A 4P-approach in design of pig friendly production systems

Knowing Animals Congress
Firenze (It) March 5th 2009

O.N.M. (Onno) van Eijk
Animal Sciences Group, Wageningen UR, The Netherlands

Contact: onno.vaneijk@wur.nl
Content

- Introduction
- A Pig and a 4P approach towards design for welfare
- Reasons for radical redesign
- Some results of two approaches
- Conclusions
Introduction (1); society

- Societal call for animal welfare
- Animal welfare = important part of sustainability

- Policy goals (NL) in livestock production
  - 5% sustainable stables 2011
  - 100% Group housing of sows 2013 (EU)
  - 100% sustainable production 2023
Introduction 2; Pig production system

- Highly efficient
- Extremely optimized
- Sharp targets

- Sustainability
  - Optimizing on profit and production
  - Other demands (welfare and environment) are add-ons
Our key questions

- How can our research contribute to this social ambition?
- How can we create change in practice?
  - Using a Pig approach
  - Using a 4P approach
  - And what are the differences in effect?
The Pig Approach

- Pig needs
- Brief of requirements of the Pig
- Animal focused solutions
- With subsequent optimization of
  - Environment
  - Workability
  - Economics

Example:
- Which solution can offer thermal comfort, exploration material and satiety.
4P Approach

- Needs of Pig, People, Planet and Profit
- Briefs of requirements (on 4 P’s)
- Radical re-design
- Looking for multi-actor solutions
- Win-win-win-win

Example:
- Which solutions can reduce ammonia emission, improve pig health, stimulate natural behaviour and reduce labour and costs?
To complex?
Sustainable Technology Development

- Optimizing use
- Product and process improvement
- Breakthrough existing practices
- Future orientation

P. Weaver et al, 2000

Diagram depicting time vs. effect with labels for sustainable technology development.
Designing for system innovation

- We need breakthroughs
- Radical re-design offers long term solutions
Roads towards animal welfare
Designing for system innovation

- We need breakthroughs
- Search for long term solutions

Create multiple attachment points /triggers for
  - farmers
  - consumers/market
Preliminary Results
Pig approach design
Comfort class; test facility
Results; Pig Approach

- ☺ Coherent view on animal needs
- ☺ Practical welfare modules
- ☺ Test & demo facility
- ☺ Comfort class
- ☺ Group of farmers adapting elements in practice

- ☹ Limited niche market
- ☹ Limited group of interested farmers / consumers
- ☹ Conflicting solutions (environment-welfare)
4P approach design
Preliminary results; 4P Approach

😊 Multi problem solutions
   😊 Pig toilet
   😊 Diverse feed
😊 Coherent needs v.s conflicting solutions
😊 Broad scope
😊 Total system optimisation
😊 New paradigms

😞 Long term applicability
😞 Missing technology
😞 Integral competences and knowledge
😞 ......
Both the Pig and 4 P approaches are useful in designing for welfare

- P: new insights, new add-ons and welfare focused systems
- 4P: more complex, multiple triggers, broad long term potential

Knowing animals is 1 of 4 keys for improving welfare in practice
Thank you for your attention

Wageningen UR
Animal Sciences Group,
March 2009:
Onno van Eijk
Lucia Kaal
Johan Zonderland
Nanda Ursinus
Arni Janssen
Ellen van Weeghel
Hanneke Miedema
Bart van Tuijl
a.o.

Contact: onno.vaneijk@wur.nl

This project is funded by:
The Dutch Ministry of Agriculture, Nature and Food quality (LNV)
As part of the research program on sustainable production and transition (BO-07-009)