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Animal welfare in organic pig production

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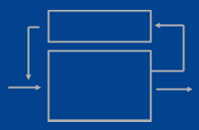
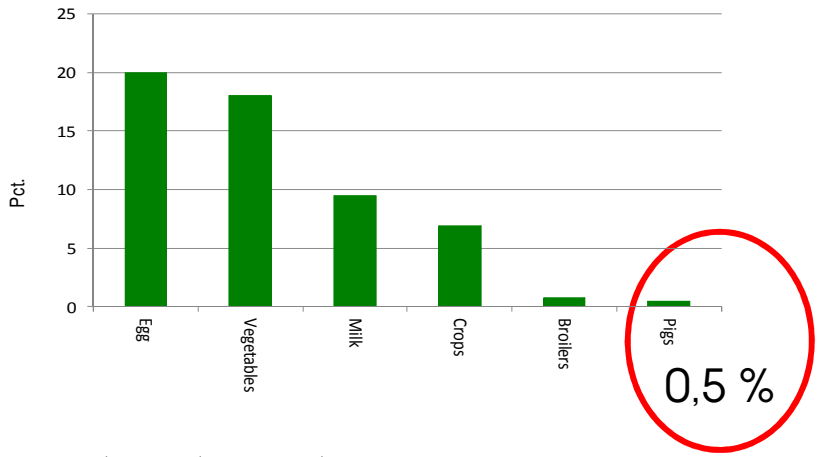


Organic share of food production in Denmark 2014



Kirsten Lund Jensen personal communication April 2015

Different views on animal welfare

(Fraser et al 1997)

Naturalness

Biological function

Feelings – Affective state

Rules for organic pig production provide a clear profile on animal welfare with an emphasis on naturalness

- Sows are kept on pasture summer and winter
- Piglets are weaned late and not tail docked
- Growing pigs are kept in door with out-door access
- In door pigs have more space, solid floor and straw bedding
- Fed organic feed and permanent access to forage

Assessing animal welfare in 9 organic and 46 conventional sow herds in 2011-12

A protocol using the Welfare Quality framework – Welfare impact provided by an expert opinion panel

Principle	Measure	Lactation	Gestation
Feeding	Body condition score	2.5	2.5
Housing	Bursitis	3	3
Housing	Manure on body	2.5	2.5
Housing	Shoulder wound	3	-
Health	Wounds on body	3	3
Health	Vulva lesion	3	3
Health	Skin condition	2.5	2.5
Health	Local infection	3	3
Health	Metritis	3	-
Health	Mastitis	4	-
Health	Lameness	-	4
Behaviour	Human-animal relationship	-	2.5
Behaviour	Stereotype	-	3

7

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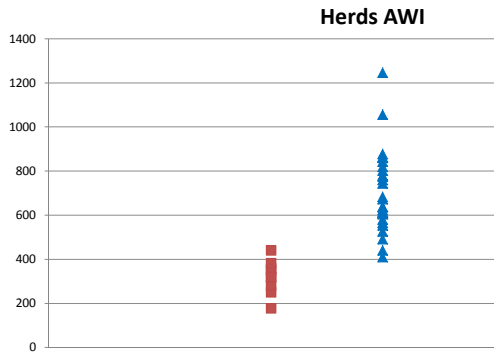
Overall animal welfare seems to be better in organic sow herds

