SHEEP AND METHANE

FORAGE FOR CH4NGE

Why Forage for CH4nge Matters: A Ruminant Research Perspective

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Forage for CH4nge explores how genetics, forages, and system design can make sheep farming more efficient, sustainable, and climate-smart while safeguarding food security.

Ruminant livestock, including sheep, are central to both food security and environmental debates due to their role in methane emissions and global warming. While ruminants have always existed, modern agriculture has greatly increased their numbers, amplifying methane emissions. At the same time, advances in efficiency mean that today's ruminants produce more food per unit of methane than ever before, supporting a much larger global population with essential nutrients found in meat and dairy.

The challenge is not whether to farm animals, but how to do so in ways that maximize efficiency, balance land use, and enhance sustainability. Integrating livestock with cropping systems can boost overall productivity and resource use efficiency, while livestock also contribute to soil health and nutrient cycling. For sheep, the focus should be on playing to their natural strengths: converting low-quality forages into high-quality protein with minimal environmental impact, especially in upland areas unsuited to cropping.

Improving efficiency can come from three key areas: genetics, forage choice, and system design. Selective breeding for low-methane sheep, identifying forage types that reduce methane per kilogram of meat, and matching sheep systems to suitable environments offer pathways to both reduce emissions and strengthen food security.

Project partners:

UK Agri-Tech Centre · Game & Wildlife Conservation Trust · NSA National Sheep Association · SRUC · Yorkshire Agricultural Society · UKRI Innovate UK · swef

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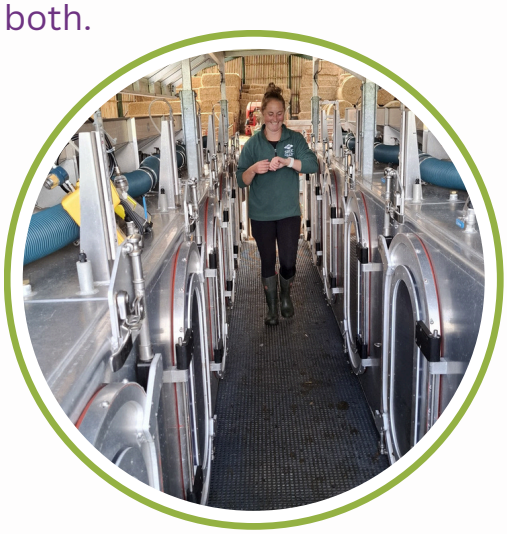
The Forage for CH4nge initiative is a farmer-led project exploring these opportunities. Its findings will guide genetic improvement programs, refine sheep system design, and inform forage strategies, contributing to a more efficient, sustainable, and resilient livestock sector.

The project is asking farmers, researchers, and policymakers to work together to:

- Select and breed lower-methane sheep without sacrificing performance.
- Identify and promote forages that support efficient production while reducing emissions.
- Match farming systems to land types to maximize whole-system efficiency and sustainability.
- Integrate findings into policy and practice, ensuring sheep farming remains both climate-smart and vital to food security.

The future of sheep farming lies not in choosing between food production and environmental responsibility, but in harnessing innovation to achieve both.



Through genetics, forage choice, and smarter system design, we can reduce methane emissions while producing nutrient-dense food efficiently and sustainably.

Forage for CH4nge is leading this effort—bringing farmers, researchers, and industry together to secure a climate-smart future for sheep farming.

More here.

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