



Life Cycle Assessment (LCA) of food products: How useful is it for consumers and retailers?

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With the support of the whole Life Cycle Assessment Group

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Characteristics of LCA (ISO 14040/44)

- Environmental management tool
 - *Meant for decision-makers!*
- Life cycle analysis: „from cradle to grave“
 - *No transfer of environmental load along the value chain!*
- Comprehensive assessment of environmental impacts
 - *No transfer from one environmental issue to another one!*
- Potential environmental impacts assessed by models
 - *No risk assessment!*
- Environmental impacts related to reference unit:
 - ha of cultivated area
 - kg of product, MJ of digestible energy produced



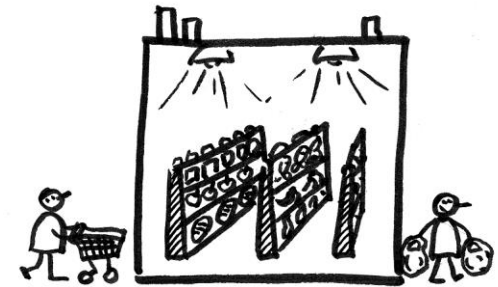
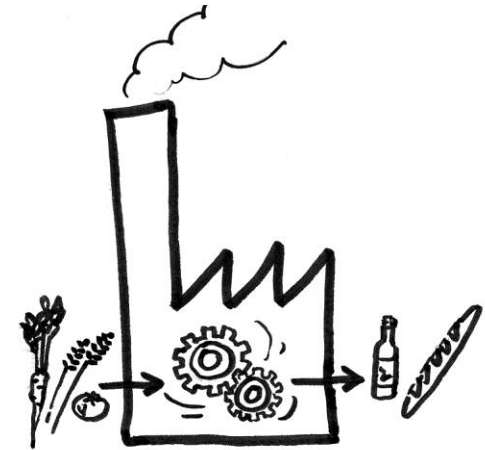
Target groups (1)

Principle

- LCA are directed towards Decision-makers
- Consequently, decision-makers with a strategic organised knowledge management have clear advantages

Target groups directly addressed

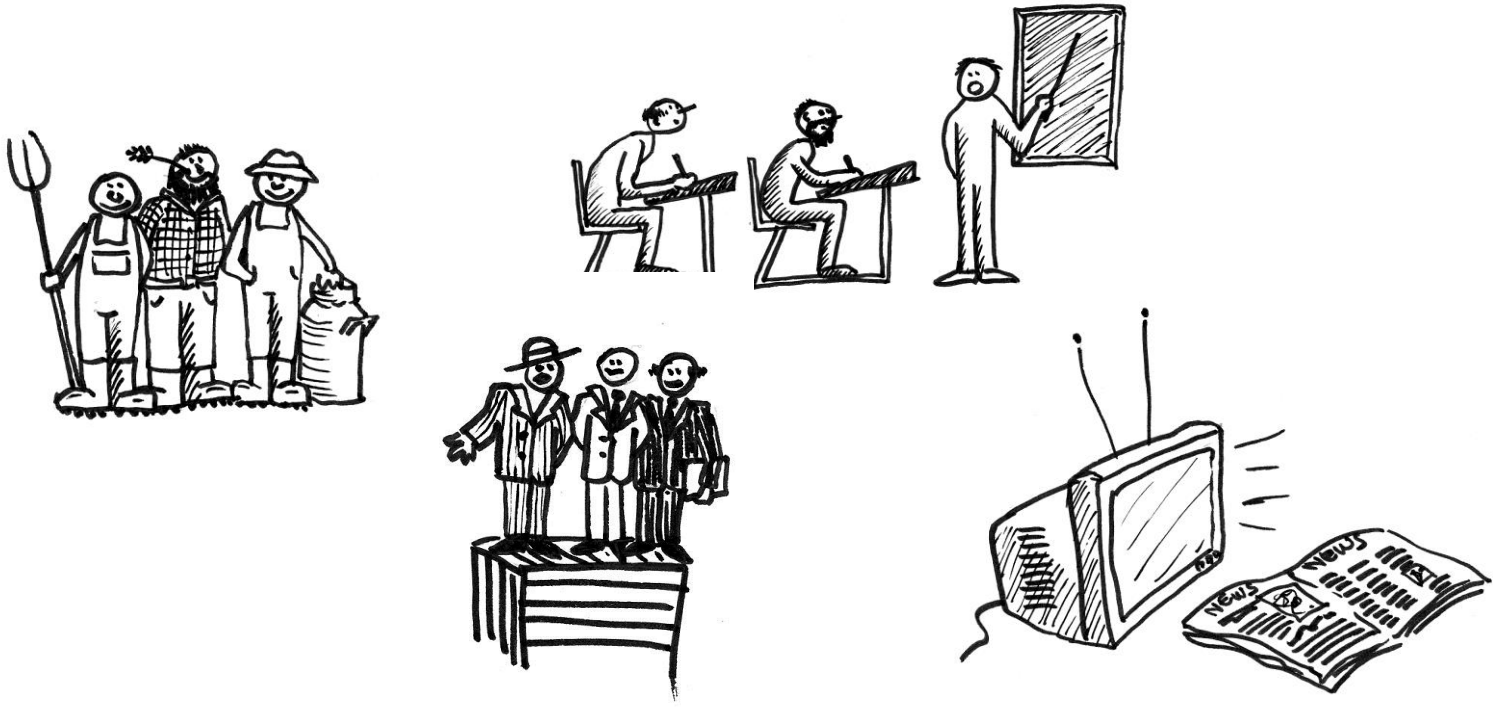
- **Private sector**
 - Retailers, Food industry and energy companies
- **Authorities**
 - Ministries
 - Governmental agencies, FAO



Target groups (2)

Target groups indirectly addressed, namely through

- Knowledge transfer organisations
 - Farmer associations, extension services (*Farmers*)
 - NGO (environment, consumer organisations) and media (*Citizen, Consumers*)



Differences and similarities between retailers and consumers

- Retailers
 - **Advantage** of a strategic organised knowledge management about environmental issues?
 - Sustainability team: yes
 - Purchasing team, marketing team, management?
- Consumers
 - **Disadvantage** of missing awareness and corresponding knowledge?
 - For 95% of the consumers: probably
 - But 5% correspond to several million people in Europe!
- Perhaps more similarities than differences?!