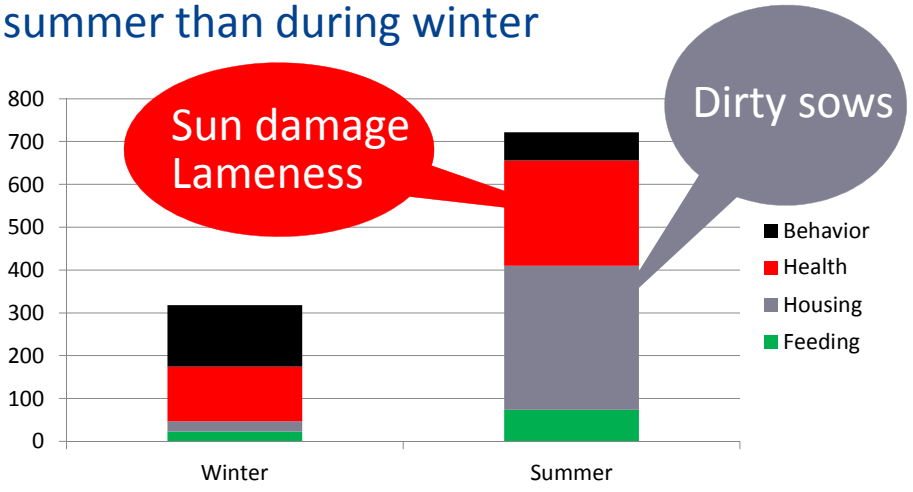


Organic

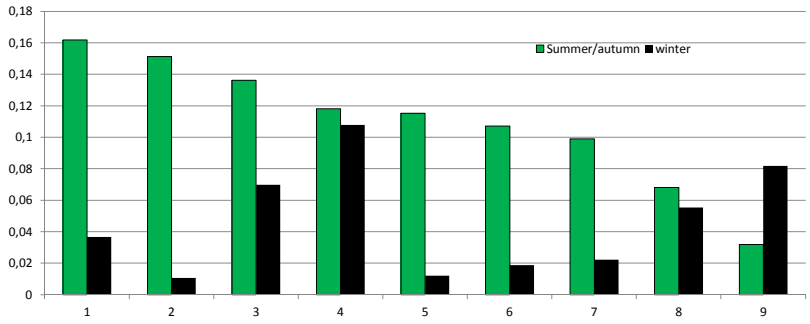
Conventional

8

Lower welfare for organic sow herds during summer than during winter



Lamenes prevalense in organic sow herds is higher during summer (Knage-Rasmussen et al 2014)



Nine organic sow herds visited twice in 2011/12

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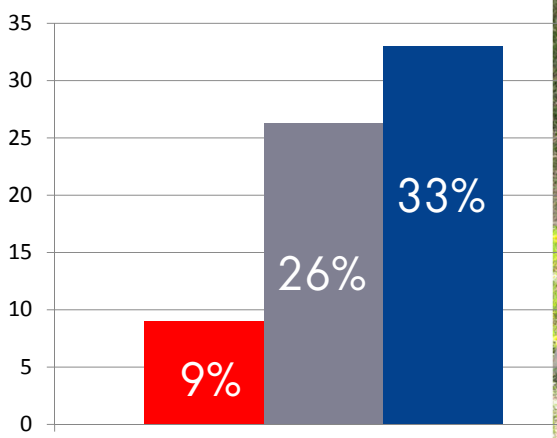
High piglet mortality in organic pig production

(Sørensen & Pedersen 2013)



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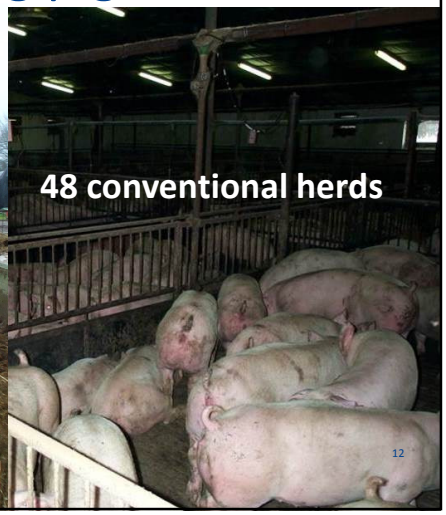
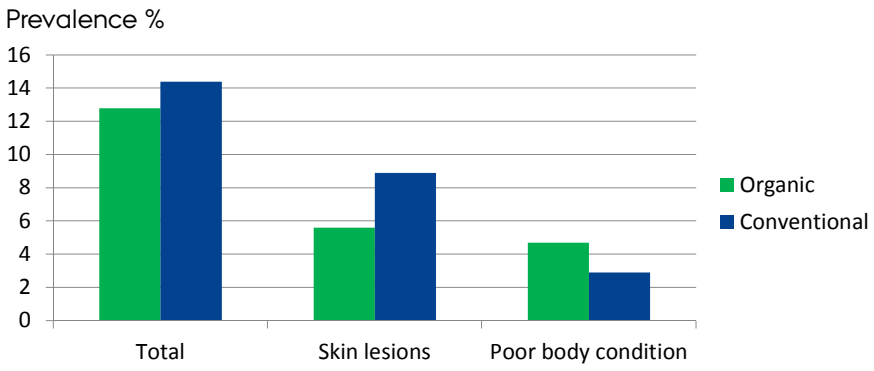
Health status in organic and in-door conventional finishing pig herds

