mEAT quality

Practice Abstract

Reducing space density to improve pig growth and welfare

APLICABILITY

Theme/Keywords
Space quality, Welfare, Health, Pig

Context
Welfare improvement

Geographical coverage
Worldwide

Required time
Limited

Period of impact
Whole production period

Equipment
None

Best in
Conventional husbandry, but applicable in all systems

Problem

In conventional indoor farming, a standard space density of 0.7 m^2 per pig results in crowded pens, especially in the last weeks of the fattening period. This leads to a range of behavioural issues including disturbed sleeping and feeding patterns, increased displacement and aggression. Besides reducing animal welfare, these issues can also impact feed intake, pen hygiene, and disease spread, ultimately affecting pig health and productivity.

Solution

Reducing the number of pigs in fattening pens can help prevent behavioural and physiological issues, improving pig welfare, health, and growth.

Benefits

With more space available, pigs are able to maintain the functional areas of the pen: they can rest on the solid floor, have a better access to the feeder, and keep the pen clean. With fewer pigs in the pen, competition for the feeder and the pen enrichments also decreases, which improves feed intake and helps prevent behavioural issues such as tail biting.

Practical recommendations

Improving space allowance by increasing the surface of fattening pens can be an efficient strategy, but it requires a considerable change to the housing and general farm structure. Alternatively, increased space allowance can be achieved by reducing the number of pigs housed in each conventional pen. The precise number of animal and the resulting space allowance can be flexible, but a significant reduction is recommended to achieve the most benefits.

For reference, our studies have shown that reducing the number of pigs per pen by half (from 0.7 to 1.4 m^2 per pig) significantly improves pig welfare as evidenced by reduced levels of stress hormones, decreased incidence of pen fouling, and increased slaughter weight of approx. 4.5 kg compared to conventional space allowance. Further increasing the space allowance to 2.1 m^2 per pig not only enhances pig welfare and slaughter weight but also completely prevents pen fouling throughout the fattening period and the loss of any animals due to disease, tail biting or any other health issue.

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Figure 1: Pigs resting in pens with 0.7 or 2.1 m^2 per pig – in the first picture (0.7 m^2 per pig), many pigs are unable to rest on the solid floor, access to the feeder is impaired by pigs laying down in front of it, and some pigs rest on the slatted floor. The pigs are also dirtier than in the second picture (2.1 m^2 per pig).

On-farm application

System approach

Reducing the number of pigs per pen is easily achievable, though it does mean fewer animals are sent to slaughter. However, this economic loss can be balanced by improved growth and carcass weight, lower incidence of diseases, reduced incidence of behavioural issues such as tail biting, and easier management of the animals (e.g. cleaner pens). Increased space allowance can also be achieved progressively, by gradually reducing the number of pigs until a satisfactory balance between health, welfare, and farm economics is reached.

The number of pigs in a pen should also be decided with regards to the rest of the management strategy. For example, reduced fouling from lower stocking densities can facilitate housing on partly slatted floor, which allows for the provision of straw and more comfortable resting for the pigs. However, if the pigs are only fed a highly concentrated diet, the increased feed intake resulting from a lower number of pigs per pen may lead to issues such as stomach ulceration, as demonstrated in our study. Providing roughage can easily prevent this problem. Therefore, a systemic approach considering space allowance, enrichment strategy, and diet is recommended.

FURTHER INFORMATION

Further reading

Review: Space allowance for growing pigs: animal welfare, performance and on-farm practicality

Effects of modulating space density via the number of pigs in a pen on feeder use and feeder access in the finishing period

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mEATquality: The *mEATquality* project aims to provide consumers with better-quality pork and broiler meat and animals with a high level of welfare by developing scientific knowledge and practical solutions together with farmers and chain partners.
The *mEATquality* project, an H2020 project, is coordinated by Wageningen Research (The Netherlands) and is a multidisciplinary team of 17 partners organisations representing 7 EU countries. The project is running from October 2021 to March 2026
Project website: www.meatquality.eu/

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Project partners: Wageningen Research, Wageningen University, Aarhus University, Institute of Genetics and Animal Biotechnology of the Polish Academy of Sciences, Naturland e.V., CLITRAVI, Ecovalia, University of Salamanca, University of Cordoba, Centro Ricerche Produzioni Animali, Stazione Sperimentale per l'Industria delle Conserve Alimentari – Fondazione di Ricerca, Danish Technological Institute, Hubbard S.A.S., Poznań University of Life Sciences, Universitat des Saarlandes, Marel Poultry B.V., Universitaet Rostock

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 101000344. This website reflects the author's views (s0 and does not necessarily reflect the views or policy of the European Commission. Whilst efforts have been made to ensure the accuracy and completeness of this document, the European Commission shall not be liable for any errors or omissions, however, caused.