

# NDA Northern Ireland

## AKIS Organisation – Northern Ireland

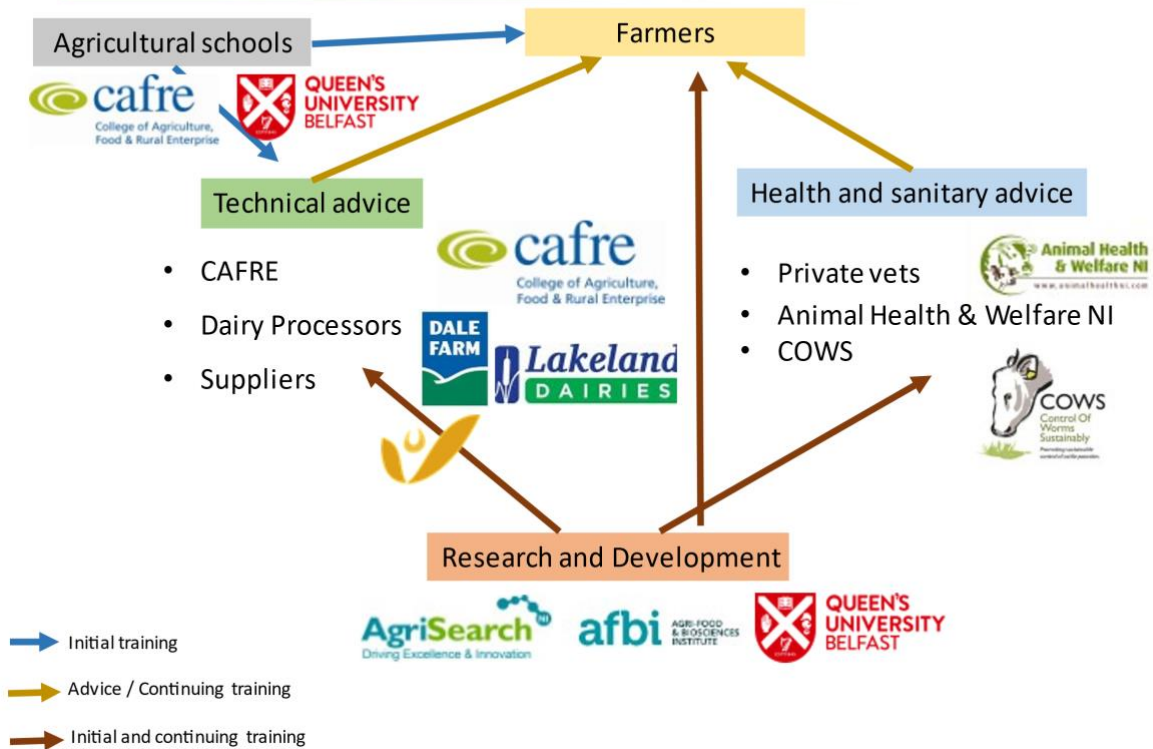


Figure 34. Dairy Agricultural Knowledge & Information System (AKIS) in Northern Ireland

Northern Ireland has a national dairy AKIS that consists of 18 members (Figure 35):

- 6 pilot farms
- 12 advisor institutions:
  - o CAFRE: Don Morrow
  - o Dale Farm (2): Neville Graham and Edward Wright
  - o QUB: Ryan Maguire
  - o Veterinary (2): Simon Doherty (QUB) and Mark Little (Fane Valley)
  - o Lakeland Dairies (2): Nial McCarron and Debbie McConnell
  - o AFBI: Conrad Ferris
  - o AHWNI: Sam Strain
  - o NIGTA: Gill Gallagher
  - o Aurivo: Richard Gibson
  - o Glanbia: David Chestnutt
  - o Independent Advisor: Lyle Hamilton

