Dairy 4 future

WORK PACKAGE 4
DAIRY SECTOR ANALYSIS

Analysis of the Northern Ireland dairy sector: skills and dynamism

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PART 1

DAIRY FARMS AND MILK PRODUCTION

The share of milk in the Northern Ireland gross agricultural product in 2017 was 33%, up from 27% in 2016. Both of these years corresponded with relatively low world market prices for milk explaining the reduction from 37% of gross agricultural product in 2007.

Milk production in 2017 was 2.281 million litres or 2,349 thousand tonnes. This was a new record level of milk production in N. Ireland.

The number of farms with dairy cows was 3,428 farms in 2017 down from 3,529 in 2016 and 4,151 in 2007 (Tab. 1). Dairy herd size increased to 92 cows in 2017, up from 90 cows in 2016 and 69 cows in 2007. 66% of dairy cows were in herds of 100 or more cows in 2017, compared to 65% in 2016 and 49% in 2007. Milk yield per cow in 2017 were 7,220 litres up from 6,970 in 2016 and 6,810 in 2007. All of the above metrics include a small proportion (~3%) of dairy cows on non-milk producing farms possibly being fattened prior to slaughter or suckling calves..

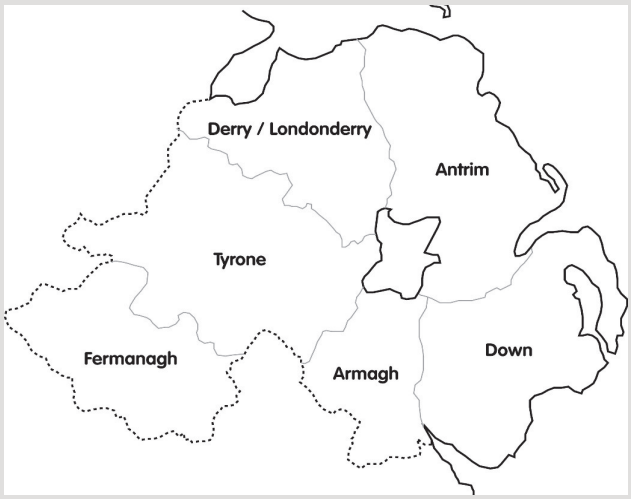
The highest proportion of both farms and dairy cows is in County Tyrone in the West of Northern Ireland followed by counties Antrim and Down in the east (Tab. 2 and Fig. 1). The degree of specialization of dairy farming is relatively high with 2,635 or 76.9% of all farms with dairy cows categorized as specialized dairy farms on the basis of the dairy enterprise accounting for two thirds or more of the farm standard output.

Dairy farms in Northern Ireland are distributed disproportionately in the less disadvantaged areas of the country with only 20.9% of dairy farms found in severely disadvantaged areas which make up 43.9% of the agricultural land area. 44.5% of dairy farms are located outside the less favoured areas which accounts for 30.2% of agricultural land.

TAB. 1: DAIRY COW NUMBERS AND HERD SIZE IN NORTHERN IRELAND

Measure	2007	2016	2017
Number of farms with dairy cows	4,151	3,529	3,428
Average number of dairy cows per farm	69	90	92
Share of cows in farms of more than 100 cows (%)	49	65	66
Share of cows in farms of 50 to 100 cows (%)	34	25	25
Share of cows in farms of 20 to 50 cows (%)	14	8	8
Share of cows in farms of less than 20 cows (%)	3	2	1

FIG. 1: MAP OF COUNTIES OF NORTHERN IRELAND



TAB. 2: DISTRIBUTION OF DAIRY COWS BY COUNTY AND HERD SIZE IN NORTHERN IRELAND

Number of dairy cows on farms	Antrim		Armagh		Down		Fermanagh		Londonderry		Tyrone		Northern Ireland	
	Farms	Cows	Farms	Cows	Farms	Cows	Farms	Cows	Farms	Cows	Farms	Cows	Farms	Cows
<20	71	697	72	750	86	799	54	594	42	351	138	1,347	463	4,538
20 to 50	113	4,115	80	2,821	94	3,218	122	4,236	86	3,047	188	6,651	683	24,088
50 to 100	241	17,992	136	9,724	178	12,830	107	7,523	136	9,887	306	22,320	1,104	80,276
100 and over	289	47,329	124	23,382	304	54,524	58	9,794	152	26,751	251	45,100	1,178	206,880
Total	714	70,133	412	36,677	662	71,371	341	22,147	416	40,036	883	75,418	3,428	315,782
Percentage share	20.8	22.2	12.0	11.6	19.3	22.6	9.9	7.0	12.1	12.7	25.8	23.9	100.0	100.0

