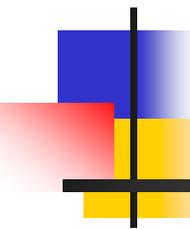


Methodological challenges for
organic dairy cattle research
and development:

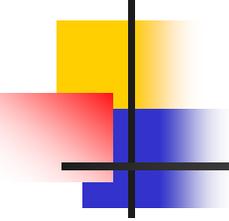


Practice-based evidence rather
than evidence-based practice

Prof. Ton Baars

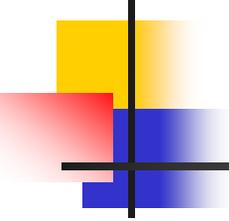
Dep. biodynamic agriculture

University of Kassel / Witzenhausen



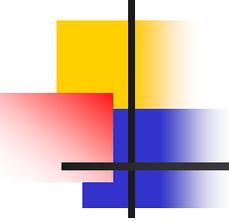
Content of presentation

- Weak side of 'evidence based practice' in relation to OF?
- Co-operation in R&D with successful pioneers: examples and results.
- Challenges of 'practice based evidence' and the role of 'Masters of Action'
- Expert knowledge: how to cultivate and integrate in a research project?



Evidence based practice or the 'truth-funnel' of science

- Is there a single 'best' practice in OF?
 - Researchers complain, that their knowledge is not accepted.
 - Advisors are no discussion partners.
- Farmers complain about their more complex, holistic farm situations.
- Pioneering farmers are ahead of the insights in science.



'Successful pioneers'

- Focus on **challenges** rather than problems.
- Are **connected** with a topic.
- In the next slides some examples shown with central focus: the **animal's integrity!**

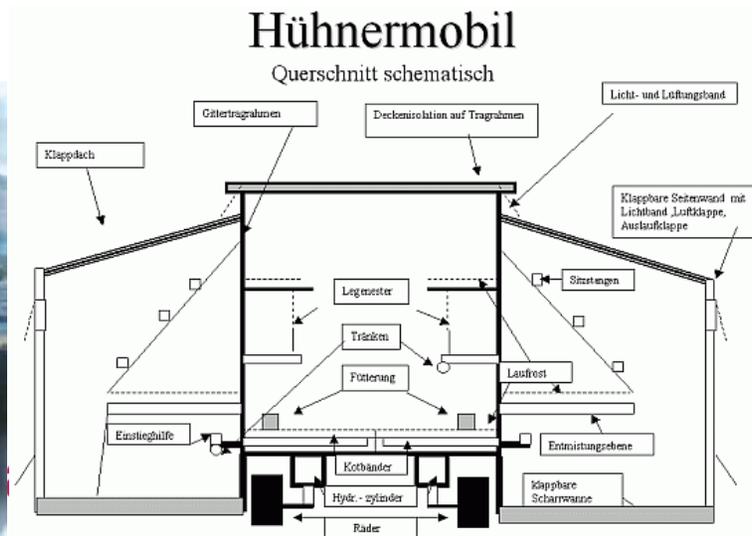
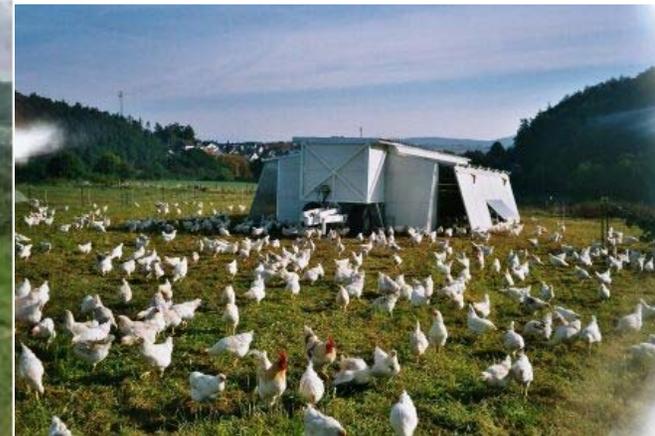
Hannig: more than 15 years without conventional remedies