Knowledge expectations from society

- Explicit information about figures

Self-management of the information

- Carbon footprint of food products

- Decision basis for food purchase and consumption

Case study based recommendations

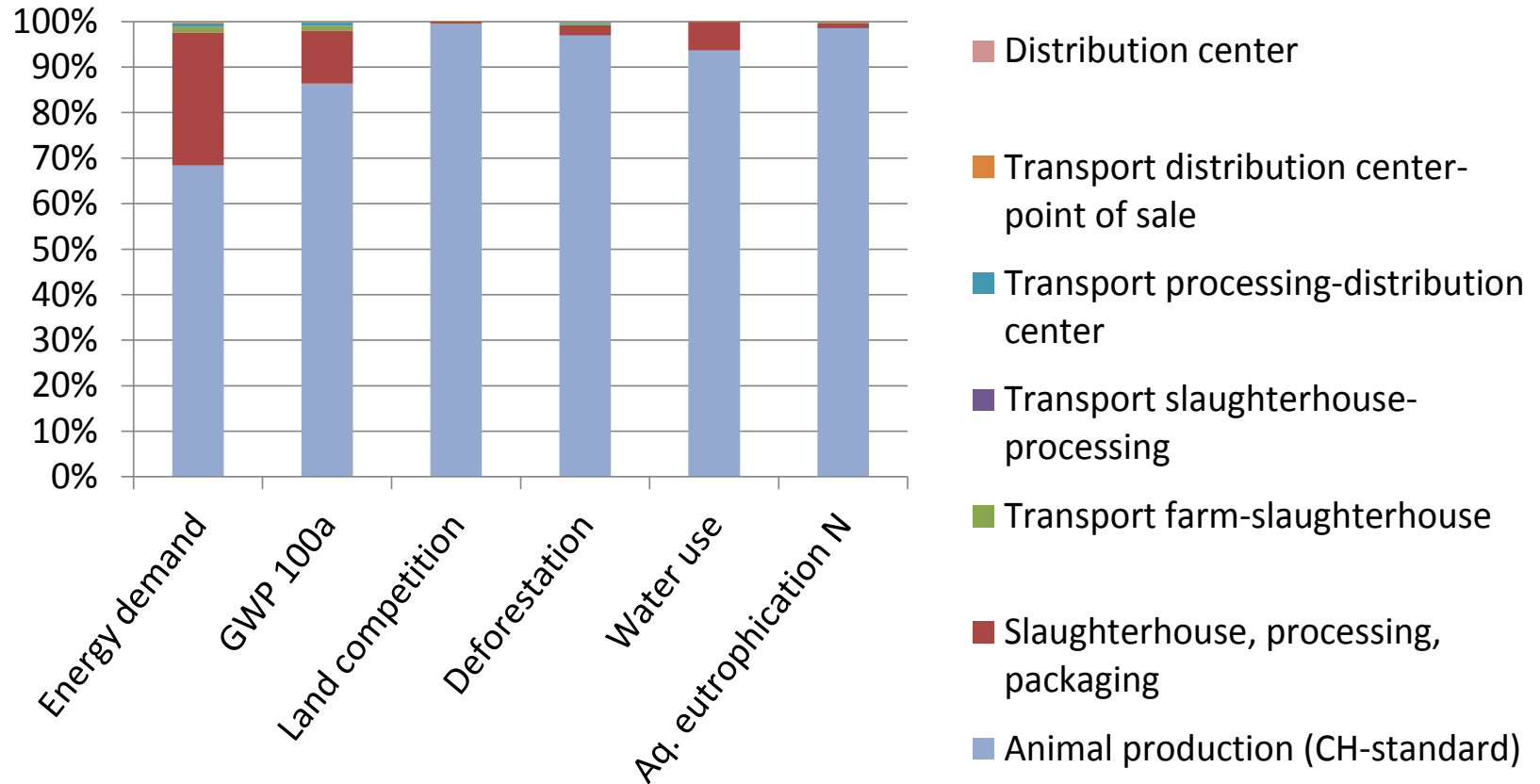
- Organic versus conventional
- Regional versus international
- What is good for environment, which type of actions can be taken?

