Agri-BALYSE, a public LCA database of French agricultural products

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Outline

- **Legal context**

- **Participative process**

- **Database Agri-BALYSE**

- **Preliminary conclusions**

- **LCA-FOOD 2012**

Legal Context (1)
The Grenelle 1 Law

August 3, 2009

Article 54

- Provide reliable and complete **environmental information** of the entity **"product and packaging"** for consumers

- Propose **environment-friendly products** at reasonable prices

- Support **Environmental labelling on EU - level**

- Develop **step-by-step** environmental labelling as a completion of the price information

- Active **participation of professional stakeholders**

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Legal Context (2)
The Grenelle 2 Law (Senate)

November 2009

Article 85

- Starting with **January 1, 2011** environmental labelling of the entity "product/packing" has to cover

  ➤ **Carbon equivalents**

  ➤ **Consumption of natural resources or impacts on natural compartments**

- Further specification of the **implementation by category of products** is required

- Special consideration of the needs of **small and medium enterprises (SME)**

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Legal Context (3)
The Grenelle 2 Law (Parliament)

May 2010

Amendment

- An **experimental phase** of at least **one year** of environmental labelling starts **July 1, 2011**

- After completion: **Evaluation of the experimentation phase**

- **If successful**, generalization of the chosen approach by the Parliament, based of the experiences of the experimentation phase

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Participative process
Methodology: Document BP X30-323 (ADEME)

- **Life Cycle Analysis Approach**

- **Greenhouse gas emissions** (CO_2 equivalents) constitute a transverse indicator

- **Multicriteria approach:** identification of other pertinent indicators which are however limited in number
  - Propositions Working Group **Food and Pet food**:
    - **Biodiversity**
    - **Water pollution (eutrophication and aquatic ecotoxicity)**
    - **Water use**

- **Generic public database**

- **Transverse** and **sector methodological rules**

Database Agri-BALYSE (1):
Objectives, target groups

Objectives

- **Environmental Labelling**

  Provide **a public database of LCI/LCIA of agricultural products at the farm gate** as basis for the environmental labelling (as part of the ADEME database)

- **Life Cycle Thinking in the Agri-food sector**

  Support the **environmental optimisation of agricultural production systems** by means of an LCI/LCIA database and a common methodological framework for LCA of agricultural systems

Target groups

- All actors of the **food chain** incl. **consumers**
- **Farming industry, research, extension services**

Database Agri-BALYSE (2):
Expected benefits

Expected Benefits

- Enabling **environment-based purchasing decisions**
- **Environmental optimisation** of agricultural production systems

Project Duration

2010-2012

Database Agri-BALYSE (3):
Players

- **Commissioner**

  ADEME ⇨ Environment and Energy Management Agency

- **Agents**

  INRA ⇨ Project co-leader **Animal production systems**

  ART ⇨ Project co-leader **Plant production systems** and **database issues**

  CIRAD ⇨ **Tropical products**

  ACTA (Network of applied ag-research institutes)

  10 Institutes for Applied Agricultural Research
  Data collection and **implementation** **(methodology, validation)**

A L I M E N T A T I O N

A G R I C U L T U R E

E N V I R O N N E M E N T

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Database Agri-BALYSE (4):
Players

- **Project bodies:**

  Managing Committee   ⇨ operational responsibilities

  Strategic Committee   ⇨ strategic decisions

  Consultation Comm.   ⇨ all stakeholders

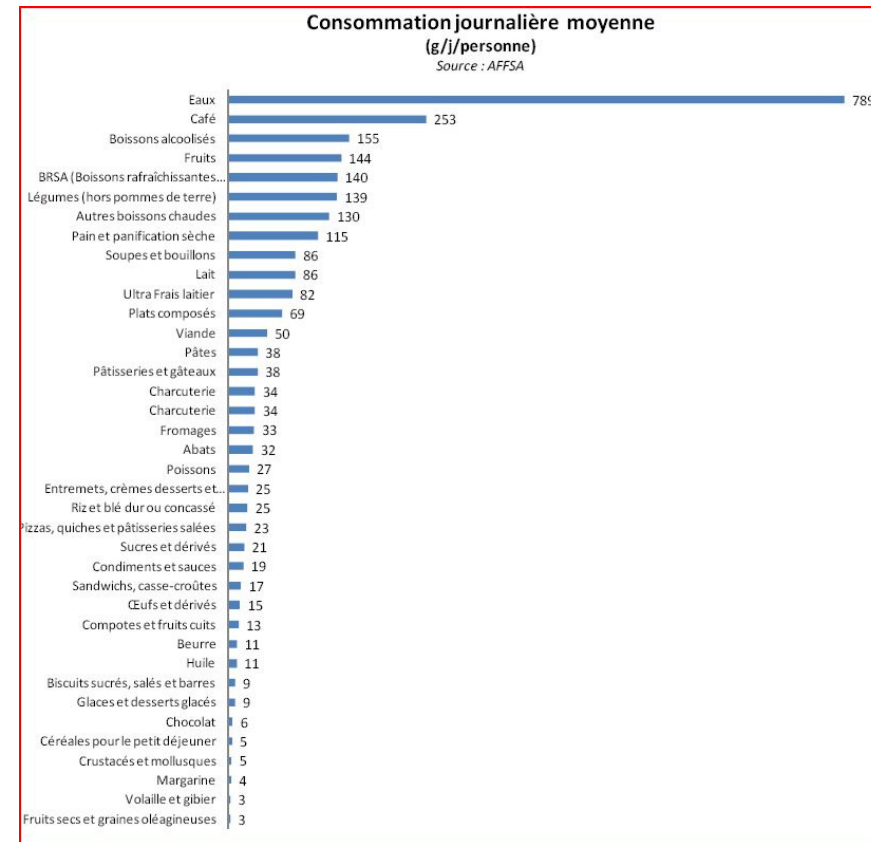 **Review Body** (quality)   ⇨ APCA/ Chambers of Agriculture

