COREPIG

Prevention of selected diseases and parasites in organic pig herds - by means of a HACCP based management and surveillance programme

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Partners CorePig

- Austria
  - University of Natural Resources and Applied Life Sciences, and Veterinary University Vienna
- Denmark
  - University of Aarhus
  - University of Copenhagen
- France
  - Inter Bio Bretagne, and INRA
- Germany
  - University of Kassel
- Italy
  - Consiglio per la Ricerca e la Sperimentazione in Agricoltura (C.R.A)
- Sweden
  - Swedish University of Agricultural Sciences, and Swedish Institute of Agricultural and Environmental Engineering
- Switzerland
  - Research Institute of Organic Agriculture (FIBL)
- UK
  - University of Newcastle
Outline of CorePig

- WP1: Knowledge synthesis describing current health and welfare problems in organic pig production, and identifying future needs for research into disease and parasite prevention
- WP2: Epidemiological survey to estimate herd health and identify risk factors for selected diseases and parasites in European organic pig herds
- WP3: Development and evaluation of a HACCP based management and surveillance systems for organic pig herds
Main hypotheses of CorePig WP2

- Health and welfare problems in organic pig herds
  - Intestinal parasites (Ascaris, Oesophagostomum, Trichuris)
  - Piglet mortality
  - Weaning diarrhoea
  - Sow reproduction problems
- Epidemiological survey in 100 sow herds in 6 European countries (WP2): Variation in pattern and prevalence of disease and welfare problems in organic pig herds in Europe
  - Health measures: faecal egg count, clinical examination of animals, medicine records, mortality, production records, slaughter records
  - Risk factors: production system (indoor/outdoor), space allowance, feeding and watering, hygiene, cleaning measures, vaccination, disease prevention strategies
Main hypotheses of CorePig WP3

- HACCP based management system
  - Intestinal parasites (Ascaris, Oesophagostomum, Trichuris)
  - Piglet mortality and weaning diarrhoea
  - Sow reproduction problems
- HACCP plans: Literature review, expert opinion and epidemiological results
- Evaluation of HACCP plan as farm management tool
  - Identify risk factors on-farm
  - Suggest corrective actions
  - Continuous monitoring of risk level
Results so far

- WP1 – knowledge synthesis draft
  - Small amount of knowledge regarding organic pig production
  - Use knowledge from outdoor pig production (but differences in feed, treatment strategy etc.)
  - Describe current herd health monitoring and health management
  - Point to research needs
- WP2 – data analysis in progress – no results yet
  - First description of the variety of pig production systems and management routines in Europe
  - Possible to analyse risk factors for health problems – indoor/outdoor, space allowance, hygiene, disease prevention strategies
  - This will show development possibilities for the sector and point to viable production methods as regards animal health and welfare
  - Further it will help to identify research hypotheses relevant for further research improving organic pig production
- WP3 – data collection in progress
  - Questionnaire for farmer for each problem area (parasites, sow reproduction problems, piglet mortality, weaning diarrhoea) to identify important risk factors on-farm
  - Suggestions for action to control the problem – taking specific risk factors into account
  - Targeting the organic farmer – the tool should be readily applicable in local herd health management to control parasites, piglet mortality, weaning diarrhoea and sow reproduction problems
<table>
<thead>
<tr>
<th></th>
<th>DK</th>
<th>UK²</th>
<th>Germany</th>
<th>France²</th>
<th>Italy</th>
<th>Austria</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Housing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Out/in</td>
<td>Outdoor</td>
<td>Outdoor</td>
<td>Indoor – (access to concrete outdoor run)</td>
<td>Outdoor</td>
<td>Outdoor with concrete outside run</td>
<td>Indoor (after 24 days of life access to outdoor run – always concrete floor)</td>
<td></td>
</tr>
<tr>
<td>Penning</td>
<td>Individual or group housing</td>
<td>Single and group</td>
<td>Group penning of sows</td>
<td>Individual</td>
<td>Individual</td>
<td>Individual, in almost 50% group suckling after 1-2 weeks</td>
<td>Single and Group Housing (15 – 20 %)</td>
</tr>
<tr>
<td>Farrowing crate</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Bedding</td>
<td>Straw</td>
<td>Straw</td>
<td>straw</td>
<td>Straw</td>
<td>Straw/nothing</td>
<td>Straw</td>
<td>straw</td>
</tr>
<tr>
<td><strong>Type of breed</strong></td>
<td>Conventional</td>
<td>Large herds conventional, small herds local</td>
<td>Conventional</td>
<td>Conventional</td>
<td>50% Local</td>
<td>Conventional</td>
<td>Conventional</td>
</tr>
<tr>
<td>Weaning age</td>
<td>49-56 days, some farms up to 80 days</td>
<td>42-56 days</td>
<td>42-49</td>
<td>42-56 days</td>
<td>40-60 days</td>
<td>42 days</td>
<td>42 – 56 days</td>
</tr>
<tr>
<td>Fostering of piglets</td>
<td>some</td>
<td>In larger herds</td>
<td>some</td>
<td>No</td>
<td>No</td>
<td>some</td>
<td>No information</td>
</tr>
</tbody>
</table>
Ideas for future research

- Future research questions:
  - Effect of prolonged lactation on sow health
  - Colostrum and milk intake in piglets
  - Heat stress and cold stress – coping with climatic challenges
  - Organic feed and roughage
  - Parasite management – survival, treatment, control
  - Health monitoring system for extensive production systems
  - Hygiene and health management measures in organic systems
  - Effect of outdoor access on animal health, welfare, meat quality

- Challenges for organic pig production:
  - Local or conventional “outdoor” breeds – robust animals
  - Castration of piglets
  - Biosecurity – herd hygiene and herd health management
  - Animal welfare vs environmental load
Experience with transnational research

- added value
- scientific inspiration
- perspectives for the European sector
Added value

- In most countries the number of organic pig producers is low. National epidemiological studies are consequently often hampered by a low number of herds.
Scientific inspiration

- Expertise in animal welfare, diseases and parasite management in organic pig production is scattered all over Europe. This project gives us a unique opportunity to collaborate and to exchange ideas, experiences and knowledge.
  - Initiation of a network of researchers in organic pig production at international as well as national level
  - General knowledge transfer between countries
- Calibration of parasitological labs
- Internships between countries
Perspectives for the sector

- The international cross sectional epidemiological study will allow us to test more specific hypotheses and further to estimate more precise risk factors for diseases, parasite infestation, and animal welfare problems.
- HACCP plans will be evaluated simultaneously in several countries and thus facilitate implementation throughout Europe
- Suggestions for future farming practices
More info on CorePig?

- http://www.corepig.coreportal.org/
Thank you for your attention