



Transdisciplinary approach to improve concrete outdoor runs for organic pigs: Identification of innovations

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How to improve concrete outdoor runs?



Potential for improvement regarding

Animal welfare

(Leeb et al. 2019)

Ammonia emissions

(Olsson et al. 2014)

Practical solutions?

Ask practitioners!



AIM

Identification of **2-3 innovative** measures to improve animal welfare and reduce ammonia emissions → for testing in **on-farm experiments**

Identification and selection process

Stakeholder Input

Workshops & interviews
Farmers & experts
8 countries
Common protocol
Best practice & new ideas
Aspects of sustainability



Evaluation

8 researchers from 6 countries
4 criteria
5-point-scale: 1 = 😊 to 5 = ☹️



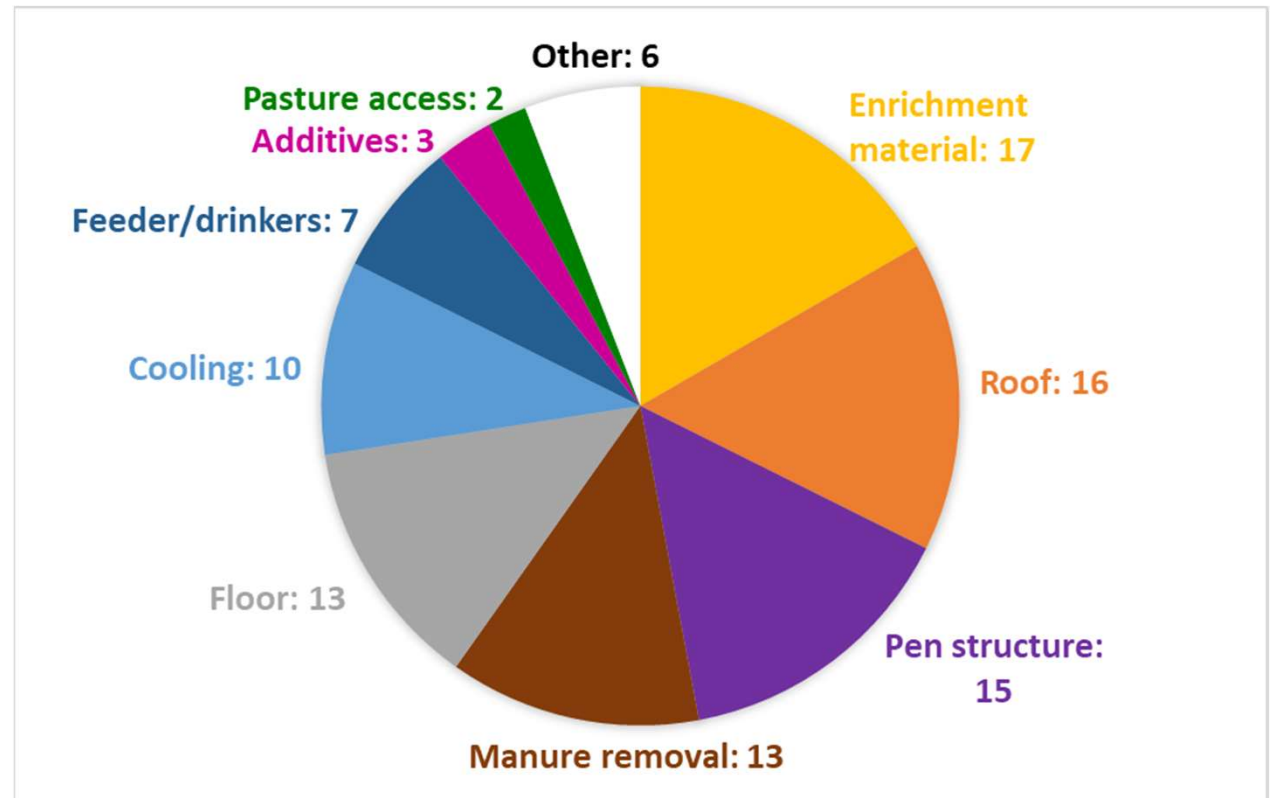
Selection

Dialogue-based
Stepwise process
Considering stakeholder input
Animal welfare prioritized

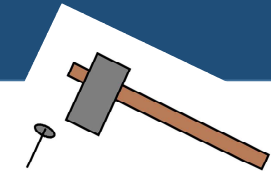
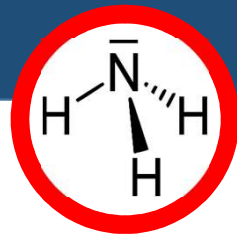
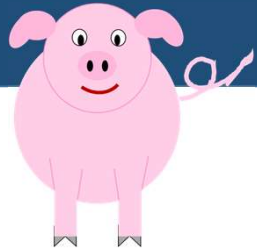


Stakeholder input

- 7 workshops
- 49 individual interviews
- 78 farmers
- 38 experts
- **102 individual statements** on improvement measures for concrete outdoor runs



Evaluation



Pasture access	1.3 [1.0-1.7]
Cooling	1.7 [1.3-1.2]
Enrichment	1.8 [1.0-3.3]
.....	
.....	
Manure	3.2 [1.7-4.8]
Additives	4.0 [3.7-4.3]

Manure	2.1 [1.0-3.4]
Roof	2.4 [1.3-4.0]
.....	
Enrichment	3.0 [2.0-5.0]
.....	
Other*	3.4 [2.0-5.0]
Additives	3.4 [3.3-3.7]

Pasture access	1.4 [1.2-1.7]
Other*	1.9 [1.4-3.0]
.....	
Enrichment	2.3 [1.2-3.8]
.....	
Roof	3.0 [1.3-4.3]
Floor	3.4 [2.5-4.6]

Enrichment	2.2 [1.5-2.8]
Additives	2.4 [1.8-3.3]
Cooling	2.5 [1.8-3.8]
.....	
Pasture access	3.9 [3.4-4.3]
Floor	4.4 [3.8-4.8]

* E.g. brushes, light, track grids for handling pigs, weight-sorting system.

Proven Welfare and Resilience in organic pig production



Selection



1) Optimisation of **rooting areas**

2) Improved location and frequency of provision of **roughage**

3) Strategies for the use of **showers** to mitigate heat stress

Concluding remarks

Involving farmers in problem framing...

...reveals **relevant research** topics for practical farming

...creates **commitment and motivation** for on-farm studies

However, ...

...demands additional **time and effort**

...may lead to **trade-offs** when resources are limited

...requires thoughtful **project planning**

Learning from each other

...We won't stop learning!



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Proven Welfare and Resilience in organic pig production