Contaminants analysis: a tool for risk management

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French Organic trade Union.

WHAT IS SYNABIO ?

SYNABIO, French Organic Processing and Trade Union

Actions

✓ defend, promote and serve french organic processing and marketing companies within public authorities, public agencies and interprofessional organisations.

✓ inform and advise on regulation and labeling issues

Members

110 members in France, more than 600 trade marks

60 % of the turnover of the downstream part of the french organic sector

Projects

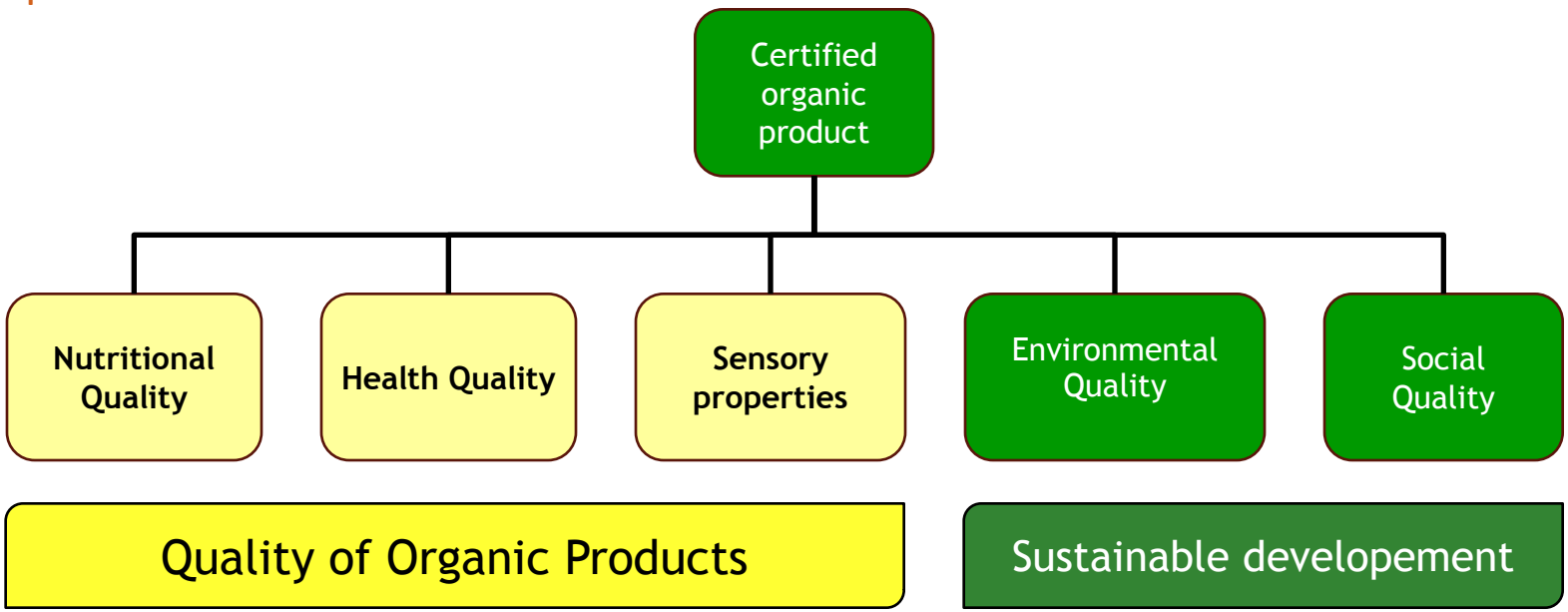
- ✓ Sector development
- ✓ Public policies
- ✓ Organic sector and sustainable development
- ✓ Quality of organic products
- ✓ Regulation

SYNABIO projects about products quality

Come up to consummers' expectations:

With selling points linked to the regulation frame

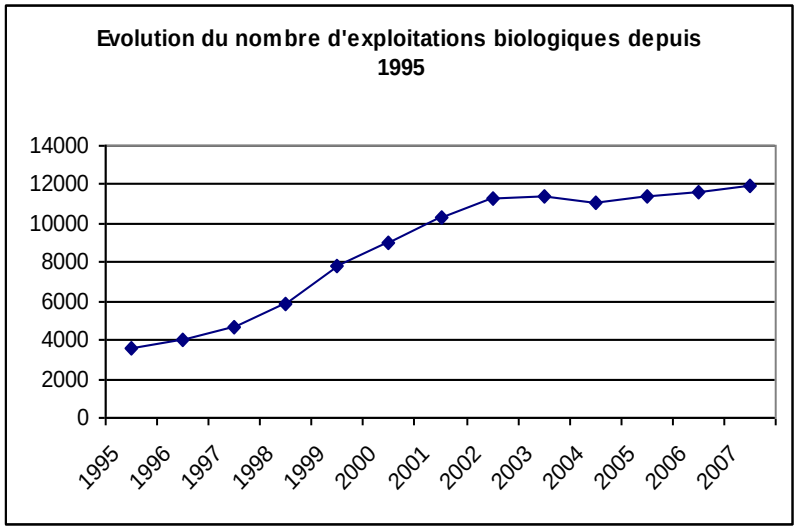
…And, taking into consideration that organic products are beyond organic official requirements