The average concentrate feed input per dairy cow in Northern Ireland is 2,399 kg per cow per year with milk yields averaging 7,434 kg per cow per year. While an increasing number of larger, higher yielding herds are being confined all year, the predominant management system is grazing plus concentrates from mid-April to mid-October with cows fed grass silage plus concentrates during the winter. Annual dietary composition on a dry matter intake basis approximates to 32% grazed grass, 31% grass silage and 37% concentrates.

Economic returns from dairy farming in N. Ireland vary considerably from year to year depending on milk price. The increase in milk price per litre between 2017 and 2018 represents an increase in profit per cow before labour of £447 as indicated by the DAERA N. Ireland Farm Performance Indicators data summarized in Table 4. Despite the high level of milk price volatility experienced, dairy farming continues to be the most potentially profitable ruminant livestock enterprise in N. Ireland. However, economic returns vary considerably depending on the level of management capability of the farmer. CAFRE dairy benchmarking typically indicates a variation in net profit per cow between the average of the bottom and top quartiles of the order of £600 per cow per year.

TAB. 3: LAND CLASSIFICATION IN NORTHERN IRELAND

Land Classification	Severely Dis-advantaged	Disad-vantaged	Total Less Favoured	Non LFA	Total
Area ('000 ha)	447	265	711	308	1,019
Area (%)	43.9	26.0	69.8	30.2	100
Dairy Farms	552	911	1,463	1,172	2,635
Dairy farms (%)	20.9	34.6	55.5	44.5	100

TAB. 4: DAIRY COW NUMBERS AND HERD SIZE IN NORTHERN IRELAND

Year	2007	2017	2018
Output (£/cow)	975	1376	1975
Milk price (ppl)	16.8	21.2	29.2
Variable costs (£/cow)	420	794	930
Gross margin (£/cow)	555	582	1045
Fixed costs (£/cow)	278	389	405
Profit excluding labour (£/cow)	277	193	640

PART 2

DAIRY PROCESSORS IN NORTHERN IRELAND

Dale Farm have 5 processing plants in N. Ireland producing a range of dairy products including liquid milk, butter, cheese, ice cream, milk powder and food ingredients. Dale Farm also have one processing plants in Scotland and two in England. Lacpatrick is in the process of merging with Lakeland Dairies which will become the largest milk buyer in N. Ireland. The processor will have four processing sites in N. Ireland producing a range of products including milk powders, food service ingredients, liquid milk, cheese, butter, deserts and ice cream. Glanbia Cheese operates a mozzarella cheese plant in N. Ireland. Glanbia Ireland import all milk purchased in N. Ireland into the Republic of Ireland. Aurivo have no processing plants in N. Ireland and import all milk purchased in N. Ireland into the Republic of Ireland. There are a number of other small milk purchasers in N. Ireland including Strathroy, Linwoods and Emerald Organics each purchasing less than 50 million litres annually, mainly supplying liquid milk into retail chains of small supermarkets and garage forecourt outlets. There are also a small number of farm based milk processors, manufacturing a range of dairy products from milk produced on the farm.

With the increase in milk output in N. Ireland in recent years there has been considerable investment in new milk processing facilities including new high throughput milk dryers by Dale Farm and Lacpatrick in N. Ireland and Lakeland in the Republic of Ireland. Lakeland has also invested in ultra-modern warehousing and distribution facilities at its food service and food ingredients plant in N. Ireland.

