European potentials, challenges, and visions for future development of organic animal farming

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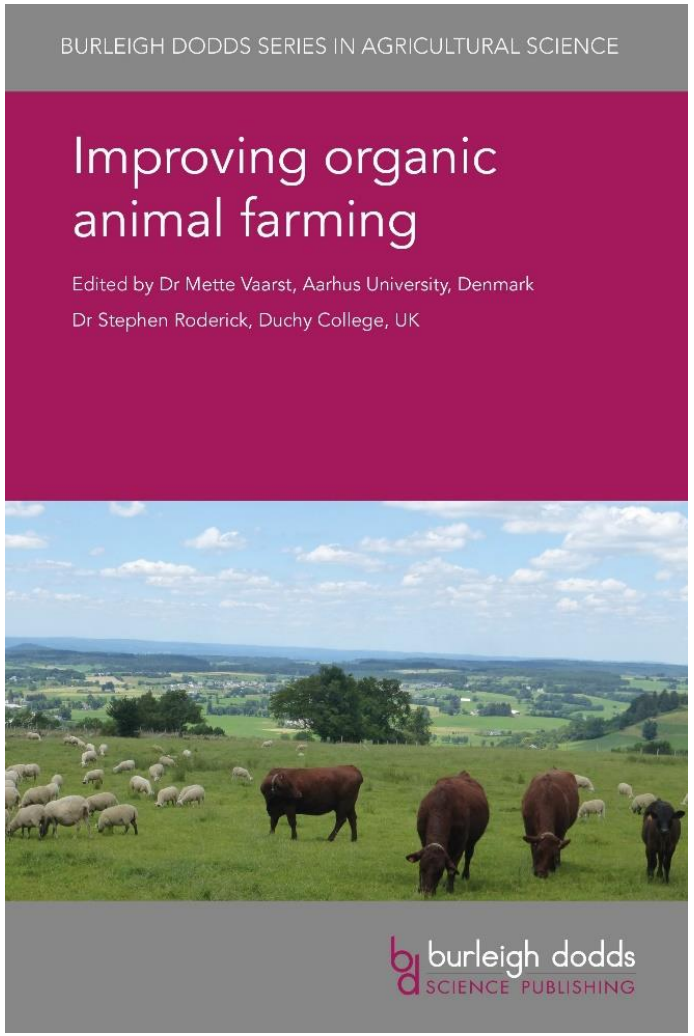
Background for this presentation



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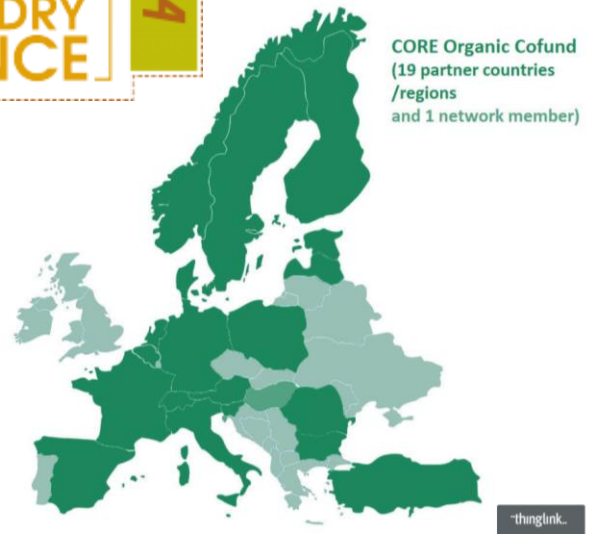

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Background: Organic agriculture in Europe

… has gained ground:

- **Widely accepted by many citizens and consumers**
- **Has initiated and been driver of debates and developments across organic and conventional agriculture – and still is … !**
- **Institutionalized over 20 years through legislation, research & governmental support**

… faces major challenges:

- **Conventionalization: also part of the global food system, 'unhealthy food paradigm', industrialization, and multiple dependencies (e.g. fossil fuels, feed import and antibiotics): 'what is the real difference?'**
- **'Can organic farming feed the world?' debates – still popping up**
- **Being partly spoken about as 'climate unfriendly'**

This presentation

- **Six visions for future potential development pathways**
- **How can we bring them into practice?**
- **Conclusion: the visions**

Photo credit: Sten Dissing

Six visions for improving organic animal farming

1) integrating **diversified multi-species systems**
2) developing **sustainable foraging, agroforestry and pastoralism**
3) finding new potential for **home grown protein** feeds
4) adopting **resilience** as a core of health principle – AND significantly lower or **phase out antibiotics**
5) emphasising **appropriate breeding and breeds**, including multipurpose breeds
6) enabling **enhanced mother-infant** contact