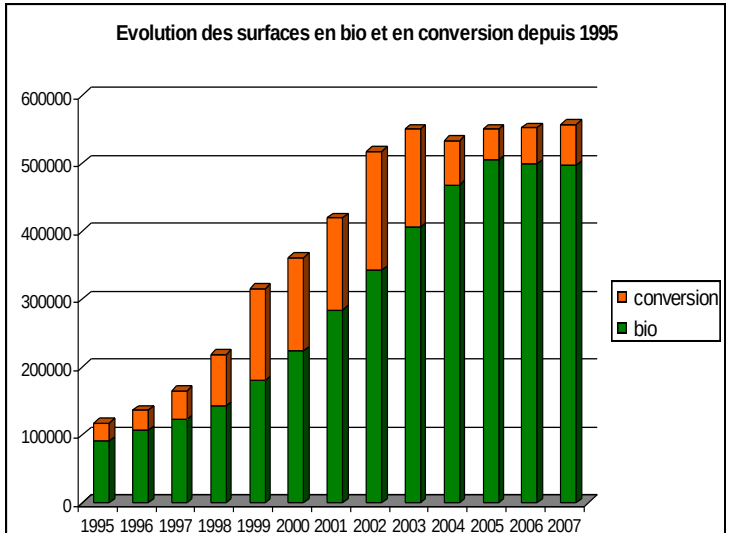


- In relation with the quality in the whole chain from agriculture to processed prduct

French Organic Sector

- **11.978 certified producers in** 2007 (+3 % vs 2006)
- **557.133 ha grown according to organic standards** i.e. 2% of the UAA
- **11% of the area are in conversion**

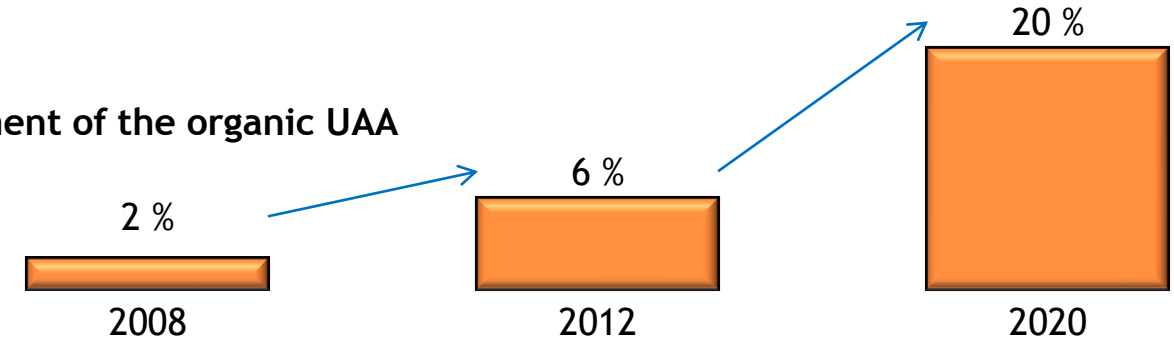




- **5.031 processing companies**
- **1.371 retailing companies**

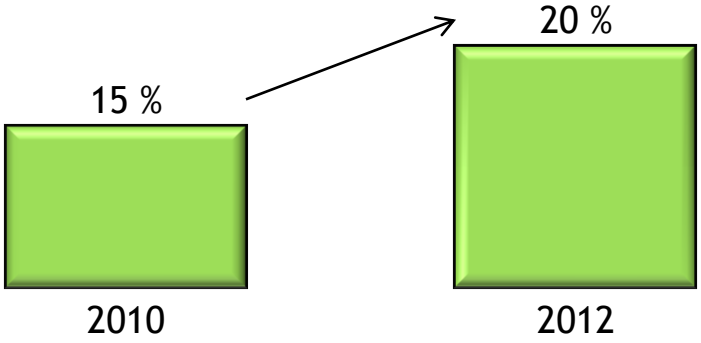
The « Grenelle de l'environnement »
Goals and the risks associated…

Developement of the organic UAA



État exemplaire « Exemplary State »

Share of organic products in the public catering sector



Contaminants and organic farming

Organic Sector

Risk management through « multicontaminants » analysis

Contaminants and organic products

Relevance for companies

Proactive self-requirements : control and improve the quality of the products + survey

→Keep the offer in adequacy to the demand

→Fit the external control audits to the company internal control monitoring

Sector issues

- Coexistence with conventional farming fields
- Assessment of contamination risks
- Cost of the downgrading supported by the companies

Organic growing and processing
Best effort and… performance obligation!

« Best effort » / obligation of means

European regulation (2092/91 and 834/2007), basics of the organic sector…

- Synthetic phytopharmaceutical products prohibited
- GMO and derivative products prohibited

Performance/results obligation

Consummers' confidence

Increasing societal responsability

Companies with high self-requirements for the quality of organic products

What are the consummers' expectations concerning a potential contamination?

« How can I be sure that an organic product is really organic? » or more precisely:

« Do organic products contain traces of contaminants prohibited in organic farming? »

→ Expectations are higher than the existing standards

Stakes and consequences concerning GMO and phytopharmaceutical products

ENVIRONMENT

- Dissemination ?
- Threat on biodiversity ?
- Ecosystems decay ?
- Negative effects on wildlife
- Soil pollutions

HEALTH

- Cumulative effect in organic tissues
- Combined effects?
- Long-term effects?