TAB. 5: LARGEST 6 MILK PURCHASERS IN N. IRELAND

Milk Purchaser	No. of Farms	Milk Volume (million litres)	Proportion of milk pool (%)	Farmers are Co-Op members?	Processing Plants in NI
Dale Farm	1,250	810	35	**Yes	5
*Lakeland Dairies	720	630	29	**Yes	2
*Lacpatrick	550	470	21	**Yes	2
Glanbia Ireland	155	115	5	No	0
Glanbia Cheese	n/a	n/a	n/a	No	1
Aurivo	n/a	n/a	n/a	n/a	0

*Merger of Lacpatrick with Lakeland Dairies due to take place on 1 April 2019
**Cooperative shareholder status varies from farmer to farmer

PART 3

DAIRY PRODUCTS AND CHARACTERIZATION OF DAIRY MARKETS

Due to the increasingly competitive dairy products market in N. Ireland and ongoing industry rationalization, publication of data by the Department of Agriculture, Food and Rural Affairs (DAERA) on the N. Ireland dairy product mix output ceased in 2012. The latest available figures from 2012 are presented in Table 6. Cheese and powder production predominate with the latter 'commodity' diversified into a wide range of food service ingredients by some processors. The 22% of milk exported to the Republic of Ireland is processed into a similar range of commodity products with the addition of infant milk formula products.

Over 70% of all milk and dairy products are exported out of N. Ireland with similar quantities marketed in Great Britain and exported out of the UK (Tab. 7). Levels of product differentiation as organic are less than 1%. On-farm processing also accounts for less than 1% of all milk production.

TAB. 6: NORTHERN IRELAND DAIRY PRODUCT OUTPUT

DAIRY PRODUCTS	2012
Liquid and fresh milk production (million litres) (%)	324 (16%)
Cheese production (million litres) (%)	610 (29%)
Butter & cream production (million litres) (%)	94 (4%)
Milk powders production (million litres) (%)	603 (29%)
Raw milk exports to Republic of Ireland (million litres) (%)	465 (22%)

TAB. 7: NORTHERN IRELAND REGIONAL SELF-SUFFICIENCY IN DAIRY PRODUCTS

RAW MILK EXPORTS TO REPUBLIC OF IRELAND (million litres)	2007	2012
Regional self-sufficiency in dairy (%)	268	264
Share of regional production sold on N. Ireland market	27.2	27.5
Share of regional production sold on UK market	29.5	36.5
Share of regional production exported out of the country	43.4	36.0

PART 4

RELATIONSHIPS WITHIN THE CHANNEL

The degree of integration within the dairy channel in N. Ireland varies from processor to processor. The current largest processor by volume in N. Ireland, Dale Farm, supplies concentrate feed to Dale Farm producers, processes milk into a large variety of retail and commodity products and markets the retail proportion of the product mix direct to retail multiples and retail distribution hubs.

Formal contractual relationships between farmers and processors have been developing in recent years through for example, forward contracting a proportion of a farmers milk supply at a fixed price for periods of up to 3 years. However, formal contracts are not compulsory for all farmers. Price of milk not subject to a contract will vary according to world dairy market conditions.