- Information about environmental behaviour of food producers

Implicit communication

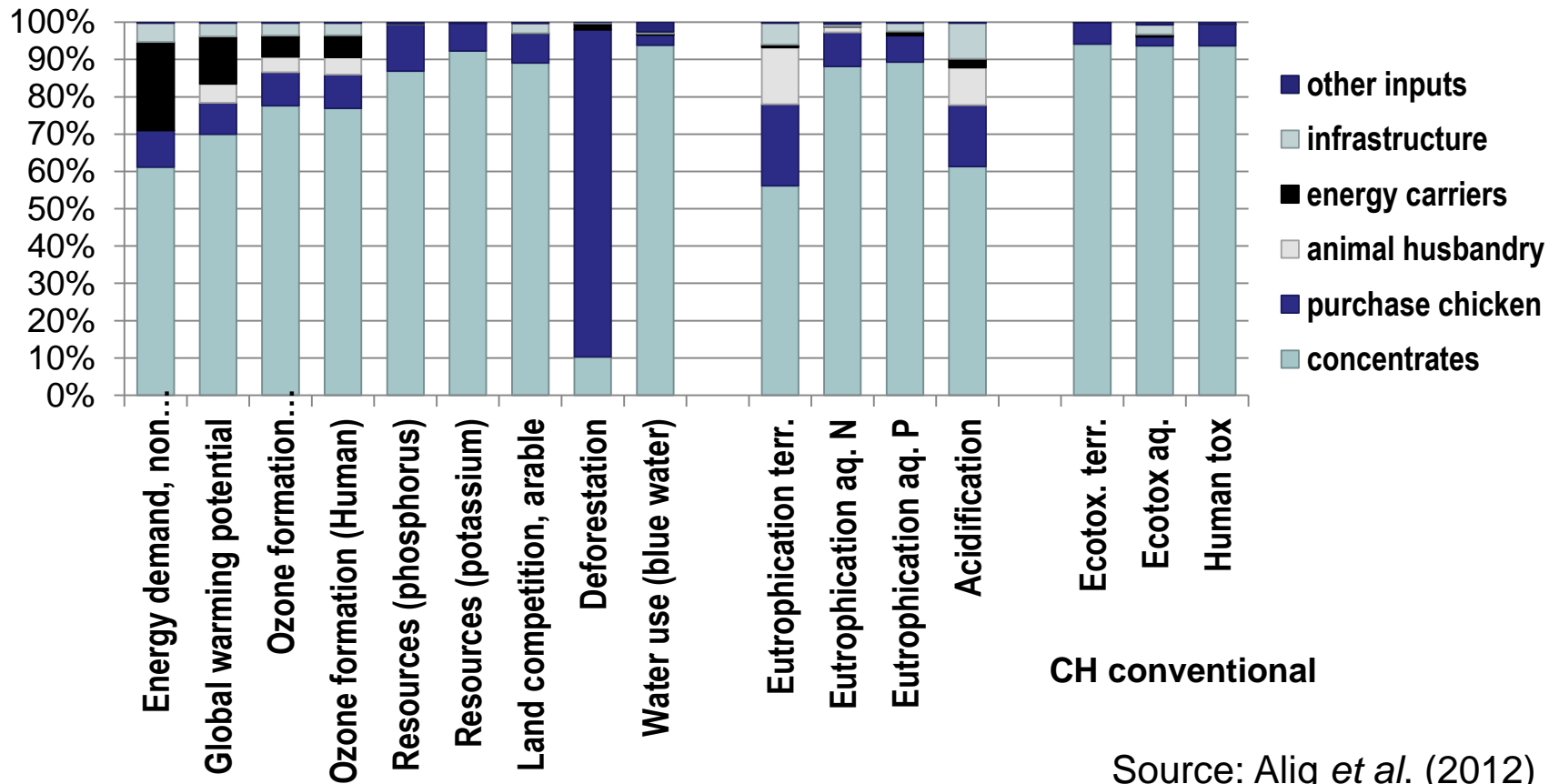
- labels
- sustainability strategy of the retailer

Which production step does matter? Chicken meat at the selling point





Which production step does matter? Chicken at the farm gate

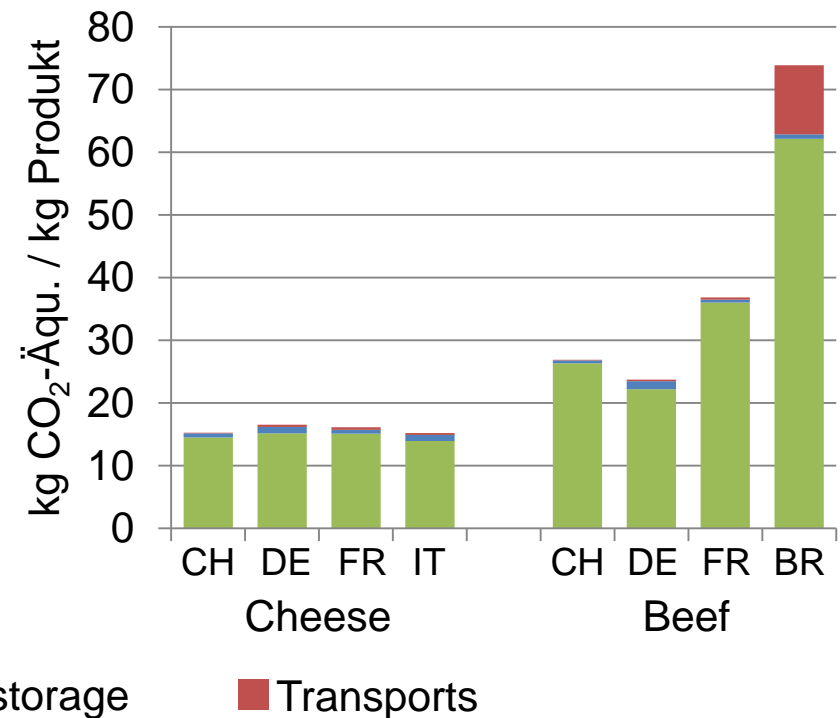
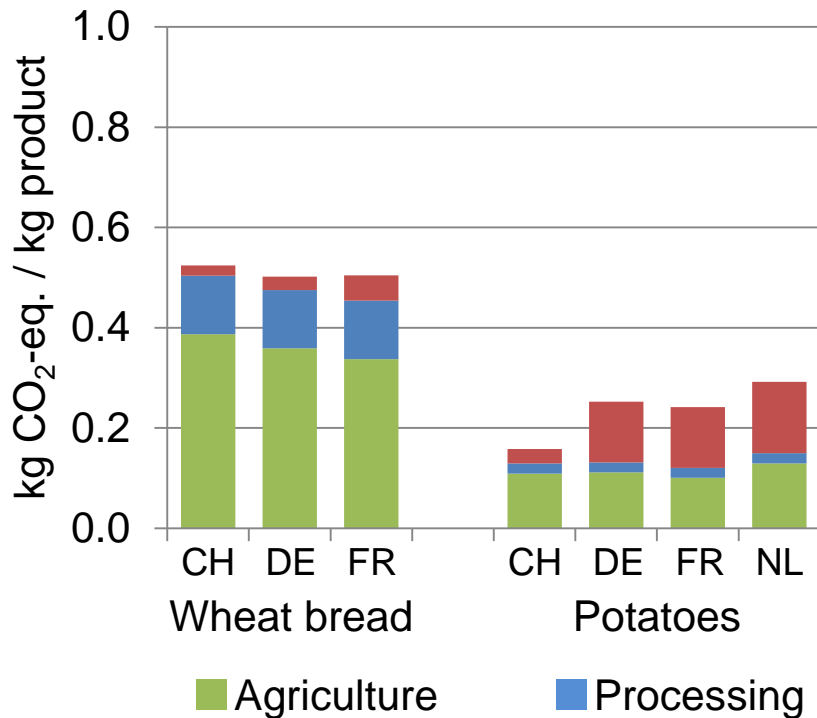