(Bonde et al. 2007)



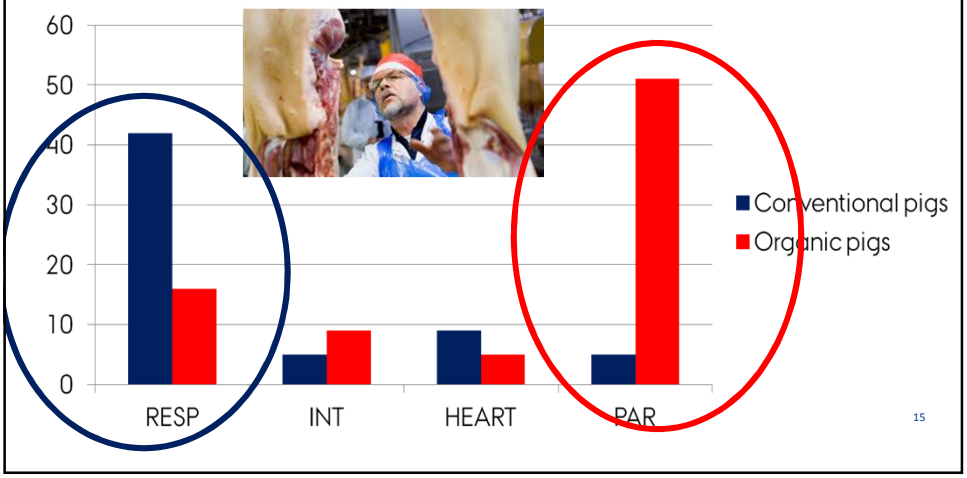
Clinical examinations of slaughter pigs (>30 kg) (mod a Bonde et al 2007)



Selected meat inspection disease disorders were grouped into four organ categories

› Intestines (INT): eg: peritonitis and enteritis (acute and chronic)
› Respiratory disorders (RESP) eg: pneumonia and pleuritis (acute or chronic)
› Heart disorders (HEART) eg: pericarditis
› Parasitic disorders (PAR) eg: liver cirrhosis or milky spots in liver

True prevalence's for four disease complexes among conventional and organic pigs (Bonde et al 2010)



Production of entire male organic pigs does not compromise animal welfare (Thomsen 2015)

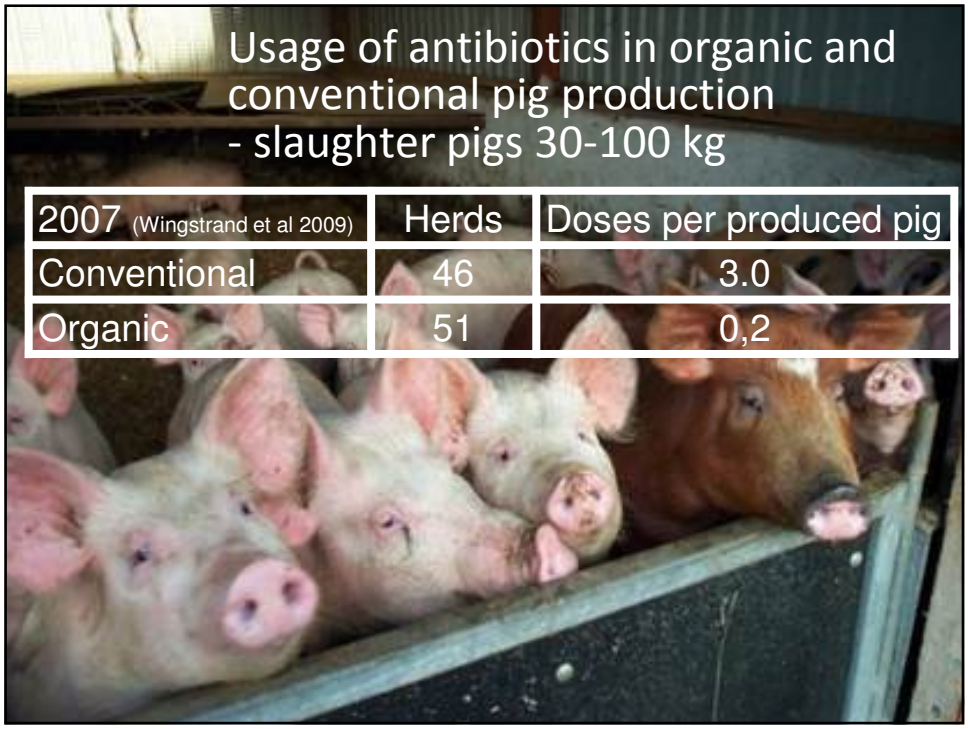
When separating entire males from females and keeping pigs in small groups (15 pigs/pen):

