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**Agroscope Reckenholz-Tänikon**  
Research Station ART



# WORLD FOOD LCA DATABASE

PROVIDING RELIABLE AND UP-TO-DATE DATA FOR MORE ACCURATE FOOD AND BEVERAGES  
LIFE CYCLE ASSESSMENTS (LCA), DECISIONS AND COMMUNICATION

3rd International ecoinvent Meeting, St. Malo, October 5th 2012

An De Schryver

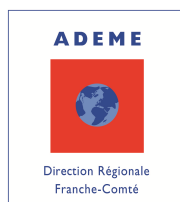
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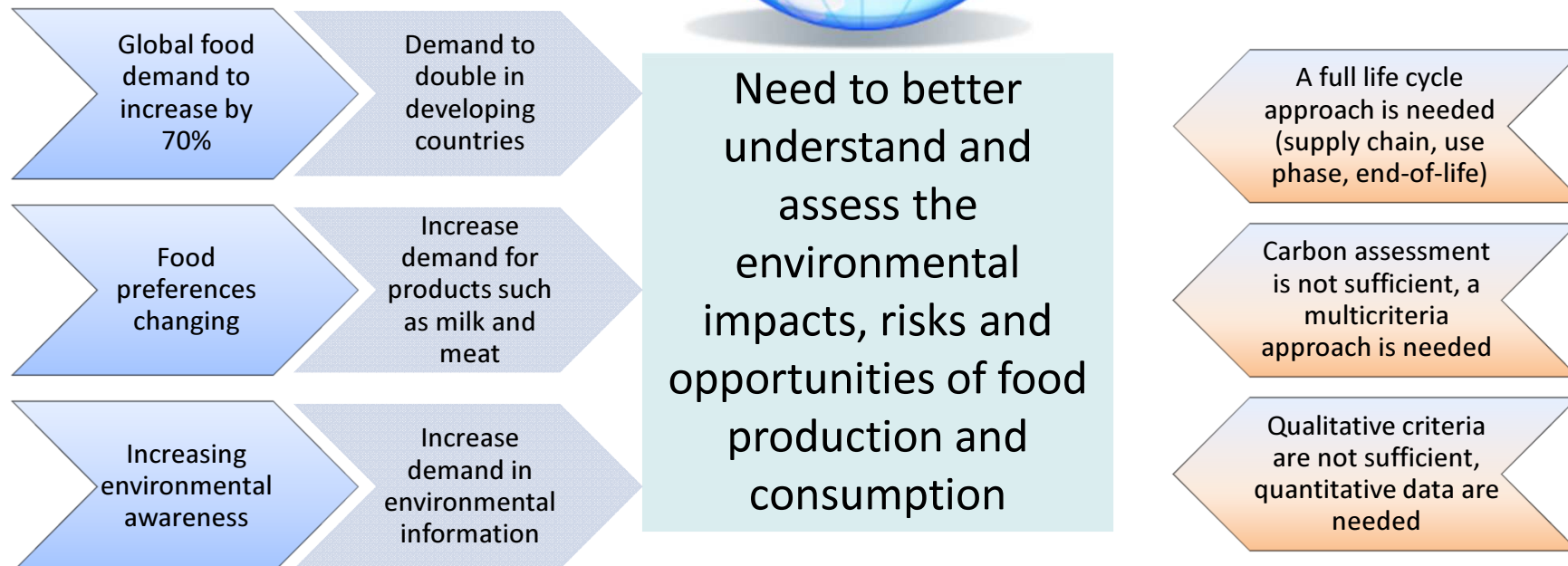
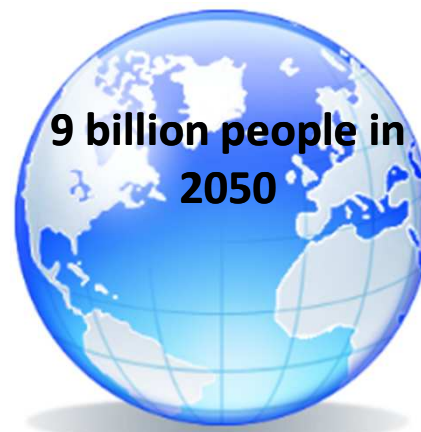
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■ ■ ■ ■ Background