CH conventional

Source: Alig *et al.* (2012)

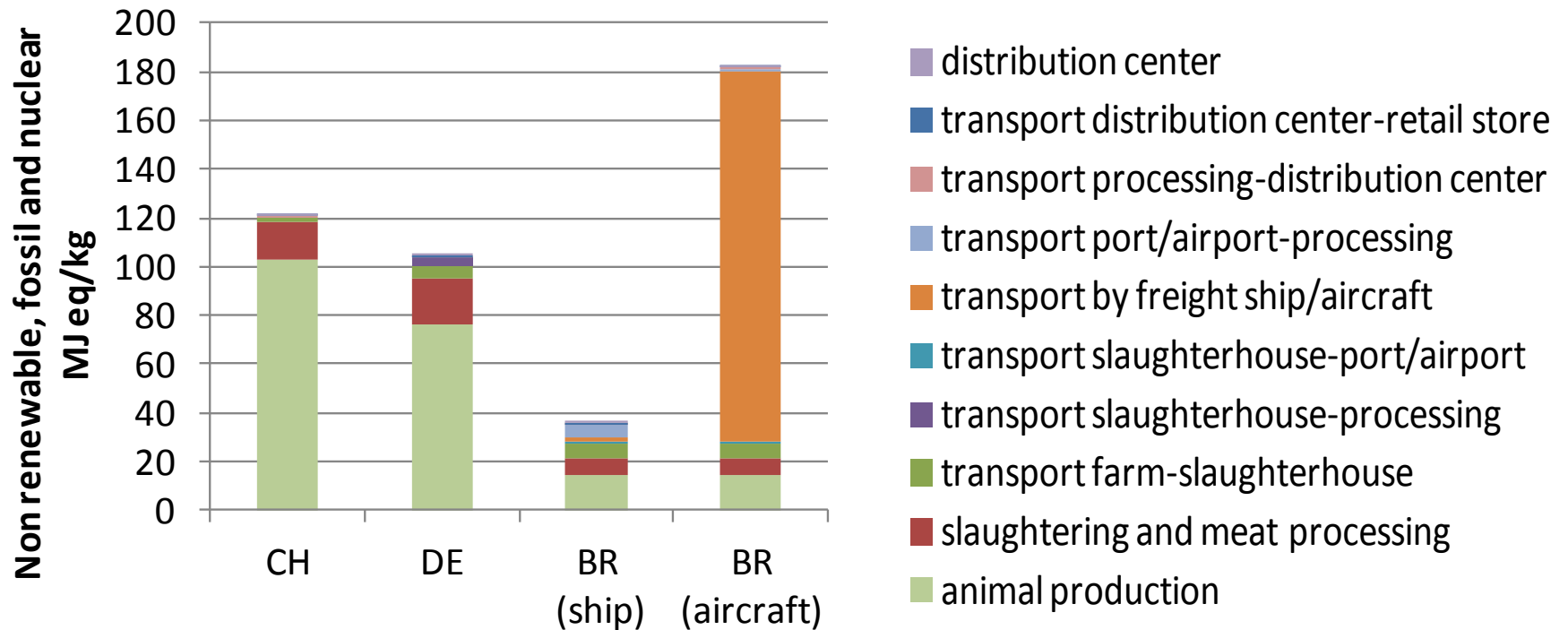


Which production step does matter? Does the production country matter? Domestic and imported products: GWP