ETHICS

- Patentability and property of the living?
- Free choice?

ECONOMY

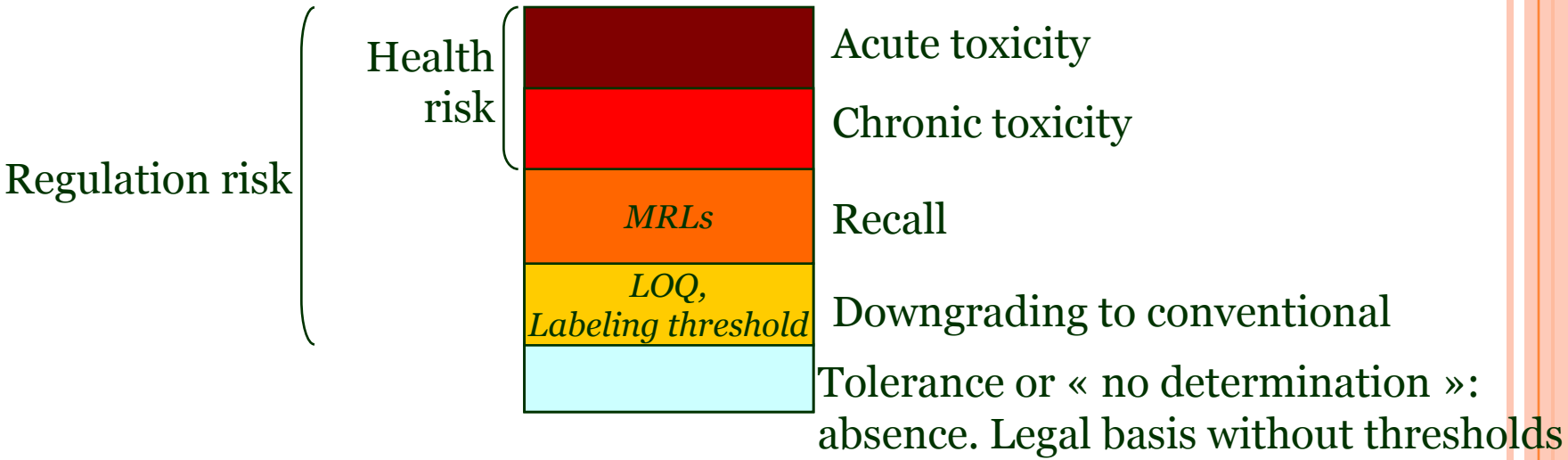
- Additive costs of contaminations and downgrading

Contaminants et organic products

Dangers of « adventitious » (unintended and unavoidable) presence of contaminants

Intensity of the crisis depends on the contaminant itself, the quantity of product contaminated and the concentration (regulation and health issues)

- Direct effects: downgrading, product recall and similar procedures
- Indirect effects: corporate image of the company and of the organic sector



Collateral risks

According to contamination sources and contamination pressure (Product remanence and intensity of the contamination)

Quality of organic products
Priorities…

Better knowledge of the quality of organic products on the market to reassure consumers

Continuous improvement of risk analysis and control plans according the category of products analysed.

Optimization of the search of contamination sources

Reinforcement of good practices

Promotion of information exchange process through warning systems

Risk management
General procedures

Knowledge diagnosis (professional unions, technical institutes…)

Internal diagnosis:

- Definition of sources
- Identified contaminants

Dynamic internal analysis included in the quality management

- Definition of critical points (primary and secondary sources), cleaning procedures and controls (internal or through certificates)
- Analysis of the control plans: improving relevancy between product and contaminant
- Analysis of the cleaning procedures
- Analysis of the total budget for the fight against contaminants

Example: phytopharmaceutical products and organic products

French governmental service against frauds analysed 176 samples on organic products

Study data collection:

- 1993-1999 about all kinds of organic products (1997 and 2000 studies)
- 2005-2006 about organic cereals, oleaginous and proteaginous seeds (07 study; 1.991 samples)
- 2005-2007 about organic fruit and vegetables (08 study; 2.614 samples)

Data sources : french companies and CBs
Data selected **only** from laboratories accredited