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Database Agri-BALYSE (5):
Selection of the products: Principles

- **Target**

  Inventories for approx.
  80 agricultural products

- **Basis of selection**

- Analysis of **consumption behaviour** in France
- Input from Institutes for Applied Agricultural Research

Consommation journalière moyenne
(g/j/personne)
Source : AFFSA

Produit	g/j/personne
Eaux	789
Café	253
Boissons alcoolisés	155
Fruits	144
BRSA (Boissons rafraîchissantes...	140
Légumes (hors pommes de terre)	139
Autres boissons chaudes	130
Pain et panification sèche	115
Soupes et bouillons	86
Lait	86
Ultra Frais laitier	82
Plats composés	69
Viande	50
Pâtes	38
Pâtisseries et gâteaux	38
Charcuterie	34
Charcuterie	34
Fromages	33
Abats	32
Poissons	27
Entremets, crèmes desserts et...	25
Riz et blé dur ou concassé	25
Pizzas, quiches et pâtisseries salées	23
Sucres et dérivés	21
Condiments et sauces	19
Sandwichs, casse-croûtes	17
Œufs et dérivés	15
Compotes et fruits cuits	13
Beurre	11
Huile	11
Biscuits sucrés, salés et barres	9
Glaces et desserts glacés	9
Chocolat	6
Céréales pour le petit déjeuner	5
Crustacés et mollusques	5
Margarine	4
Volaille et gibier	3
Fruits secs et graines oléagineuses	3

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Database Agri-BALYSE (6):
Detail level

- **On average 2 LCIs per product will be supplied**

	Plant production - ART			Animal production - INRA			CIRAD
Level 1	30 to 40 products			30 to 40 products			Citrus fruits Mango Coffee Cacao Rice Palm oil
	+ Additional inventories for machines, buildings and other inputs adapted to the French situation						
Level 2 variants	*60 to 80 inventories*			*60 to 80 inventories*			*6 inventories*
	30-40	20 -25	10-15	30-40	20 -25	10-15	6
	National average	Production Technique	Organic / other label	National average	Production technique	Organic / other label	

Database Agri-BALYSE (7):
Overview – plant production

Legumes Oilseeds, Sugar beet	Other annual crops	Fruit and Vegetables	Special products
1. Pea ✓ 2. Faba bean ✓ 3. Rapeseed ✓ 4. Sunflower ✓ 5. Sugar beet ✗	6. Bread wheat ✓ 7. Durum wheat. ✗ 8. Barley ✗ 9. Potato ✓ 10. Starch potato ✗ 11. Sweet corn ✓ 12. Rice ✓	13. Apple ✗ 14. Peach ✗ 15. Tomato ✗ 16. Carrot ✗	17. Grapes ✓ 18. Red wine ✗ 19. White wine ✗ 20. Rosé wine ✗ 21. Effervesc. wine ✗ 22. Cider ✗ 23. Rose ✗

Additional products: forage and feed crops

　　　　 Confirmed	✓ Variants
　　　　 To be confirmed	✗ No variants

Database Agri-BALYSE (8):
Overview – animal production

Poultry	Pig	Herbivores	Fish and rabbit production
1. **Eggs** ✔ 2. **Broiler** ✔ 3. **Turkey** ✔ 4. **Foie gras** ✘ 5. **Duck** ✘	6. **Pork** ✔	7. **Cow's milk** ✔ 8. **Ewe's milk** ✘ 9. **Goat's milk** ✘ 10. **Beef** ✔ 11. **Veal** ✔ 12. **Lamb** ✘	13. **Trout** ✔ 14. **Bass** ✘ 15. **Bream** ✘ 16. **Rabbit** ✘

▇ (green)	**Confirmed**	✔	**Variants**
▇ (orange)	**To be confirmed**	✘	**No variants**

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Database Agri-BALYSE (9):
Models for field and farm emissions

- **For the following direct emissions, simulation models will be used:**
  - **Nitrate (NO_3)**
  - **Ammonia (NH_3)**
  - **Methane (CH_4)**
  - **N_2O**
  - **Phosphorus**
  - **Heavy metals** (Cadmium, Copper, Zinc, Lead, Nickel, etc.)
- Simulation models have to be adapted to **French situation**
- **Evaluation** of the appropriate models is **ongoing**

Some preliminary conclusions

- LCA research should **actively support** initiatives like Agri-BALYSE by assuming the **scientific responsibility** for LCI data
  - Clear **joined commitment** of INRA and ART for the agricultural sector in France
  - **Strong contribution** from CIRAD and Applied Ag-research Institutes: expert knowledge and high-quality data on production systems
- Project will supply:
  - **LCI/LCIA data** for French agriculture
  - A **consensual methodology** for LCA of French agriculture
  - ► Strong **involvement** of concerned **stakeholders**
- **Combination** of **Environmental labelling** and **Life Cycle Thinking** (Agri-BALYSE), i.e. of static approach (observation) and dynamic approach (improvement strategies) is **challenging**

Thank you for your attention

For further informations about **Agri-BALYSE**:

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LCA FOOD 2012 will be in France

We welcome you to join us at
INRA Rennes

Rennes

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