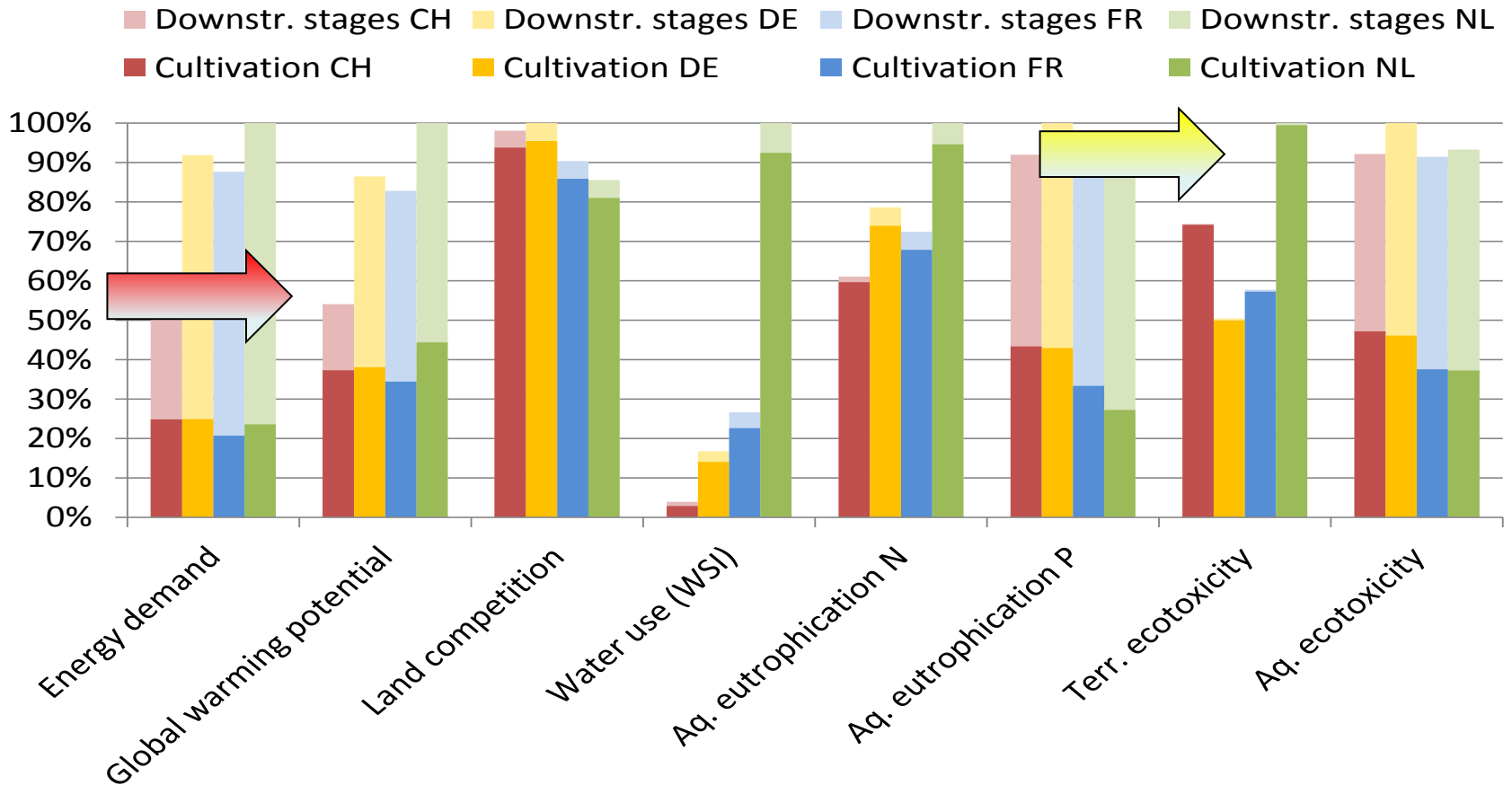
Does transport really not matter for meat?

Non renewable energy for beef meat



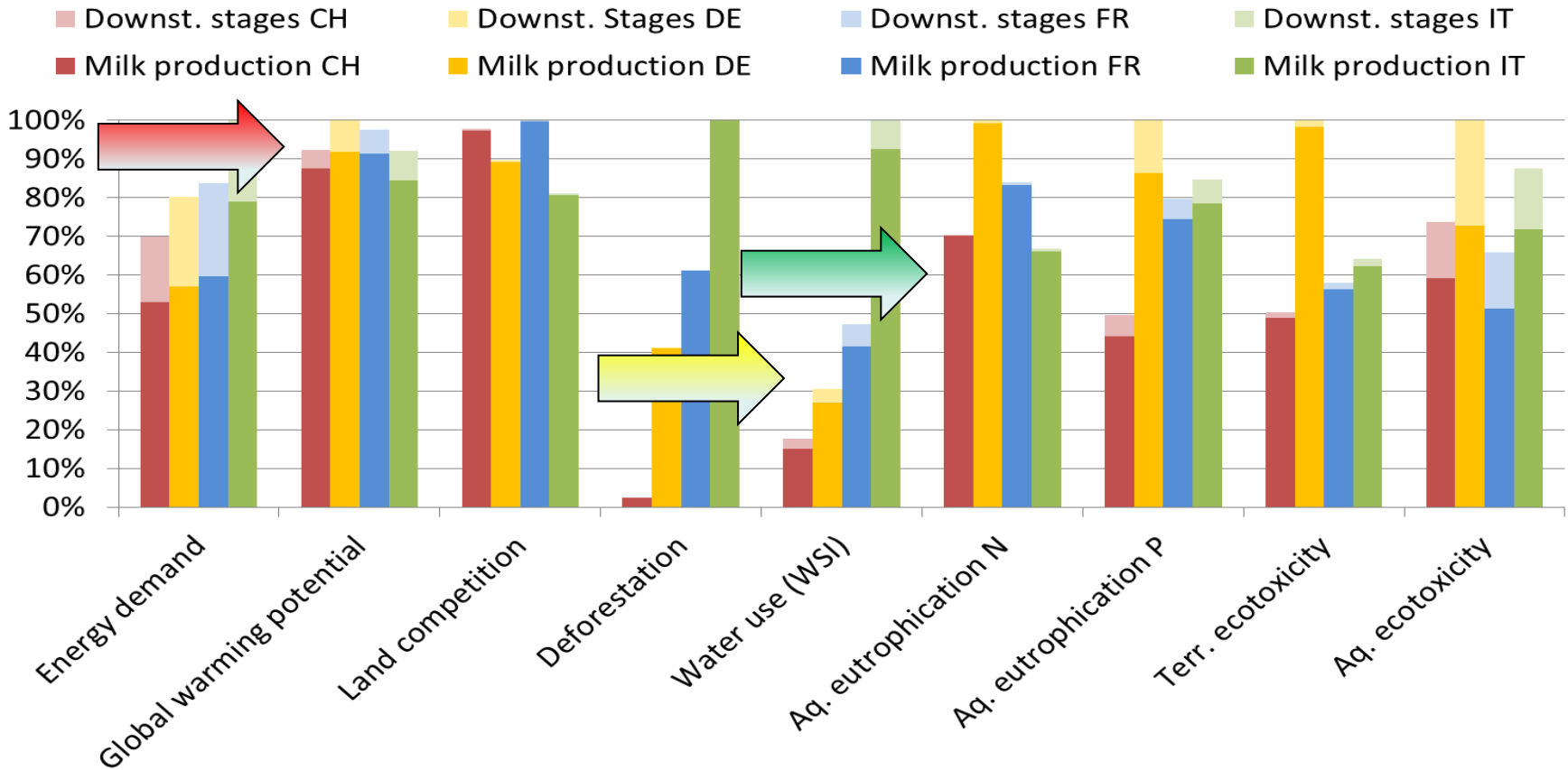
Does the production country matter?