Bitertanol	**F**	0,01 mg/Kg	10 ppb	< LQ
Bromophos éthyl	**A,I**	0,01 mg/Kg	10 ppb	< LQ
Bromophos méthyl	**A**	0,01 mg/Kg	10 ppb	< LQ
Bromopropylate	**A**	0,01 mg/Kg	10 ppb	< LQ
Bupirimate	**F**	0,01 mg/Kg	10 ppb	< LQ
Buprofézine	**I**	0,01 mg/Kg	10 ppb	< LQ
Cadusafos	**I,N**	0,01 mg/Kg	10 ppb	< LQ
Captane et Tetrahydrophtalimide (produit de dégradation)	**F**	0,01 mg/Kg	10 ppb	< LQ
Carbaryl	**I**	0,01 mg/Kg	10 ppb	< LQ
Carbofuran	**I**	0,01 mg/Kg	10 ppb	< LQ
Carbophénothion	**I,A**	0,01 mg/Kg	10 ppb	< LQ
Chlorfenapyr	**I,A**	0,01 mg/Kg	10 ppb	< LQ
Chlorfenson	**A**	0,01 mg/Kg	10 ppb	< LQ
Chlorfenvinphos	**I**	0,01 mg/Kg	10 ppb	< LQ
Chlorobenzilate	**A**	0,01 mg/Kg	10 ppb	< LQ
Chlorotal diméthyl	**H**	0,01 mg/Kg	10 ppb	< LQ
Chlorothalonil	**F**	0,01 mg/Kg	10 ppb	< LQ
Chlorpropham	**H**	0,01 mg/Kg	10 ppb	< LQ
Chlorpyrifos éthyl	**I**	0,01 mg/Kg	10 ppb	< LQ
Chlorpyrifos méthyl	**I**	0,01 mg/Kg	10 ppb	< LQ
Chlozolinate	**F**	0,01 mg/Kg	10 ppb	< LQ
Cypermethrine (dont Alphaméthrine)	**I**	0,01 mg/Kg	10 ppb	< LQ

Method

Data collection

- Sources : 61 French companies and 6 French CBs (Cebio)
- Selected data from laboratories accredited by Cofrac for the search of pesticides residues

Control plans

Products

Contamination thresholds

- S_1 : average of the detection threshold
- S_2 :assessed threshold between supposed direct use and a probable environmental contamination

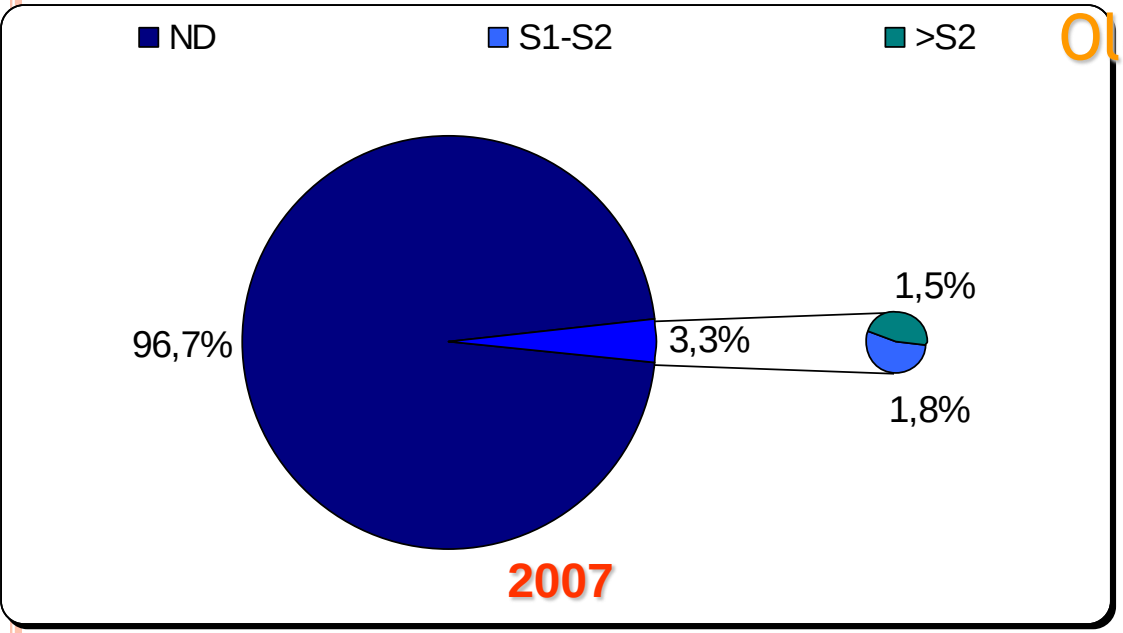
Thresholds S_1 and S_2

	S_1 (ppb)	S_2 (ppb)
FUNGICIDES (F)		
Carbamates	10	30
Triazoles	10	30
Dicarboximides	10	30
WEEDKILLERS (H)		
Toluidines	5	10
Triazines	10	30
Carbamates	10	30
Urées Substituées	10	30

