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Oats under the lens

THE James Hutton Institute (JHI) has secured \$100,000 in funding from the Novo Nordisk Foundation to support a major three-year research project aimed at identifying nutritionally rich and yield-stable oat varieties.

Led by the Innovation Centre for Organic Agriculture in Denmark, the project brings together partners including the Nordic Genebank (NordGen) and Aarhus University, and will combine experimental research with on-farm field trials across a variety of organic systems and environments.

Global food challenges

The sustainable production of healthy food for a growing global population is an increasingly urgent issue.

As the UK's third most popular cereal crop after wheat and barley, oats offer unique nutritional advantages - they are naturally high in protein, fibre and essential minerals. In particular, oats are rich in beta-glucan, a soluble fibre shown to lower cholesterol and help regulate blood sugar levels after meals.

Why oats?

Oats are especially well

suited to organic farming in northern Europe due to their hardiness and adaptability.

Thriving with minimal input, requiring little nitrogen, showing strong disease resistance and outcompeting weeds effectively - all of which makes them an ideal crop for organic systems.

Leading the study at JHI, Dr Joanne Russell, said: "The project brings together experts in plant genetics, agronomy and mathematics to harness the unique properties of oat, with its low carbon footprint and significant nutritional and health benefits.

"The key issue for oat producers is the lack of stability in year-to-year supply and quality, largely due to seasonal fluctuations in environmental factors.

"We will focus on the need to develop robust organic-ready oat cultivars specifically tailored to sustainable organic production and address some of the emerging challenges in food and health security to help secure food production."

Nordic heritage

Researchers will investigate the genetics of 200 oat varieties and landraces,



Dr Joanne Russell, leading the Hutton's work on oat genetics and sustainability

many of which have been grown for over a century across the Nordic region. These varieties have survived significant changes in climate and farming methods and could offer valuable traits for modern sustainable agriculture.

Oats are enjoying a global resurgence. They now rank sixth in cereal production worldwide and account for 25% of all organic cereal crops in Denmark. In the

UK, oat production rose by 19% in 2024 thanks to gains in both acreage and yield.

With increasing consumer demand for healthy, functional foods, the global oat market is projected to grow by 3.7% annually through to 2032 - a trend the project hopes to support with new, improved varieties suited to both environmental resilience and nutritional quality.