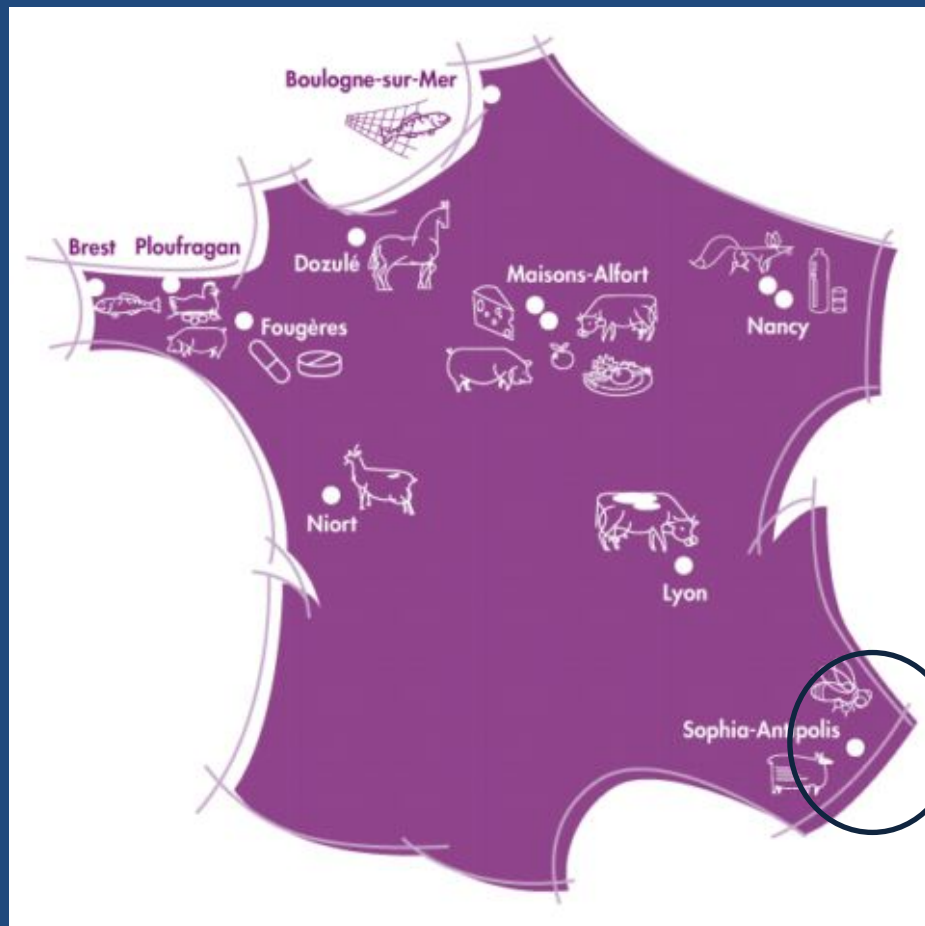




Honey bee diseases in France

M.-P. Chauzat
Unit of honeybee pathology
French Food Safety Agency
(AFSSA)

French Food Safety Agency (AFSSA)



- **11 laboratories**
- **Workforce: 1 100**
- **National Agency for veterinary medicinal products**
- **Department for the Evaluation of Nutritional and Health Risks**
- **Plants and Environment Department**

- Unit of Honey Bee pathology
 - Located in Sophia Antipolis
 - The national reference laboratory
 - Development and validation of honey bee disease diagnostics of
 - 7 virus
 - 3 bacteria
 - 2 fungi
 - 2 acari
 - 1 coleoptera



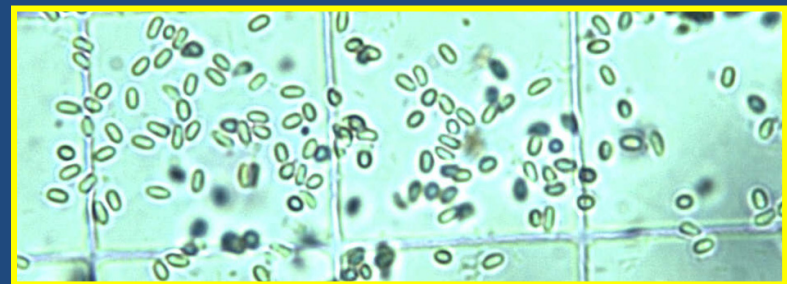
Notifiable diseases

- American foulbrood
- Nosemosis (*Nosema apis*)
- *Tropilaelaps clarae*
- *Aethina tumida*

Notifiable diseases

- American foulbrood
- Nosemosis (*Nosema apis*)

1. Honey bee colonies can not be moved
2. Treatments or prophylactic measures
3. Clinical observations of hives or honey bee analysis
4. Hives can be moved or not



Notifiable diseases

- *Tropilaelaps clarae*
- *Aethina tumida*



Not present in France or in Europe



Treatments for notifiable diseases

Only for American foulbrood

- If the disease is largely developed
→ colonies are destroyed



- If the disease is **NOT** largely developed

1. Treatments with tetracyclines
(3 times in syrup, 0.5 g a.i. each time)
2. Honey bees are transferred in clean hives
3. Honey is withdrawn from the colonies
4. Subsequent crop is destroyed