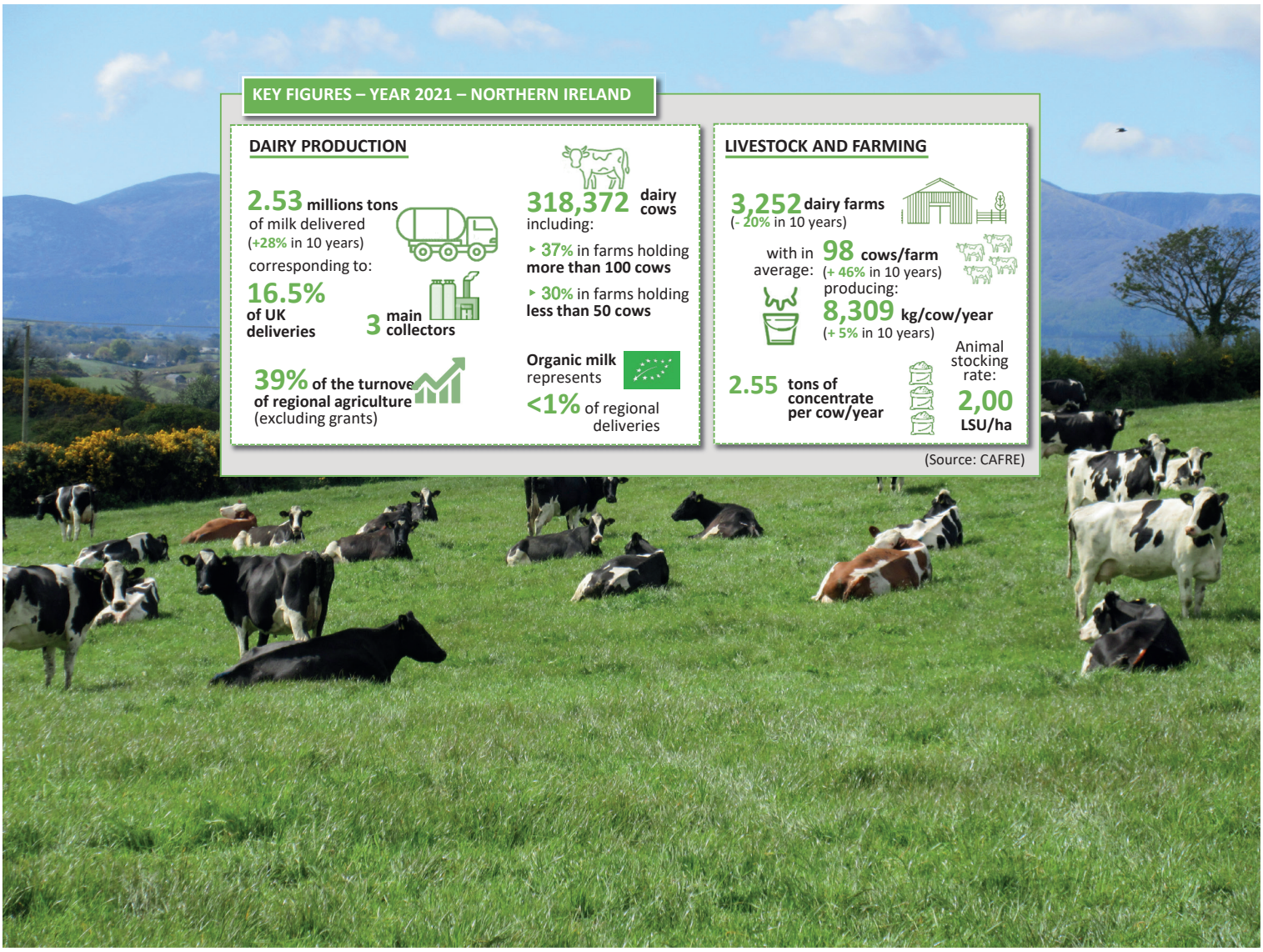
There is no specific producer organization that negotiates formally with processors on behalf of dairy farmers. However, the Ulster Farmers Union operates an online Milk Price Indicator which takes account of world dairy commodity and currency values to indicate the value of milk on a world market basis. The Irish Farmers Journal weekly farming newspaper also publishes a monthly milk price league which also helps to ensure transparency of milk pricing to the dairy farming public in both Northern Ireland and the Republic of Ireland.

PART 5

SWOT ANALYSIS OF THE REGIONAL DAIRY SECTOR

The following strengths, weaknesses, opportunities and threats have been identified for the Northern Ireland dairy sector.

S	W	O	T
STRENGTHS	**WEAKNESSES**	**OPPORTUNITIES**	**THREATS**
• Temperate climate with adequate precipitation • Grass based milk production system • Relative farm size and specialization • Work ethic of dairy farmers • Efficiency of production	• Increasing confinement of dairy cows • Concentrate feed use level • Educational attainment of farmers • Commodity nature of dairy product mix • Processor scale of operation	• Increasing world demand for dairy products • Positive image of Ireland – the Origin Green link • Brexit, access to the UK dairy market • Emerging research on dairy health benefits • Developing animal sensor technology • Automated milking technology	• Brexit – business uncertainty • Air quality legislation • Water quality legislation • Antimicrobial product use • Age profile of dairy farmers • Farm labour supply • Veganism



REPORT WRITING

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