



Resilience for Dairy (R4D) has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 101000770

John Rafferty Pilot Farm description Poyntzpass, Co.Down - 2022

N. Ireland



Innovations

Socio-economic
Resilience /
Precision



2008
Started Zero
Grazing

2012
Lely Vector automated
diet feeder installed

2020 **Farming milestones**
New dry cow
house built



2010
2x Lely Astronaut
Milking robots
installed

2013
Added 20kw
solar PV
panels

2021
Additional
farm 14 acres

The herd

- 210 Livestock Units (LU)
- 150 dairy cows, milking 115 year round
Breed: Holstein
- 44 dairy heifers
- 40 calves
- 40 beef cattle
- All year round calving
- Age at first calving : 26 months
- Full confinement system

Agricultural Area

72 ha Farm

- 62ha permanent grassland, 10ha used for growing wholecrop rye
- Stocking rate: 2.9LU/ha forage area
- Zero grazing system being changed to full TMR system
- Regular reseeding of grassland taking place to improve grass sward quality

Workforces

- Farmer (Full time)
- Family help (Father)
- CAFRE Student
- **Aims** – using technology to reduce labour

Areas of interest

- Forage quality
- Grassland management
- Sustainability
- Automation

Main buildings and Equipment

- Low emission slurry spreading – dribble bar
- Lely automatic calf feeders
- Slurry bubbler system
- 2x Lely Milking robots
- Lely Vector automated diet feeding
- Lely automated scraper
- COSMIX Out of parlour feeders

Production / Technical results

- Yield – 10076 litres
- Feed – 3877kg
- Milk from forage: 1460 litres
- 4.13% butterfat, 3.38% protein
- Milk solids – 757kg
- Milk sold to Lakeland Dairies
- Margin over concentrate – £1748
- Gross Margin per cow - £1468
- Full confinement system fed TMR



Strengths

- Fully automated dairy – offers flexibility
- Good land base - All Land within 2 miles of home farm



Weaknesses

- Land is quite hilly, but can still be managed effectively



Opportunities

- Net Zero Farming – already ahead of most farms
- Renewables- wind on farm



Threats

- Increasing Feed and Fertiliser costs

Farmer’s strategy for a “resilient” system

Breeding strategy has been focussed on producing smaller cows to reduce maintenance requirements and for easier management. Other breeding focuses include improving fertility, reducing lameness and improving locomotion, and improving milk components.

There is a focus on improving grass silage quality to increase production and cut concentrate costs.

Aspirations / Needs for the future

Any developments in automation in the future that can improve business efficiency will be adapted on farm. Investment in silage storage is required to cut the risk of any environmental damage. Investment in renewable energy on farm will be important in the future to reduce energy consumption from the Grid.

Improvement project - objectives

- Reduce work load



ECONOMY & LABOUR

- Optimize dairy gross margin
- Keep a good global profitability for a knowledge transfer centre

- Reduce concentrate for cow
- Save water consumption



RESSOURCE Efficiency

PROJECT

- Keep a good mineral balance
- Improve forage self-sufficiency

ENVIRONMENT ANIMAL Wellbeing



Partners



“Resilience 4 Dairy” is a European project involving 15 European countries and 18 partners. R4D is a thematic network on innovations and aims to support EU dairy farming in these regions where dairy farming is a main economic activity.



R4D pilot farmers are involved in a National Dairy Akis group where needs, solutions and knowledge are exchanged with other farmers, advisors and scientists on their way to build a resilient system. More information <https://resilience4dairy.eu/>