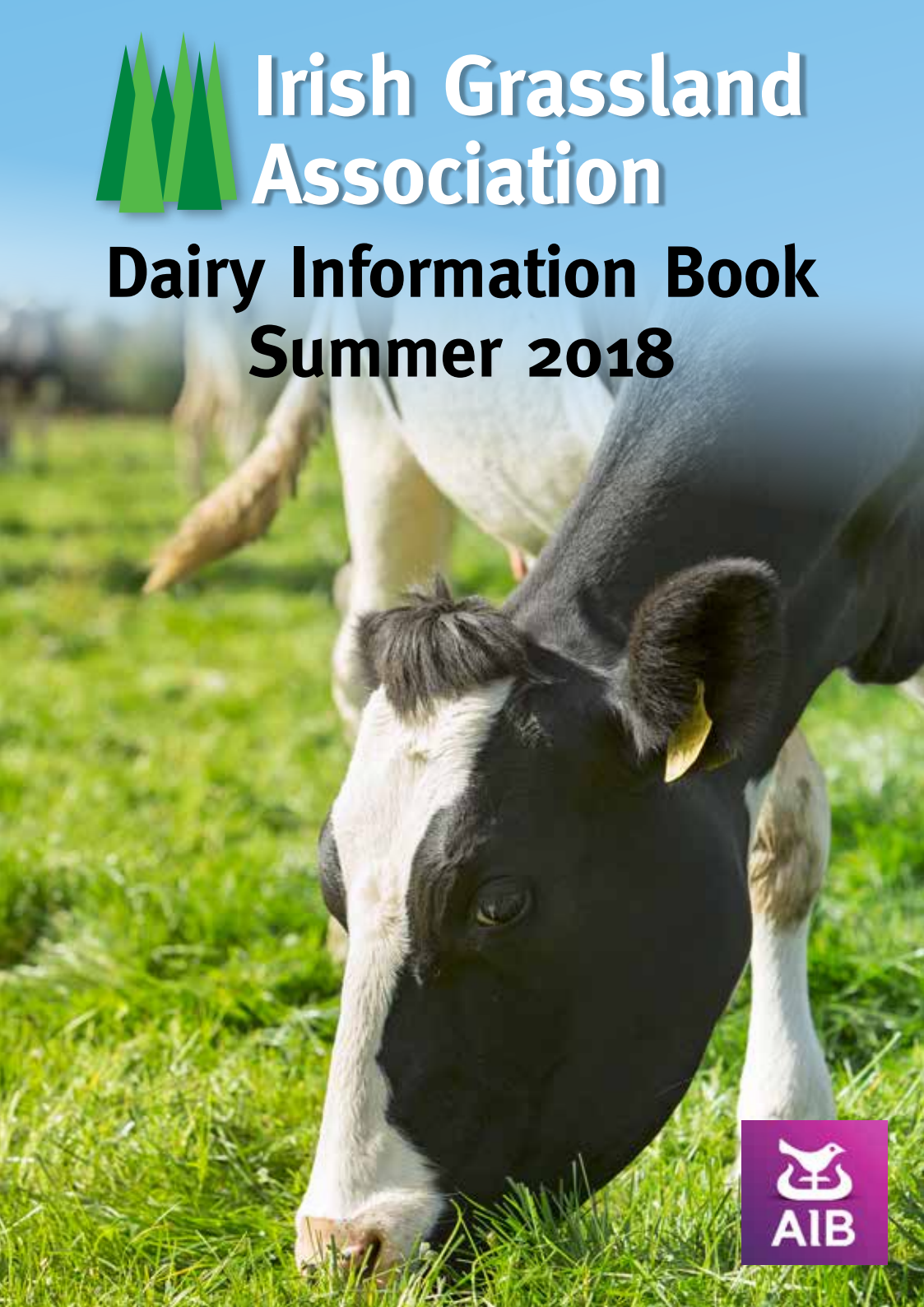
Irish Grassland Association

Dairy Information Book
Summer 2018



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Dairy Information Book

Contents

Conor & Josie Kelleher

Hillcrest dairy farm, Rearour, Aherla, Co. Cork

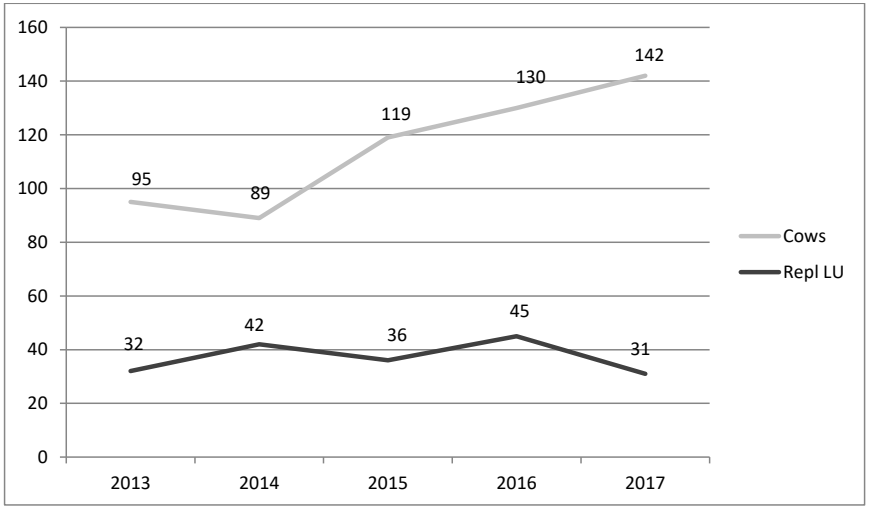
Conor and Josie Kelleher farm 58 ha in four sections of mostly free draining loamy soils near Aherla, Co. Cork. All of the land is owned with 41.7 hectares forming the milking platform. This is divided into three sections by public roads. The section surrounding the milking parlour is linked by a roadway leased from neighbouring tillage farmers and across a public road from the middle section of 20 ha purchased by Conor's father in the mid-'80's. The third section of 11.7 ha of the platform was purchased by Conor in 2015 and was recently linked by an underpass to the middle section.

The past four years has been a period of rapid expansion and specialisation on the Kelleher farm. To achieve a high level of farm profitability, herd size has been increased following quota removal from 89 cows in 2014 to the current 147 cows. Replacement heifers are mainly reared on the out farm with surplus grass harvested for pit silage. Overall stocking rate this year is 2.9 LU/ha with the milking platform grazing the herd of crossbred dairy cows. In 2017 the cows yielded 528 kg milk solids per cow (4.50% fat; 3.75% protein) with 513 kg milk sold per cow.

The dairy herd

The data in Figure 1 show the average number of cows and replacement livestock units (LU) on the Kelleher farm from 2013 to 2017.

Figure 1. Average number of dairy cows and replacement LU on the Kelleher farm (2013-2017).



The cows on the Kelleher farm come from a Holstein Friesian background with Jersey and Norwegian Red AI used extensively in the early '00's. The EBIs of the cows and heifers on the Kelleher farm are presented in Figure 2.

Figure 2. EBI report for the Kelleher herd (May 2018).

