Driving Efficiency and Profitability for Sustainable Agriculture

Advancing agriculture through efficiency, profitability, and long-term genetic progress

At Genus ABS, we focus on helping farmers produce more with fewer resources. By improving efficiency and profitability, we empower our customers to operate more sustainably. Our advanced genetic programs, including NuEra and DeNovo, aim to enable farmers to unlock the potential of their herds, by producing higher-quality protein with less environmental impact.

When we do our job right, our customers' animals are more efficient and productive, delivering long-term genetic improvements that are both permanent and cumulative. Through strategies like our sexed and beef program, we optimise dairy and beef production systems, helping farmers breed high-value, fast-growing calves that meet market demand and drive profitability.

Genetic Solutions for a More Sustainable Future

Our NuEra and DeNovo programs are at the forefront of genetic progress. These initiatives identify and enhance traits that improve efficiency, such as faster growth rates, better feed conversion, and increased productivity. Farmers produce more while using fewer resources, a win for both profitability and sustainability.

Through our sexed and beef strategy, customers can replace unproductive dairy-beef calves with efficient NuEra beef-on-dairy calves. These calves grow faster, require fewer inputs, and are tailored to market needs, with the goal of ensuring that through these improvements, animals are more profitable and environmentally friendly. This approach reduces waste and enhances the sustainability of both dairy and beef supply chains. (H. Niemann, December 2011).

By identifying beneficial traits and enabling validated selection decisions, farmers can produce animals which are tailored specifically to the requirements of their environments. This work, which is key to our mission, helps address critical challenges in the industry by promoting practices that reduce resource use which contributes to a more sustainable future.

"Through our sexed and beef strategy, customers can replace unproductive dairy-beef calves with efficient NuEra beef-on-dairy calves"

Our commitment to conscious practice comes to life through cutting-edge research and groundbreaking projects, including a landmark initiative 'Climate Smart Beef Genetics' co-funded by Innovate UK and DEFRA, running from 2023 to 2026.

Spotlight on Innovation: The Climate Smart Beef Genetics Project

Conducted in collaboration with the Scottish Rural Agricultural College (SRUC) and other key partners, the project seeks to validate the relationship between the animal's own genetics, the composition of its rumen microbiome, and methane emissions. Methane, a potent greenhouse gas, is a natural byproduct of digestion in cattle but also one of agriculture's most significant contributors to climate change. By identifying genetic traits that influence methane emissions, this project could revolutionise how we approach breeding strategies, with potentially far-reaching benefits for farmers and the planet.

Research Objectives and Methodology

The project's primary goal is to validate whether methane emissions are genetically heritable and how bulls can be selected based on this trait. Over three years, more than 1,500 calves will be studied across two cutting-edge research sites:

- **Feed Monitors:** Calves' methane emissions are measured while feeding, and rumen samples are collected to examine the link between microbiota and emissions.
- **Methane Monitors:** Groups of calves are housed in specialised facilities to gather precise methane data for life cycle assessments (LCAs).

We anticipate that this data will inform actionable breeding strategies that could be used to reduce the carbon footprint of beef production without compromising productivity.

Early Impacts and Industry Recognition

The Climate Smart Beef Genetics project has already garnered attention within the agricultural community. The Royal Highland Show plan to feature it as a flagship initiative in 2025, showcasing its potential to transform the industry.

Sustainability Anchored in Three Pillars

Our commitment to sustainability is rooted in three key pillars, designed to

create value for our customers while advancing responsible agriculture:

1. Creating Greater Efficiencies
Efficiency is at the core of sustainable farming. By breeding animals that convert feed more effectively and produce more profitably, we help farmers reduce costs and environmental impacts which maximises returns.

2. Creating Better Animal Health
Healthy animals are more productive and require fewer resources, which benefits farmers and the environment alike. By focusing on genetics that enhance health and resilience, we support our customers in raising herds that are efficient and robust.

3. Creating Conscious Communities
To us, sustainability includes creating ethical practices that care for the environment, support animal welfare, and promote genetic diversity in cattle. This helps secure farming livelihoods, improve food security, and provide quality livestock products while working towards reducing environmental

impact. By focusing on responsible farming, agriculture can build a better future for people and nature.

Transformative and Long-Term Impact

The benefits of genetic progress are permanent and cumulative, making each generation of cattle better than the last. By integrating sustainability traits into our bull portfolio, we can help farmers meet evolving environmental regulations, access financial incentives, and enhance public perceptions.

These advancements represent a significant step forward for the industry, equipping farmers with the tools to make informed, data-driven breeding decisions that align with their climate goals.

Partnering for a More Sustainable Future

At Genus ABS, we are proud to stand at the forefront of innovation in bovine genetics. Projects like Climate Smart Beef Genetics demonstrate the power of science and collaboration to create real-world solutions that benefit farmers and the planet.

By helping our customers optimise efficiency, improve animal health, and build conscious communities, we are not just addressing today's challenges—we are building a more sustainable future. Together, with our partners and customers, we are working to transform agriculture into a force for good, creating systems that are profitable, productive, and environmentally responsible.

Our job is to ensure that every solution we deliver helps farmers achieve their goals sustainably. Let's build a better tomorrow, today.

Work Cited
H. Niemann, B. K. G. F., December 2011. Perspectives for feed-efficient animal production, Journal of Animal Science, Volume 89, Issue 12, Pages 4344-4363.