

Innovation in Agri-Food

May 2024

Martin McKendry, CAFRE Director

CAFRE footprint across NI



College of Agriculture, Food and Rural Enterprise (CAFRE)

Delivering training and support across NI



1900

Education to 1885 full and part-time students in 2023



13,000

Industry support to over 13,000 people working in the agri-food sector each year

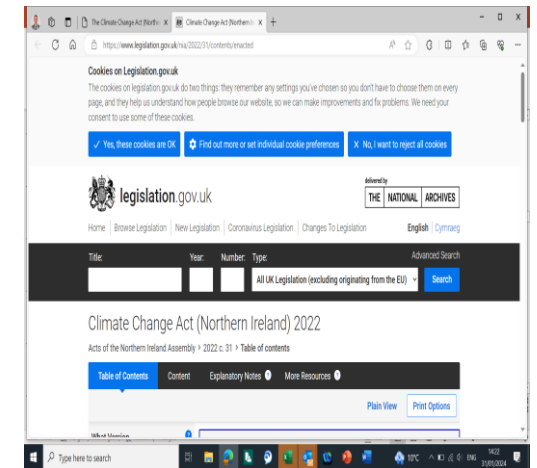
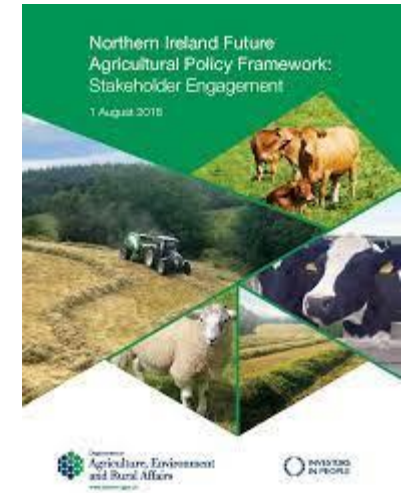
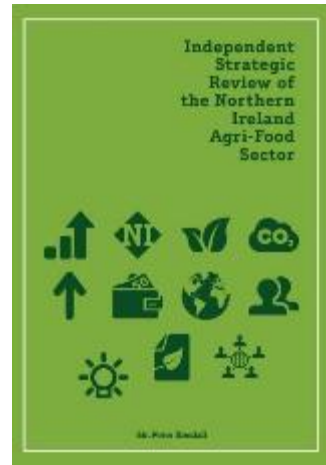


GrowIN Innovation Competition

- Industry supported mentorship with live pitching
- £5,000 shared by prize winners
- During 2023 prizes awarded to Horticulture and Agriculture students
- During 2024 prizes awarded to Equine and Agriculture students



Strategic Context



Land



Vision

PURSUES
INCREASED
PRODUCTIVITY

DISPLAYS
IMPROVED
RESILIENCE

IS
ENVIRONMENTALLY
SUSTAINABLE

OPERATES
WITHIN AN
EFFECTIVE
FUNCTIONING
SUPPLY CHAIN

Livestock



Infrastructure



People



Department of
**Agriculture, Environment
and Rural Affairs**

www.daera-ni.gov.uk

*Sustainability at the heart of a living, working,
active landscape valued by everyone.*

College Estate Sustainability Targets

1. CAFRE to be 50% carbon neutral by 2030;
2. Reduce anti-microbial usage by 95% by 2030;
3. CAFRE habitats to be in favorable condition by 2030;
4. CAFRE water to be of “Good” quality status by 2030;
5. CAFRE air quality to not impact on local habitats and he
6. CAFRE productive land to be in “Good” soil health status by 2030;
7. Eliminate CAFRE land fill waste by 2025; and
8. Eliminate the use of peat in horticulture by 2025.