Animal Group	Num of Cows	Milk Kg Fat	% Prot	%	Surv% CI Days	Milk % Cont	Fertility % Cont	Calv % Cont	Beef % Cont	Maint % Cont	Mgmt % Cont	Health % Cont	EBI €
Cows with EBI	**150**	**-23**				**€ 42**	**€ 47**	**€ 29**	**€ -14**	**€ 17**	**€ 1**	**€ 2**	
Missing EBI*	0	7.7	0.15		1.4	27.7%	30.6%	19%	-9.4%	11.4%	0.5%	1.4%	**€ 124**
Total Cows	150	4.1	0.08		-2.4								
1st Lactation	**21**	**0**				**€ 56**	**€ 47**	**€ 40**	**€ -19**	**€ 22**	**€ 3**	**€ 3**	
		10.0	0.17		1.4	29.4%	24.5%	21.1%	-10.1%	11.8%	1.3%	1.8%	**€ 151**
		5.9	0.1		-2.4								
2nd Lactation	**31**	**-48**				**€ 62**	**€ 40**	**€ 32**	**€ -23**	**€ 26**	**€ 3**	**€ 1**	
		11.8	0.23		1.4	33.4%	21.5%	17.2%	-12.4%	13.9%	1.3%	0.3%	**€ 140**
		5.7	0.12		-1.8								
3rd Lactation	**23**	**4**				**€ 33**	**€ 38**	**€ 24**	**€ -11**	**€ 11**	**€ 0**	**€ 0**	
		4.7	0.08		1.0	28.1%	32.5%	20.1%	-9.1%	9.5%	0.3%	0.3%	**€ 97**
		4.0	0.07		-2.1								
4th Lactation	**30**	**-23**				**€ 39**	**€ 58**	**€ 27**	**€ -11**	**€ 13**	**€ 1**	**€ 3**	
		8.0	0.15		1.7	25.4%	38.2%	17.7%	-7.4%	8.3%	0.8%	2.2%	**€ 130**
		3.4	0.07		-3.0								
5th Lactation (+)	**45**	**-32**				**€ 29**	**€ 47**	**€ 26**	**€ -10**	**€ 16**	**€ -1**	**€ 3**	
		5.2	0.11		1.3	22%	36.1%	19.5%	-7.5%	11.8%	-1.1%	1.9%	**€ 109**
		2.6	0.06		-2.5								

2. Dairy Youngstock

2018 Calves	**41**	**16**				**€ 69**	**€ 50**	**€ 39**	**€ -25**	**€ 30**	**€ 3**	**€ 2**	
Missing EBI*	0	12.0	0.20		1.9	31.7%	23%	17.8%	-11.5%	13.5%	1.4%	1%	**€ 168**
Total Calves	41	7.8	0.13		-2.2								
2017 Calves	**27**	**17**				**€ 64**	**€ 65**	**€ 39**	**€ -18**	**€ 20**	**€ 2**	**€ 4**	
Missing EBI*	0	11.5	0.19		2.1	30.5%	30.8%	18.5%	-8.4%	9.4%	0.7%	1.7%	**€ 175**
Total Calves	27	7.1	0.12		-3.1								

In the spring 2018 calving season, 87% of the 150 cows and heifers calved in the first 6 weeks and the calving interval was 367 days. Mean calving date this year was 19th February with half of the herd calved in 21 days. The empty rate at the end of 2017 was 8% resulting in a calving season length of 10 weeks and 3 days this year.