- **Moderate number of skin lesions**
- **No increase in mounting behaviour with size/age**
- **Low prevalence of lameness**

Specific rules for use of antibiotics in organic livestock production

- Breeding animals can not be treated with antibiotics more than 3 times /year
- Withdrawal time length is twice compared to conventional production
- All diagnosis need to be made by a veterinarian

17



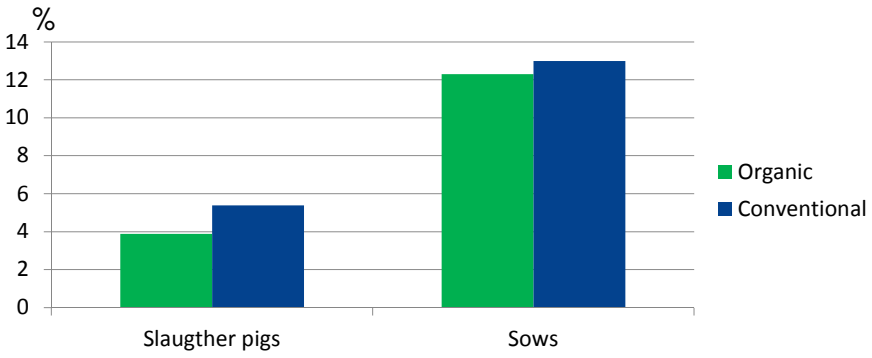
Usage of antibiotics in organic and conventional pig production -sows

2012 (not publiched)	Herds	ADD/yearsow
Conventional	46	8,5
Organic	9	1,6

Usage of antibiotics in organic and conventional pig production -weaners

Conventional weaners 7-30 kg 9,44 ADD
Organic weaners 12-30 kg 0,46 ADD
Data from Vetstat 2014

No differences in mortality between organic and conventional slaughter pigs and sows

