agri benchmark

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# *agri benchmark ORGANIC*
## an approach to understand and compare organic farming systems world-wide

*International Conference on Sustainable Development of Natural Resources in Africa, Ghana, 5 - 7 December 2011*

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## Why do we need to compare organic systems?



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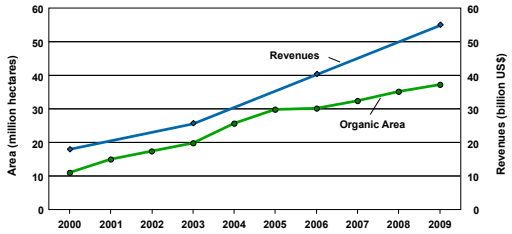
## Growth of the global organic area and market for organic food and drinks, 2000-2008




Source: Own presentation based on IFOAM / FIBL (2011)



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## To sum up

- Organic supply and demand is growing
  → international trade / quality standards / competitiveness are becoming more important
- General information on organic farming available
  → FiBL/IFOAM: World of Organic
- BUT – There is a lack of detailed information on
  - production structures
  - economic performances
  - processing and trade

  at global scale



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## What is *agri benchmark*?

## Key characteristics

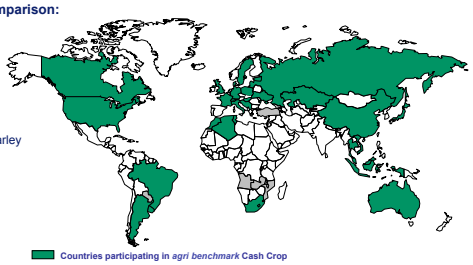
- International network of agricultural economists, advisors, producers and specialists in key sectors
- Internationally standardised methods to analyse farms
- Combination of farm-level knowledge, international commodity markets and value chains
- "You put your country in and get the world back"



## Countries in the *agri benchmark* Cash Crop Network

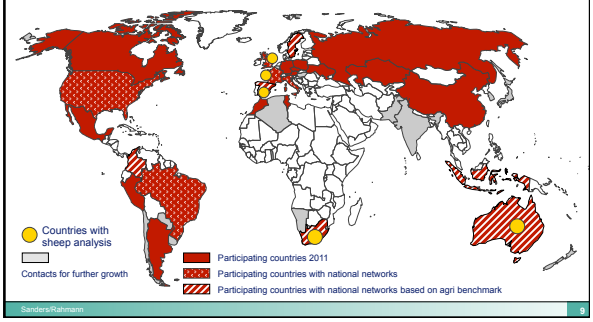
**Crops in the comparison:**
Corn
Soybeans
Wheat
Sugar beet
Rice
Rapeseed
Oats
Rye
(Malting) barley
Sunflower
Sorghum
Cotton
Peas
Beans
Palm oil

**Pipeline:**
Sugar Cane






## Countries in the *agri benchmark* Beef & Sheep Network






## Establishment of further *agri benchmark* branches

**Commodity related**

- Dairy
- Pig and poultry
- Horticulture

**Farming system related**

- Organic farming



## Establishment of *agri benchmark ORGANIC* – step by step



## Approach

| | |
|---|---|
| **First step:** | Description of the organic sector |
| **Second step:** | Comparison of production costs |
| **Third step:** | Comparison of ecological parameter (e.g. GHG emission, soil quality) |

**Step 1 - Description of the organic sector**

## Country profile

- Area under organic management
- Number of organic farms
- Production structure (e.g. farm size, land use, crop rotation)
- Number of farm animals per livestock category
- Production techniques (e.g. pasture, silage, feedlot, cut&carry for beef cattle)
- Physical performances / Yields
- Farm gate and consumer prices
- Processing and trade structure
- Import and export
- Production and certification requirements

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## Overview of ecological indicators

| | Indikators | Environmental areas | | | | |
|---|---|---|---|---|---|---|
| | | Ressources | Soil | Water | Air | Biodiversity |
| 1 | **Nitrogen saldo** | + | + | ++ | ++ | + |
| 2 | **Phosphorous saldo** | ++ | ++ | ++ | | + |
| 3 | **Organic matter level** | | ++ | + | + | |
| 4 | **Energy efficiency** | ++ | | | + | |
| 5 | **Greenhouse gase emission** | | | | ++ | |
| 6 | **Soil compaction** | | ++ | | | |
| 7 | *Biodiversity potential* | | | | | ++ |
| 8 | *Soil erosion* | | ++ | + | | |
| 9 | *Pesticid intensity* | | | + | | ++ |
| 10 | *Landscape protection* | | | | | ++ |