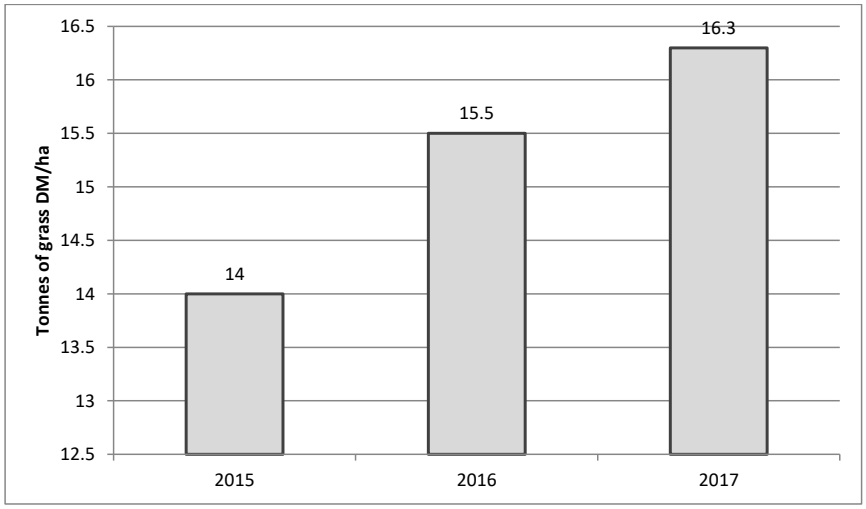
This breeding season, the 3-week submission rate was 90% for the cows. This year, due to the extra workload the difficult spring the maiden heifers were bred to two stock bulls on the outside block. Normally the heifers are bred to AI, with a vasectomised bull is used to aid heat detection. Heifers received a shot of PG on day 7, and were bred by day 10. A Jersey cross stock bull is then used to breed the repeats. Cows are tail painted from the start of the breeding season.

Accommodation on the Kelleher farm consists of 165 cubicles (30 topless) of which 145 are adjacent to the milking parlour and the balance on the middle section of the milking platform in a converted slatted shed. An estimated 16 weeks of slurry storage if available on the farm for all animals wintered. The milking parlour is a 20 unit 2'6" herringbone parlour located in the main farmyard.

Grassland

Increasing grass yield and quality has been a major focus on the Kelleher farm over the past number of years. At this stage 95% of the farm is at index 3 for P&K and at optimum pH (6.0-6.3). Conor has been measuring grass for twelve years but has only been recording grass growth rates on the farm for three years. The tonnage grown over those years is presented in Figure 3.

Figure 3. Tonnes of grass grown (T DM/Ha) on the Kelleher farm (2015-2017).



Labour

Conor works full-time on the farm. A relief milker, Colleen, is hired in as well as a student for the busy calving season. Conor's father, Con, works on the farm as well focusing on farm maintenance, some of the machinery work and the trips to marts, the creamery, the bank and other merchants.

Winter

Last year cows were housed full-time on November 10th. The empty cows were sold in late November and the herd was fully dried off by December 10th. All of the fodder reserve on the farm was used this spring because of the poor spring growth and difficult grazing conditions. To rebuild reserves Conor sourced 15 acres of grass for two cuts of silage. The first cut was ensiled along with the home grown first cut at the end of May. As a consequence of the drought, a further 14 acres of purchased silage has been harvested, and 9 acres of whole crop wheat is due to be harvested at the end of July

Physical performance

A summary of the whole farm physical performance on the Kelleher farm in the 2013 to 2017 period is presented in Table 1.

Table 1. Physical performance of the Kelleher farm (2013-2017).

	2013	2014	2015	2016	2017	Change (2017-2013)
Land area						
Land farmed (ha)	58.1	46.4	58.1	58.1	58.1	-
Land owned (ha)	46.4	46.4	58.1	58.1	58.1	+11.7
Livestock						
Dairy cows	95	89	119	130	142	+47
Replacement LU	37	42	36	45	31	-6
Cattle LU	-	10	-	-	1	+1
Stocking rate (LU/ha)	2.24	2.75	2.87	2.90	2.90	+0.76
Milk production						
Milk sales (000 litres)	509	497	660	754	871	+372
Milk solids (kg/cow)	448	480	495	501	528	+80
Fat (%)	4.08	4.25	4.31	4.40	5.40	+0.42
Protein (%)	3.58	3.63	3.73	3.68	3.75	+0.17
SCC ('000's)	190	179	117	114	108	-82
Grass production						
Grass used (T DM/ha)	9.5	11.8	12.3	13.7	14.9	+5.2

The data in Table 1 show the physical transformation of the Kelleher farm over the past 5 years. The farm has intensified and the dairy enterprise has become larger (increasing by 49%) and more specialised. Milk production per cow has increased by 17% per cow and milk sales have increased by 73%.

