Teagasc National Farm Survey 2016

Dairy Enterprise

The 2016 Teagasc National Farm Survey (NFS) recorded data on 861 farms. 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 303 dairy farms which are representative of 15,735 farms nationally.

1. Analysis of Financial Performance

Following on from a difficult year in 2015 the average milk price fell by a further 10% in 2016 resulting in a 12% reduction in gross output year-on-year. However, lower fertiliser prices and a 5% reduction in pasture and forage costs resulted in a 2% reduction in total direct costs on the average dairy enterprise. Total fixed costs declined by 4% overall in 2016. Data from the Teagasc NFS shows that overall production costs declined by 3% in 2016, indicating that the average producer had production costs of approximately 22 cent per litre of milk. The margin figures reported here do not include decoupled payments.

Table 1: Average gross margin and average net margin 2015/2016 - cent per litre

	2015	2016	2016/2015 % change
Milk Price	30.94	27.86	-10
Total Gross Output	**32.21**	**28.47**	**-12**
Concentrate Costs	4.60	4.65	1
Pasture and Forage Costs	4.35	4.15	-5
Other Direct Costs	3.73	3.65	-2
Total Direct Costs	12.68	12.45	-2
Gross Margin	**19.53**	**16.02**	**-18**
Energy and Fuel	1.94	1.96	1
Hired Labour	0.44	0.43	-3
Other Fixed Costs	7.33	6.91	-6
Total Fixed Costs	9.71	9.30	-4
Total Costs	22.39	21.75	-3
Net Margin	**9.82**	**6.72**	**-32**

The cost of on-farm family labour

Net margin represents the returns to family labour, 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, for instance, based on the Teagasc NFS data for 2016, would place a value on own labour input equivalent to 12 cent per litre or €1,201 per hectare. 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. Teagasc is conducting on-going research to establish more accurate estimates. 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 costs.

Despite poor market conditions, data from the CSO indicates that milk production nationally continued to grow in 2016, increasing by 4% year-on-year. Similarly, the growth in milk production on Teagasc NFS farms was in line with the CSO figure, with a 3% increase reported. Notwithstanding the increase in production, net margin on a per hectare basis fell by 27% on the average dairy enterprise in 2016.

Table 2: Average net margin € per hectare 2015/2016: Dairy Farms

	2015	2016	2016/2015 % change
Milk Produced (litres/hectare)	10,755	11,087	3
Total Costs (€/hectare)	2,392	2,378	-1
Net Margin (€ /hectare)	1,083	792	-27

2. Variation in Financial Performance

Table 3 summarises the Teagasc NFS 2016 results for farms classified on the basis of gross margin per hectare; the best performing one-third of farms (Top), the middle one-third (Middle) and the least well performing one- third (Bottom). A wide variation across some cost components is reported. Expenditure on concentrate feeds in particular was significantly lower on the top performing farms in economic terms.

Table 3: Costs and net margin cent per litre for Top, Middle and Bottom thirds 2016: Dairy Farms

	Top	Middle	Bottom
Concentrate Feeds	3.96	4.65	5.33
Pasture & Forage	3.67	3.89	4.90
Other Direct Costs	3.50	3.50	3.93
Energy & Fuel	1.72	1.79	2.37
Hired Labour	0.79	0.30	0.19
Other Fixed Costs	6.53	6.94	7.27
Total Costs	20.17	21.06	23.99
Net Margin	**9.93**	**6.89**	**3.37**

Similarly, costs relating to pasture and forage and energy and fuel were higher in the Bottom cohort. On the other hand, costs relating to hired labour were substantially higher among the top performing farms, but this is to be expected as the top performers produce more output and are more likely to require hired labour. A wide variation in net margin is reported across the three groups varying from almost 10 cent per litre on top performing farms to only 3 cent per litre at the lower end.

Table 4 presents the variation in output and profit per hectare for the Top, Middle and Bottom groups in 2016. Gross margin per hectare was almost three times higher for the Top group than the Bottom. These greater rates of profitability are driven by higher productivity (almost twice as much output per hectare) and greater efficiency (more efficient use of concentrate feed and better control of other direct costs) on the Top farms.