Results

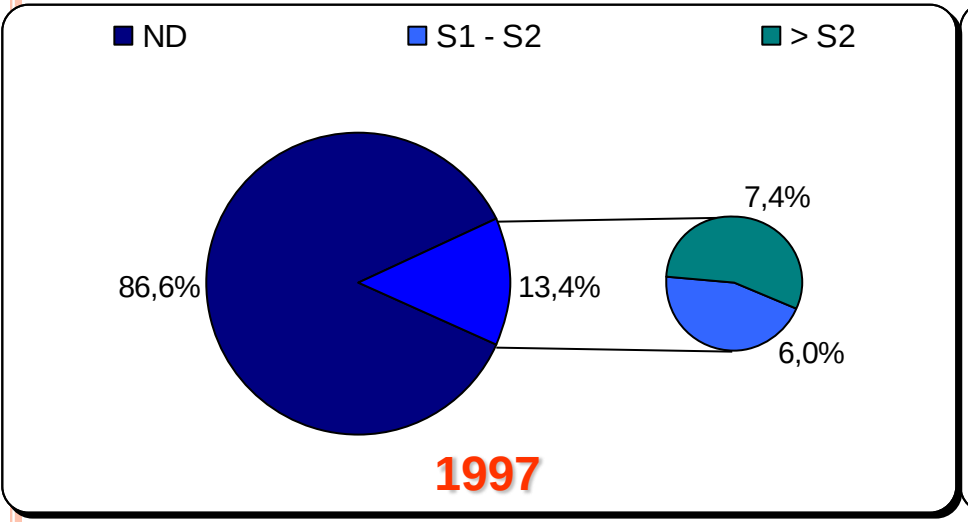
Contaminations

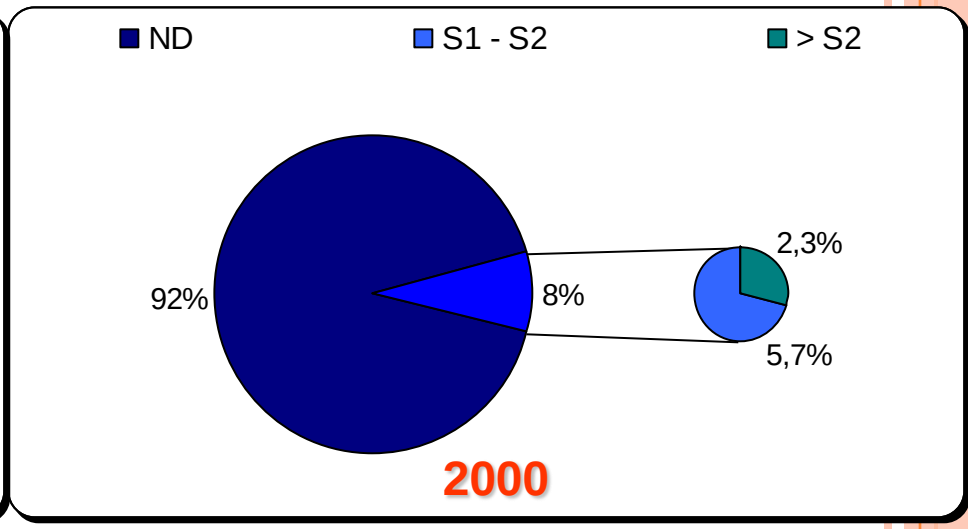
Cereals
Oleaginous / proteaginous



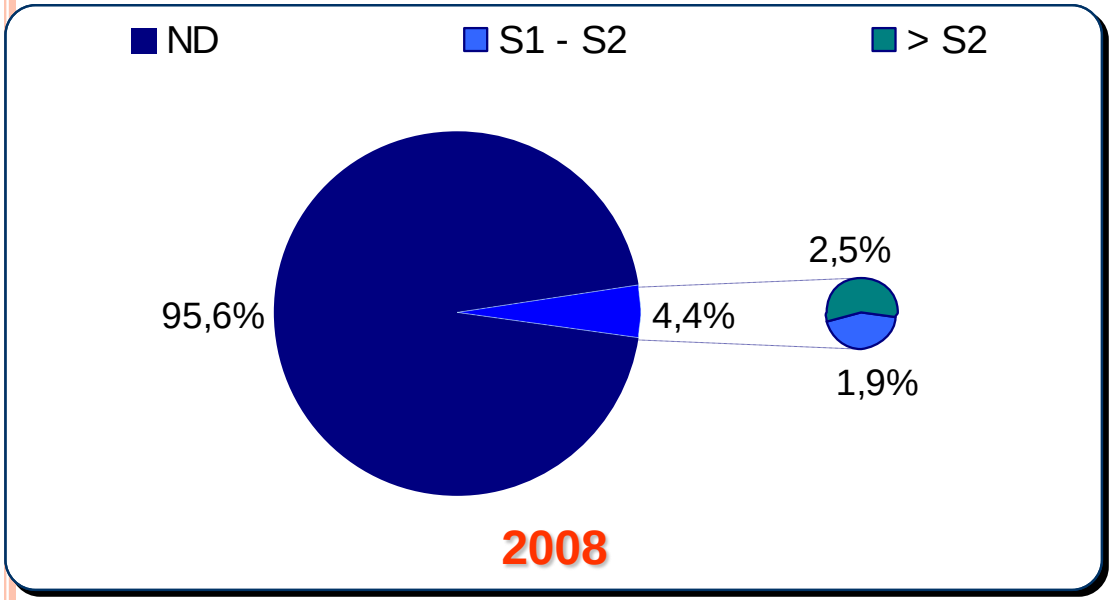
Contaminations > S_2:
Strong decrease in 2000

Contaminations < S_1:
Strong decrease in 2007
effects of the good practices guide edited in 2003?