Table potatoes produced in Europe and sold in Switzerland



Does the production country matter?

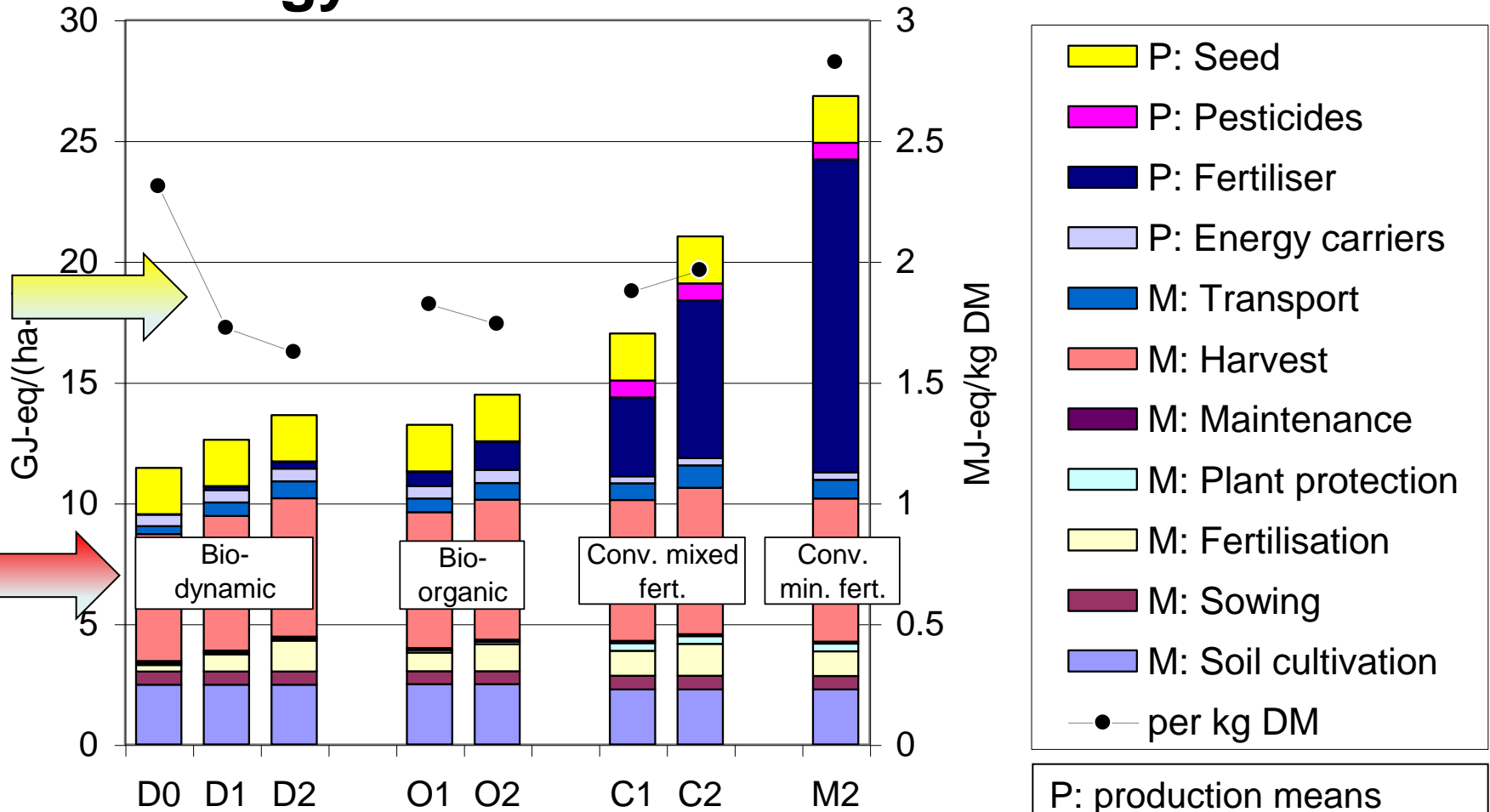
Cheese produced in Europe and sold in Switzerland



Does the farming system matter?

