Innovation in action

The Beef Toolkit – a data-driven blueprint for net zero

CIEL supported industry-led research

Challenge

The estimated greenhouse gas (GHG) intensity of UK produced beef is equivalent to half of the global average. However, further improvements are required to contribute significantly to the UK's net zero 2050 goal. Coupled with the impact of Brexit, changing market dynamics and new a policy environment, Britain's beef farmers need clear guidance to continue improving their efficiency, productivity, sustainability and competitiveness.

Harper Adams University

abp Food Group

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Action

This ABP-led project, working in partnership with Harper Adams University and supported by CIEL, was designed to help establish a new Information and Decision Support (DS) network, providing new insight for beef farmers. The ultimate aim is to provide farmers with a data-driven decision support 'blueprint' they can implement to reduce GHG emissions in the most economically viable manner.

Research sought to identify the relationships between genetics, feed efficiency and finishing system on farm GHG emissions and economic efficiency, while meeting target carcase specifications.

Two key outputs from the project were to investigate if the prediction of liveweight gains in beef cattle can be improved, along with improving the effectiveness and applicability of benchmarking through developing farm specific benchmarks (as opposed to general industry benchmarks). Results indicated that it is more profitable for beef producers to slaughter cattle at a younger age, and optimal management can have significant benefits in terms of improving profitability whilst reducing GHG emissions.

Impact

The DS framework developed and tested in this pilot project will enable beef farmers to benchmark against fellow contemporaries with regard animal liveweight gain, nutrition analysis, soil health, grassland management, precision grazing and economic efficiency. The network toolkit will implement continuous monitoring and KPIs to monitor efficiency & profitability and inform both business and livestock management decisions in real time.

The toolkit will empower beef farmers to leverage their data to help identify trade-offs and potential economic gains depending on management factors; such as breed or finishing method, and to evaluate differences in GHG emissions.

Innovate UK