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Dairy Enterprise Factsheet



Agricultural Economics and Farm Surveys Department,
Teagasc
Athenry
Co Galway
H65 R718
Ireland

Irish Dairy Farming Factsheet 2021 Average Performance

	Milk Sales per ha 11,827 litres (up 4%)			Days at Grass 241 days (up 7 days)	
	Milk Production per cow 5,790 litres (up 2%)			Stocking Rate 2.10 lu/ha (up 2%)	
	Milk price actual fat/protein 40.11 cent per litre (up 14%)			Dairy Enterprise* area 43.8 ha (unchanged)	
	Average Dairy Herd Size 93 dairy cows (up 4%)			Milk Fat Content average 4.22% (up 0.03 points)	
	Concentrates Fed/Dairy Cow average 1,173 kg (up 3%)			Milk Protein Content average 3.54% (down 0.01 point)	
	Concentrates fed/litre of milk average 0.20 kg (down 8%)			Milk Solids per Cow average 447 kg (up 2%)	
	Nitrogen per ha of grassland 173 kg (down 6%)			Basic Payment Scheme per farm € 17,333 (down 1%)	
	Total Production Costs 26.80 cent per litre (up 10%) €3,251 per hectare (up 14%)	 		Somatic Cell Count 166,000 cells/ml (up 4%)	
	Gross Margin Dairy Enterprise 26.1 cent per litre (up 19%) €3,200 per hectare (up 24%)	 		Net Margin Dairy Enterprise 14.07 cent per litre (up 22%) €1,748 per hectare (up 28%)	 

Source: Teagasc National Farm Survey 2021

Note: Percentage changes are relative to 2020

*Dairy Enterprise area refers to area for dairy cows only

Reweighting of the NFS Sample: Data from the Census of Agriculture 2020 have led to a reweighting of the NFS sample. As a result the average dairy farm size is larger than previously reported in the NFS.

Background

The 2021 Teagasc National Farm Survey (NFS) recorded data on 837 farms representative of almost 85,000 dairy, beef, sheep and tillage farms nationally. This analysis summarises the results of dairy enterprises, excluding farms supplying mostly liquid milk and herds of 10 cows or less. The results below relate to 288 surveyed dairy farms, representative of 15,319 dairy farms nationally.

1. Analysis of Financial Performance

Data from the Teagasc NFS indicates that the average milk price increased substantially (14%) in 2021 resulting in a 14% rise in gross output per litre. There was a considerable increase in input prices and relatively stable usage, leading to a 6% increase in total direct costs for the average dairy enterprise. This is reflected in, amongst other things, the 13% increase in concentrate feed costs and 3% reduction in pasture and forage. There was also a substantial increase of 16% in total fixed costs. This was primarily due to substantially higher depreciation costs for both machinery (24%) and buildings (46%), and higher expenditure on labour and fuel. On average, total production costs increased by 10%, to approximately 26.8 cent per litre of milk. Margin figures reported include hired labour costs, but the methodology does not treat farm family labour as a cost (see Box 1) since this labour is rewarded by the farm's profit. Decoupled payments are also excluded.

Table 1: Average gross margin and average net margin 2020 and 2021

	2020	2021	2021/2020
	cent/litre		% change
Milk Price	35.05	40.11	14.4%
Total Gross Output	35.83	40.87	14.1%
Concentrate Costs	5.64	6.36	12.7%
Pasture and Forage Costs	4.60	4.47	-2.8%
Other Direct Costs	3.70	3.96	7.1%
Total Direct Costs	13.93	14.78	6.1%
Gross Margin	21.90	26.09	19.1%
Energy and Fuel	2.02	2.31	14.5%
Hired Labour	0.60	0.72	19.2%
Rent/Leasing of Land	1.08	1.11	2.6%
Machinery Depreciation	1.64	2.04	24.2%
Buildings Depreciation	1.18	1.72	45.7%
Remaining Fixed Costs	3.87	4.11	6.3%
Total Fixed Costs	10.40	12.02	15.5%
Total Costs	24.33	26.80	10.1%
Net Margin	11.50	14.07	22.4%

Source: Teagasc National Farm Survey 2021

Box 1: The cost of on-farm family labour

Net margin represents the returns to family labour, farm management, owned land and capital. It is very difficult to segregate the returns to each of these components with an acceptable level of accuracy. Allowing for an approximation of the value of on-farm family labour input, would place a value on own labour input, equivalent to 11 cent per litre. This estimate is based on the self-reported labour input of respondents and an assumed wage of €15 per hour. This figure does not have the accuracy associated with the estimates of costs for other farm inputs. Own labour costs for smaller herds, with low yielding cows, a less desirable farm layout and inferior yard and parlour facilities would be expected to be several cents higher than the average. By contrast the most labour efficient farms would be expected to have substantially lower family labour costs.