Vision 1: Integrating diversified multi-species systems

- **A focus in the CORE Organic project ‘Mix-Enable’**
- **Breaking with the last half century’s specialization in farming**
- **Different types and intensity of integration**
- **Investigating sustainability aspects and robustness through modelling**
- **Challenging and rewarding to be a farmer in a mixed system – vision: opens up for collaboration and more ‘social farms’?**

Distinguish between ”mixed” and ”integrated”

- **Mixed: ‘co-existence’ in the same system**
- **Integrated: ‘interaction’, synergies and inter-dependency which gives benefits to all involved**
- **Findings indicate: the more integrated, the more benefits (thinking in systems)**

Bringing it into practice: 'think out of the box': Heifers protect broilers and broilers eat parasites

By Severin Hübner

Photo: Severin Hübner

Broiler losses when raised alone or with heifers (Mix)

	Round 1, 2018		Round 2, 2018		Round 1, 2019		Round 2, 2019	
week / group	Mono	Mix	Mono	Mix	Mono	Mix	Mono	Mix
1	0	0	0	(1) **1**	0	0	0	0
2	0	0	**2**	0	0	0	**3**	0
3	0	0	**1**	**1**	**1**	0	**1**	(2)0
4	0	0	**1**	0	(1)0	0	**1**	**1**
5	**2**	0	(1) **1**	0	0	0	(1)0	0
6	**1**	0	0	0	**1**	0	0	0
total	**3**	**0**	**5**	**2**	**2**	**0**	**5**	**1**

Vision 2: Developing sustainable foraging, agroforestry and pastoralism

- Animals being part of ecological systems and cycles
- “Marginal” areas
- Conservation and maintenance of grassland & semi-natural environments
- Ecological health

Grassland and ruminants a ‘perfect match’ in many agro-ecological systems

(Idel & Reichert, 2014; UNCTAD, 138-153)

Bringing foraging and agroforestry more into practice for non-ruminants

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- Sometimes viewed as extensive = “in-efficient’, but C-storage capacity increased recognition & mobile housing possibilities

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“Holistic grazing management”

Concept: “Mimicking natural grazing behaviour of herbivore herds” *(Savory & Butterfield 2016)*

- Aim: - exploit positive effects of grazing impacts
  - enable vegetation to recover
  - avoid negative impact of intensive grazing.

“Meal grazing”

Concept: “Setting the table, designing the menu, and influencing the diner” *(Gregorini et al. 2017)*

- Aim: - exploit the animals’ natural grazing behaviour;
  - optimize their feed intake and diet composition;
  - meet their nutrient & energy requirements.

(Slide from Uta Dickhöfer)

GrazyDaiSy
WP1

Vision 3: Finding new potential for home grown protein feeds

Crop-livestock integration to reduce reliance on external protein sources

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http://www.tandfonline.com/loi/saga20

Free-range pigs foraging on Jerusalem artichokes (Helianthus tuberosus L.) - Effect of feeding strategy on growth, feed conversion and animal behaviour

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Balancing the protein for human and animal consumption in food and farming systems

Bringing home grown protein feeds into practice in diverse environments for the animals

- Forage crops have the potential to contribute substantially
- Increasing research on farmed insects (especially to poultry)
- Giving access to natural / semi-natural environments for omnivore animals
- Appropriate breeds
- Balanced diets to minimize emissions

Vision 4: Adopting resilience as a core of health …

- HEALTH AT ALL LEVELS
- REACHING FAR BEYOND 'FREEDOM FROM DISEASE'
- RESILIENCE IS KEY
- ORGANIC AGRICULTURE IN SOME RESPECTS THE ULTIMATE 'ONE-HEALTH APPROACH'
- IN CONSISTENCY WITH AIMS OF SIGNIFICANTLY LOWERING THE USE OF ANTIBIOTICS

Review

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Resilience as a universal criterion of health