Organic and integrated farming (DOC-trial)

Energy demand



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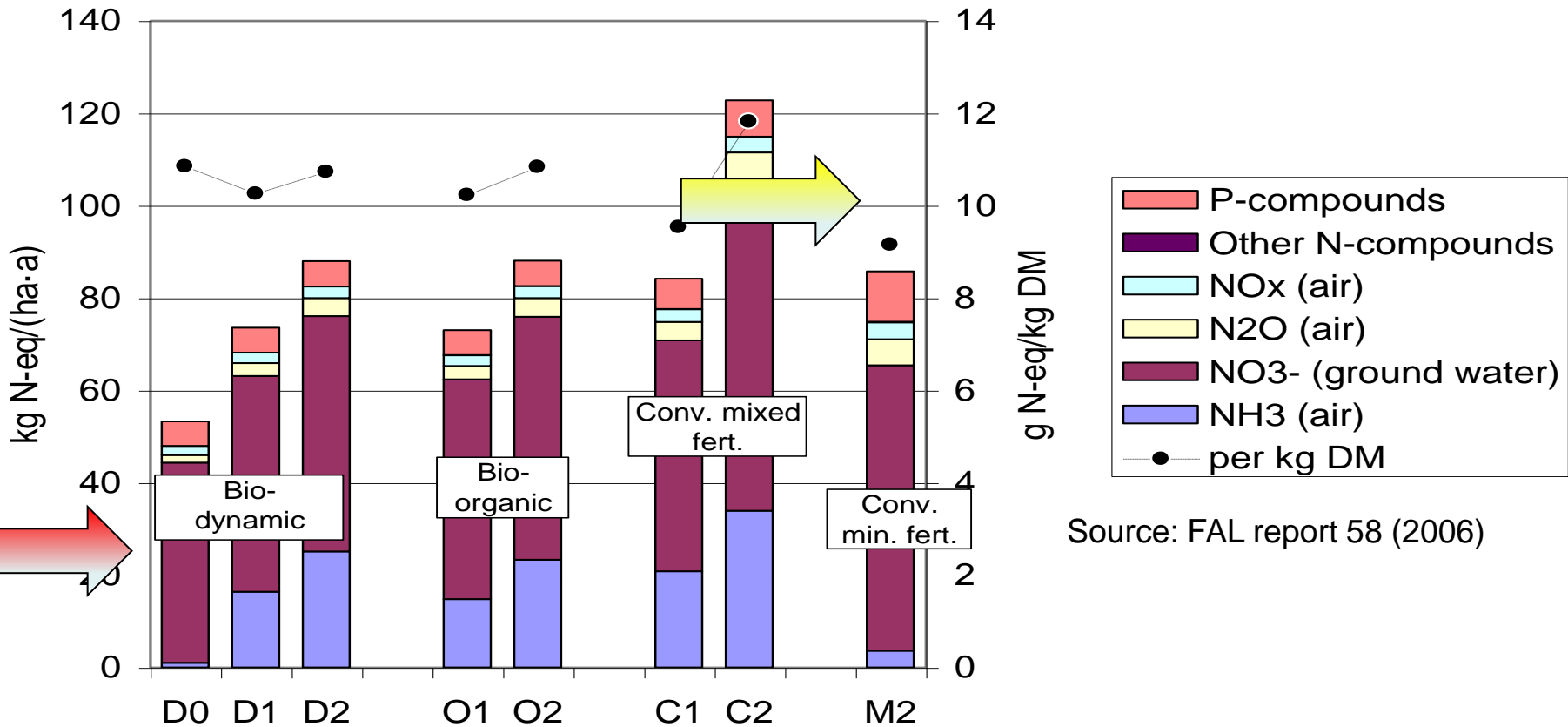
P: production means
M: mechanisation

Source: FAL report 58 (2006)

Does the farming system matter?

Organic and integrated farming (DOC-trial)