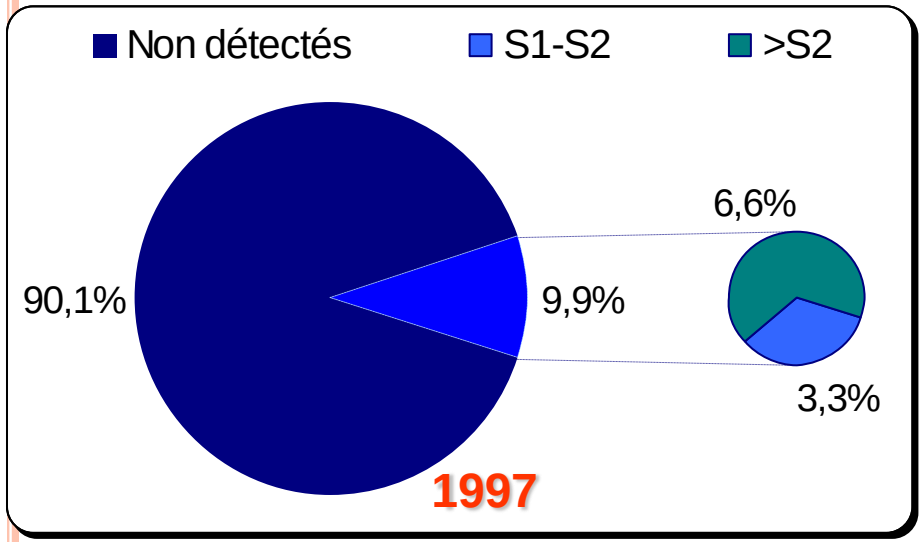


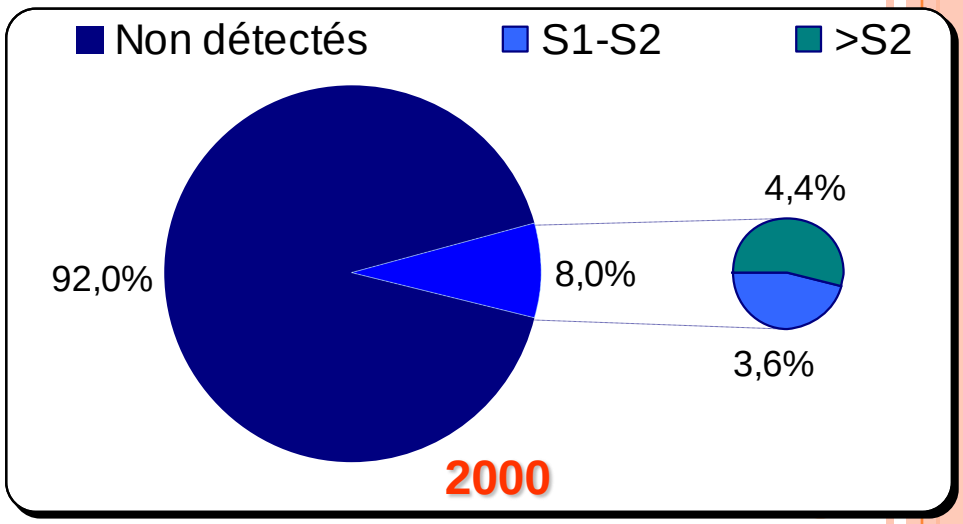
Fruit and vegetable



Contaminations > S_2:
Strong decrease in 2000

Strong decrease of the contaminations in 2008

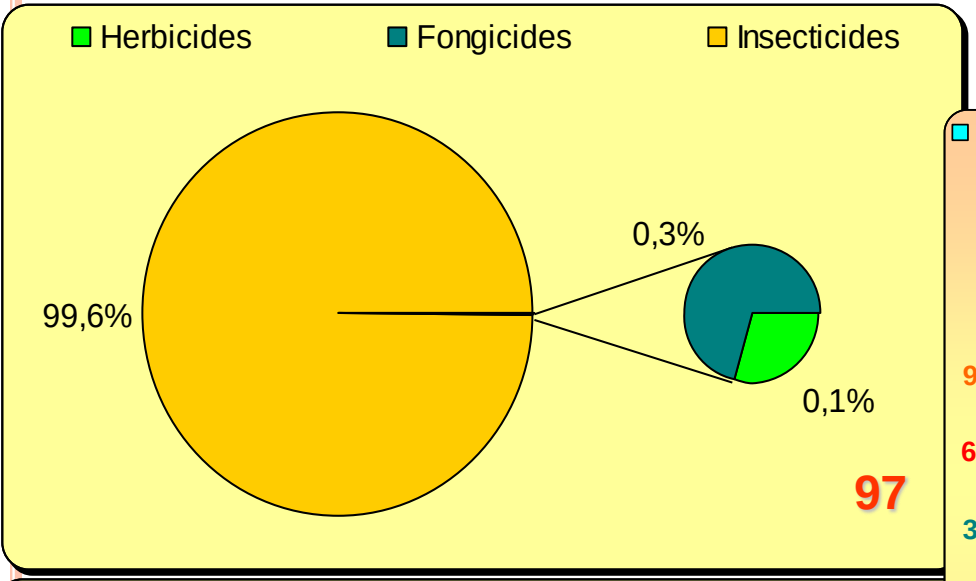


