



Innovation in action

ClimatePig: Smart systems approaches for climate resilient livestock production

Research capability

> National Pig Centre

The UK's largest and most advanced facility for research into pig nutrition, behaviour, welfare & health, and production systems.

Challenge

Resilient, sustainable livestock production is a major gap in the future food system. In the UK, outdoor pig production represents 40% of the breeding herd, but production efficiency and environmental impact are particularly vulnerable to changing climate and extreme weather events.





Action

Researchers at the University of Leeds are integrating local weather information and precision farming technology to improve our understanding of adaptation options for extreme weather events, with a view to developing a climate-smart, resilient and sustainable production system.

Research capability within the CIEL-supported National Pig Centre enables tracking and monitoring of individual animals. This data is being used to quantify feeding behaviour, activity levels and non-point source manure loading.

Weather data (temperature, rainfall, wind speed and humidity) from the research centre's weather station and high-resolution short-term precipitation forecasts are integrated with the behaviour data to develop optimised precision nutrition programmes. This approach could mitigate environmental emissions for different weather conditions.

Additional soil sampling will measure the impacts on soil quality and structure to gain new insights into the benefits of outdoor livestock production as part of an agricultural rotation.

Impact

This research will improve on-farm climate services and technology integration, ensuring future outdoor pig production is sustainable and resilient to climate variability and change.



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