

Teagasc National Farm Survey 2017

Dairy Enterprise



The 2017 Teagasc National Farm Survey (NFS) recorded data on a total of 861 farms. This analysis summarises the results of dairy enterprises, excluding dairy farms supplying mostly liquid milk and herds of 10 cows or less. The results below relate to 294 dairy farms which are representative of 15,639 farms nationally.

1. Analysis of Financial Performance

Following a difficult year in 2016, the average milk price and gross output both increased by 32% in 2017, due to higher milk prices and increased deliveries. Although input costs generally declined in 2017, usage volumes increased, resulting in a 3% increase in total direct costs on the average dairy enterprise. A 7% increase in concentrate costs was a key driver, with expenditure on machinery hire and veterinary related expenses also rising. On the other hand, fertiliser expenditure declined by 2%. Total fixed costs increased by 7% overall in 2017. Energy and fuel expenditure also rose, up 8% relative to 2016. The Teagasc NFS shows that overall production costs increased by 5% in 2017, indicating that the average producer had production costs of almost 23 cent per litre of milk. The resulting average net margin for 2017 was 15 cent per litre. The margin figures reported here do not include decoupled payments.

Table 1: Average gross margin and average net margin 2016/2017 - cent per litre: Dairy Farms

	2016	2017	2017/2016 % change
Milk Price	27.86	36.86	+32%
Total Gross Output	28.47	37.65	+32%
Concentrate Costs	4.65	4.98	+7%
Pasture and Forage Costs	4.15	4.20	+1%
Other Direct Costs	3.65	3.62	+1%
Total Direct Costs	12.45	12.80	+3%
Gross Margin	16.02	24.86	+55%
Energy and Fuel	1.96	2.11	+8%
Hired Labour	0.43	0.51	+19%
Other Fixed Costs	6.91	7.36	+7%
Total Fixed Costs	9.30	9.98	+7%
Total Costs	21.75	22.78	+5%
Net Margin	6.72	14.87	+121%

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 2017, would place a value on own labour input equivalent to 13 cent per litre or €1,294 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.

Data from the CSO indicates that milk production nationally continued to grow in 2017, increasing by 9% year-on-year. On this cohort of Teagasc NFS farms, milk production increased by 5% in 2017 (taking account of the increase in overall dairy area). Total costs per hectare increased by 6% year-on-year. Net margin on a per hectare basis more than doubled on the average dairy enterprise in 2017.

Table 2: Average net margin € per hectare 2016/2017: Dairy Farms

	2016	2017	2017/2016 % change
Milk Produced (litres/hectare)	11,087	11,279	+2%
Total Costs (€/hectare)	2,378	2,529	+6%
Net Margin (€ /hectare)	792	1,730	118%

2. Variation in Financial Performance

Table 3 summarises the Teagasc NFS 2017 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. Concentrate costs on the Top performing farms were 1.6 cent per litre lower than those in the Bottom grouping in 2017. Similarly, pasture and forage related expenditure was 1 cent lower per litre on the Top performing farms. Other direct costs were broadly similar across the three groups. Energy and fuel costs were also significantly higher (50%) for the Bottom group. On the other hand, costs relating to hired labour were substantially higher among the top performing farms, but this reflects the fact that top performers produce more output and are more likely to require hired labour as a result.

Table 3: Costs and net margin cent per litre for Top, Middle and Bottom thirds 2017: Dairy Farms

	Top	Middle	Bottom
Concentrate Feeds	4.33	4.69	5.90
Pasture & Forage	3.73	4.04	4.82
Other Direct Costs	3.45	3.52	3.89
Energy & Fuel	1.77	2.00	2.56
Hired Labour	0.77	0.49	0.27
Other Fixed Costs	7.06	7.38	7.65
Total Costs	21.11	22.12	25.10
Net Margin	17.61	15.28	11.75

Overall, the differential in total costs for the Top and Middle performing groupings was just over 1 cent per litre, with costs for the Bottom group substantially higher. Regional differences in terms of costs structures are examined in more detail in the Teagasc NFS 2017 report. The average net margin for each of the three groups ranges from 18 cent per litre on top performing farms to 12 cent per litre at the lower end. It should be noted that the comparable figures for 2016 were 10 and 3 cents per litre, illustrating the volatility inherent in dairy farm margins.

Table 4 presents the variation in output and gross margin per hectare for the Top, Middle and Bottom groups in 2017. Gross margin per hectare was almost 2.5 times higher for the Top group than the Bottom. These greater

rates of profitability are driven by higher productivity (twice as much output per hectare) and greater efficiency (more efficient use of concentrate feed) on the Top farms, despite higher costs per hectare.