ch

v

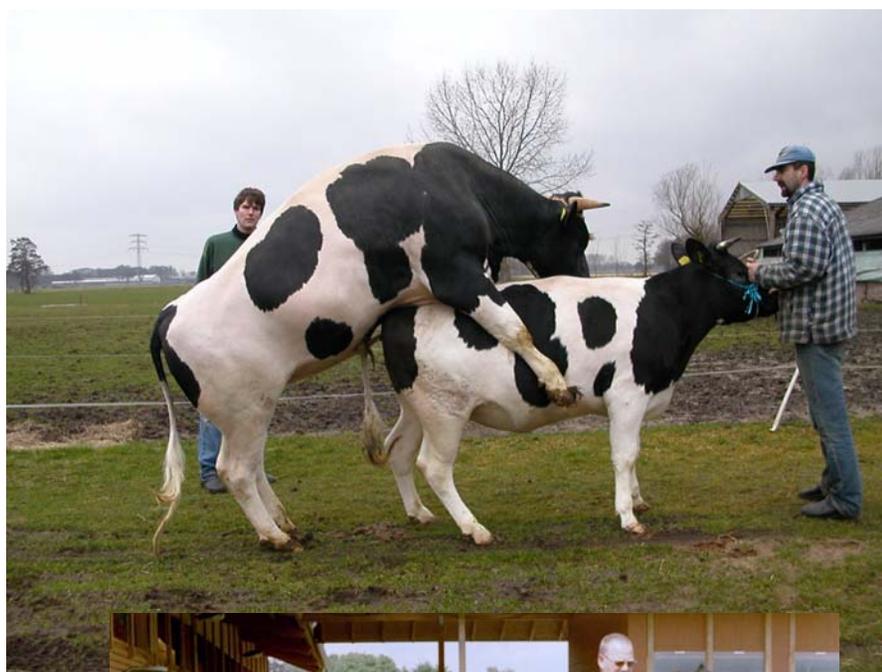
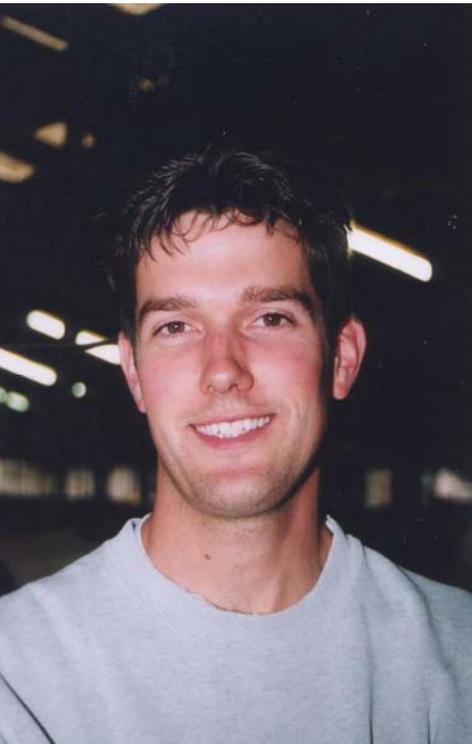
Weiland: mobile chicken house without antihelminthics



Lotze: renaturated sheep, self-medication and landscape



Endendijk: 40 years familybreeding



Transdisciplinary project for R&D: BIOVEEM

- ♣ *Bioveem* is a contraction of BIOlogische VEEhouderij en Management = Management of organic dairy farming



BIOVEEM

- ❖ Bottom-up experiential learning and on-farm experimentation (process focus)
- ❖ Innovations of 17 organic dairy farmers
- ❖ Chosen for their originality and diversity
 - ❖ Converted farmers with their own goals in life
 - ❖ Different farming styles
- ❖ Several partners in R&D:
 - ❖ PV, PRI, ID, GD, LEI, LBI
 - ❖ DLV



BIOVEEM approach



- ♣ A unique plan per farm based on in depth interviews
 - ♣ Strategies based on farmer's biography
 - ♣ Challenges and chances besides problems
 - ♣ The specific farm context, social and human
- ♣ A number of coherent 'novelties' as small-scale, stepwise innovations
- ♣ 'Systems that work' as the central focus

Inspired farming! 10 systems that work



Inspirerend boeren!