Table 2: Average net margin 2020 and 2021: Dairy Farms

		2020	2021	2021/2020 % change
Milk Produced*	litres/hectare	11,781	12,221	3.7%
Total Costs	€/hectare	2,853	3,251	13.9%
Net Margin	€/hectare	1,368	1,748	27.8%

Source: Teagasc National Farm Survey 2021

*Milk Produced includes milk fed to calves as well as milk delivered to dairies

2. Variation in Financial Performance

Moving beyond the average, it is useful to also explore the performance of the better and less well performing cohorts. Splitting the population into three groups on the basis of gross margin per hectare, Table 3 shows dairy enterprise results for the best performing one-third (Top), the middle third (Middle) and bottom third (Bottom). A wide variation across some cost components continues to be observed, with input expenditure typically higher for the bottom cohort, which is the main reason for the lower net margin in the bottom group.

Table 3: Output, costs and net margin Top, Middle and Bottom thirds 2021: Dairy Farm

	Top	Middle	Bottom	Average
	cent/litre			
Gross Output	41.6	41.1	39.9	40.9
Concentrate Feeds	5.7	6.3	7.1	6.4
Pasture & Forage	4.0	4.2	5.2	4.5
Other Direct Costs	3.7	4.1	4.0	4.0
Energy & Fuel	1.9	2.2	2.8	2.3
Hired Labour	1.1	0.4	0.7	0.7
Other Fixed Costs	8.6	9.1	9.3	9.0
Total Costs	25.0	26.4	29.0	26.8
Net Margin	16.7	14.7	10.8	14.1

Source: Teagasc National Farm Survey 2021

Relative to 2020, concentrate feed expenditure increased in 2021 for all three cohorts, remaining highest for the bottom group, for whom pasture and forage costs were also highest. Costs relating to hired labour were highest for the top group, which are generally higher output farms. A wide variation in net margin is reported across the three groups varying from 16.7 cent per litre on top performing farms to 10.8 cent per litre for the bottom group.

Table 4 presents the variation in output and gross margin per hectare for the Top, Middle and Bottom groups in 2021.–Gross margin per hectare increase for the top cohort (up €811) with increases for the middle and bottom groups (€585 and €466 respectively). In 2021 the gap between the top and bottom groups in terms of gross margin was almost €2,400 per hectare, an almost €350 increase on the previous year.

Table 4: Output and profit for Top, Middle and Bottom one-thirds 2021: Dairy Farms

		Top	Middle	Bottom	Average
Stocking Rate	cows per hectare	2.52	2.07	1.72	2.10
Milk Production*	litres per hectare	15,809	12,091	8,803	12,221
Concentrates fed	kg per cow	1,140	1,223	1,154	1,173
Concentrates fed	kg per litre milk produced	0.18	0.20	0.22	0.20
Gross Output	€ per hectare	6,570	4,954	3,492	4,999
Direct Costs	€ per hectare	2,140	1,812	1,451	1,800
Gross Margin	€ per hectare	4,431	3,142	2,041	3,200

Source: Teagasc National Farm Survey 2021

*includes milk fed to calves

3. Variation in Technical Performance

Table 5 presents a selection of technical performance indicators for dairy farms in 2021. Reasonable production conditions contributed to an improvement in these metrics year-on-year. Milk production per cow increased by 2% relative to 2020. An improvement in milk solids per cow is evident (+2.4%). Interestingly there was slight deterioration in somatic cell count (up 7%). Concentrate feed use rose slightly in 2021, reflecting a trend that has emerged over the last decade. Overall, grazing days in 2021 were higher than in 2020.

Table 5: Technical Performance Indicators 2020 and 2021: Dairy Farms

		Average 2020	Average 2021	% change
Milk production per cow	litres	5,678	5,790	2.0%
Milk production per hectare	litres	11,781	12,221	3.7%
Milk solids	kg per cow	437	447	2.4%
Somatic Cell Count	'000 cells/ml	160	166	3.8%
Concentrate feed usage	kg per cow	1,138	1,173	3.1%
Grazing Season	days	234	241	2.8%

Source: Teagasc National Farm Survey 2021

Table 6 shows Teagasc Dairying Road Map Targets for 2027 and the percentage of dairy farms achieving each of these performance indicators in 2021.