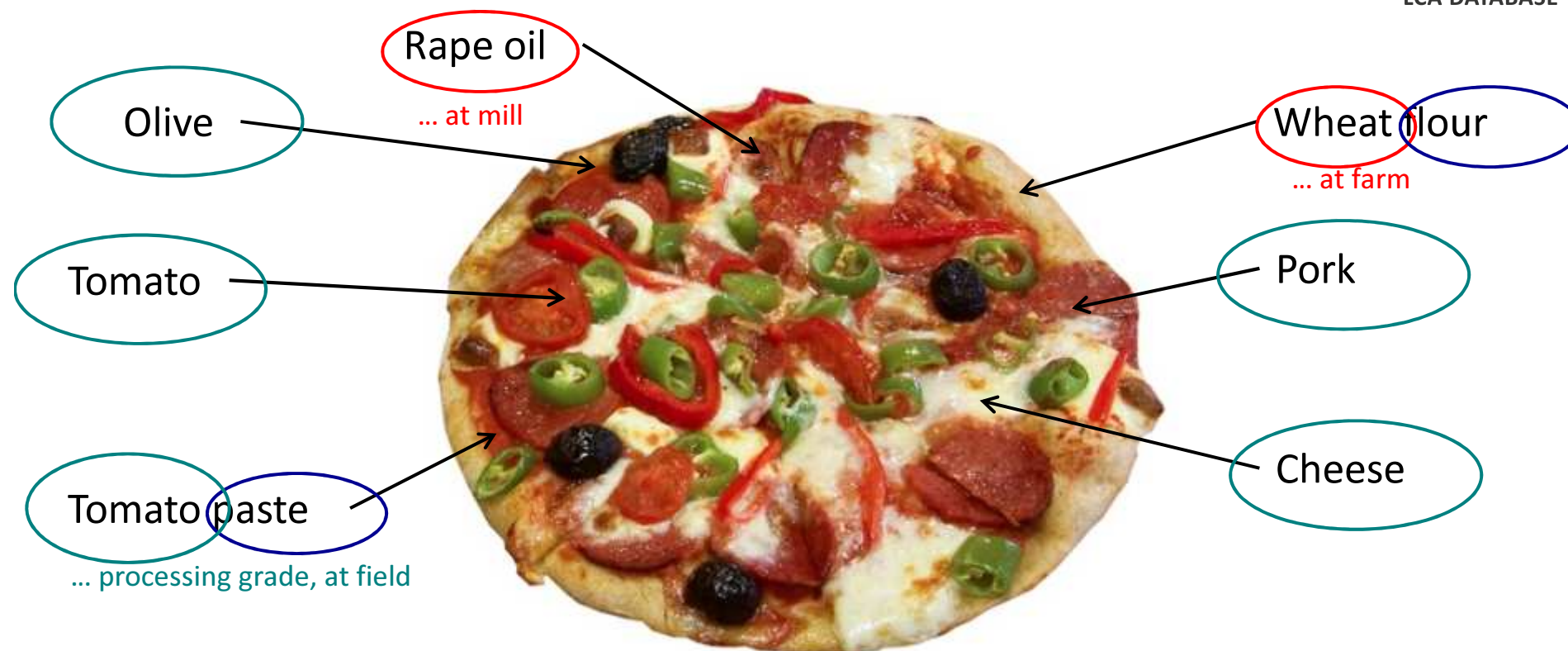
# Global challenge



## ■ ■ ■ ■ Why a food LCA database?

- Life Cycle Assessment (LCA) increasingly used in the food and beverage industry for “ecodesign”, hotspot analysis but also for communication and labelling
- An efficient sustainable strategy is a credible strategy
  - Credibility means good, reliable and transparent data to base decisions and communication on
  - **There’s a lack of inventory data** on food products and processes in major transparent LCA databases
  - Having better information means:
    - Being able to anticipate
    - Increase likeliness to take good and right decisions
    - Strengthen the communication

## ■ ■ ■ ■ The example of a pizza LCA



It also addresses the lack of differentiation of management practices (intensive, free range, greenhouse, open field, etc.)

**World Food LCA Database** completes gaps

- Ingredients
- Manufacturing processes



■ ■ ■ ■ The World Food  
LCA Database (WFLDB)  
project

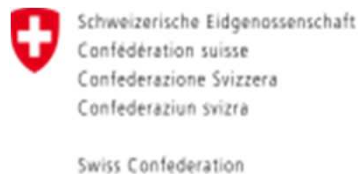


**WORLD FOOD  
LCA DATABASE**

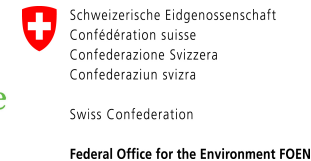
# What is the World Food LCA Database?



## Co-founders



## Partners



## Project

Bringing together experts from all stakeholders of the food chain to develop a comprehensive and up-to-date inventory of food LCA datasets



Information from farm to manufacturing and end-of-life



Geographical data to reach regionalised datasets

## Outcome

Comprehensive and international database for accurate and precise food life cycle assessments



■ ■ ■ ■ Modelling



## ■ ■ ■ ■ Scientific modelling guidelines

- Based on existent guidelines
- As first basis ecoinvent and ISO 14040/44 compliant
  - ILCD, TSC
- Agricultural specific modelling
  - Different guidelines
  - Most up to date, complexity, data availability

## ■ ■ ■ ■ Scientific modelling guidelines

### ■ General modelling principles: ecoinvent

- Naming of the processes
- Documentation
- System boundaries
- Allocation (following the four principles)
  - In Simapro at first the default, economic with carbon correction
- End of life (recycling)
  - Same as ILCD
- Water consumption

## ■ ■ ■ ■ Scientific modelling guidelines

- Agricultural specific modelling, e.g.,
  - Direct emissions of N and P → SALCA
    - Model from Agroscope
    - Previous version is also used in ecoinvent
  - Direct/indirect land use, transformation (deforestation)
    - Based on PAS 2050
  - Emissions from land transformation
    - Müller-Wenk, Brandao (2010) Climatic impact of land use in LCA—carbon transfers between vegetation/soil and air

## ■ ■ ■ ■ Deliverables: format

- Different formats for different softwares
- The WFLDB processes:
  - CSV format (SimaPro)
  - ecospold 1 (eco-editor/any other software)
  - ecospold 2 (eco-editor/any other software)
  - Quantis SUITE
  - ILCD



■ ■ ■ ■ Outlook

## ■ ■ ■ ■ The World Food LCA Database

- Significant improvements to perform environmental assessment of food products
  - More complete assessment
    - Including deforestation
  - High quality data
    - Consistent
    - Up-to-date
  - Multi-indicators, including water
  - Transparent and defensible
- Consider environmental inventory data in food and food related products & processes design

Thank you



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