

Grasslands cover about 40% of the Earth's surface, serving as vital habitats and the third largest carbon store after wetlands and forests. With the right management, farm animals help convert grass into food for people, support soil and pasture health, and maintain important habitats.

Sustainable livestock farming depends on using the right breeds, high-quality pasture and feed, good housing, and strong animal health and welfare practices. Our research focuses on understanding and meeting these needs within each unique system.

We don't look at livestock in isolation. Our work connects with business and markets to help farmers stay profitable, with cropping systems to show the historic value of livestock in rotations, and with agroforestry through silvopasture development.

Our aim is to support animal health and welfare in rich, varied environments – balancing good food production with respect for animal wellbeing and natural behaviours.

Some of our projects



Re-Livestock

The Re-Livestock project aims to develop innovative approaches to addressing resilience in dairy, beef and pig farming in different geographic regions in the face of climate change.

To achieve this, 37 partners from 15 different countries across
Europe are collaborating together on themes including breeding, feeding and farm systems. ORC plays multiple roles in the project including collecting and analysing sustainability data for each innovation using ORC's Public Goods (PG) Tool conducting willow-feed trials, and modelling animal health and welfare in future climates.

The innovations are directly tested on farms and wider stakeholder groups for each innovation frequently meet to ensure all potential benefactors of the research, including farmers, processors, policy makers, can feed into the research process.

Results from these innovations will not only be reported in scientific publications but shared and discussed across the individual stakeholder groups, spreading the knowledge between countries, disciplines, and sectors.

Plants not Plastic

ORC is leading this project, funded by the Swire Trust, in close partnership with the Woodland Trust.

Protecting young trees from being damaged by farm or wild animals usually means using plastic tree guards and fencing off areas for years. This adds cost and limits how the land can be used. But these plastic quards don't always do a great job.

They only protect part of the tree, can harm it in strong winds, and often end up polluting the environment when they're not removed.

'Plants not Plastic' is testing using living plants like gorse and hawthorn as natural protectors instead. By planting these shrubs around young trees at different densities, the project aims to see if they can



shield the trees from harm while also encouraging natural animal-plant interactions, like browsing, in new wood pasture systems.



Devon Silvopasture Network

In this Innovative Farmers research network coordinated by The Farming and Wildlife Advisory Group (FWAG South West) seven farms and Rothamsted Research North Wyke are being supported to design and implement silvopasture systems: planting trees within pasture fields used by livestock. Three designs are being tested with a mixture of

cluster planting, regular spacing and shelterbelts being planted.

ORC are providing expertise in silvopasture design and research to optimise livestock health and welfare.

The field lab, which also includes The Woodland Trust, started in 2021 and runs for 12 years.

UK-Brazil-Africa Silvopasture Network

This Scoping Project aimed to promote the use of silvopasture to build resilience in the livestock sector of Ghana and Nigeria, by networking with stakeholders in these African countries, UK and Brazil. The final report synthesises our findings on how silvopasture provides climate change adaptation benefits, the challenges facing the livestock sector in Ghana and Nigeria as a result of climate change, and the potential of, but also barriers to, silvopasture being implemented at scale as a climate-smart solution in Africa. The work was supported through the Climate-Smart Agriculture Partnership: UK-Brazil-Africa, funded by the Foreign, Commonwealth and Development Office (FCDO) and delivered by Innovate UK.



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More on our animal husbandry research



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