

## New focus at Shinagh Dairy Farm

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### Summary

- Shinagh dairy farm began milk production in 2011 and has demonstrated that a well-managed grass based dairy farm can adequately remunerate all of the resources employed including land, labour and capital.
- While the farm has focused in the past on managing the economic risks and challenges associated with dairy farm conversion, start-up, expansion and volatility, the farm will also focus on the challenges that the industry faces on environmental and social sustainability in the future.
- The technical focuses of Shinagh dairy farm have been to maximise the amount of grass grown and utilised per hectare and to optimise the proportion of the cow's diet coming from grazed grass, the future technical focuses will include reducing carbon, nitrogen and ammonia losses from the farm and improving labour efficiency while optimising animal welfare.

### Introduction

Shinagh dairy farm near Bandon in West Cork is a Teagasc-led project demonstrating efficient spring milk production from grass on a farm that was converted from a beef farm in 2010, with the first cows being milked in January 2011. The 78 ha farm is owned by the four west Cork co-ops and was leased at €450/ha for 15 years by Shinagh Dairy Farm Ltd. The total conversion costs for the farm was €820,000, with €260,000 of that provided by the West Cork Co-Ops as equity and the remainder borrowed with a 15 year loan costing approximately €46.5k per year to service. The labour on the farm is provided by one full time farm manager (Kevin Ahern) along with part time labour in spring and for relief throughout the year with total labour costs of approximately €70k/year.

### Farm performance

Over the last nine years, the focus of the farm has been to maximise grass production and utilisation and to breed a high EBI crossbred herd that could calve compactly at the start of the grass growing season and efficiently convert grass into milk solids (Table 1). The farm has successfully exceeded all of the performance targets that were established at the outset of the project and this has led to very significant cash surpluses and accumulated profits (Figure 1). While there has been inter-year variation in cash surpluses and profit, due primarily to milk price volatility, the farm is now very resilient due to a very low breakeven milk price of less than 23 c/l.

### Future focus

The original objectives of Shinagh dairy farm were to identify and manage the economic risks and challenges associated with a dairy farm conversion with significant volatility in milk price and these will continue to be significant considerations in the future with continued monitoring and reporting of all of the KPI's that drive dairy farm profitability. However the farm will also focus on some of the other challenges that the industry faces on environmental and social sustainability in the future. These will include strategies to reduce the carbon footprint of the milk produced, reduce the total ammonia emissions from the farm and increase the nitrogen efficiency and the biodiversity value of the farm.

Table 1. Physical performance of Shinagh dairy farm from 2011 to 2018

	2011	2012 to 2016 average	2017	2018
Cows milked	195	217	232	238
Stocking rate (LU/ha)	3.12	2.86	3.19	3.36
Grass grown (t DM/Ha)	12.25	13.55	16.35	11.55
Grass utilised (t DM/Ha)	10	11.1	13.6	9.6
Six week calving rate (%)	58	82	93	93
Empty rate (%)	13	7.6	6.7	8.3
Mean calving date	28-Feb	18-Feb	21-Feb	20-Feb
Milk solids (kg /ha)	817	1,082	1,256	1,431

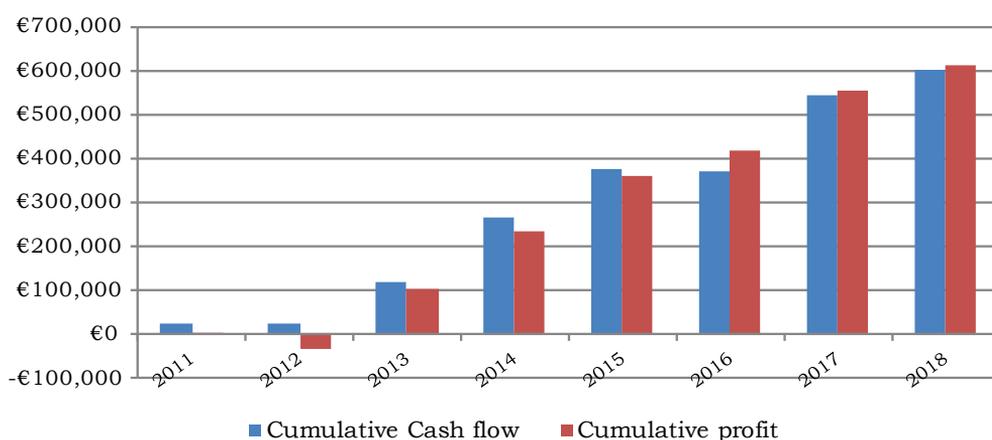


Figure 1. Cumulative cash flow and profitability from Shinagh dairy farm from 2011 to 2018

Because the farm has been operated to a very high level of efficiency with high genetic merit cows grazing over a long grazing season, the farm environmental emissions have been significantly below the industry average.

However, the farm will aim to further reduce emissions by adopting the key technologies within the Teagasc marginal abatement curve to demonstrate that an environmentally efficient farm can operate at a very high level of production efficiency and profitability. In 2019, this has included a switch to using protected urea instead of CAN to reduce ammonia emissions and all slurry is now being applied with low emission slurry spreading equipment. The crude protein content of any concentrate being fed to grazing cows will also be reduced. The farm is also replacing the milking machine vacuum pump with a variable speed motor. All of these technologies should increase the efficiency of the farm operation while reducing the environmental footprint.

### Conclusions

Shinagh dairy farm will continue to provide leadership to Irish dairy farmers by demonstrating the operation and management of an environmentally and economically efficient farm.