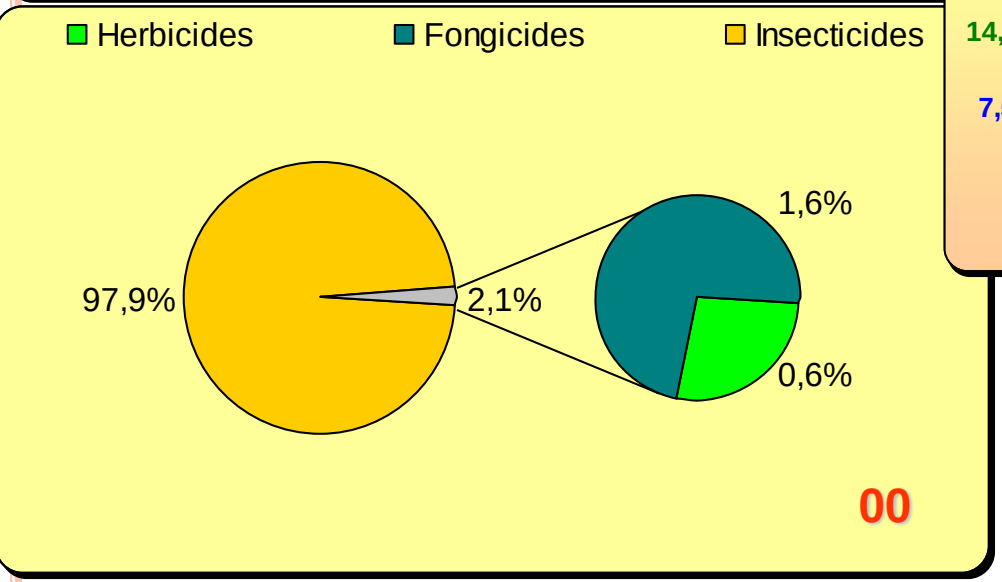


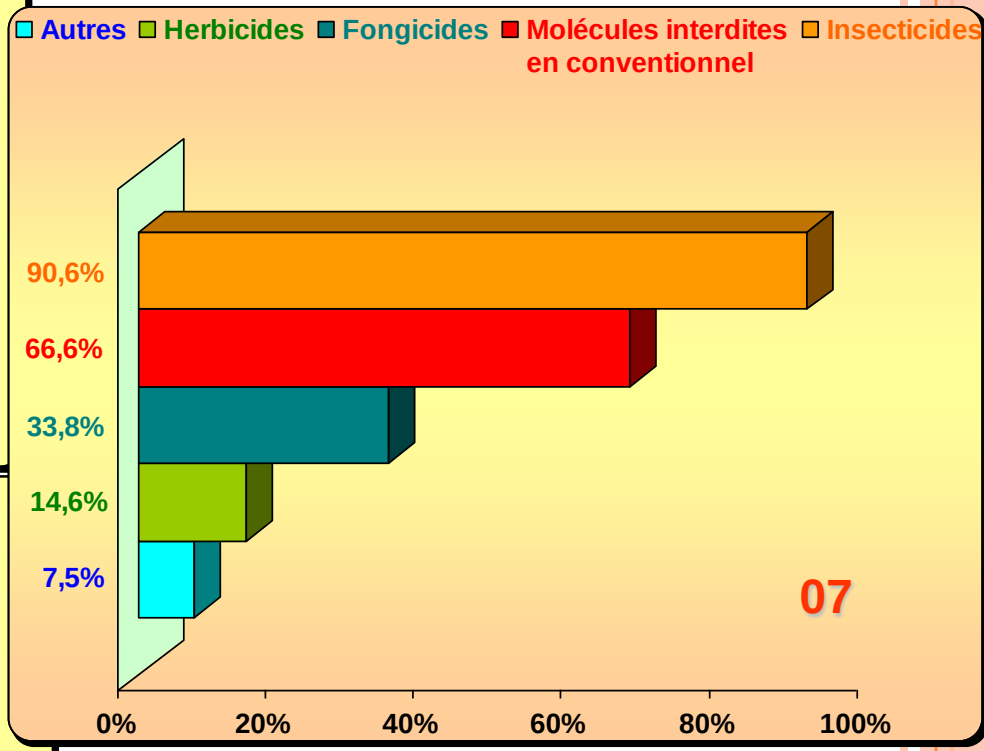
Results

Control plans

Cereals
Oleaginous / proteaginous







Diversification

Contamination sources

- Definition of 3 main contaminations

  Environment and molecules remanence (air, water, soil)

