
METHODS FOR ESTIMATING AMMONIA LOSSES FROM ORGANIC PIG PRODUCTION IN FREE RANGE SYSTEMS AND IN BARNES WITH OUTDOOR PENS



FRAMEWORK

AGRICULTURE

ORGANIC PIG PRODUCTION



NH₃



NH₃



Increasing demands to reduce ammonia losses from agriculture (EU)



Research project PECOSYSTEM

AIM OF WORKSHOP

- ❑ Identify promising methods for ammonia loss quantification from organic pig production
- ❑ Discuss how to best set up comparative analyses under real-life conditions
- ❑ How to move forward (ideas for co-operative projects)

AGENDA – BEFORE COFFEE

- ❑ Welcome and presentation of the pEcosystem project, *AG Kongsted*
- ❑ The demands for the pig industry to reduce ammonia losses, and specific challenges in organic systems *K Jonassen*
- ❑ Measuring ammonia losses from manure spreading – what factors determine losses and need for measuring plot size, *A Pacholski*
- ❑ Measuring ammonia losses from open animal houses – how to handle large and variable systems, *AP Adamsen*



AGENDA – AFTER COFFEE

- ❑ Measuring ammonia losses from agroforestry systems, *S Tang*
- ❑ Measuring ammonia losses from pastures with micrometeorological methods, *C Amman*
- ❑ Measurements of ammonia emission from grazing animals, *SG Sommer*
- ❑ Current investigations of N-balance in organic pig systems, *U Jørgensen*



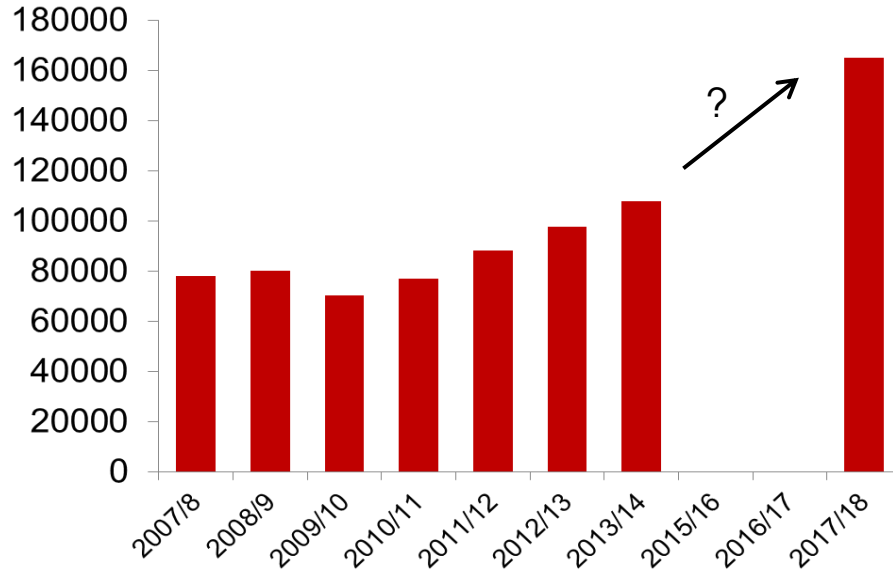
ORGANIC PIG PRODUCTION IN DENMARK AND THE RESEARCH PROJECT 'PIG PRODUCTION IN ECO-EFFICIENT ORGANIC SYSTEMS' PECOSYSTEM

AG Kongsted



ORGANIC PIG PRODUCTION IN DENMARK

Number of organic pigs slaughtered in DK



- ❑ Retail sale of organic pork in DK increased with 43 % from 2013-2014
- ❑ Export of organic pork increased with 16 % from 2013-2014

ORGANIC PIG PRODUCTION IN DENMARK



THE GOOD STORY

Positive aspects of organic pork production (compared to conventional)

- ❑ Animals being able to express more of their species-specific (natural) behaviour
- ❑ Markedly lower use of antibiotics
- ❑ Organic producers are paid three times as much per kg of pork (represents a significant value increment in the Danish pig production)
- ❑ Plays a central role in the success story of Danish organic exports

CHALLENGES

Environmental impacts - compared to conventional production

- ❑ Requires 30 % more land
- ❑ Comparable in terms of greenhouse gas emissions (global warming)
- ❑ Higher ammonia losses
- ❑ Hot spots/nitrate leaching
- ❑ Zinc

POSSIBLE SOLUTIONS?

RESEARCH PROJECT 'PECOSYSTEM'



Combined production of
energy crops and outdoor
pigs (agroforestry)

Nitrate leaching
Ammonia loss
Animal welfare



Improved indoor housing
and enriched outdoor runs

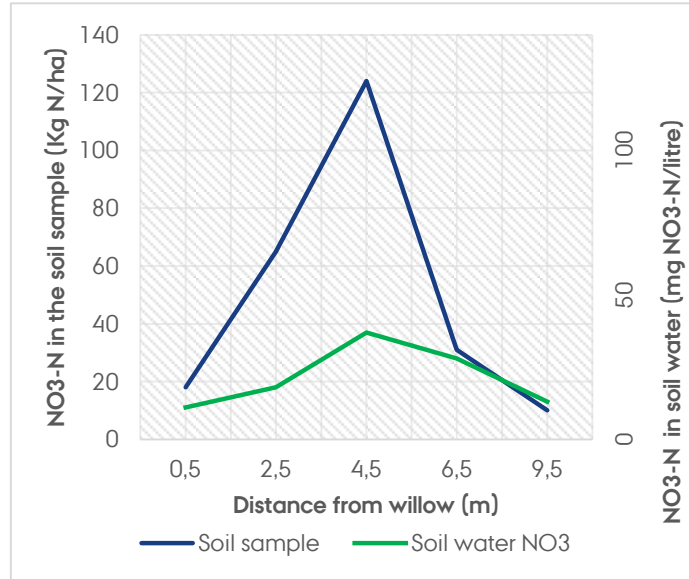
Ammonia loss
Animal welfare



Higher weaning age

Zinc
Animal health

NITRATE LEACHING – PRELIMINARY RESULT FROM A PILOT STUDY (WILLOW)



16:45-17:15: Current investigations of N-balance in organic pig systems, Uffe Jørgensen & Emanuel Joel Lao

THANK YOU AND WELCOME ONCE AGAIN!



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