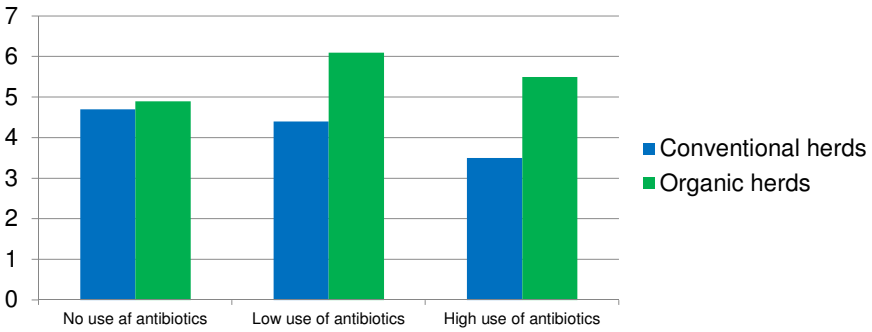


Hegelund et al 2007

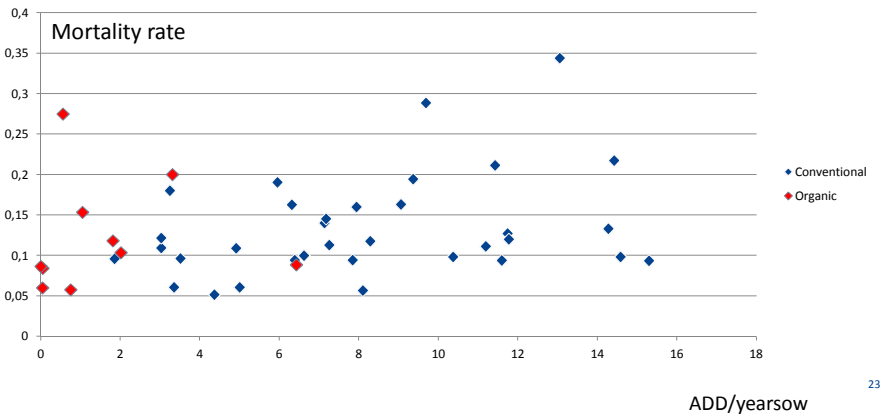
Not published data from 2011-12

No relation between usage of antibiotics and mortality in slaughter pig herds

Unpublished 2004



No relation between sow mortality and use of antibiotics in sow herds



Effect of pig production system on pathogen shedding risk (Bonde & Sørensen 2012)

› Study design:

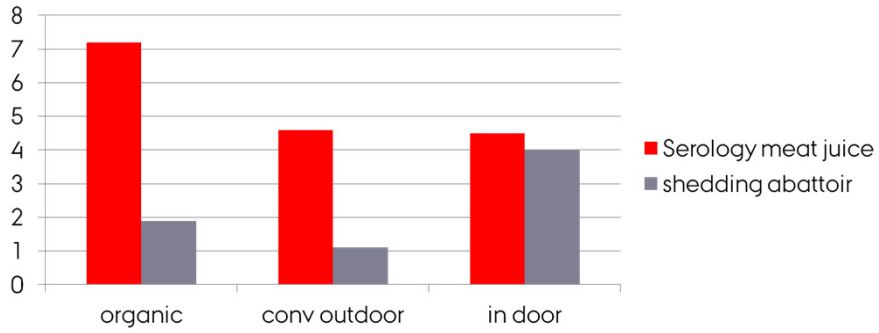
- 11 organic slaughter pig herds
- 12 conventional outdoor pig herds
- 11 conventional indoor slaughter pig herds

- 30-50 pigs per farm - in total 1535 pigs

- Faecal sample before and after transport to the abattoir (faecal density of *Salmonella enterica)*
- Meat juice sample (specific antibodies against *Salmonella enterica*)

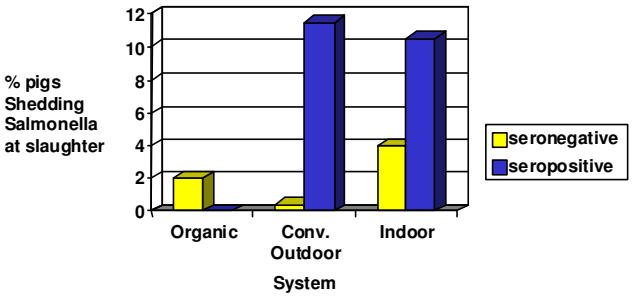
Percent positive pigs based on serology (meat juice) or shedding at abattoir

Bonde & Sørensen 2012



Results suggest that organic pigs are more resistant to Salmonella infections

(Bonde & Sørensen 2012)



Conclusion I

- Organic pigs enjoy possibilities for expressing natural behaviour
  - access to out door area
  - more space
  - access to forage,
  - late weaning
  - no tail docking
- Organic pig production concept offer a clear alternative to conventional pig production regarding antibiotics
  - Using only 10 % of the antibiotics used in conventional
  - Without increased mortality for sows and slaughter pigs.

Conclusion II – Major challenges

- The high piglet mortality
  - Need to be reduced through a combined effort on breeding and management
- A high level of endoparasite infection in growing pigs
  - Should be addressed without reducing access to out-door area
- Castration does not fit to the focus on naturalness
  - Production of entire male pigs could improve animal welfare and productivity
  - The boar taint problem is not solved.