Benefits and costs of livestock production across scales: a case study of Dutch egg production

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Benefits and costs of livestock production

- Multidimensional consequences of innovations in APS
- Trade-offs & synergies
- Measure effects of innovations at multiple scales
- Case studies: benefits & costs (B&C) & innovations
Methods

- Egg production in the Netherlands
- 24 interviews across scales
- Transcribed and coded in Atlas.ti
- Systematic analysis
  - SWOT, B&C, innovations
  - Follow-up survey
Results - SWOT

**Strenghts**
- Innovative, skilled farmers
- Frontrunner in animal health, welfare and environment
- High production, quality & safety
- Efficient production & low carbon footprint
- Competitive and market oriented

**Weaknesses**
- Limited farm income
- Limited integration, everyone for their own gain
- Fragmented, limited market power
Results - SWOT

Opportunities

▪ Collaboration in the chain
▪ Demand for eggs with high standards
▪ Development of new housing concepts
▪ Eggs as meat replacement

Threats

▪ Avian influenza
▪ International competition and imports
▪ Decrease in farms -> investment & knowledge
▪ Societal protests against (large) farms
Results – B&C

Benefits
- Employment
- Food production
- Export / contribution to NL economy
- Innovation, knowledge and skills

Costs
- Emissions & air quality: particulate matter, endotoxins
- Avian influenza
- Public health risks (e.g. pneumonia)
Results - innovations

1. Animal health & welfare:
   • In-ovo selection, poultry red mite, sensors

2. Housing systems:
   • Emission reducing techniques, covered outdoor area

3. Economy:
   • Farm and egg concepts with added value

4. Environment:
   • Closed cycles (feed – manure)

5. Organisation:
   • New collaborations in the chain
Results

Covered outdoor area

Investment Concept

Animal welfare
Avian influenza

E. Meinen
Discussion & conclusion

- Context dependency
- Next steps – modelling

- The impact of innovations need to be assessed across scales and dimensions
- Recognizing trade-offs and synergies
More info:

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- Presentation: Delphine Neumeister (at 16:45)
- Poster: Aart van der Linden (nr. 19.13)

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