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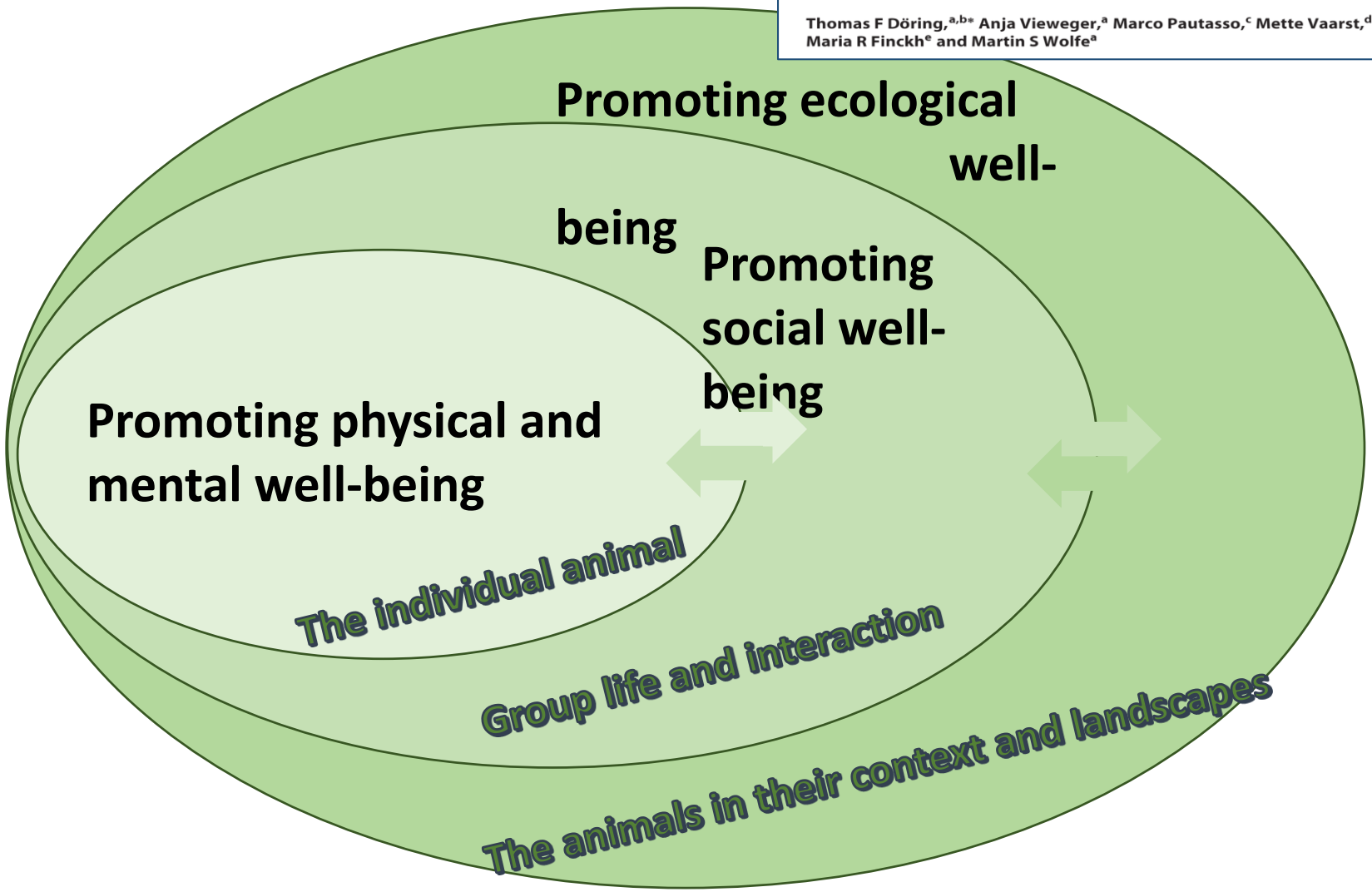

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Vision 5: Emphasising appropriate breeding and breeds, including multipurpose breeds

Photo: Stig Benzon

Potentials of local / traditional cattle breeds in Austria (A), Switzerland (CH), Germany (D), Poland (PL) and Sweden (S):

- Fertility advantages (A; CH; S)
- 'Better' milk content (PL; S; D)
- Longevity (S; CH; PL)
- Some were suggested to be more 'robust' under extensive production / 'rough environments'

Dual purpose breeds – eggs and meat in one breed

New Hampshire + Bresse-Gauloise crossing (photo: Christian Lambertz, FIBL)

Bresse-gauloise (photo: Christian Lambertz, FIBL)

- Practical advantages and disadvantages?
- Implications to completely rethink breeds and breeding?

Vision 6: Enabling enhanced mother-infant contact

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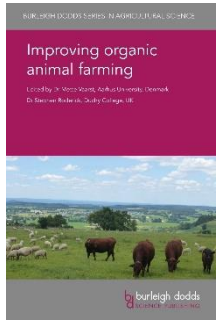
- **Four different perspectives: the mother and the infant, the human and the system**
- **Focus on cow-calf contact systems, but relevant for all animal species**

Example:
weaning at 10 weeks of age after farrowing showed that fewer, but much heavier piglets were weaned, without jeopardizing the body condition of the sow

Photo credit: Marianne Hestbjerg



Bringing complexity into practice: Learning together

- The Stable School approach: farmers advice farmers in a structured way – helps everybody
- Photo: cow-calf systems (GrazyDaiSy / Cow'n'calf DK)
- Living Labs under establishment: multi-actor approach in the ROADMAP project