Whole farm net profit

In a departure from the conventional methodology, the IGA has committed to reporting dairy financial performance on a whole farm basis. In Table 2, the 2017 financials are adjusted to allow them to be compared to the Moorepark target of €2,489/ha net profit.

Table 2. Actual and adjusted whole farm financial performance of the Kelleher farm for 2017.

	Actual	Adjusted for	Effect	Adjusted	Moorepark Target
Milk price (c/litre)	39.6	Base milk price	-3.50	36.1	
	€/ha		***€/ha***	***€/ha***	***€/ha***
Gross output	6,549	Base milk price	-522	6,027	6,531
Total variable costs	1,675			1,675	2087
Total fixed costs	1,206	Own labour	+1,033	2,239	1956
Net profit	**3,668**			**2,113**	**2,489**

- A base price of 30 c/litre – the effect in 2017 was to reduce the price of the Kellehers' milk by 3.5 c/litre. This was the equivalent of reducing the milk sales component of the gross output by €522 per hectare farmed;

- In the Moorepark target it is assumed that all land is owned and all labour is hired. Unpaid family labour is paid €15/hour for an estimated 4,000 hours worked per annum (the equivalent of €60,000 or €1,033/ha for the 58 hectares farmed).

This resulted in an adjusted net profit of €2,113/ha for all land farmed. The shortfall of €376/ha in profit per hectare farmed is due to the following:

- The Kellehers sold 38 kg milk solids per cow more than the Moorepark target. Yet gross output was €504/ha lower on the Kelleher farm. In the Moorepark model all land is stocked by dairy cows with heifers contract reared off farm. On the Kelleher farm 31 LU (approximately 1/5 of the total LU on the farm) are replacement heifers with a consequently lower gross output per hectare.
- Total costs were €138 /ha lower than for the Moorepark target. However this was not sufficient to compensate for the lower gross output and as a result net profit was €376 lower than the Moorepark target.

Using a similar methodology, the adjusted net profit per hectare farmed for the 5 years (2013-2017) is presented in Table 3.

Table 3. Adjusted whole farm financial performance of the Kelleher farm for the 2013-2017 period.

	2013	2014	2015	2016	2017	Change (2017-2013)
Actual						
Co-op price (c/litre)	41.7	40.7	33.0	29.1	39.6	
Gross output (€/ha)	4,440	5,354	4,417	4,588	6,549	
Variable costs (€/ha)	1,606	1,942	1,575	1,717	1,675	
Fixed costs (€/ha)	743	931	1,051	998	1,206	
Net profit (€/ha)	**2,090**	**2,481**	**1,827**	**1,873**	**3,668**	
Adjusted						
Co-op price (c/litre)	33.5	34.4	35.3	35.3	36.1	+2.6
Net profit (€/ha)	**339**	**517**	**1,054**	**1,646**	**2,113**	**+1,774**

While actual net profitability fluctuates between years, when adjusted to a constant base milk price of 30 c/litre the impact of improvements in milk composition on the farm on milk price is evident resulting in a 2.6 c/litre (8%) increase in the value of milk sold. Furthermore when labour and leases are accounted for, the impact of intensification and specialisation on whole farm net profitability has resulted in an increase of over €1,700 per hectare farmed in profitability over the five year period.

The worksheet in Appendix 1 will help you to calculate your net profit/ha in a similar manner to the calculations detailed above for the Kelleher farm.

Return on asset (ROA)

The second measure of financial performance discussed at the 2018 IGA Dairy Conference was ROA. The ROA is a performance measure of profitability relative to the assets employed and is calculated as follows:

((Income + interest)/ Total Assets)

On the Kelleher farm all of the land is owned. Assuming a value of €40,000/ha for land, stock and facilities the 58.1 ha or owned land is valued at €2,324,000. The calculation of ROA for the Kelleher farm is detailed in Table 4.

Table 4. Calculation of ROA for the Kelleher farm for 2017.

Net profit /ha	€2,113
	X
Hectares farmed	58.1
Farm net profit	€122,785
	+
Add back: Interest + SFP	€37,011
Farm net profit + Interest	**€159,796**
	÷
Total assets	€2,324,000
Return on Asset	6.9%

This analysis shows that the return on asset generated by the Kellehers in 2017 was 6.9%. The national average ROA for dairy farms is approximately 1-2%. So the excellent technical and financial performance of the Kellehers is delivering a return on assets that is approximately 3 times higher than the national average. Using a similar methodology, the ROA for the Kelleher farm for the 5 years (2013-2017) is presented in Table 5.

Table 5. Return on asset for the Kelleher farm over the 2013-2017 period.

