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Trialling wetter farming systems at Harper Adams University

Paludiculture Innovation Project

Harper Adams University was awarded a grant from Natural England to work with farmers in north Shropshire to explore sustainable farming on rewetted peatlands. The project aimed to build and share information about crop production on lowland peat and examine if rewetting lowland peat can reduce greenhouse gas emissions.

The University's Future Farm is on the naturally occurring lowland peatlands present in north Shropshire. One of the farm's fields was rewetted to trial the growing and harvesting of different crops which are suited to wetter soils. These included meadowsweet, watermint and wheat.

The findings are helping to inform actions taken by farmers and contribute towards the development of policies regarding lowland peat.

"We want to know how this peaty land could be managed as a mosaic with conventional farming in a better, more sustainable way to support biodiversity, mitigate greenhouse gas emissions and climate change - without negatively impacting on the UK's food production."

Dr Julia Casperd, Senior Lecturer, Harper Adams University

What is wetter farming?

Also known as paludiculture or high water table farming, wetter farming is the practice of productive agriculture on wet or re-wetted land, often peatland.

It's about cultivating financially viable crops on farmland that naturally has a high water table and making it a sustainable and profitable form of agriculture.

This farming system also helps to lower greenhouse gas emissions. By not draining the water from peatland, the carbon that is locked into the peat remains fixed and protected.

Water Management

The project also investigated whether paludiculture can become a water management tool, gathering winter floodwater and holding it for slow release through the summer.

This could offer alternative or additional income potential to farmers as payments for landscape services are beginning to emerge.

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"The project findings on rewetting lowland peat highlight the challenge of balancing the environment with commercial crop production."
Professor Jim Monaghan, Harper Adams University

Environmental benefits:

- Enhanced biodiversity, notably improved habitats for wetland birds.
- Rewetting peatlands helps reduce carbon emissions by slowing peat decomposition.
- Improved water management has the potential to reduce flooding and improve water quality.

Opportunities:

- Partial or seasonal rewetting, particularly on marginal or waterlogged land, presents opportunities to retain land in the productive system while gaining environmental benefits.
- There is a growing interest in paludiculture, especially among younger farmers.

Crop Trials:

- Meadowsweet and water mint showed potential as paludiculture crops, though weed competition was a challenge.
- Economic modelling suggested niche crops such as Miscanthus for bedding and cranberries may offer viable returns under certain conditions.

Practical challenges/concerns:

- High infrastructure costs in terms of rewetting and harvesting with uncertain returns and lack of market access.
- Monitoring equipment and water management systems require specialist knowledge and long-term investment.
- Limited awareness of paludiculture and formal training opportunities are scarce.

Project Impact

The project has demonstrated that paludiculture can be a promising land use strategy for lowland peat, offering environmental and economic benefits when supported by infrastructure, policy and knowledge exchange.

The project engaged over 400 participants including farmers, researchers and policymakers, and Harper Adams is now recognised as a national hub for paludiculture research and demonstration.

While challenges remain, especially around profitability and technical complexity, the project has laid a strong foundation for future adoption and innovation in sustainable peatland management.

For further information

(click on links below)

- Paludiculture Innovation Project, Harper Adams University
- What is wetter farming?, www.plaudiculture.org.uk
- The Paludiculture Innovation Project was funded through the Nature for Climate Peatland Grant Scheme