

## Promoting environmental technologies in the agricultural sector through technology verification

*-An international meeting for technology developers and suppliers/manufacturers, farmer representatives, authorities and advisors, test institutions and other stakeholders*

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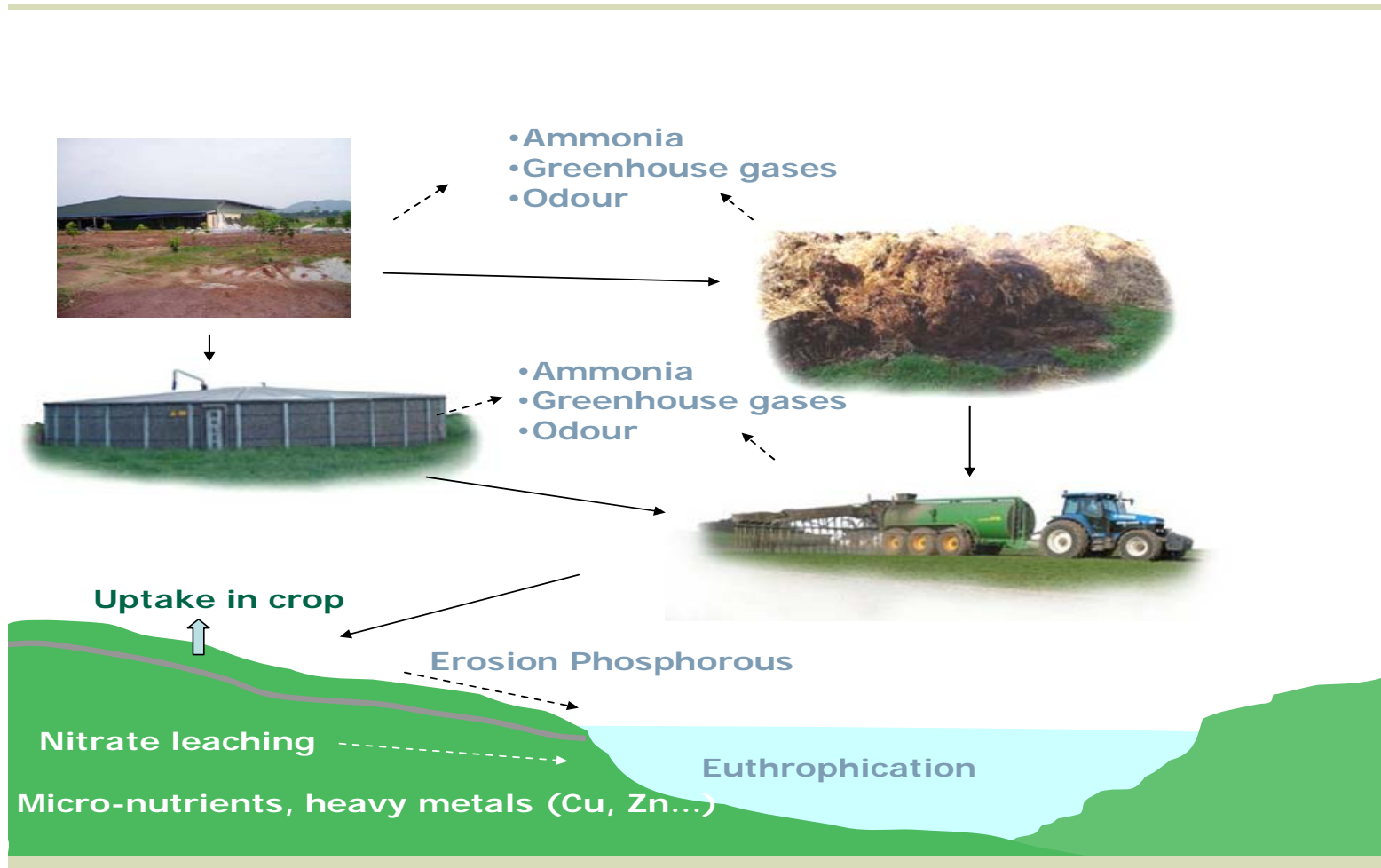


## Content of the presentation



- Identify the central sources of pollution in intensive livestock production.
- Small investigation of the global demand for environmental technologies for agricultural production
- The role of an Environmental technology verification scheme in creating a market for environmental technologies for agricultural production
- Possible ways of widening internationally the coordination of test and verification activities.

