RRes Press Release 30 September 2020 **New report urges more innovation if farmers are to meet UK net zero cardon goals for livestock**

*Current climate mitigation measures can only deliver one fifth of the proposed reductions say authors*

A new report assessing the carbon intensity of all UK livestock production systems has identified that currently available technologies cannot deliver the industry’s 2050 carbon emissions reduction goal.

Commissioned by [CIEL (Centre for Innovation Excellence in Livestock)](http://www.cielivestock.co.uk/), and written by environmental, climate and livestock scientists from eight renowned UK research institutions, including Rothamsted Research, the [Net Zero Carbon & UK Livestock Report](https://www.cielivestock.co.uk/wp-content/uploads/2020/09/CIEL-Net-Zero-Carbon-UK-Livestock_2020_Interactive.pdf) will be used to inform the debate about climate change and the role livestock can play to reduce emissions that contribute to global warming.

The report drew upon data collected by Rothamsted’s North Wyke Farm Platform. This unique “Farm Lab” is the most instrumented livestock site in the UK and is providing new insights into the challenges farmers will face in meeting climate change targets.

Rothamsted’s Dr Graham McAuliffe, one of the report’s lead authors said, “Our detailed studies on grazing beef systems at Rothamsted, in addition to research on other animal species carried out by our consortium partners, have shown that we need to consider all aspects of livestock farming to be able to make informed judgements on how the sector can become better-equipped in terms of reducing greenhouse gas losses. That means looking at nutrient cycles from soil to slurry, different sward mixes, the welfare and health of animals, as well as livestock efficiency metrics such as feed conversion ratios, growth rates and milk yields. The good news is that as a result of our collective ongoing research, we are able to pinpoint where interventions in husbandry, technology and land management can be most effective in delivering practical climate solutions.”

THE NEED FOR INNOVATION

The report reviews current knowledge and identifies areas where there are gaps in our ability to measure or achieve the target reductions in emissions set for UK agriculture. It also aims to provide approximate benchmarks for the carbon footprint of farmed livestock, hotspots where the greatest emissions occur and where there are opportunities to focus future efforts to reduce emissions, all based on best available data.

Lead scientist, Professor Bob Rees, from Scotland's Rural College (SRUC), stressed the need for new innovations to further reduce emissions beyond the levels that currently known mitigation strategies will deliver.

“Even if all known methods for mitigation of carbon emissions were taken up rapidly, the industry could only deliver 19% of the aspirational carbon reduction target by 2035.

“Livestock farming is an integral part of UK agriculture, our landscape and food systems, but it’s a complex system involving flows of carbon, nitrogen, water and atmospheric gases.

“In order to help balance the reduction in emissions with the production of high-quality nutritious food, a combination of strategies is needed. These must consider all dimensions of sustainable agriculture including carbon efficiency, soil health, animal health and welfare, and much more.

“And for that we need more innovation, collaboration and widespread adoption,” he said.

AMBITION IS NOT ENOUGH

Dr Elizabeth Magowan, from the Agri-Food and Biosciences Institute (AFBI), coordinated the report, and says the intention is for it to be used as a baseline to drive change throughout the livestock supply chain.

“This report is a call to action. While the industry is making steps in the right direction, the ambition to achieve the UK’s target is huge and known technologies and practices can only get us part of the way. A combination of greater investment, improved carbon accounting and education resulting in adoption, are required for the UK livestock industry to achieve its net zero carbon goal within the next 30 years.”