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An academic view of the potential of the organic pig sector

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European Pigmeat Reflection Group, 25th May 2022

Background

FiBL Switzerland

- Research Institute of Organic Agriculture, Switzerland
- 250 Employees
- Applied research and extension

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Mirjam Holinger

- Animal scientist
- Pig / cattle welfare
- Organic farming
- Species-specific feeding



EU regulation on organic farming

- Access to an outdoor run
- Free farrowing
- Minimum 40 days suckling period
- Space requirements
- Provision of roughages (straw)
- No tail docking
- Organic feed (95%)
- Restrictions for treatments



What are the challenges and opportunities of organic pig production?

Environment

- Ammonia emissions
- Feed efficiency
- Protein sources
- Origin of feed

Consumer / Societal demands

- Feed-food-competition
- Housing / free range
- Integrity of pigs

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Breeding

- Litter size
- Feed utilization
- Longevity
- Adapted for free range

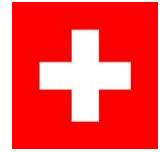
Health

- Piglet mortality
- Parasites
- Tail lesions

Welfare

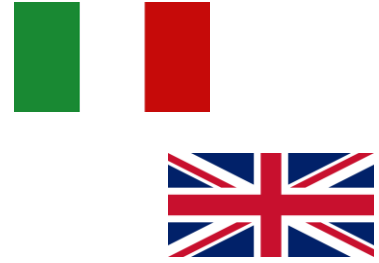
- Rooting material
- Castration
- Housing system
- Species-specific feeding

Housing systems in European organic pig production



- Indoor housing with access to an outdoor run

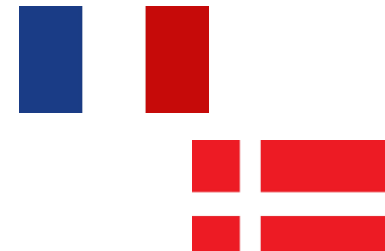




Housing systems in European organic pig production

- Outdoor systems





Housing systems in European organic pig production

- Partly outdoor systems



Housing systems and effects on health and welfare

	Indoor (with outdoor run)	Partly outdoor	Outdoor	<i>P-value</i>
Lameness (% of sows; median)	7.1 %	3.4 %	0.0 %	<i>0.001</i>
Diarrhea (% of weaners; median)	25.0 %	0.0 %	0.0 %	<i>0.015</i>
Respiratory problems (% of fatter groups; median)	66.7 %	60.0 %	0.0 %	<i>0.002</i>
Tail lesions (% of fatteners; median)	0.4 %	0.0 %	0.0 %	<i>0.009</i>
Mortality suckling pigs (%; median)	21.3 %	21.6 %	19.2 %	<i>0.156</i>

Leeb et al., 2019

Housing systems and effects on environment

- Global warming potential does not differ between systems
- Indoor (with outdoor run) production causes more ammonia emissions (through manure spreading and in the outdoor run)
- Feed production has the highest impact on global warming potential as well as acidification and eutrophication potential
- Eutrophication potential higher in outdoor systems (leaching of PO_4^- equivalent)