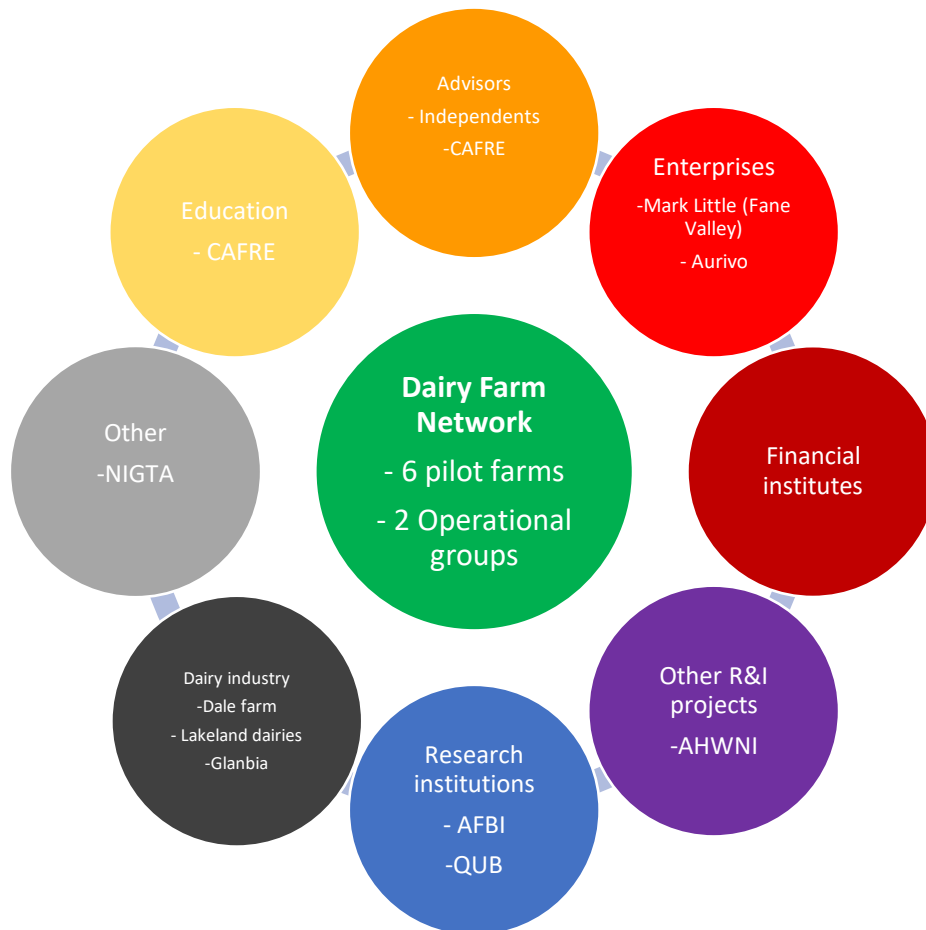


Figure 35. The national dairy AKIS of (Northern Ireland) consists of 6 pilot farms and 14 non-farmer institutions each with their own expertise.

Below, each member will be described into more detail.

**Pilot farms:**

The 6 pilot farms are spread over Northern Ireland and are depicted in Figure 36.



Figure 36. Location of the 6 pilot farms in Northern Ireland.

1. Thomas Steele
  - Volume of milk production:  
5.552.067 litres per year
  - Dairy cows:  
494
  - Reason to include this farm:  
Very efficient, large-scale farmer. Operates innovative feed feeding.
2. Ian McClelland
  - Volume of milk production:  
720.000 litres per year
  - Dairy cows:  
88
  - Reason to include this farm:  
New entrant, high yield herd making good use of grass. Involved in research on use of anthelmintics and on carbon sequestration.
3. Jessica Pollock
  - Volume of milk production:  
958.283 litres per year
  - Dairy cows:  
158
  - Reason to include this farm:  
New entrant recently completed a PhD. Member of Ulster Farmers Union Next Generation Group
4. Jack Johnston
  - Volume of milk production:  
2.319.086 litres per year
  - Dairy cows:  
275
  - Reason to include this farm:  
Young farmer, high yielding herd making good use of grass, good use of renewables, energy efficient.
5. Hugh Harbison
  - Volume of milk production:  
1.400.000 litres per year
  - Dairy cows: 179
  - Reason to include this farm:  
Compact autumn calving, makes good use of grass, trying multi-species swards. Involved in carbon sequestration research.
6. Samantha & Niall McCarroll
  - Volume of milk production:  
406.235 litres per year
  - Dairy cows:  
80
  - Reason to include this farm.  
New entrant, making good use of grass.