	2013	2014	2015	2016	2017	Change (2017-2013)
Return on asset	3.4%	3.4%	4.4%	5.4%	6.9%	+3.3%

The data in Table 5 indicate that increased intensification and specialisation have resulted in a threefold increase in the Return on Assets employed by the Kellehers. The worksheet in Appendix 2 will help you to calculate your ROA in a similar manner to the calculations detailed above for the Kelleher farm.

Shinagh dairy farm

Kevin Ahern is farm manager at Shinagh dairy farm, Bandon, Co. Cork.

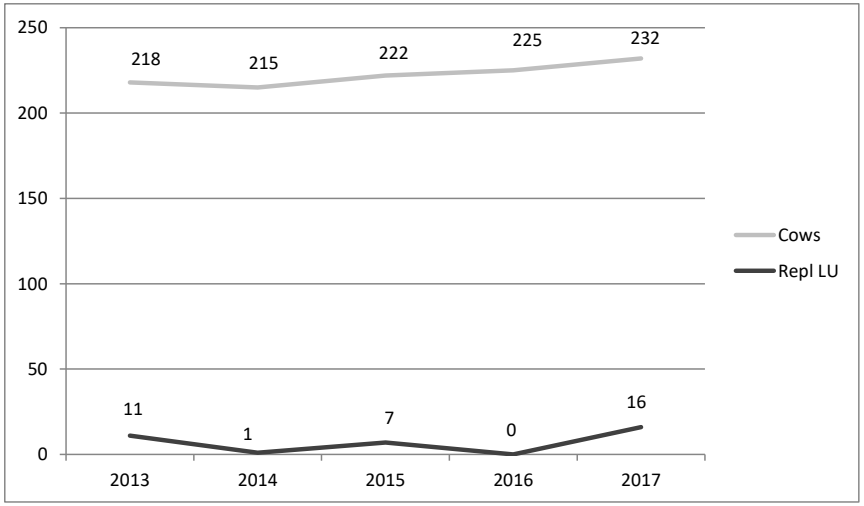
Shinagh dairy farm was established in 2011 by the four West Cork Co-ops, Bandon, Barryroe, Drinagh and Lisavaird in conjunction with Teagasc and Carbery. The 78 ha farm is leased by the company they formed from Shinagh Estates Ltd. and is in it's eighth year of a 15 year lease. All of the land is in one block and has a mixture of free-draining and heavy clay soils which varies from rolling to steep in nature. Kevin is the only full-time employee on the farm. He hires a student from Clonakilty Agricultural College or CIT for the spring time. He also employs locals part-time for relief milking and casual work throughout the year.

Currently Kevin is milking 244 cows. Fifty five replacement heifer calves left the farm after weaning in mid-May for contract rearing with another 57 grazed on the farm. In-calf heifers return on December 1st prior to calving. In 2017 the herd averaged 397 kg milk solids per cow (4.54% fat; 3.79% protein) with 392 kg milk solids sold per cow and 1183 kg of milk solids sold per hectare farmed.

The dairy herd

The data in Figure 4 show the average number of cows and replacement livestock units (LU) on Shinagh farm from 2013 to 2017.

Figure 4. Average number of dairy cows and replacement LU on Shinagh farm (2013-2017).



Contract rearing of the replacement heifers off farm has allowed a high degree of specialisation in milking cows at Shinagh dairy farm as evident in Figure 1. The original herd of 200 in-calf heifers comprised of 50% Black & White, 25% Jersey cross and 25% Norwegian Red cross heifers. A further 40 crossbred heifers were bought in 2011 as replacements for the following spring. Every heifer born on the farm since its establishment is crossbred. The only straight bred animals on the farm are some of the original cows that calved for the first time in 2011. The cows on Shinagh farm come from a Holstein Friesian background with Jersey and Norwegian Red AI used extensively in the early '00's. The EBIs of the cows and heifers on Shinagh farm are presented in Figure 5. Current breeding policy is that all non-Friesian cows are bred to a team of high EBI, mostly genomically proven, Friesian AI sires. The remaining straight bred cows get Jersey AI straws. The objective is to produce high EBI crossbred replacement stock for the farm. The replacement heifers are bred to easy calving Friesian AI bulls as they are all crossbred at this stage.

Figure 5. EBI report for Shinagh dairy farm herd (January 2018).