Eutrophication

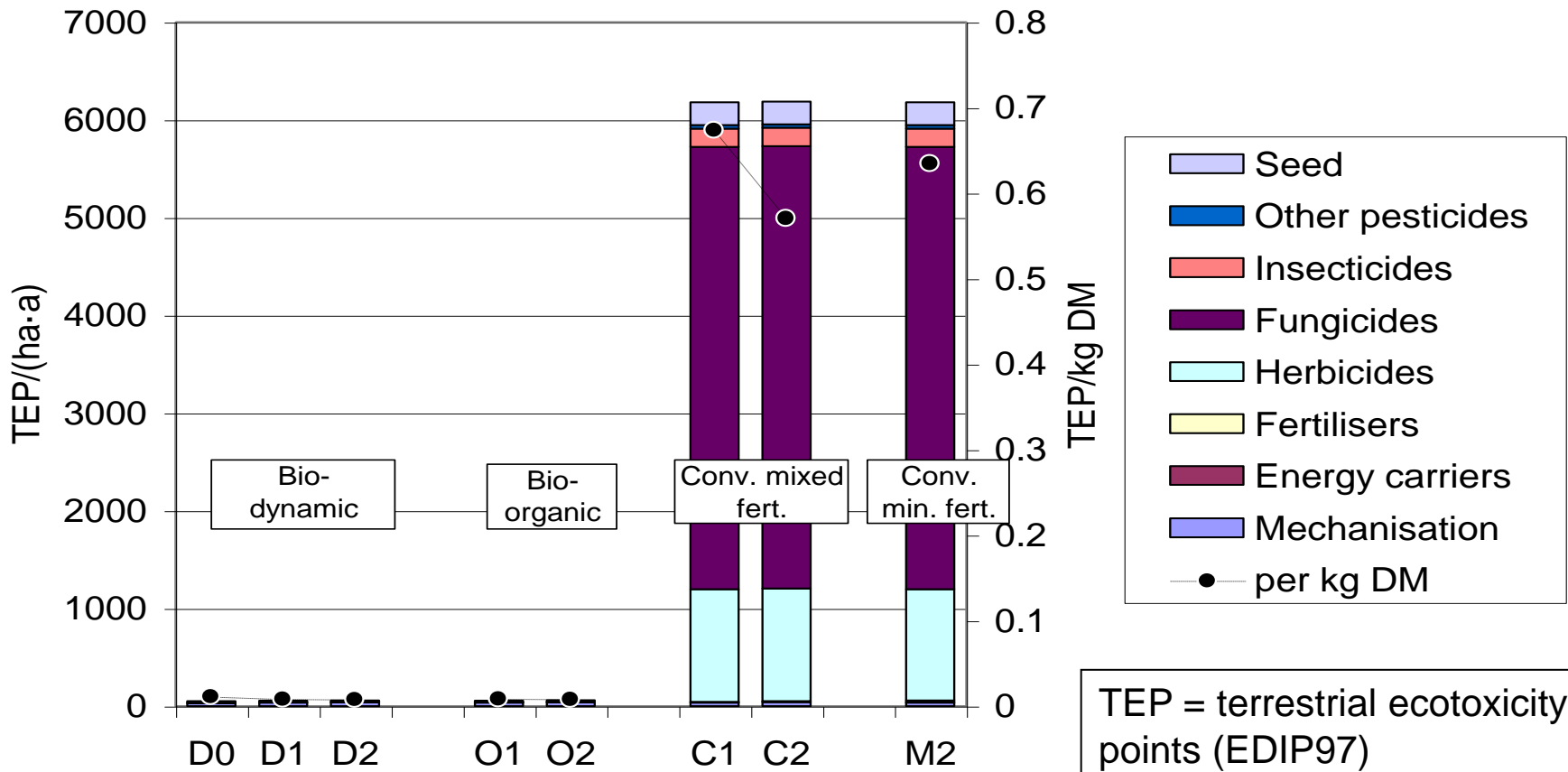


Source: FAL report 58 (2006)

Does the farming system matter?

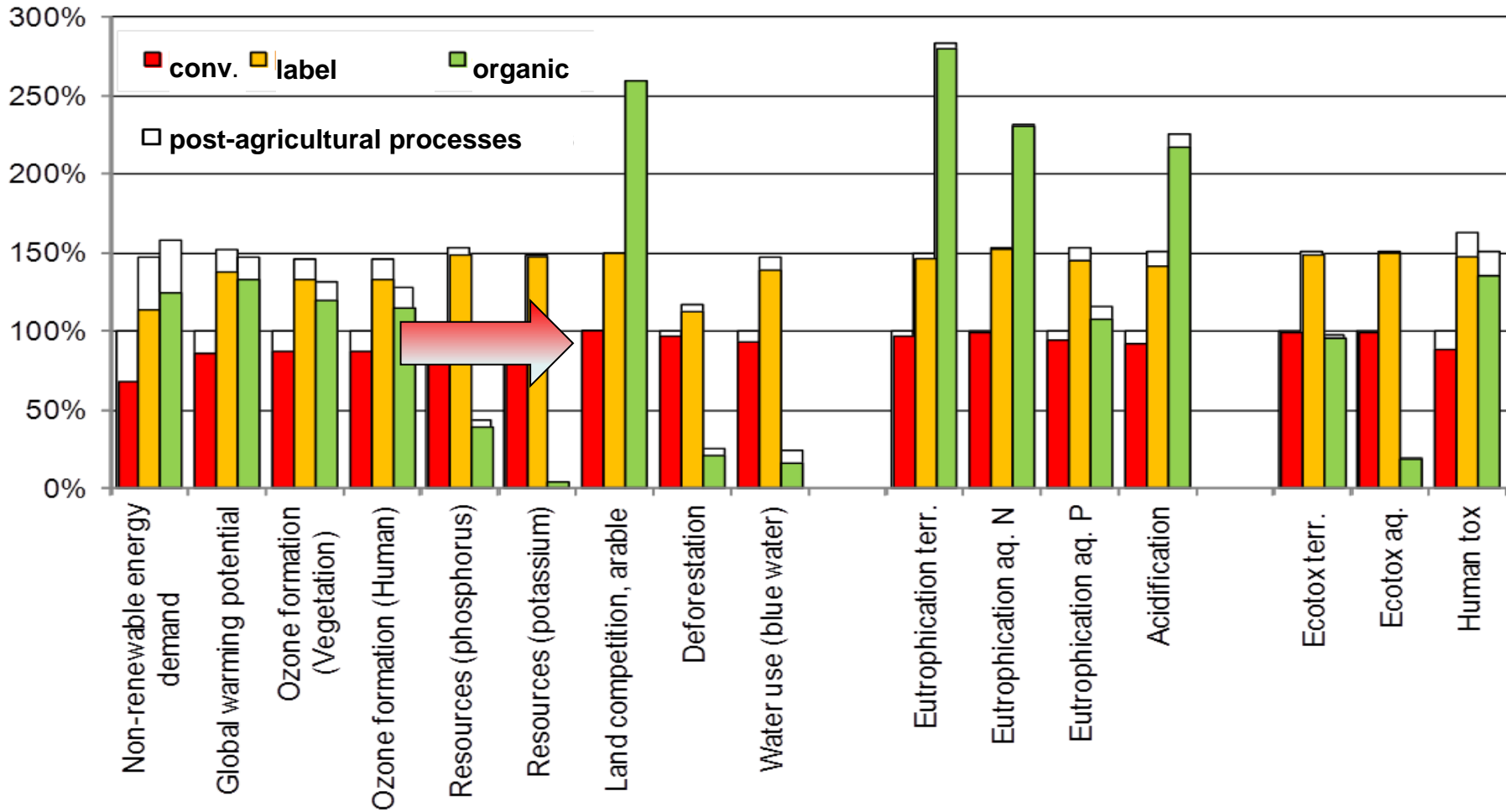
Organic and integrated farming (DOC-trial)

Terrestrial ecotoxicity



TEP = terrestrial ecotoxicity points (EDIP97)

Do the farming system and animal welfare matter? Swiss chicken production





Questions?!

- **Are you confused or lost?**
- **Do you trust me and why?**



Simplifying / Trusting?

- If things are complex, we have to accept complexity and learn to cope with it
 - The question is not how to simplify the methods, but how to simplify the communication
- If we cannot learn complexity, we must be able to trust those able to cope with complexity
 - The question is: how to build trust
 - By setting strict rules?
 - By setting efficient governance rules?



Thank you for your attention



Agroscope good food, healthy environment