Tuning up sustainable organic animal production

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Tuning up?

What is “most efficient”? Many sustainability aspects
Goal conflicts
Working environment vs Production costs
Climate impact vs Animal welfare
Toxic substances vs Yield
1. Admit the goal conflicts
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2. Accept some goal conflicts cannot be solved scientifically
Breeding

=> more efficient animals
=> less negative climate impact
More milk from less cows
Less cows = less meat
Need more meat from beef cows?
Meat from beef cows => more negative climate impact
Study whole production systems

Production and Consumption
Which goals are fulfilled thanks to organic agriculture?
Organic production = low yield?

Three perspectives on sustainable food security: efficiency, demand restraint, food system transformation. What role for life cycle assessment?

Tara Garnett

Food Climate Research Network, Environmental Change Institute, University of Oxford, United Kingdom
Garnett, 2014

• Efficiency oriented
• Demand restraint
• Food system transformation

“Everybody wants ‘sustainability’ and an end to hunger – but not everyone has the same vision of what the solution - the good life - might look like.”
Tools for sustainability assessment
• IDEA Indicateurs de Durabilité des Exploitations Agricoles
• RISE Response-Induced Sustainability Evaluation
• SAFA Sustainability Assessment of Food and Agricultural systems
Slätmo et al, 2017
The framing of sustainability in sustainability assessment frameworks...

• Social aspects
• Use of farmers’ knowledge and experience
• Aspects chosen based on values
New EU project within SusAn: Sustainability of pig production through improved feed efficiency, SusPig

Coordinator: W Rauw

Environmental and Social LCA
Breeding
=> animals that are specialists in the given environment

Egg or Chicken meat
Milk or Beef

Low economic value => Low welfare
“combined milk and beef production would likely be the most viable and sustainable way to achieve self-sufficiency in beef while maintaining sufficient milk production in Finland”

Kokko, 2017
Dual-purpose breeds in organic production
Huge diversity in European organic dairy production systems

*Wallenbeck et al*

How much organic diversity can we handle?
Reasons for specific breeding programs for organic production

• Market
• Genotype x Environment-interactions
Slagboom et al, 2016
Preference study
4 clusters of farmers:
• Health and Fertility
• Production and Udder Health
• Survival
• Fertility and Production

“Here and Now”
Wallenbeck et al, 2016
Interactive web questionnaire showing side effects of selection

Farmers with organic production found health traits more important
Reasons for specific breeding programs for organic production

- Market
- Genotype x Environment-interactions
- **Organic principles**
The organic principles
• Health
• Ecology
• Fairness
• Care

What breeding goal do they give us?
The organic principles

• Health: disease and mortality traits
• Ecology: roughage consumption and feed efficiency
• Fairness: mortality traits
• Care: disease and mortality traits
Reasons for **no** specific breeding programs for organic production...

Small scale animal breeding is almost impossible
Reasons for **no** specific breeding programs for organic production...

Small scale animal breeding is almost impossible

Alternative: Select among the selected conventional
“organic agriculture is a production system that … relies on ecological processes, biodiversity and cycles adapted to local conditions”

IFOAM
Tuning up in which way?

Exclusive niche production

More common, “more Agenda2030”
To discuss
Goal conflicts
Production system perspective
Sustainability assessment tools
How many different systems
The importance of “local”
The meaning of the 4 principles
Exclusive niche production
Should all farmers become organic
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