



CENTRE FOR
HIGH CARBON CAPTURE
CROPPING

OVERVIEW



Background

Reducing greenhouse gas emissions, and improving resilience to climate change and extreme weather, are global challenges for farming and land management. Arable and forage cropping in the UK are dominated by relatively few crops, grown as monocultures. This lack of diversity is a risk to the productivity and durability of farming. Input-efficient crops that can increase carbon capture will help farming and associated industries make progress toward Net Zero. However, they must achieve profitable and sustainable outcomes.



CHCx3 Aims

The Centre for High Carbon Capture Cropping (CHCx3) is a four-year, £5.9M, multi-partner research project spanning agriculture, industry, and academia, led by NIAB. It aims to:

- Help UK growers capture more carbon and build farm resilience through diversifying their cropping
- Enable insetting/offsetting of emissions and offer new revenue sources in the carbon market
- Support enhanced value chains for industries such as textiles and construction using biorenewables



Cropping Options

The research is focused on the economic and environmental potential of four cropping options and their associated tillage systems.



Rotational cover crops



Annual fibre crops (industrial hemp, flax)

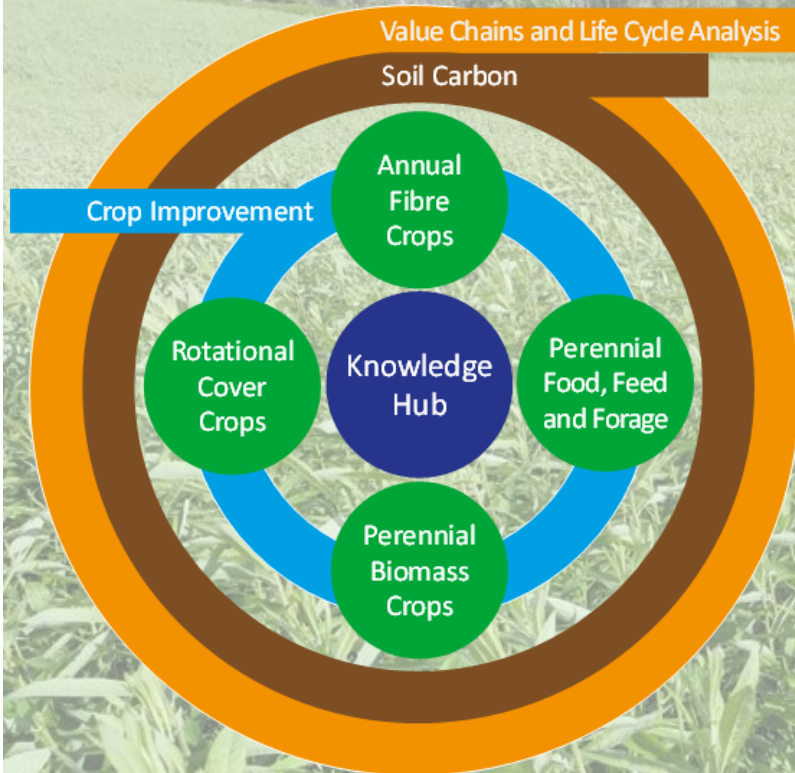


Perennial food, feed and forage cropping (including cereals and herbal leys)



Perennial biomass crops (miscanthus, willow, poplar)

CHCx3 Workstreams



Activities and Outputs

- Crop field trials and demonstrations at sites across the country
- Measuring soil carbon and health for a range of crop/tillage situations
- Soil carbon capture quantification and tracking (database and user platform)
- Variety trait evaluation and molecular breeding platform for Industrial hemp
- Further development of biorenewable, fibre-based construction materials
- Value chain evaluation and life cycle analysis for key crop products/ outputs
- Knowledge Hub: events, webinars, crop guides, decision-support tools

CHCx3 Project Partners

NIAB, Biorenewables Development Centre, British Hemp Alliance, Cotswold Seeds, Crops for Energy, Elsoms Seeds, Energy Crops Consultancy, English Fine Cottons, FarmED, Farm Carbon Toolkit, F C Palmer & Sons, National Farmers Union of England & Wales, Natural Building Systems, Northern Ireland Hemp Association, Rothamsted Research, Terravesta, UK Hempcrete, University of York and Unyte Hemp



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Find out more at:

www.carboncapturecropping.com

where you can sign up for our free newsletter and events



**Innovate
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