

MANAGING FOR A SUSTAINABLE FUTURE

CROPPING SYSTEMS ON DRAINED LOWLAND PEAT

June 2025



FIRST STEPS FOR PROTECTING PEAT



Continued deep drainage and intensive cropping systems on peat are incompatible with long-term environmental and economic sustainability.

In the UK, drained lowland peat underpins some of our most productive land. But these same landscapes also have very high greenhouse gas emissions and low levels of biodiversity. Rewetting for peatland restoration is the most effective solution to minimise greenhouse gas emissions. This is not feasible everywhere and would significantly undermine UK vegetable production. We must work together to design and deliver more sustainable cropping systems for UK lowland peatland.

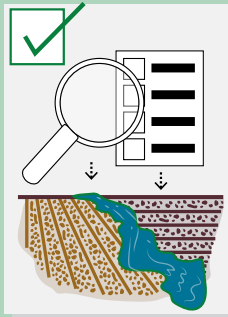
There is no one-size fits all blueprint to deliver reduced greenhouse gas emissions, maintain farm productivity and increase biodiversity. Improving the sustainability of cropping systems on peat must build on existing practices, the farming system, climate, cropping. There are options for all farmers to enhance productivity, as well as making more room for nature and reducing greenhouse gas emissions. This guide brings together some initial steps to help farmers select the best combination of practices to improve sustainability of cropping systems on drained lowland peat.

3 THINGS TO CONSIDER:



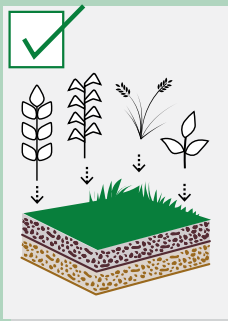
1

KEEP SOIL COVERED



2

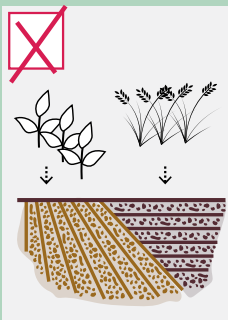
RAISE THE WATER TABLE



3

INCLUDE A DIVERSE ROTATION

2 THINGS TO AVOID:



1

LOTS OF HIGH DISTURBANCE CULTIVATION








2

USE LAND FOR ONE CROP ONLY

ADOPTING THE PRINCIPLES TO PROTECT PEAT

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WHERE YOU WANT TO IMPROVE SUSTAINABILITY OF CROPPING SYSTEMS		
	EVERYONE SHOULD:	GOING BEYOND THE NORM MIGHT MEAN:
 <p>PROACTIVE WATER MANAGEMENT</p>	<ul style="list-style-type: none"> ☑ Crop specific water management strategy ☑ Targeted irrigation management 	<ul style="list-style-type: none"> ☑ Farm-controlled drainage (weired system) ☑ Improved ditch design and management ☑ On-farm water storage infrastructure ☑ Buffer zones for ditches and other surface water
 <p>PROTECTING THE SOIL SURFACE</p>	<ul style="list-style-type: none"> ☑ Minimise bare soil exposure ☑ Consider use of cover crops, catch crops, nurse crops and leys, but beware creating a dry and dusty surface after destruction ☑ Reduce high disturbance cultivation (accounting for both depth and intensity of cultivation) ☑ Retain crop residues ☑ Have a diverse crop rotation ☑ Appropriate choices of crops 	<ul style="list-style-type: none"> ☑ Investment or development of dual purpose machines to reduce number of required passes ☑ Wind breaks using trees, shrubs or grasses ☑ Use advanced planting machinery ☑ Mulching over bare soils ☑ Agroforestry systems ☑ Field margin maintenance -reintroduction of sedges, rushes and reeds
 <p>EVIDENCE-BASED CULTIVATION</p>	<ul style="list-style-type: none"> ☑ Reduce high disturbance cultivation (accounting for both depth and intensity of cultivation) ☑ Reduce compaction by timely trafficking and reduce the number of passes in the field where possible 	<ul style="list-style-type: none"> ☑ Investment into lighter machinery to reduce compaction ☑ Investment or development of dual purpose machines to reduce number of required passes

 <p>TARGETED INPUTS.</p>	<ul style="list-style-type: none"> ✓ Crop Nitrogen Optimisation ✓ Cultural control strategies for weeds 	<ul style="list-style-type: none"> ✓ Use advanced planting machinery ✓ Reduced herbicide use
 <p>DIVERSITY IN SPACE AND TIME</p>	<ul style="list-style-type: none"> ✓ Have a diverse crop rotation ✓ Integrate cover crops, catch crops and leys where appropriate ✓ Choose appropriate crop varieties ✓ Buffer zones for ditches and other surface water 	<ul style="list-style-type: none"> ✓ Extended buffer zones for ditches and other surface water ✓ Distribute crops spatially, to avoid large areas of monoculture (on farm mosaic) ✓ Intercropping or polyculture (growing 2 or more crops together) ✓ Wind breaks using trees, shrubs or grasses ✓ Agroforestry systems ✓ Field margin maintenance -reintroduction of sedges, rushes and reeds





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This document is the result of collaborative efforts to explore and support more sustainable cropping systems on lowland peat soils. It draws on the expertise, insights, and experiences of a wide range of stakeholders, including farmers and growers (G's Group, Wright Farm Produce, Dyson Farms, Waldersey Farms Ltd, Allpress Farms Ltd, A.M & E.A DAVIS & SON, J.H Simpson & Son) working directly with peatland soils, alongside researchers, agronomists, and advisors (Hutchinsons, Niab).

The project has been supported by WWF-UK as part of a wider commitment to address the environmental impact of food production, including on lowland peat, while supporting productive, resilient farming systems. Together, we aim to identify and promote practical solutions that improve soil health, reduce greenhouse gas emissions, and maintain economic viability on some of the UK's most fertile – but most environmentally sensitive – farmland.

Fenland SOIL has played a central role in convening regional partners and facilitating dialogue between land managers and researchers. Through workshops, field trials, and knowledge exchange, this work contributes to the growing evidence base on how to farm peat soils more sustainably under current and future conditions.

This ongoing collaboration reflects the shared ambition to support nature-positive food production while protecting the long-term future of lowland peat landscapes.

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