Table 6: Percentage of farms reaching selected Teagasc 2027 Dairying Road Map Targets in 2021

		2027 Target	% Farms Achieving Target in 2021
Milk delivered per cow	litres per cow	≥ 5,750	55
Milk solids per cow	kg per cow	≥ 465	45
Somatic cell count	cells / ml	≤ 150	45
Dairy stocking rate	livestock units	2.2	40
Concentrates per cow	kgs	≤ 750	15
Nitrogen fertiliser use	kg per ha	<170kg	50
N applied at protected urea	% of farms	50%	7
% of farms using protected urea	% of farms	n.a.	25
Slurry applied using LESS	% of slurry	80%	66

Source: Teagasc National Farm Survey 2021

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These technical performance figures are reflective of improvements across most of these metrics compared to 2020, with the exception of Somatic cell count and concentrate use per cow which both increased.

Reweightings of the sample reflecting Agricultural Census data produced by the Central Statistics Office has led to an upward revision of the average herd size for recent years. In 2021, the average herd size was 93 cows, a 41% increase compared to 2014. This is a larger increase in average herd size than was previously calculated. In 2021, smaller herds, with less than 40 cows, accounted for 14% and 4% of the total milk pool. On the other hand, more than one third of herds comprised at least 100 cows, accounting for almost 60% of total milk production in 2021.

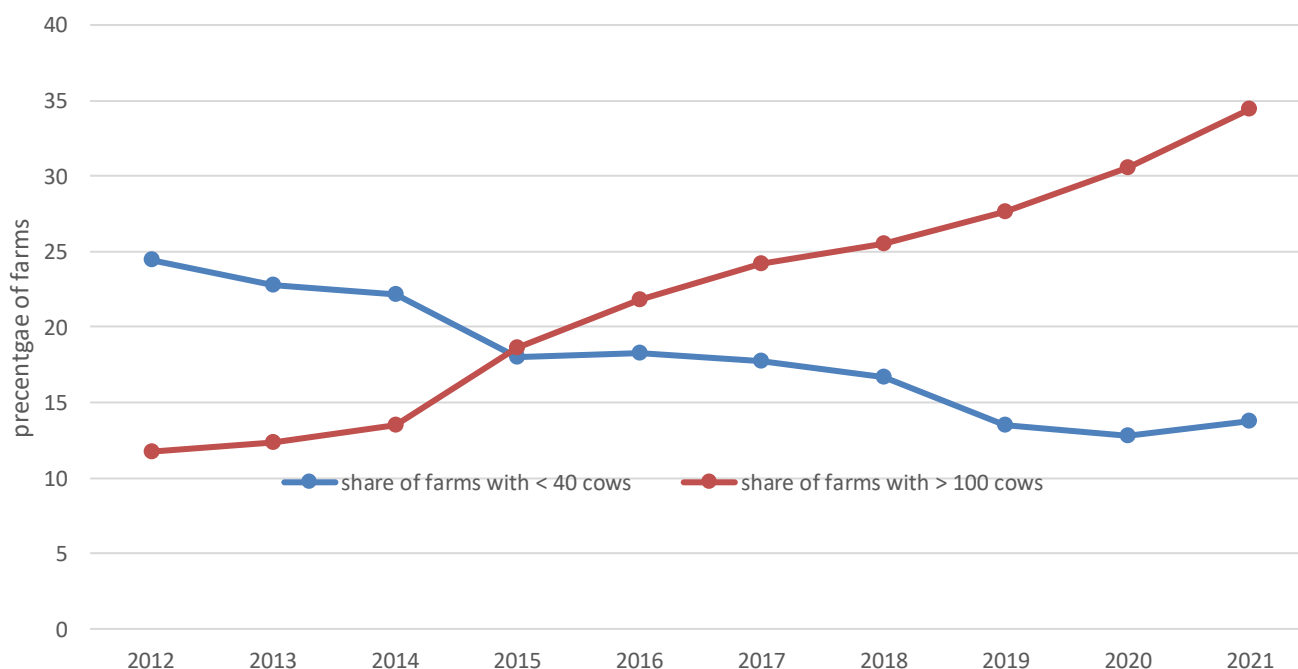
Table 7: Herd Size distribution 2021

Herd Size	% of Farms	% of Milk production
<40	14	4
40-60	15	8
60-100	36	29
>100	34	59
Total	100	100

Source: Teagasc National Farm Survey 2020

The increase in dairy farm scale, represented by farms with at least 100 cows since 2012 is reflected in Figure 1. The data indicates that this cohort has more than doubled over the period, from 12% in 2012 to 35% in 2021. The large increase from 2018 to 2021 in the percentage of farm with at least 100 cow is of particular note.

Figure 1: Structural change in Irish Dairy Farm Size 2012-2021



Source: Teagasc National Farm Survey 2021

For further information on this publication or other Teagasc National Farm Survey Publications please contact NFS@teagasc.ie