Animal Group	Num of Cows	Milk Kg / Fat % / Prot %		Surv% / CI Days	Milk % Cont	Fertility % Cont	Calv % Cont	Beef % Cont	Maint % Cont	Mgmt % Cont	Health % Cont	EBI €
Cows with EBI	220	-81			€ 42	€ 56	€ 34	€ -21	€ 28	€ 3	€ 2	
Missing EBI*	0	8.4	0.20	1.7	22.5%	30.1%	18.4%	-11.4%	14.8%	1.8%	1.1%	€ 144
Total Cows	220	2.9	0.1	-2.8								
1st Lactation	45	-42			€ 62	€ 56	€ 43	€ -22	€ 23	€ 5	€ 3	
		11.5	0.22	1.9	28.8%	26.2%	20.1%	-10.2%	11%	2.5%	1.2%	€ 170
		5.7	0.12	-2.6								
2nd Lactation	41	-118			€ 51	€ 53	€ 40	€ -28	€ 35	€ 5	€ 1	
		10.5	0.26	1.8	23.9%	25%	18.7%	-12.9%	16.5%	2.5%	0.5%	€ 158
		3.1	0.12	-2.5								
3rd Lactation	33	-58			€ 49	€ 48	€ 37	€ -21	€ 28	€ 2	€ 2	
		9.1	0.19	1.5	26.2%	25.7%	19.9%	-11.3%	14.7%	1.1%	1.1%	€ 145
		4.3	0.1	-2.3								
4th Lactation	17	-23			€ 55	€ 40	€ 33	€ -19	€ 24	€ 3	€ 1	
		11.3	0.20	1.2	31.7%	23%	18.7%	-10.8%	13.6%	1.6%	0.6%	€ 137
		5.1	0.1	-2.0								
5th Lactation (+)	84	-106			€ 21	€ 64	€ 26	€ -18	€ 27	€ 2	€ 2	
		4.7	0.15	1.8	13.3%	39.7%	16.2%	-11.4%	16.7%	1.2%	1.5%	€ 124
		0.4	0.07	-3.3								

2. Dairy Youngstock

2016 Calves	50	-37			€ 61	€ 67	€ 37	€ -21	€ 24	€ 2	€ 3	
Missing EBI*	1	9.9	0.19	2.1	28.3%	31.3%	17.1%	-9.6%	11.3%	1%	1.4%	€ 173
Total Calves	51	6.2	0.13	-3.3								

In the spring 2018 calving season, 92% of the 257 cows and heifers calved in the first 6 weeks and the calving interval was 368 days. Mean calving date this year was 18th February with half of the herd calved in 17 days. All calving was completed in 13 weeks. The empty rate at the end of 2017 was 6.7%.

Kevin operates a 12 day on, 2 day off work rota during calving season. This starts on a Monday with Kevin and the student working for 12 days. The relief help comes in on weekends to cover time off. For the first three weeks of the calving season, he had someone on the farm 24 hours a day and operated an every third or fourth night calving shift. For this service, Kevin pays a set nightly rate this is not based on hours worked. Night duties consist of feeding and tagging calves and moving newborns to calf houses. He keeps a reserve of colostrum ready for feeding during the night. Close up cows are moved into the straw bedded calving shed approximately 5 days before calving. This happens in the morning time to eliminate the need to move cows during the night. Every morning, freshly calved cows are moved into the colostrum group of cows and remain in that group until their milk is suitable for the bulk tank. The cows are run in two separate groups during the spring. Once cow's milk is sale, they join the "main group" which go to grass while the "colostrum group" remain

inside until their milk is suitable for sale. The colostrum group are milked once a day and are brought to the parlour every morning and milked after the main group.

Kevin runs two separate calf sheds, the H shed and the B shed. All heifer calves which are being kept as herd replacements enter the H shed. All other calves are put into the B shed. These are both bull calves and surplus heifer calves. A calf buyer comes to the farm at least once a week to buy all the bull calves so he doesn't need to take calves to the mart during this busy period. To reduce the risk of an outbreak of calf scour, nobody is allowed to enter the calf houses during the spring expect our farm staff and the calf buyer who is well disinfected beforehand.

This breeding season started at the end of March when the herd was body condition scored. Cows of BCS <2.75 and cows calving after April 1st are put on once a day milking and remain on OAD until after they are bred. Kevin continues monitoring condition score and in total 18 cows were milked OAD until they were bred. Two people work in the parlour during the first three weeks of the breeding season to keep tail paint topped up and to draft cows for AI. A technician is employed to AI the herd. For the second three weeks of the breeding season, Kevin introduces three vasectomised bulls to assist with detection. He heat checks the cows for twenty minutes, five times a day for the first six week of the breeding season. For the remaining 6 weeks of the breeding season, he rotates five stock bulls with the herd. Replacements were bred to the contract rearer's farm with synchronisation using one shot of PG on day 7 of the breeding season. After that they are run with stock bulls for 6 weeks. The 3-week submission rate was 93% for the cows this year. Over an 11 day period 80% of the maiden heifers were AI'd – in previous years this figure was over 90%.

