



Environmental enrichment to improve pig welfare

APPLICABILITY

Theme/Keywords

Space quality, Behaviour, Welfare, Pig

Context

Welfare improvement

Geographical coverage

Worldwide

Required time

Limited (provision of enrichment and cleaning of pens)

Period of impact

Whole production period

Equipment

Enrichment material (paper, wood, ropes, etc.)

Best in

Conventional husbandry, but applicable in all systems

Problem

Pigs have a strong motivation to explore and manipulate their environment. In conventional husbandry, the lack of opportunity to perform these behaviours can lead to impaired welfare and behavioural issues, such as tail biting and aggression. As a solution, environmental enrichments may be provided to stimulate the pigs. However, the benefits on welfare may differ depending on the enrichment strategy chosen.

Solution

Providing the right **type, amount, and frequency** of renewal of environmental enrichment can significantly improve pig welfare.

Benefits

Performance of natural behaviours including sniffing, biting and chewing of enrichment materials can reduce the frequency of negative behaviours such as tail biting and aggression.

Practical recommendations

The best environmental enrichments for pigs are substrate/objects that are **chewable, deformable and/or destructible**, and if possible ingestible. This includes straw, wood shaving, paper bags, or suspended ropes.

The enrichment should be renewed frequently, and new types of enrichment should be introduced to maintain the pigs' interest. It is recommended to wait a minimum of 5 days before providing the same enrichment again.

Importantly, if the enrichment is an object (e.g. rope, ball, or wood log), it is important to avoid competition. Thus, enough units should be provided to ensure that all pigs in a pen can access it. Ideally, 85-100% of the active pigs should be able to interact with the enrichment at the same time.

Placement of the enrichment is also of importance. For instance, objects should ideally not be placed in resting areas to prevent disturbance of sleeping pigs, and, if fixed, the enrichment should not hung higher than the pigs' eyes level.

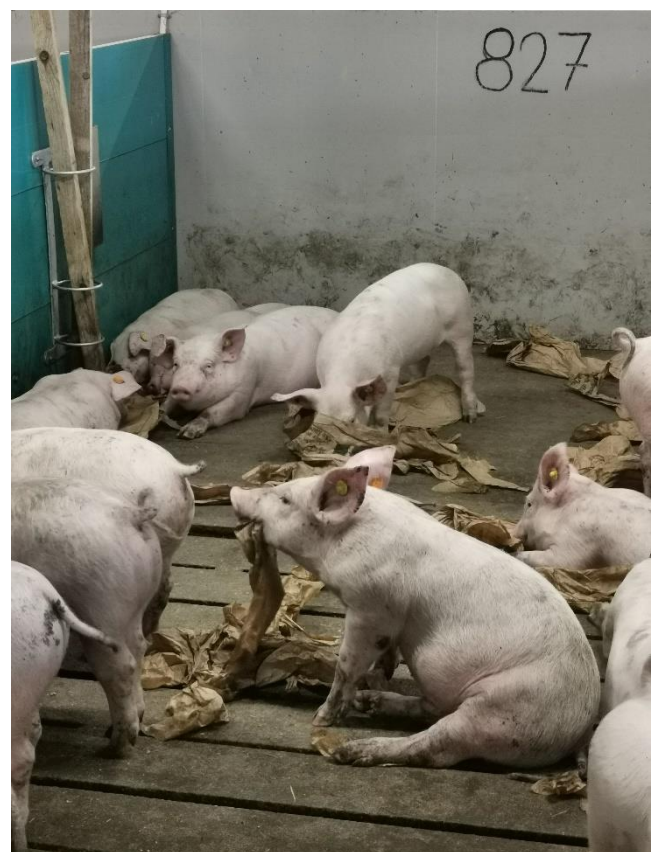


Figure 1: Loose paper bags as enrichment (Source: Mathilde Coutant, Aarhus University)



Figure 2: Ropes attached to pen fixtures as enrichment
(Source: Mathilde Coutant, Aarhus University)

On-farm application

System approach

When choosing an enrichment strategy, the management system, including the type of housing and the cleaning method, should be considered (especially for substrate given directly on the floor).

Enrichments can be implemented at any moment, but should ideally be started already in the pre-weaning period, and be continued until slaughter. Resources needed vary based on the enrichment strategy, but can be kept low by using readily available items such as empty paper feed bags or freshly cut branches.

The benefits can be evaluated in terms of animal performance, including tail biting, response to weaning and growth.

About this practice abstract and *mEATquality*

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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 September 2025

Project website: www.meatquality.eu/

Social media: Facebook and LinkedIn (@mEATquality) & Twitter @mEATqualityEU

FURTHER INFORMATION

Practical guide (PDF)

[Environmental enrichment for pigs](#)

Further readings

[Effects of environmental enrichment on behaviour, physiology and performance of pigs — A review](#)

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 ©2024