MLR for tetracyclines in honey = LQ: 15 $\mu\text{g/kg}$

Notifiable disease (statement only)

- Varroosis
no compulsory measures



Treatments

- Apivar © (Amitraze)
- Apiguard © (Thymol)
- Thymovar © (Thymol)
- Apistan © (Fluvalinate)

Active substances from Annexe II

- Oxalic acid
- Formic acid
- Menthol
- Thymol



Conditions of use are not detailed and variable, depending on sources

Treatments in the real life

- **Apivar © (Amitraze)**

some feedbacks from the field indicate the treatment is less efficient

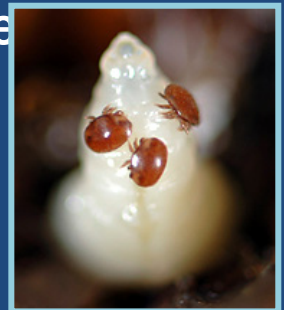
- **Apiguard © (Thymol)**

- **Thymovar ©**

the use is inconsistent depending on geographical locations

- **Apistan © (Fluvalinate)**

not recommended, varroa resistance has been observed since 1995



Active substances from Annexe II

- Oxalic acid
- Formic acid
- Menthol
- Thymol

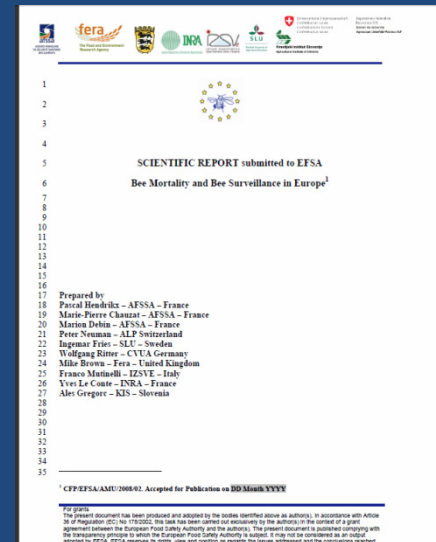


The knowledge on conditions of use is not well disseminated amongst beekeepers

Results on varroa populations in French conditions are not well known

« Bee mortality and bee surveillance in Europe »

- 8 partners
- founded by EFSA
- released in December 2009

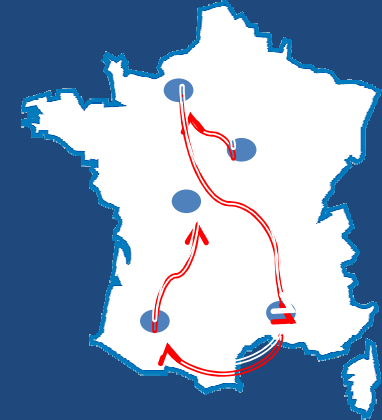


No effective surveillance system in France

➡ Results based on field surveys

- 120 colonies assessed during 3 years

	Apiary			
	2002	2003	2004	2005
Chalkbrood	6 (27.3)	19 (79.2)	20 (87.0)	16 (72.7)
Bald brood	3 (13.6)	23 (95.8)	23 (100)	20 (90.9)
Nosema sp.	3 (13.6)	19 (79.1)	18 (78.3)	11 (50)
Varroosis	11 (50.0)	11 (45.8)	8 (34.8)	9 (40.9)
American foulbrood	5 (22.7)	9 (37.5)	9 (39.1)	7 (31.8)
European foulbrood	5 (22.7)	7 (29.2)	5 (21.7)	4 (18.2)



Nosema ceranae / *Nosema apis*

American foulbrood

Varroa destructor

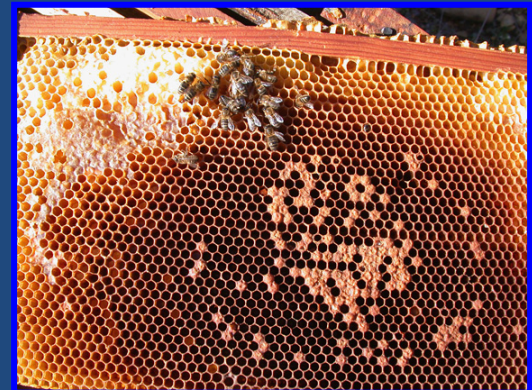
European foulbrood

(Chauzat et al. in press)

- A lot of colony winter mortalities are due to Varroa deleterious effect, due to inappropriate treatments

as in most of European countries

(Chauzat et al. in press, Genersch and Boecking 2009)



Beekeeper's requests

- Treatments against:
 - Varroa
 - Nosema
 - Foolbroods



Acaricides and antibiotics : necessity of testing the efficacy and assessing residues in apicultural matrices: beeswax and honey (MLR)

Given:

- the resistance of Varroa to fluvalinate
- the Apivar© efficacy in doubt
- the large use of home made treatments

There is an **urgent need** for new treatments against Varroa



Thank you for your attention

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