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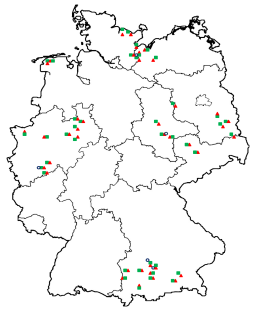
## Example: sustainable indicators for German organic and conventional farms



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- Organic farms
- Conventionell farms
- Experimental stations

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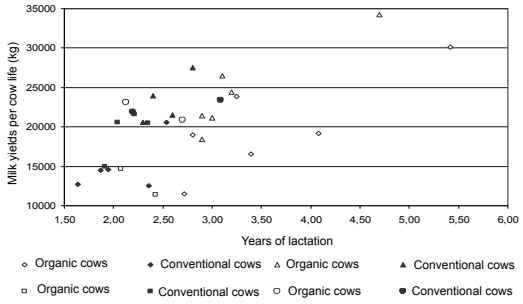
## Milk yield per cow life

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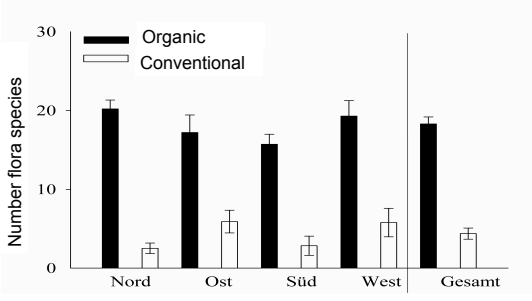
## Biodiversity

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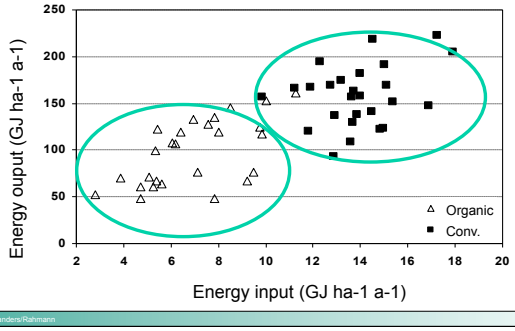
## Energy input and –output of a farm ha$^{-1}$

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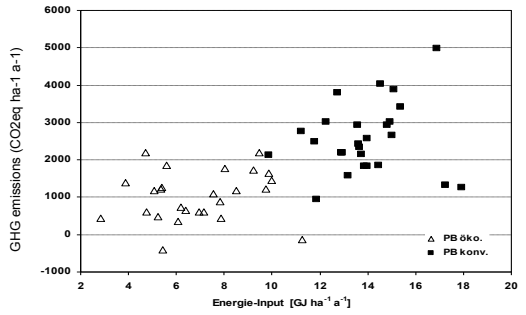
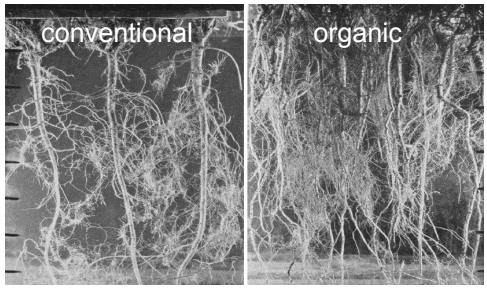
## GHG emission per ha and year



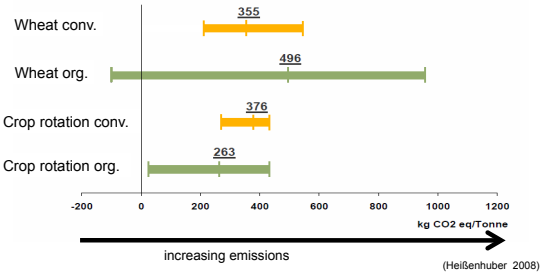



## C sequestion in the soil ($CO_2$ sink)





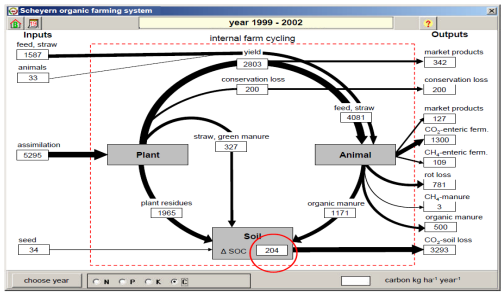

## GHG emission from conventional and organic farms (20:20) per ton of wheat and crop rotations






## Visualisation of nutrient cycles

(Bavaria; Hülsbergen 2008)






## Summary and outlook



## What *agri benchmark* is bringing to the table

1. National and local capacity building through
   - trainings
   - joint data collection / focus group discussions
   - joint research projects.
2. Exposure of national experts to global developments: creates ability to judge external impacts; allows to built own networks.
3. A lasting national infrastructure of experts, farmers (groups) and advisors (if any).
4. Make transparent natural, political and economic framework conditions and use of technologies and their impact on farmers decisions and production/income.
5. Creation of time series: demonstrate how production systems evolve over time.