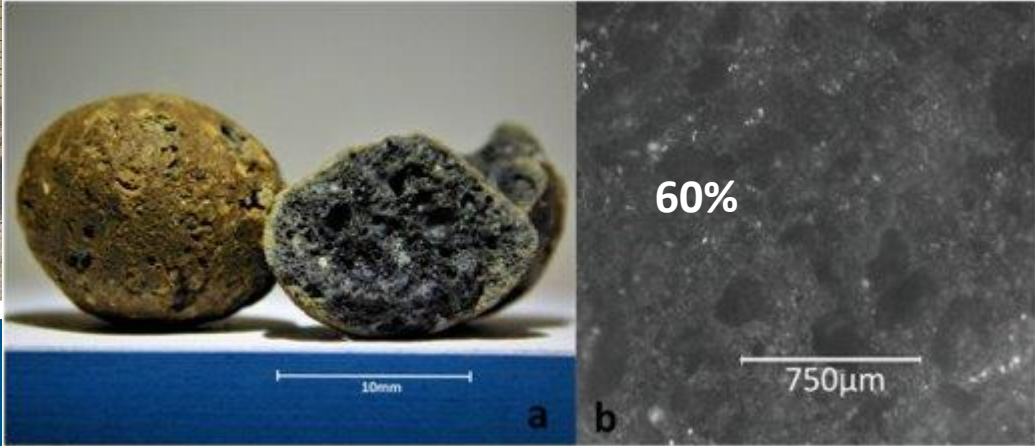
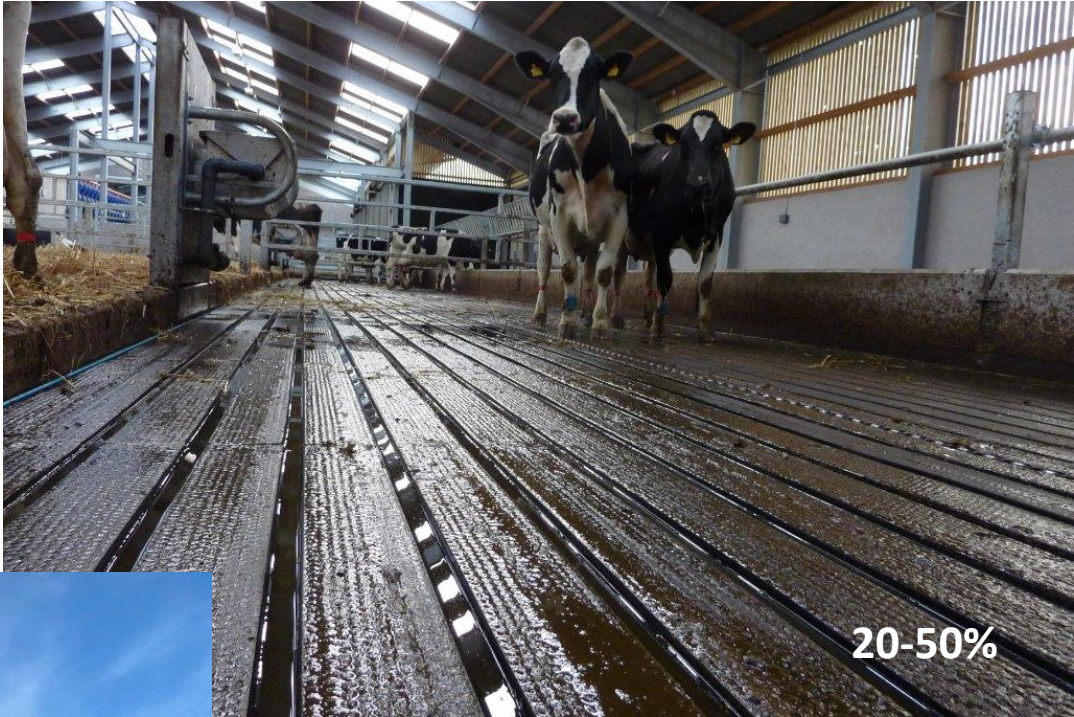
Bovine Genetics Programme

- Transformational benefits for farmers, industry and wider public.
- Data and evidence to:
 - Breed more productive animals - with lower carbon footprints, lower pollution potential, and improved health and welfare.
 - Genomic evaluations (will involve genetic profiling of the national herd)



Delivered in partnership by DAERA and Sustainable Ruminant Genetics Ltd.