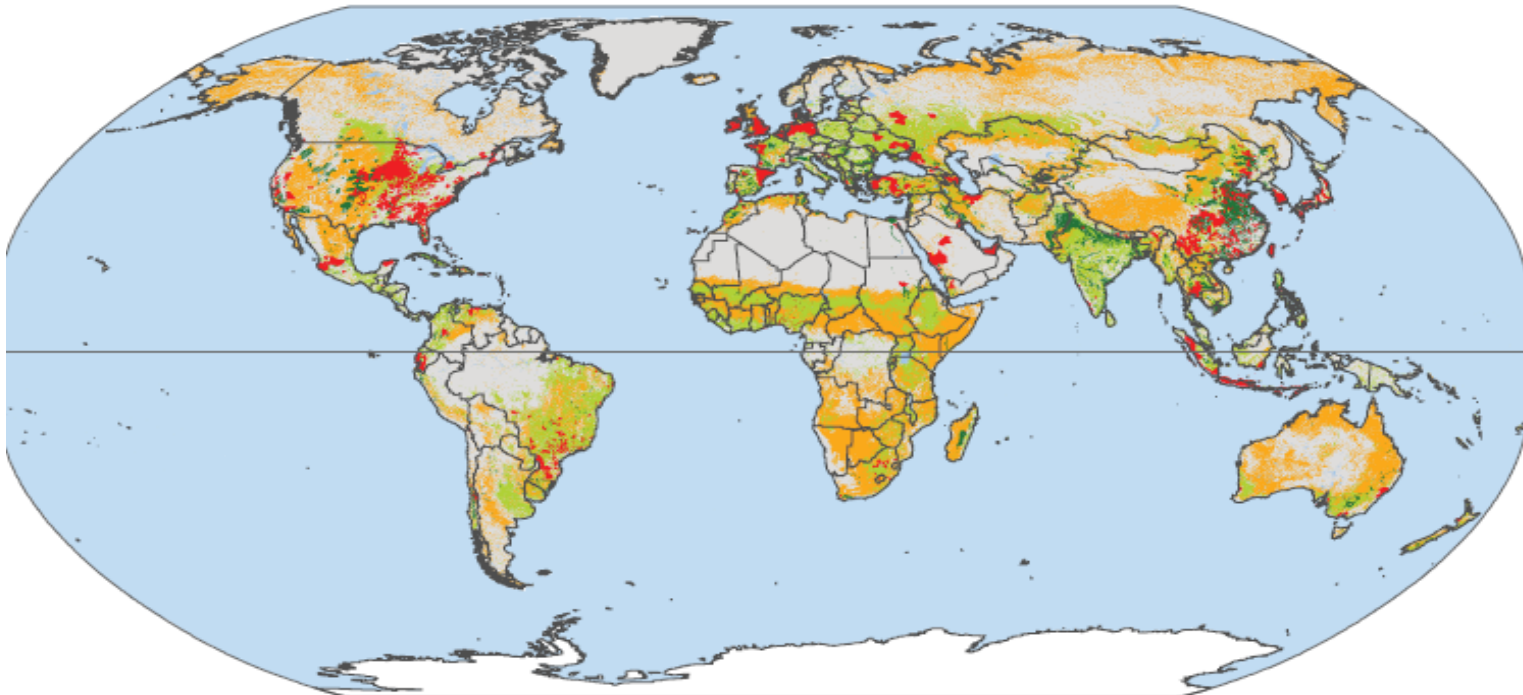
# Central sources of pollution in intensive livestock production



