

CAFRE Dairy Farm

CAFRE

United Kingdom 



Experimental
FARM

THE DAIRY HERD

- Livestock Units (LU): 278
- Dairy cows – Breed: 202 Holstein
- LU dairy heifers: 76
- Caving period(s): September to April
- Age at 1st calving: 24 months

PRODUCTION

- Liters produced: 1 772 523
- Liters sold: 1 768 323
- % fat and protein content: 4,2% / 3,4%
- Liters produced/cow/year: 8 775
- Litters/ha forage area: 11 123
- Stocking rate : 1.7 LU/ha forage area:
- Other production(s): No

BUILDINGS

Dairy cows

- Milking system: Herringbone milking parlour
- Freestall cubicle housing, solid floors

OBJECTIVES

The CAFRE Dairying Technology Team have developed a wide range of knowledge and technology transfer projects to demonstrate best management practice across key technical issues facing Northern Ireland dairy farmers.

One of the project is to increase the proportion of heifers calving at 24 months of age and to assess the technical, economical and environmental of the practice.

CAFRE DAIRY HERD

AGRICULTURAL AREA

149 ha Agricultural Area (AA)

- Grasslands 140 ha
- Legumes content: < 5%
- Grazing area: 60 ha
- Maize silage: 3 ha
- Whole crop wheat silage: 9 ha

- Main fodder area: 149 ha
- % of forage area/AA: 100%
- % of grassland/forage area: 94%

CLIMATE

- Altitude : 50 m
- Rainfall/year: 900 mm
- Draining water : 400 mm
- Average T° in Spring: 12°C
- Average T° in Summer : 16 °C
- Average T° in Autumn : 12°C
- Average T° in Winter : 7°C

BENCHMARK FIGURES

QUANTITY OF
CONCENTRATES
PER LITERS OF MILK PRODUCED

324
g/l

MINERAL
FERTILIZATION

168
kg

FEED SELF-SUFFICIENCY
FOR PROTEIN

63
%

TIME IN PASTURE
FOR COWS

170
days

GHG EMISSION
kg eq CO₂ l⁻¹ FCPM

1,01

GHG EMISSION
kg eq CO₂ ha⁻¹ AA

14,695

N SUPLUS
kgN ha⁻¹ AA

211

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Diet of dairy cows (kg/cow/y)

Grazed grass:	2,543 kg DM
Grass silage:	1,297 kg DM
Maize silage:	550 kg DM
Whole crop wheat:	119 kg DM
Concentrates (CP 18%):	2 683 kg
Concentrates (CP 22%):	160 kg

CAFRE DAIRY HERD

Calving Replacement Heifers at 24 months

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Background

In Northern Ireland dairy herd calving patterns can be described as non-seasonal, with calving spread across most months of the year. This spread calving pattern creates a perceived lack of pressure on farmers to ensure that heifers are reared and bred to calve into the herd at a first calving age of 24 months.

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Industry issues being addresses and likely industry impact

Analysis of the DAERA (Department of Agriculture, Food and Rural Enterprise) APHIS (Animal and Public Health Identification System) national cattle herd database indicates that the mean age at first calving of first lactation heifers calving in 2016 was approximately 27.7 months. Only 7% of heifers calving for the first time in 2016 were 24 months of age or less at calving. This has implications for the costs of heifer rearing, the demand for grassland and the emissions of greenhouse gases from unproductive livestock. The mean age at first calving has been decreasing. Previous analysis of APHIS by Morrison 2010 indicated that the mean age at first calving in 2008 was 32.7 months.

The objectives of the project are to:

- Demonstrate practical and cost effective heifer rearing to calve at 24 months
- Provide farmers with data on age at first calving in their dairy herd
- Survey farmers on their rationale for not calving heifers at 24 months of age
- Increase the adoption of tools to assess heifer weight and weight for age
- Assess the ability of dairy farmers to accurately estimate heifer weight
- Estimate the carbon intensity impact of 24 month calving