Accommodation

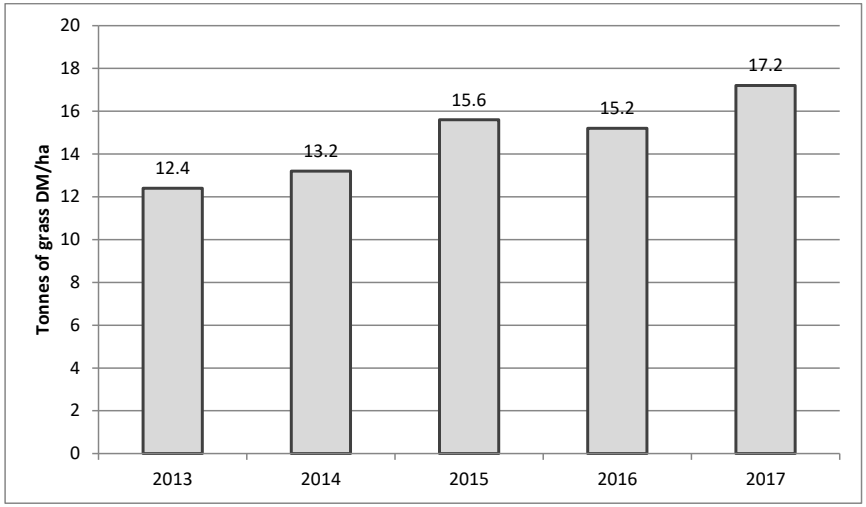
Accommodation on the Shinagh farm consists of 190 roofed cubicles in a converted slatted shed. The milking parlour, constructed in the winter of 2010/11 is a 20 unit 2'6" herringbone parlour located 400 metres from the cubicle shed. Calves are housed in straw bedded sheds. Returning in-calf heifers join the cows in the cubicle house. Kevin has sufficient slurry storage capacity for all cows and young stock wintered on the farm.

Grassland

Kevin has been measuring grass growth rates on the farm since the conversion took place. 90% of the farm is at index 3 for P&K and at optimum pH (6.0-6.3). The tonnage grown for the past 5 years is presented in Figure 6.

Grass measurement is carried out by the farm team. Whoever is working on the farm on the day (usually a Monday or Tuesday) goes on the walk. The walk allows everyone to get a better understanding of the grassland management plan for the week ahead - whether to supplement or remove grass surpluses. All fertiliser and slurry application, reseeding, spraying and silage making is contracted out.

Figure 6. Tonnes of grass grown (T DM/Ha) on Shinagh dairy farm (2013-2017).



Winter

Last year cows were housed full-time on November 20th. The empty cows were sold in late November prior to housing and the herd was fully dried off by December 10th. Kevin ran out of silage in 2013 and vowed never to do so again. This spring he had a small surplus when cows eventually went out to grass full-time on April 10th. Silage is bought standing each year. Normally the equivalent of approximately 20% of the herd's winter feed requirements are bought in. In 2017 two cuts of silage off 35 acres was purchased. This extra silage was bought to increase the reserve of silage on the farm. There was extra silage on Jan 1st 2018 than on Jan 1st 2017. We estimate that 300kg of silage dry matter per cow was purchased off farm and fed to the herd in 2017. As surpluses arise on the grazing area, they are also cut for bales. Last year 400 round bales were made and fed to supplement grass in the autumn and to milking cows in spring.

Physical performance

A summary of the whole farm physical performance on the farm in the 2013 to 2017 period is presented in Table 6.

Table 6. Physical performance of Shinagh dairy farm (2013-2017).

	2013	2014	2015	2016	2017	Change (2017-2013)
Land area						
Land leased (ha)	77.8	77.8	77.8	77.8	77.8	-
Livestock						
Dairy cows	218	215	222	225	232	+14
Replacement LU	11	1	7	0	16	+5
Cattle LU	-	1	2	2	2	+2
Stocking rate (LU/ha)	2.94	2.79	2.97	2.91	3.19	+0.25
Milk production						
Milk sales (000 litres)	961	950	1,107	1,042	1,058	+97
Milk solids (kg/cow)	374	381	425	399	397	+23
Fat (%)	4.28	4.64	4.44	4.48	4.54	+0..6
Protein (%)	3.64	3.73	3.73	3.76	3.79	+0.15
SCC ('000's)	109	155	135	125	138	+29
Grass production						
Grass used (T DM/ha)	10.5	10.8	12.4	12.3	13.6	+3.1

The data in Table 1 show the physical transformation of Shinagh dairy farm over the past 5 years. Small increases in milk production have taken place since year 1. This is because the herd was almost fully in place by 2013 with only a small increase in milk sales since then (+7%).

Whole farm net profit

In a similar way to the calculations presented for the Kelleher farm, the adjusted whole farm profit per hectare of the Shinagh dairy farm is presented in Table 7.

Table 7. Actual and adjusted whole farm financial performance of the Shinagh dairy farm for 2017.

	Actual	Adjusted for	Effect	Adjusted	Moorepark Target
Milk price (c/litre)	41.9	Base milk price	-5.4	36.5	
	€/ha		***€/ha***	***€/ha***	***€/ha***
Gross output	6,769	Base milk price	-734	6,035	6,531
Total variable costs	2,558			2,558	2,087
Total fixed costs	2,351			2,298	1,956
Net profit	**1,860**			**1,179**	**2,489**

- A base price of 30 c/litre – the effect in 2017 was to reduce the price of the Shinagh milk by 5.4 c/litre. This was the equivalent of reducing the milk sales component of the gross output by €734 per hectare farmed.
- Eighty six kg milk solids per cow less is sold than the Moorepark target. This resulted in a gross output that was €496/ha lower than the Moorepark target. Similar to the Moorepark model virtually all of the livestock on the farm are dairy cows (93% of the livestock are cows) with

PERSONAL DETAILS

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Home number _____

Mobile number _____

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BTE Herd/Flock Number _____

Please circle the appropriate information

Are you involved in Dairy Beef Sheep

Do you wish to receive

IGA Newsletters Yes / No

Annual IGA Journal Yes / No

Conference Details on Dairy Beef Sheep

Information updates via text Yes / No

Please fill out this membership and direct debit form completely. Please use the three point check on the back page before you submit your membership form to us.