Rudolph et al., 2018

Improving the concrete outdoor run



Shower

+



+



Rooting area with compost

+

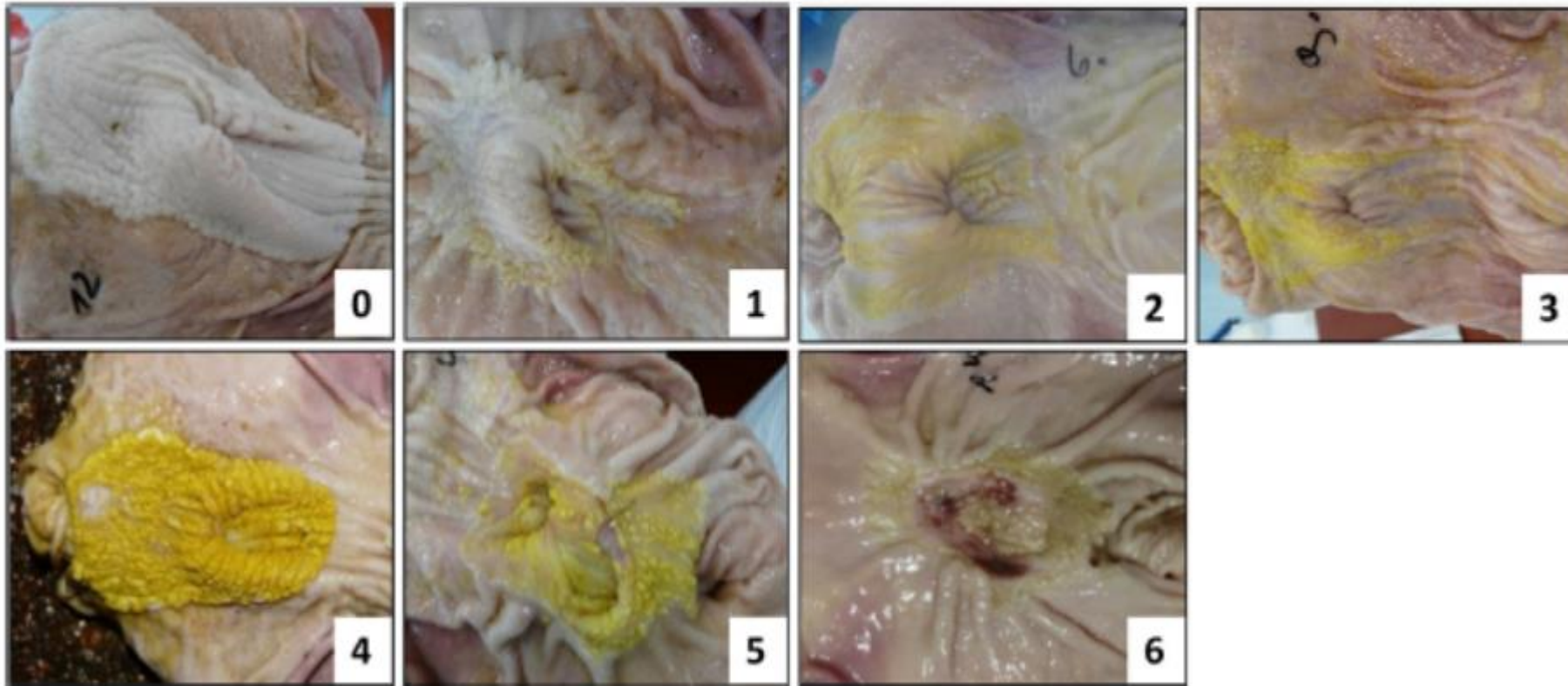


Roughages in a rack

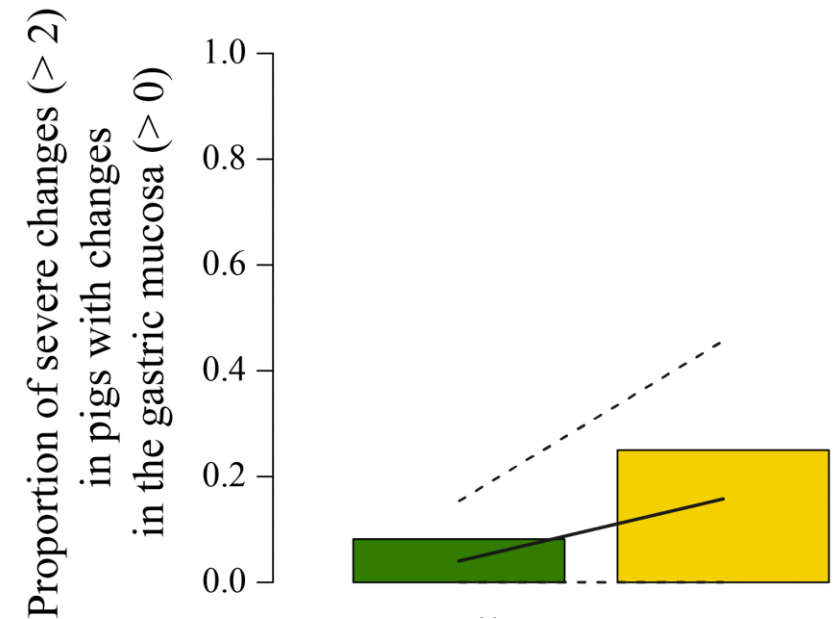
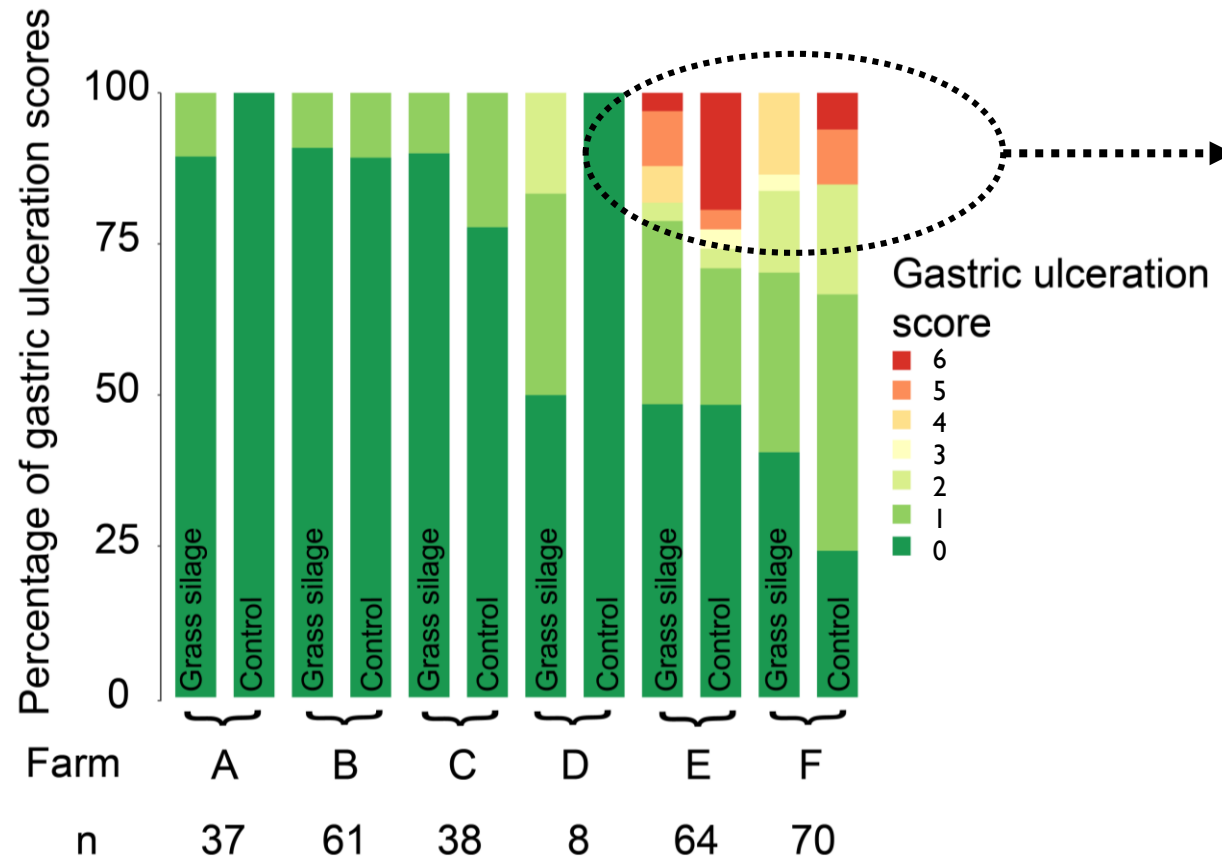


European Union ERA-net
CORE Organic cofund
project

Species specific feeding – Gastric ulceration



Species specific feeding – Gastric ulceration



Practical publications



Manual

2022 | English | Nr. 1300



Welfare and environmental impact of organic pig production

A collection of factsheets



Literature

Früh et al., 2014. Description of organic pig production in Europe. *Organic Agriculture*, 4, 83-92.

Holinger et al., 2018. Grass silage for growing-finishing pigs in addition to straw bedding: Effects on behaviour and gastric health. *Livestock Science*, 218, 50-57.

Leeb et al., 2019. Effects of three husbandry systems on health, welfare and productivity of organic pigs. *Animal*, 3(9), 2025-2033

Rudolph et al., 2018. Effects of three husbandry systems on environmental impact of organic pigs. *Sustainability*, 10, 3796

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