Table 4: Output and profit per hectare for Top, Middle and Bottom one-thirds 2017: Dairy Farms

	Top	Middle	Bottom
Stocking rate (Cows per hectare)	2.53	2.06	1.65
Milk produced (litres per hectare)	14,928	11,150	7,799
Concentrates fed (kg per Cow)	1,032	1,004	1,061
Concentrates fed (kg per litre milk produced)	0.17	0.18	0.22
Gross Output (€ per hectare)	5,778	4,158	2,857
Total Costs (€ per hectare)	1,733	1,387	1,146
Gross Margin (€ per hectare)	4,045	2,771	1,710

3. Variation in Technical Performance

Table 5 presents a selection of technical performance indicators for dairy farms. Milk production per cow increased by 2%, on average, in 2017. A slight drop in milk solids (kg per cow) is evident in 2017 (-3%) with Somatic Cell Count remaining unchanged on average. Concentrate feed use increased year-on-year, driven by the desire to increase output due to the good milk price. On average, the length of the grazing season remained unchanged at 235 days.

Table 5: Technical Performance Indicators 2016 and 2017: Dairy Farms

	Average 2016	Average 2017	% change
Milk Production (litres per cow)	5,316	5,397	+2
Milk solids (kg per cow)	414	401	-3
Somatic Cell Count ('000 cells/ml)	168	168	-
Concentrate feed usage (kg per cow)	935	1,032	+3
Use of grass (no. of days in the grazing season)	235	235	-

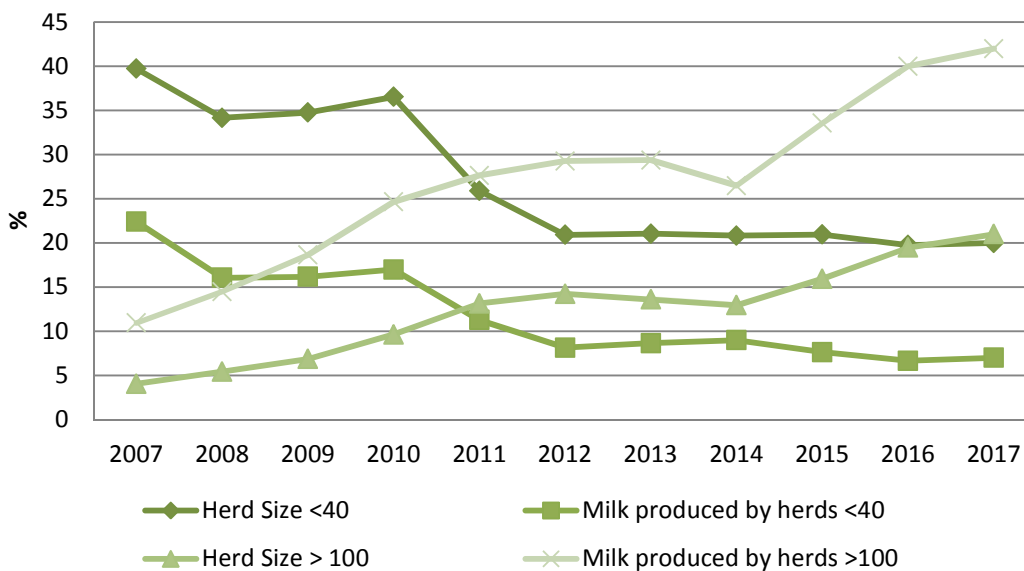
Table 6 shows the percentage of all farms that achieved a selection of the Teagasc Dairying Road Map 2025 Targets in 2017. Despite the ambitious nature of these targets, farms are generally performing well, particularly with regard to milk yield and somatic cell count. Despite this, there is room for improvement with regard to the constituent targets.

Table 6: Percentage of farms achieving selected Teagasc 2020 & 2025 Dairying Road Map Targets in 2017

	2025 Target	% of Farms Achieving 2025 Target
Milk yield per cow (litres per cow)	≥ 5,573	42
Milk solids per cow (kgs per cow)	≥ 448	27
Protein (%)	≥ 3.56	19
Fat (%)	≥ 4.25	14
Somatic Cell Count (cells / ml)	≤ 180	63
Concentrate feed per cow (kgs)	≤ 750	29

The average herd size in 2017 was 75 dairy cows. This represents a 7% increase since milk quota abolition in 2014 and 47% increase over the past decade. The share of farms with larger herds has also increased over the period, with 21% of farms reporting a herd size of 100 cows or more in 2017 compared to only 4% in 2007 (Figure 1). At the other end of the spectrum, the percentage of herds with less than 40 cows have halved over the same period.

Fig. 1: Structural change on Teagasc NFS dairy farms 2007-2017



Unsurprisingly, the overall contribution of larger farms to the total milk pool has grown dramatically from 2007 to 2017, rising from 11% to 42% over the period.

Data from the Teagasc NFS 2017 indicates that about one-third of dairy herds are comprised of between 60-100 cows and these farms accounted for an equivalent proportion of overall milk production (Table 7) in 2017.

Table 7: Herd Size distribution 2017

Herd Size	% of Farms	% of Milk production
<40	20	7
40-60	24	16
60-100	35	35
>100	21	42

Further Reading:

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

The Teagasc National Farm Survey 2017 report is available at: https://www.teagasc.ie/media/website/publications/2018/NFS2017_web.pdf