## Operational groups:

### 1) ARCZero – Accelerating Ruminant farming towards Carbon Zero

- Starting and end date:  
01/11/2020 – 30/06/2023
- Objective of the project:  
Actual individual net farm Greenhouse Gas (GHG) footprints are currently unknown as most current methodologies calculate gross GHG footprints for farm enterprises, and do not accurately assess on farm carbon stocks and their potential for annual carbon sequestration. In addition, Life-Cycle Analysis (LCA) calculators focus mainly on enterprises, and not on a whole farm basis. This project focuses on producing an accurate, individual, Net Carbon Position for seven farms in Northern Ireland, using a whole farm carbon balance sheet to articulate the results of the precise measurement of the on-farm carbon stocks. This information, combined with the farms gross carbon position, calculated by using a whole business Life-Cycle Analysis calculator, will allow the group to be better informed on where they are on their carbon journey; empower them to make better quality decisions; and help identify further opportunities and develop practical solutions to accelerate their farms towards being net carbon zero.
- Description of activities:  
Each of the seven commercial farms in the project will undertake Global Positioning System soil analysis and be subject to LiDAR survey and analysis to identify above ground carbon storage and routes of overland flow. Farm output and input data will be added to the carbon stock results to create a net farm carbon balance sheet for each farm. Using this information, the members of the group will work together to explore and implement actions which will reduce their carbon balance towards zero. At the end of the project in 2023, the calculations to produce a Net Carbon Balance sheet will be repeated to see what progress has been made from when the project started in 2021.
- Website:  
[www.arczeroni.org](http://www.arczeroni.org)
- Coordinator name and contact:  
Ashley Hassin (Birnie Consultancy) – [info@arczeroni.org](mailto:info@arczeroni.org)
- Partners:
  - 1) Dr John Gilliland
  - 2) Hugh Harbison\*
  - 3) Ian McClelland\*
  - 4) Roger & Hilary Bell
  - 5) John Egerton
  - 6) Simon Best
  - 7) Patrick Casement
  - 8) AgriSearch\*
  - 9) Devenish Nutrition
  - 10) Queens University Belfast
  - 11) Birnie Consultancy
- Funding Organisations:  
This project is co-funded by the European Agricultural Fund for Rural Development (EAFRD) and the Department of Agriculture, Environment and Rural Affairs (DAERA).

## 2) Anthelmintic Targeted Selective Treatment (TST)

- Starting and end date:  
01/11/2020 – 30/06/2023
- Objective of the project:  
Helminth (worm) infections are a hugely significant drain on production efficiency for grass-based ruminant systems prevalent in Northern Ireland. At present the control of parasitic helminths relies upon anthelmintics, but their widespread application at whole-herd level is leading to anthelmintic resistance (AR), reducing their effectiveness. Problems with AR are well documented globally on sheep farms and increasingly throughout the cattle industry, and studies have been undertaken focusing on changes to routine whole herd treatment protocols towards a more focused Targeted Selective Treatment (TST). The objective of this project is to determine the feasibility and practicality of implementing TST of helminths on Northern Ireland commercial farms, in order to reduce anthelmintic resistance. Group members will design, trial and evaluate relevant targeted TST strategies to better understand the feasibility of their widespread use on farm.
- Description of activities:  
This Operational Group, led by AgriSearch, consists of seven ruminant farmers from across Northern Ireland, working together with research experts. Data will be collected from each farm in order to design suitable farm specific TST strategies that will be implemented by each farm. To support decision making, live weight gain information and faecal egg count (FEC) data will be used to determine the need to use anthelmintics. Each farmer will trial the use of FECPAK technology which provides rapid FEC results using automated imaging and cloud-based egg recognition. All liveweight gain, FEC and anthelmintic treatments will be recorded alongside grazing movements to continually monitor and evaluate effectiveness. The findings will then be translated to inform the feasibility of wide scale uptake of TST across the ruminant sector in Northern Ireland.
- Website:  
[www.agrisearch.org/eip/anthelmintic-targeted-selective-treatment-for-ruminant-livestock](http://www.agrisearch.org/eip/anthelmintic-targeted-selective-treatment-for-ruminant-livestock)
- Coordinator name and contact:  
Jillian Hoy (AgriSearch) – [jillian@agrisearch.org](mailto:jillian@agrisearch.org)
- Partners:
  - 1) Ian McClelland\*
  - 2) Albert O'Neill
  - 3) John Martin
  - 4) Jayme Carvill
  - 5) Martin Craig
  - 6) Oliver McKenna
  - 7) Trevor Somerville
  - 8) AgriSearch\*
  - 9) Animal Health and Welfare Northern Ireland\*
  - 10) Queen's University Belfast
  - 11) Agri-Food and Biosciences Institute (AFBI)
- Funding Organisations:  
This project is co-funded by the European Agricultural Fund for Rural Development (EAFRD) and the Department of Agriculture, Environment and Rural Affairs (DAERA)

## Non-farmer stakeholders:

### Education:

1. CAFRE (represented by Don Morrow):  
CAFRE (College of Agriculture, Food and Rural Enterprise) is an integral part of the Northern Ireland Department of Agriculture, Environment and Rural Affairs (DAERA). CAFRE supports the Agri-Food sector through industry training, knowledge & technology transfer, benchmarking, and business development planning. Don Morrow is the head of Dairy, Pigs, Poultry and Crops.