Table 4: Output and profit per hectare for Top, Middle and Bottom one-thirds 2016: Dairy Farms

	Top	Middle	Bottom
Stocking rate (Cows per hectare)	2.54	2.04	1.63
Milk Sold (litres per hectare).	14,675	10,968	7,644
Concentrates fed (kg per Cow)	896	967	941
Concentrates fed (kg per litre milk produced)	0.15	0.18	0.20
Gross Output (€ per hectare	4,391	3,048	2,081
Direct Costs (€ per hectare	1,657	1,335	1,091
Gross Margin (€ per hectare)	2,734	1,713	990

3. Variation in Technical Performance

Table 5 presents a selection of technical performance indicators for dairy farms. Milk production per cow declined marginally in 2016 (-1% on average), although milk sales increased by 3% over the period. An improvement in milk solids (kg per cow) is evident (+5%) and there was also a reduction in Somatic Cell Count (-7%). Concentrate feed use increased year-on-year, with a small reduction in the length of the grazing season.

Table 5: Technical Performance Indicators 2015/2016: Dairy Farms

	Average 2015	Average 2016	% change
Production (litres per cow)	5,384	5,316	-1
Milk sales (litres per hectare)	10,755	11,087	+3
Milk solids (kg per cow)	393	414	+5
Somatic Cell Count ('000 cells/ml)	181	168	-7
Concentrate feed usage (kg per cow)	905	935	+3
Use of grass (no. of days in the grazing season)	239	235	-2

Teagasc Dairying Road Map Targets have been updated with a revised set of performance indicators for farms to 2025. Table 6 shows the percentage of all farms that achieved a selection of these targets in 2016. These revised targets are more ambitious than those previously set, but despite this farms are generally performing well in relation to these updated criteria.

Table 6: Percentage of farms achieving selected Teagasc 2020 & 2025 Dairying Road Map Targets in 2016

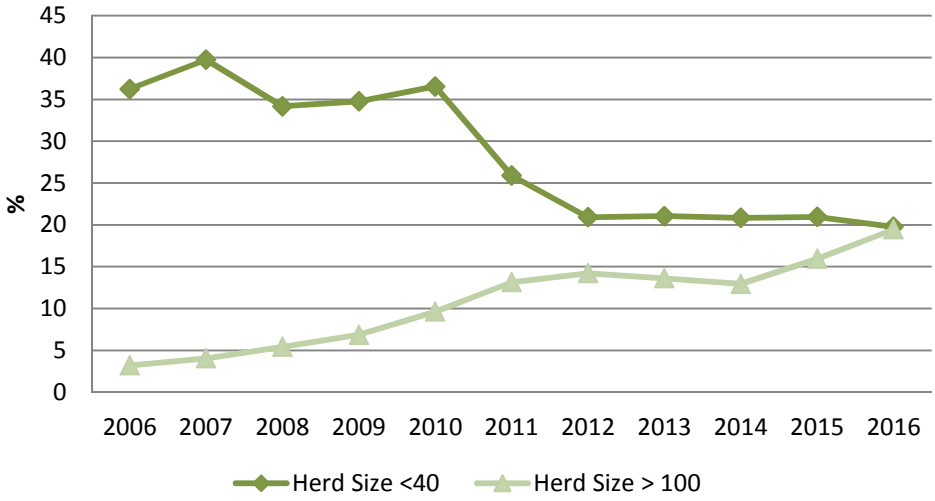
	2025 Target	% of Farms Achieving 2025 Target	2020 Target	% of Farms Achieving 2020 Target
Milk yield per cow (litres per cow)	≥ 5,573	38	≥ 5420	46
Milk solids per cow (kgs per cow)	≥ 448	26	≥ 378	58
Protein (%)	≥ 3.56	18	≥ 3.40	68
Fat (%)	≥ 4.25	21	≥ 3.95	77
Somatic Cell Count (cells / ml)	≤ 180	65	≤ 200	70
Concentrate feed per cow (kgs)	≤ 750	37	≤ 750	37

The average herd size in 2016 was 72 cows. This represents a 10% increase since milk quota abolition in 2014 and a 44% increase over the past decade. Farm scale has also increased over the period, with 19% of farms reporting a herd size of 100 cows or more in 2016 compared to only 3% in 2006 (Figure 1). Data from the survey also indicates that this cohort of farms now produce 40% of total milk production, the equivalent figure in 2006 was only 9%.

Table 7: Herd Size distribution 2016

Herd Size	% of Farms	% of Milk production
<40	20	7
40-60	24	16
60-100	37	37
>100	19	40

Fig. 1: Structural change on Teagasc NFS dairy farms 2006-2016



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