# Estimated distribution of livestock production systems (FAO, 2006)



Map 13 Estimated distribution of livestock production systems



**Livestock production systems**

- |  |  |  |   |
|--|--|--|---|
|  Mixed, irrigated |  Grazing    |  Areas dominated by landless production |  National boundaries |
|  Mixed, rainfed   |  Other type |  Boreal and arctic climates             |   |

Source: LEAD. Based on methodology of Seré & Steinfeld, 1996. Of the land based system classes only the first classification level is displayed. This is based on land cover data (Global Land Cover 2000, available at [www-gvm.jrc.it/glc2000/](http://www-gvm.jrc.it/glc2000/)) and irrigated areas (Global Map of Irrigated Areas, Version 2.1, Siebert *et al.*, 2001). Industrial (landless) production dominated areas refers exclusively to monogastric production. Land-based system held pig and poultry populations are estimated locally according to the approach of Gilbert *et al.* (2004), using total local animal population data [see Maps 16 and 17], national level land-based production estimates [Groenewold, 2004], national human agricultural populations [FAO, 2006b] and a global rural population density grid [LandScan, 2003]. Areas dominated by industrial production systems are sub-national administrative areas in which the aggregated land based system populations produce less than half of the areas total production, accounting for the higher productivity of industrial systems.

# Investigation of the global demand for environmental technologies for agricultural production



- ***Increase global demand for livestock products***

***Demographic factors affects the demand for livestock products :***

- ***bigger populations,***
- ***age structure and urbanisation.***
- ***Growing economies and income levels***

- ***Fewer and bigger livestock production units utilizing from economic of scale***

- ***vertical integration of the ownership of more parts of the production chain***
- ***Increased concentration***
- ***Decreased number of livestock farms, but increased in size***

# Investigation of the global demand for environmental technologies for agricultural production



- *Government policy: a central driver behind the demand for environmental technology for agricultural production*
- *The partnership for industrial biotechnology under the Danish EPA - also called the manure partnership - have initiated a study that among others analyse the policies regulating the intensive livestock production in countries with large shares of the global intensive livestock production. the analysis focus on:*
  - *USA/Canada*
  - *EU (15) and a number of east European countries*
  - *Brazil/Argentina*
  - *India*
  - *China including a number other East Asian countries.*
- *Some of the demographic factors that create a higher demand for livestock production also create a demand for high environmental standards*

## Why test and verification?



- Central stakeholders only have limited information on the performance of environmental technologies, which hampers the development of a market of these technologies.
  - Farmers hesitate to invest in the new environmental technologies for agricultural production
  - Authorities are reluctant to approve that farmers use these new technologies as a part of the environmental solution in their livestock production
  - Investors hesitate to invest in companies that have develop new promising livestock technologies
- ***The cab of information presents therefore a barrier to the development of a market for environmental technologies***

# Why test and verification?



- Thus, VERA will provide reliable and comparable information on technologies that can be used by:
  - Farmers and advisors to identify the best technology solution for a production in order to meet different environmental targets and therefore as a sound basis in their investment decisions
  - Technology producers to sell their technologies not only on a national but on an international level, too
  - Authorities in developing regulation that can fulfil the environmental targets at the lowest costs and in the practical enforcement of environmental policies in connection with environmental approvals and inspections of farms.
  - Investors to assess investment opportunities in the cleantech industry.

# Why international coordination of test and verification activities?



- The case of the air cleaner company SKOV
  - *Will soon have undergone five different test and documentations processes / five different countries with an average time duration of 2,5 year.*
- A central goal of VERA is to coordinate the test activities taking place in different countries
- A scheme that internationally coordinates test and verification activities will facilitate the development of a common market between different countries.
- A common market for environmental technologies for agricultural production will benefit, farmers, producers and not at least the environment.

# Possible ways of widening internationally the coordination of test and verification activities



- Three strategies that exclude each other:
  - VERA is established with an open invitation to other countries and organisations to join
  - The planned EU Environmental Technology Verification scheme expected to be implemented in 2011
  - European Committee for Standardization (CEN)