Innovation in practice - Ammonia



Farm Innovation Visits Scheme (FIVs)

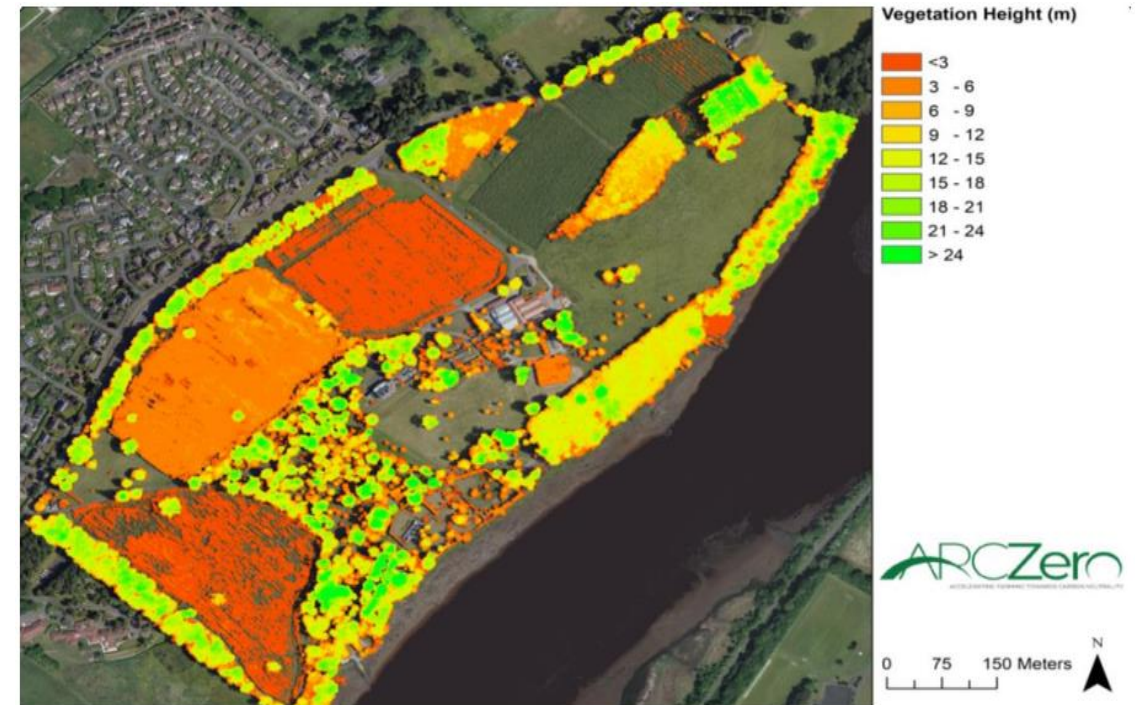
Topics of Visits

- Ammonia Reduction
- Animal Health
- Antibiotic Use
- Beef Breeding Technologies
- Dairy Calf Rearing
- Dairy Heifer Rearing
- Lamb Production
- Mushroom Facilities
- Pig Animal Health
- Potato Storage
- Pullet Rearing
- Sheep Breeding
- Suckler Calf Feeding and Marketing
- Improving Efficiencies and Techniques in Sheep Production
- Upland Management
- Dairy Cow Cross Breeding
- Future Functional Suckler Cow
- Minimal Tillage in Crops
- Fluke Treatment and Reduced Resistance in Sheep
- Sustainable Egg Production



European Innovation Partnerships

- Pilot Completed – CAFRE administered, industry delivered through Operational Groups
- High level of demand
- Positive independent evaluation.
- Details of each of the projects can be found at [Approved EIP Projects - CAFRE](#)



Brook Hall Estate, A. Higgins, AFBI, 2021

Horticulture Innovation

Examples of Current Projects : Geothermal energy and its potential use for horticultural food crop production

Hydroponic production of vegetables



Year-round or extended season strawberry production



Production of leafy greens in vertical farming



Horticulture Innovation Projects at CAFRE

Examples of Current Projects: Accelerated growth of native trees and Peat Free production

