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EpiHerd

Case study

Background

Antler Bio's journey began in 2017, sparked by the founders addressing a key question from equine breeders: why do genetically similar horses perform so differently? Their research shifted from static genetic testing to gene expression—how genes are activated by factors like diet, health, and training. This approach uncovered new biomarkers that explained performance differences.

In 2020 Antler Bio was founded and began translating their technology to production animals to help understand why genetically similar cows may vary in productivity, health, and sustainability. With support from the UK Agri-Tech Centre, Antler Bio secured an Innovate UK Smart Grant in 2022, marking the beginning of a transformative collaboration that enabled the translation of their technology to dairy cattle, identifying biomarkers that help farmers improve animal welfare, efficiency, and profitability.

Innovation story

Antler Bio's flagship innovation, EpiHerd, is a revolutionary herd screening platform that goes beyond traditional genetics. By combining transcriptomics, epigenomics, and AI, EpiHerd analyses gene expression from a small blood sample taken from around 10% of a herd. This data is integrated with on-farm performance and health records, and then processed using advanced bioinformatics and machine learning to uncover the root causes of performance variation.

The result is a powerful decision-support tool for farmers. EpiHerd provides actionable insights into traits like yield, fertility, feed efficiency, and health. It bridges the gap between genetics and environment, offering tailored recommendations on diet, habitat, and husbandry to optimise herd performance. With regular testing, farmers can continuously fine-tune their operations, leading to healthier, more productive, and more sustainable dairy systems.

"The UK Agri-Tech Centre has been instrumental in EpiHerd's growth from initial funding to dissemination, and have provided critical infrastructure and ecosystem knowledge"

Andy Lessey, COO at Antler Bio



Collaboration and support

The UK Agri-Tech Centre has supported Antler Bio's growth from early-stage grant support to strategic introductions and access to a trial farm network. Their collaboration helped secure multiple Innovate UK grants, including projects focused on dairy cattle performance, milk nutritional quality, and gene expression in calves and heifers. These projects, often in partnership with the University of Nottingham, have significantly advanced the development and validation of EpiHerd.

Beyond funding, the UK Agri-Tech Centre has played a key role in dissemination, knowledge exchange, and business development. Their support has enabled Antler Bio to scale its operations, attract investment—including a £3.25 million seed round in 2025—and expand its team from just three full-time employees in 2021 to 12 FTE today. Additional collaborations with the Animal & Plant Health Agency and Rothamsted Research are opening new frontiers in diagnostics and sustainability, further cementing Antler Bio's role as a leader in agri-tech innovation.