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agri benchmark
**- passionate about facts**


**Headquator**

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## Mission statement

***agri benchmark* – understanding agriculture worldwide**

*agri benchmark* is a global, non-profit network of agricultural economists, advisors, producers and specialists in key sectors of agricultural the value chains. We use internationally standardised methods to analyse farms, production systems and their profitability. Our farm-level knowledge is combined with analysis of international commodity markets and value chains. In this way we are able to provide scientifically consistent and soundly based answers on strategic issues to decision makers in policy, agriculture and agribusiness.



Step 2 - **Comparison of production costs**

## The data and the methods

- **Typical farms** representing majority of production in important regions (e.g. typical organic dairy or beef farm)
- Typical **production systems** = prevailing
- **Harmonised** selection of regions, farming systems, data collection and processing (standard operating procedure)
- **Feedback** with advisors and producers
- **Detailed** production systems and economic / financial data
- **Whole farm** data and allocation of costs to enterprises
- **Consistent** data sets and **comparability** of results



Step 2 - **Comparison of production costs / Example beef**

## Production systems– feeding and management

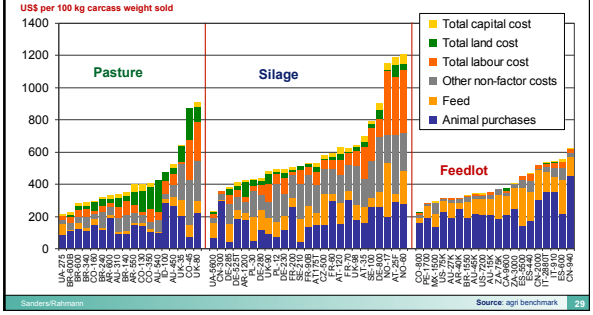
| |  Pasture |  Silage |  Feedlot |  Cut & Carry |
|---|---|---|---|---|
| **Feed % in dry matter** | > 30% pasture | > 30% silage and other forages | > 50% grains and other energy feed | > 30% freshly cut grass & other vegetation |
| **Management/ Housing System** | Outdoor year round or part of the year | Closed or semi-open barns with slatted floors and/or straw bedding | Confined, large, open pens, partially with sun-covers | Mix of pens and grazing of paths and paddies |
| **Extent of purchase feed** | Low | Medium | High | Low |
| **Type of animal** | Mainly steers (and heifers) | Mainly bulls (and heifers) | Mainly steers (and heifers) | Mainly bulls (and heifers) |
| **Main locations** | Southern Hemisphere, Ireland, UK | Europe, China, increasingly South America | North America, Australia, Italy, Spain, South Africa, incr. South America | Asia and Africa |
| **Farm sizes** | Small to large | Medium | Large 1,000-50,000 head one time capacity | Small |



Step 2 - **Comparison of production costs / Example beef**

## Total cost by production systems 2010

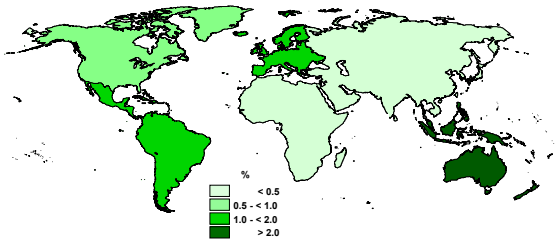
**US$ per 100 kg carcass weight sold**






## Annex

## Share of organic area in total UAA, 2009

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Source: Own presentation based on IFOAM / FIBL (2011)

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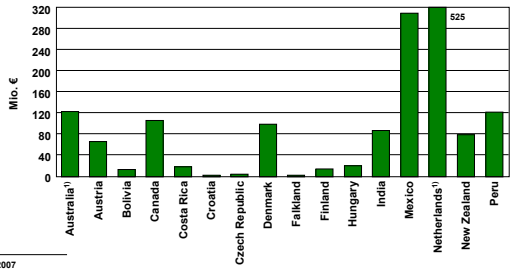
## Estimated value of exports of organic food and drinks in selected countries, 2009




1) 2007

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