1-month germinated acorns



4-year old oaks

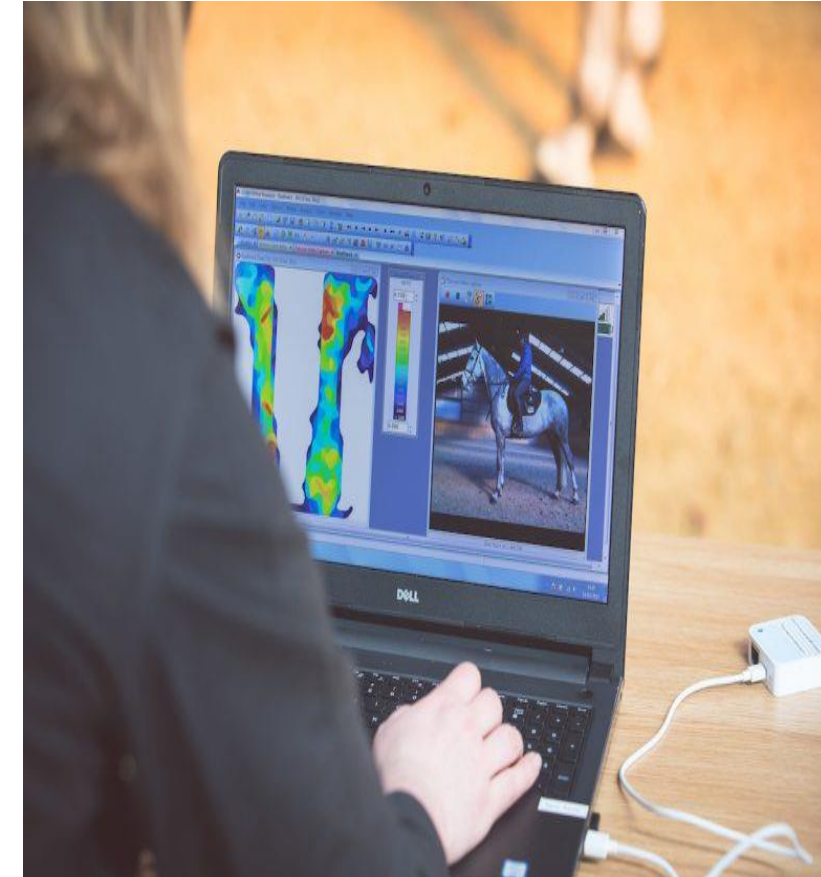


Ornamental plant production in sustainable, peat-free growing media



Supporting Innovation In Equine

- International internships for degree students - Kentucky;
- Equine Assistant Therapy/Learning
- Gait Management
- Equine welfare – Friends/Forage and Freedom – Active Turnout



CAFRE Food Innovation

- Work with 200+ businesses
- 30 graduate specialist staff
- Provide training to 1800 industry personnel
- World class facilities for innovation
- Innovation projects with Invest NI and KT Network and Intertrade Ireland



Food Industry Innovation Challenges

- Making food healthier
- Solving labour shortages
- Reducing plastic packaging
- Decreasing waste and increasing circularity
- Safe, sustainable supply chains
- Increasing productivity
- Ensuring skills for the future



Robotics and Automation

- Pilot with Advanced Manufacturing Innovation Centre at QUB
- 33 Industry based projects
- Enthusing the industry on advanced manufacturing solutions whilst de-risking investment
- Across all sectors, all business sizes and across all areas of Northern Ireland (including FODC)



Mid South-West Regional Growth Deal - RAPIC

Robotics Automation & Packaging Innovation Centre

- Knowledge centre with space for industry to trial and understand new methods of processing or packaging.
- Simulated food factory environment for trials and demonstrations.
- Accessibility to food technology experts and advanced manufacturing specialists
- Support an increasing productivity through the adoption of digital and sustainable practices.
- Support the reduction in plastics and food processing waste



Thank you