruses associated with *Varroa destructor*
(Acute bee paralysis virus, ABPV; Deformed wing virus, DWV)

Prioritised list (1)

- Established by the EU-RL for organising training courses and/or ILTs and ILPTs :
 - Bacterial brood diseases: American and European foulbrood,
 - Nosemosis,
 - Varroasis,
 - *Aethina tumida*,
 - *Tropilaelaps* spp.



Thank you for your attention

Head of the EU LR honeybee health

magali.ribiere@anses.fr

Deputy head of the EU LR honeybee health

marie-pierre.chauzat@anses.fr