### Advisors:

1. CAFRE (represented by Don Morrow)  
CAFRE (College of Agriculture, Food and Rural Enterprise) is an integral part of the Northern Ireland Department of Agriculture, Environment and Rural Affairs (DAERA). CAFRE supports the Agri-Food sector through industry training, knowledge & technology transfer, benchmarking and business development planning. Don Morrow is the head of Dairy, Pigs, Poultry and Crops.
2. Lyle Hamilton – Independent Nutritionist – Farmgate Nutrition  
Farmgate Nutrition have a wealth of experience and knowledge in the livestock nutrition industry working with customers on farm and in the feed, industry delivering nutritional and management solutions to enhance their ruminant production systems.

### Enterprise:

1. Fane valley (represented by Mark Little)  
Fane Valley Stores is the largest retail distributor of animal health, crop protection, livestock identification products and general farm supplies in Northern Ireland. Fane Valley has a team of technical specialists in animal health, soil health and crop agronomy.
2. Aurivo (represented by Richard Gibson)  
Aurivo operates as an agricultural co-operative. The Company engages in dairy ingredients, consumer foods, agricultural stores, animal feed milling, and livestock marts and trading businesses.

### Other R&I projects:

1. AHWNI (Sam Strain)  
Animal Health and Welfare NI (AHWNI) is an initiative by farmers' organisations and the wider cattle industry to promote improved cattle health and welfare with Northern Ireland. Its remit covers diseases and conditions of cattle which are endemic in Northern Ireland, but which are not currently subject to regulation or coordinated programmes of control. AHWNI seeks to benefit livestock producers and processors by providing the knowledge, education and coordination required to establish effective control programmes for non-notifiable diseases of livestock.

### Researchers:

1. QUB (represented by Ryan Maguire and Simon Doherty)  
The Institute for Global Food Security (IGFS) is one of four interdisciplinary Global Research Institutes at Queen's University Belfast, established to address key, international challenges - in this case, the integrity of our food systems.

2. AFBI (represented by Conrad Ferris)

The Agri-Food and Biosciences Institute (AFBI) is an arms-length body of the Department of Agriculture, Environment and Rural Affairs (DAERA). It is a multi-disciplinary scientific organisation involved in high technology research and development, as well as diagnostic and analytical testing for DAERA, other Government departments, public bodies and the agri-food industry both locally and globally.

**Dairy industry:**

1. Lakeland Dairies (represented by Niall McCarron and Debbie McConnell)

Lakeland Dairies, a major dairy processing co-operative, operates within a nineteen-county catchment area across the northern half of the island of Ireland. The Group processes about 1.8 billion litres of quality milk annually into a range of value-added dairy foodservice products and functional dairy food ingredients. The Lakeland Agri-business Division is a producer focused business supporting thousands of farming producers with scientifically based nutritional information and high-performance products.

2. Dale farm (represented by Neville Graham and Edward Wright)

Dale Farm is a modern dairy cooperative with decades of experience. Employing over 1,200 people across the UK and Ireland, Dale Farm is one of the most expansive dairy companies in the UK. The business spans the food chain, from animal feed to collecting milk from farms, from processing products to store delivery. Dale Farm dairy products are supplied into retail, foodservice and ingredients markets in more than 45 countries.

3. Glanbia (represented by David Chestnutt)

Glanbia Ireland is a world-class, integrated agri-food and nutrition business, with a diverse portfolio of quality ingredients and leading consumer and agri-brands. Glanbia Agribusiness is the largest supplier of inputs to the Irish farming sector, with 52 dedicated retail outlets serving our farmers and local communities. Working closely with our family farms, the Glanbia team of technical advisors promote efficient, profitable and sustainable farms to feed the nation today and for the future.

**Other:**

1. Northern Ireland Grain Trade Association (NIGTA)

The Northern Ireland Grain Trade Association represents traders, manufacturers, processors, distributors, brokers and service providers who are involved in the Northern Ireland agricultural supply trade.

Facilitation methods:

**What have we done?**

The Dairy AKIS was formed, and details of the Resilience for Dairy (R4D) project shared including aims, objectives and expectations of the dairy AKIS input. A meeting was held on 01/04/2022 and was attended by 1 pilot farmer and 4 Dairy AKIS members. Following an overview of R4D project the participants took part in a workshop activity identifying the needs and challenges facing dairy farmers in Northern Ireland and also potential solutions. The outcomes of the meeting were circulated to the remaining members of the dairy AKIs who were not able to attend for further comment.

**What was easy?**

Members of the AKIS were already familiar with each other, all regularly working with other members on industry initiatives or R&D projects.

**What was difficult?**

Keeping the focus of the workshop and AKIS discussion on innovation within the sector. Easy to divert to other pressing topics in the NI dairy industry.