ROADMAP
Rethinking Of Antimicrobial Decision-systems in the Management of Animal Production

Bringing visions into practice needs institutional support

- Research agendas
  - *(referring to Dumont et al., 2014, Animal 1382-1393)*
    - ‘Managing for resilience’
    - ‘Robustness’
    - ‘Adapting to climate change’
    - ‘Principles for system design’
    - ‘Valuing interactions among systems components’
    - ‘High degree of collective action … ‘
- Policies that support and protect the actors without voices
- Appropriate governance of food and other systems

Six visions for improving organic animal farming

1) integrating diversified multi-species systems
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Meeting today's challenges of broken systems and reliances on unsustainable inputs (e.g. fossil fuels, antibiotics and imported feed)

Conclusions:
the six visions…

…Focus on

- Diversity: work with local contexts
- Resilience: robust animals and systems
- Systems approaches

…Meet identified challenges

- Shows pathways for complex, clever and context relevant solutions instead of industrial ‘one-size-fits-all’ systems
- Working with the human actors
- Get free of unsustainable reliances

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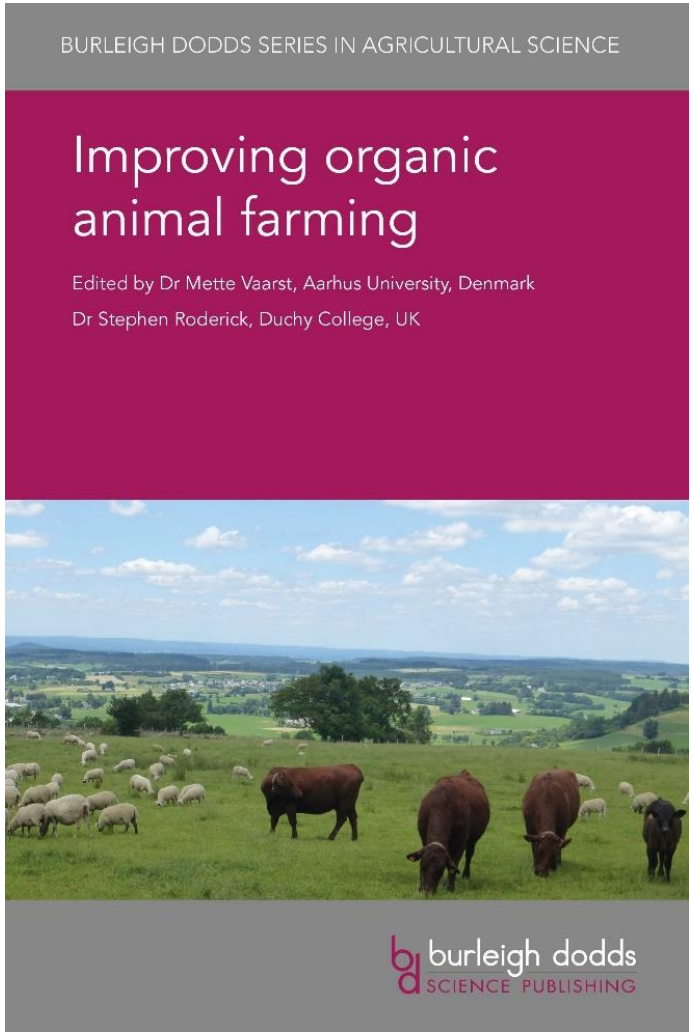

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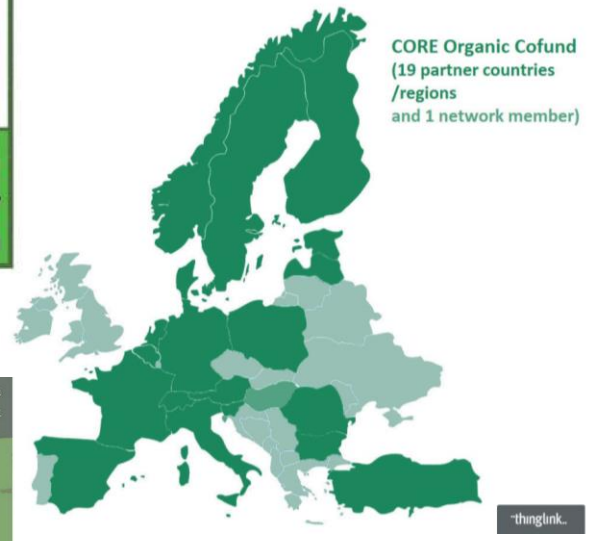

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