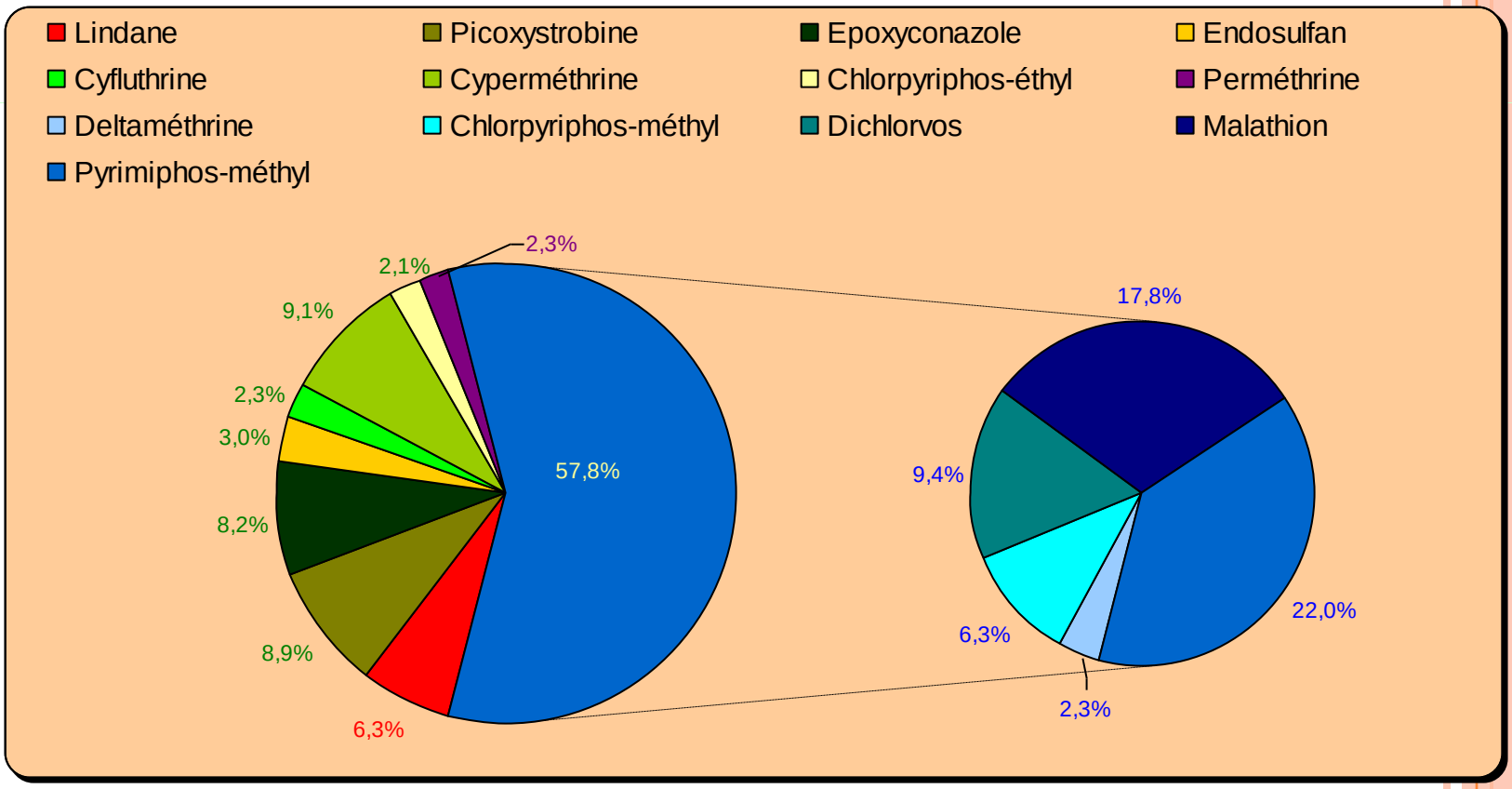
  Conventional farming (most used molecules)

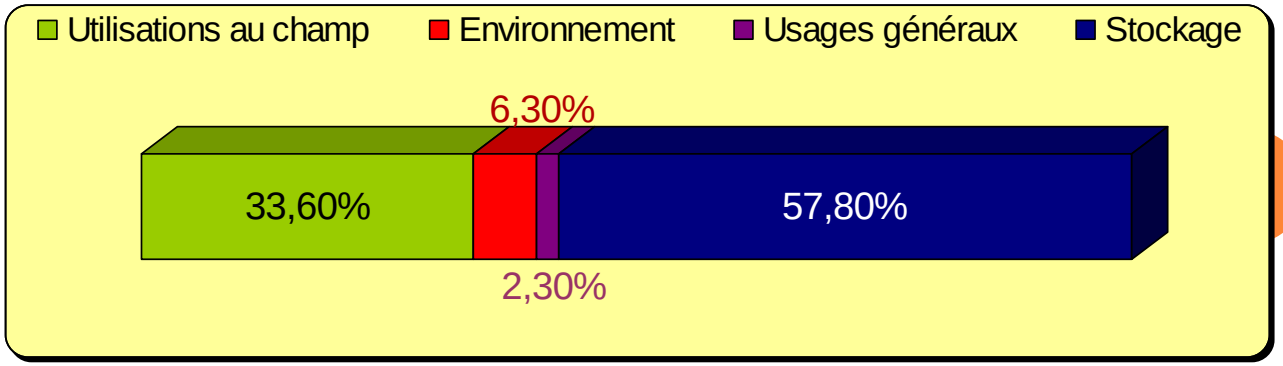
  Technological Effects (storage)

- Definition of specific molecules for each of these possible contamination: list of indicators of contamination sources

Contaminations sources

Results
Cereals





Conclusion

- Efforts from stake holders to reduce pesticides and GMO contaminations
- Better quality of the organic products
- Collective will within the organic sector
  - to have a better knowledge of the organic products
  - To improve the way to check during the whole period of production.

- What we are doing is one of the tools could be developed to reduce irregularities and frauds.

- We asked subsidies from our authorities to have a more up dated database available to operators and CBs in 2009.

Thank you for your attention

I can answer your questions if you have any