tien systemen
die werken
in de praktijk

Ökologis

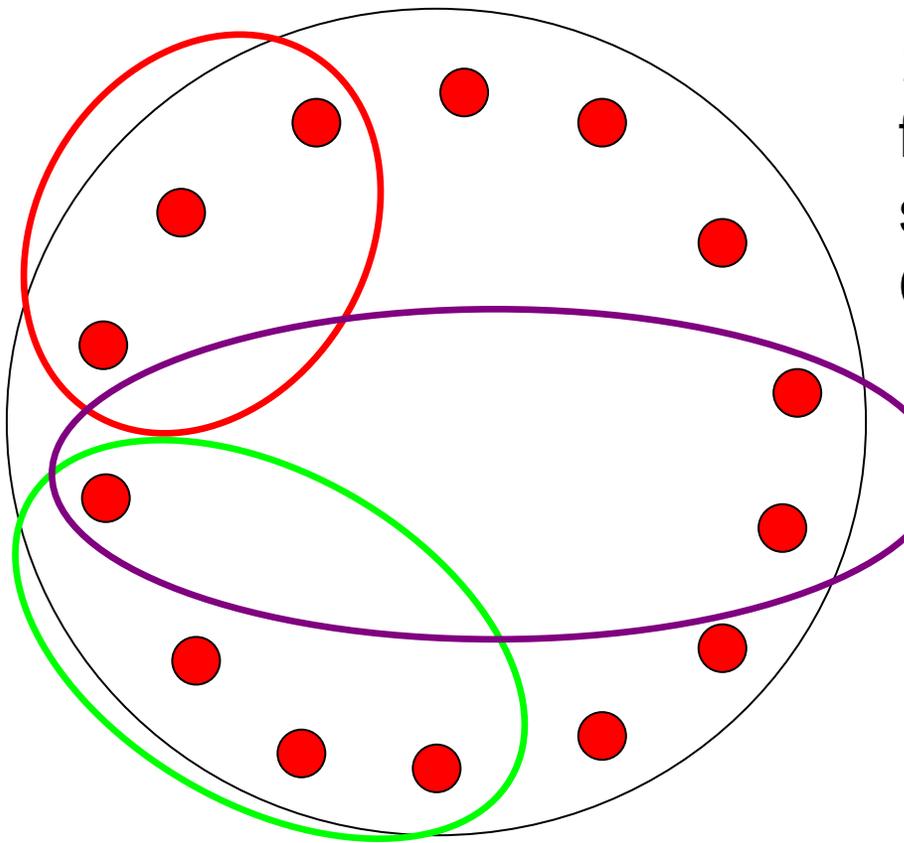


BIOVEEM methods

- ♣ Participatory action research (on-farm experimentation)
- ♣ Observational research
- ♣ Experiential learning
 - ♣ The actions of the farmer
 - ♣ The context of the farm ecology
 - ♣ The biography of the farmer



A 'Garden of experience' and bottom-up development



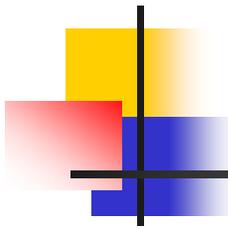
Circle of *pioneering organic farms* (self-chosen prototypes) for detailed research and specific system development; Connected by **themes**



Expert knowledge (*professionals*)

by 'Masters of action'

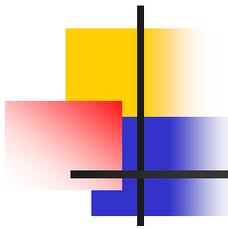
- Combine 'knowing what', 'knowing that' and 'knowing how'
- Use the human skills to recognise the so-called 'Gestalt' ~ gesture
- Do have their own concepts for communication ~ tacit knowledge
- Act in real world setting and use naturalistic decision making



Example:

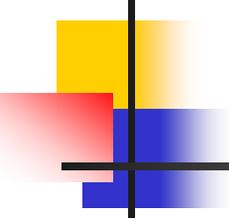
Melody as 'Gestalt'

- Melody = whole which is *in between* different notes; independent of pitch
- Pattern of notes; the more complex, the more unique
- Emergence: Note > Melody > Music
- Growth and development of plants and animals are like a piece of music for farmer: inner formed Gestalt



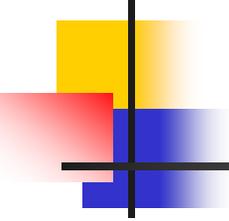
Expert knowledge

- Valid knowledge
- Characteristics of their learning:
 - by doing and reflection ('all knowledge is in action')
 - through involvement and intuition (,inspirational learning')
 - by integrating scientific knowledge
- Connect holism and reductionism in their actions; first hand learning



Role and skills researcher in transdisciplinary projects

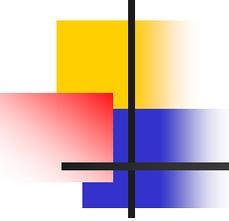
- Coach, mirror, conversation partner
- Secretary
 - > Bottom-up process
 - > Farmer runs the research agenda
- On-farm researcher > experiments, observations, data handling
- > Being generalist and a specialist



Expert knowledge and experiential science

- **Case** observations > comparisons
- Causality through **pattern recognition**
- Reflection on **intuitive actions**
- Building up of knowledge about **natural development** > use of all senses
- Methodology integrates action, thinking and feeling

Challenges for practice based evidence



- Need for **interdisciplinary** approaches: social sciences should be integrated
- Need for **transdisciplinary** methods: insights from pioneering farmers should be integrated as so-called expert knowledge > case based reasoning and learning
- Subject 'human' is integrated



Practice based evidence

Experts:

- Reflection
- Action
- Intuitive action
- Pattern recogn.
- 'Gestalt' knowl.



