

TRACKING DOWN A CEREAL KILLER

The thought of Black Grass sends a shiver down the spine of farmers across the country. This incredibly invasive weed outcompetes cereal crops, costing UK farmers half a billion pounds every year.

If we could eradicate Black Grass, we'd be able to grow much more wheat - enough to bake over one billion loaves of bread, or brew eight billion pints of beer. Could the Aura Innovation Centre help bring together a team of experts to hunt down this cereal killer?

CASE STUDY: Black Grass

Part funded by



Delivered by



Supported by



Regional Growth Fund



THE CHALLENGE

Grass roots.

Black Grass is a huge problem for farmers across the UK. Not only does it outcompete crops for light and space, but it's also resistant to most herbicides used in agriculture, so farmers have to spend a lot of money and time on eradicating it. Some farmers have even resorted to destroying their own crops in a desperate attempt to control it.

Dr Sarah Shaw - a Senior Lecturer and Researcher at the Hull University Business School - is from a farming background herself, and spotted that farmers were struggling to manage Black Grass and were becoming increasingly reliant on chemicals to limit its spread.

However, little research had been done on the impact of Black Grass, or how to monitor its growing cycle. Sarah wants to do more to help farmers control the weed, but to do so would involve people from across the University, and a group of farmers themselves. Coordinating this sounds like a job for the Aura Innovation Centre.

THE SOLUTION

Cream of the crop.

The Aura Innovation Centre is the University of Hull's link between its academic expertise and the wider business community.

Aura Innovation Manager Dave Dawson brought together a group of five farmers who were willing to help with the Black Grass research, along with a multi-disciplinary team of experts from Hull University Business School, and also the Departments of Biology, Geography, Geology and Computer Science.

The aim was to calculate the true impact of Black Grass - both financially and environmentally - and to give farmers new ways of identifying Black Grass so they can tackle it when it's most vulnerable.

The team created a mapping tool which accurately calculates the impact of Black Grass. As well as showing how much Black Grass costs UK agriculture, the tool also calculates the carbon footprint of farmers when combatting the problem.

THE RESULT

The grass is always greener on the other side.

Through collaboration, we were able to bring about a result which no farmer or researcher could have done alone.

The research reveals farmers spend £112 per hectare to protect their crops from Black Grass - that's over £200 million for the UK agricultural sector. The carbon footprint is also significant - with 118kg of CO₂ produced per hectare, or over 212 million kg of carbon a year.

Alongside the mapping tool, the University also used drone imaging and machine learning to monitor the growing cycle of Black Grass. Identifying exactly when to treat it means farmers use fewer chemicals, reducing costs and their carbon footprint.

The team continue to work on the project, with the next step to identify how variables such as water content and soils affect the weed, and to give practical solutions to farmers.

Dr Shaw said: "Farmers are already doing a brilliant job of altering their practices to manage Black Grass, but we require even more game changing research to help them combat this destructive weed."



LEAD ACADEMIC/ RESEARCHER

Dr Sarah Shaw, Senior
Lecturer & Programme
Director in Logistics
Hull University Business School

FIND OUT HOW WE CAN HELP YOUR BUSINESS

Call: 01482 464 700
Email: aic.aura@hull.ac.uk
www.aura-innovation.co.uk

Aura Innovation Centre
Bridgehead Business Park
Hessle
Hull
HU13 0GD

