POLICY AND FUNDING BRIEF:

THE IMPERATIVE FOR FARM-LEVEL COLLABORATIVE RESEARCH ON GRAZING LIVESTOCK TO SUPPORT A SUSTAINABLE FOOD AND FARMING SYSTEM IN THE UK

Supported by funding from the UKRI-BBSRC, Rothamsted Research (RR) and Pasture for Life (PfL) have joined forces to reflect on the current state and future potential of pasture-based livestock research





We are motivated by a shared concern that what constitutes the most efficient and sustainable use of land for food production cannot be derived solely from a simplistic use of global averages, abstracted from their place-based context. We believe that moving the science and the public debate forward requires an agricultural research environment which prioritises farmer-scientist collaborative research at the farm-level based on the placeparticular conditions prevalent in the UK.

PUTTING IT IN CONTEXT:

To date, Rothamsted's place-based, contextualised scientific research has shown that:

Where land is unsuited to arable conversion, pasture-based beef and sheep farming produces a nutrient dense food while enabling conservation of significant carbon stocks held in longterm permanent pasture. When assessed in terms of human nutrient value of meat, pasture-based livestock systems can be more efficient in terms of land use and have an overall lower carbon footprint than most intensively grain-fed livestock systems (beef, pork and poultry).

Meat raised on 100% pasture has a better nutritional profile than grain-fed counterparts. 100g of pasture-only reared beef provides 18% of an adult male's recommended daily intake of 27 key nutrients. Grazing management techniques such as 'mob' grazing can significantly increase the productive efficiency of pasturebased livestock farming and with reduced environmental trade-offs. From an animal welfare viewpoint, pasture-based management systems – where animals are outside grazing pasture for much of the year - can have better mental and physical wellbeing outcomes for livestock than for those in permanently housed systems.

METHOD:

We conducted a PfL-led rapid review of RR's research relating to pasture-based livestock farm systems. The review focused on research conducted at the Rothamsted North Wyke campus, Devon, published between 2000 to the present day.

MORE IS NEEDED:

Our vision for Responsive, Dynamic and Impactful collaborative research.

METHOD:

Between May-October 2024, a series of round tables involving a scientific advisory group (RR) and PfL's research group, followed by an open-invite scientist-farmer workshop event, identified shared priorities to encourage more research funding that supports collaborative farmer-scientist research.

RESPONSIVE.

Combines the speed of pragmatic farmer innovation with the rigour of scientific research, to produce place-appropriate solutions to real-world challenges.

RECOMMENDED CHANGES

RELATIONSHIP-BASED RESEARCH FUNDING: Most current funding models work on an episodic, project-based basis, which limits the opportunity for building long-term trust between scientists and farmers. Introducing a relationship-based funding strand would allow for ongoing, mutually beneficial collaborations, fostering stronger partnerships and more effective, timely research.

EQUAL STATUS AS RESEARCH PARTNERS: The current UK funding model does not facilitate the rewarding of farmers as equal partners in the research process. Funding models need to recognise farmers as full partners in research, allowing them to be listed as co-researchers and compensated fairly for their expert contributions.

DEPLOY A CO-DESIGN APPROACH: To ensure relevance and effective application of research, collaboration needs to move from its current focus on data collection, to a co-design approach where collaboration applies to the whole research process, starting with identification of the research problem and design of the study.

IMPACTFUL.

Real-world data accelerates development of highly validated modelling, leading to effective place- and farm-particular decision support tools for farmers to improve sustainable management practices.

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Rothamsted Research is a UK national research institute. Its North Wyke farm platform in Devon is one of the most instrumented farm platforms in the world, providing a unique facility to study the environmental and ecological impacts of pasture-based livestock farming at the field and farm level. <u>https://www.rothamsted.ac.uk/</u>



Pasture for Life is a not-for-profit CIC, focused on developing pastoral farming systems in the UK for positive social, economic and environmental impact. PfL takes a farmer-led approach to conducting research and supporting the transition towards lower input, more regenerative and sustainable farming. <u>https://www.pastureforlife.org/</u>

DYNAMIC:

'Hub and spoke' research design facilitates iterative data collection and testing between a network of farms and a central research hub to enable research which can dynamically feed real-time insights into decision-making processes.