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EFT ☐ CRM ☐

GFT ☐ DPD ☐

DAIRY SUMMER 2018 MEMBERSHIP DEAL

SEPA Direct Debit Mandate

Irish Grassland Association

SEPA Direct Debit Mandate

Unique Mandate Reference (UMR) – to be completed by the Irish Grassland Association

By signing this mandate form, you authorise (A) the Irish Grassland Association to send instructions to your bank to debit your account and (B) your bank to debit your account in accordance with the instructions from the Irish Grassland Association. As part of your rights, you are entitled to a refund from your bank under the terms and conditions of your agreement with your bank. A refund must be claimed within 8 weeks starting from the date on which your account was debited.

Please complete all the fields marked *.

Debtor Name / Your Name	*	
Debtor Address / Your Address	*	
Town	*	
City	*	
County	*	
Debtor account number – IBAN	*	
Debtor bank identifier code – BIC	*	
Creditor's name	*	IRISH GRASSLAND ASSOC.
Creditor identifier	*	IE50SDD305846
Creditor address	*	COOKSTOWN
Town	*	KELLS
County	*	CO. MEATH
Country	*	IRELAND
Type of payment	*	Recurrent payment ☑ or One-off payment ☐
Date of signature	*	
Please sign here	*	**Signature(s)**

Note: Your rights regarding the above mandate are explained in a statement that you can obtain from your bank.
Please send this mandate to the creditor (Irish Grassland Association, Cookstown, Kells, Co. Meath.)

Would you like to get

1 years FREE* membership to the IGA?

Your attendance today includes 1 years free* membership for all new d/d members! Forms must be posted back to our office by Friday 8th August 2018.

*This offer is available to all new direct debit memberships and is not in conjunction with any other IGA offer

Please fill out this membership and direct debit form carefully and completely. The Irish Grassland Association (IGA) is now SEPA compliant.

For this reason you may need to contact your local bank branch for assistance in locating some information for the direct debt form, e.g. debtor account number (IBAN) and debtor bank identifier code (BIC). Forms not fully completed cannot be accepted and your membership request will not be processed.

Please send fully completed signed form to
Irish Grassland Association, Kells, Co. Meath.
Email: secretary@irishgrassland.com

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Irish Grassland Association

heifers contract reared off farm. So on the Shinagh farm, lower milk solids sales per cow is the reason behind the lower gross output per hectare

- Variable costs were €471 /ha higher than the Moorepark target – rearing a high percentage of replacement heifers is adding to production costs on the farm but contributing to gross output through its contribution to livestock (in this case replacement heifer) sales from the farm.
- Fixed costs were €342/ha higher than the Moorepark target with €457/ha of the higher costs due to the cost of leasing the farm.

This resulted in an adjusted net profit of €1,179/ha for all land farmed. Using a similar methodology, the actual and adjusted net profit and cash surplus obtained per hectare farmed for the 5 years (2013-2017) is presented in Table 8.

Table 8. Actual and adjusted whole farm financial performance of Shinagh dairy farm for the 2013-2017 period.

	2013	2014	2015	2016	2017	Change (2017-2013)
Actual	**c/l**	**c/l**	**c/l**	**c/l**	**c/l**	
Co-op price	44.8	45.3	35.8	33.9	41.9	
	€/ha	**€/ha**	**€/ha**	**€/ha**	**€/ha**	
Gross output	6,287	6,538	6,112	4,485	6,769	
Variable costs	2,726	2,341	2,362	1,556	2,558	
Fixed costs	2,231	2,214	2,104	1,983	2,298	
Net profit	**1,330**	**1,973**	**1,646**	**946**	**1,913**	
Cash surplus	1,630	2,273	1,840	2,164	2,556	
Adjusted	**c/l**	**c/l**	**c/l**	**c/l**	**c/l**	**c/l**
Co-op price	35.4	36.5	35.8	36.1	36.5	+1.1
	€/ha	**€/ha**	**€/ha**	**€/ha**	**€/ha**	**€/ha**
Net profit	**168**	**904**	**1,648**	**1,241**	**1,179**	**+1,011**
Cash surplus	-25	711	1,848	1,972	1,335	+1,360

While actual net profitability fluctuates between years, when adjusted to a constant base milk price of 30 c/litre the impact of improvements in milk composition on the farm on milk price resulted in a 1.1 c/litre (3%) increase in the value of milk sold. Furthermore the impact of intensification and specialisation on whole farm net profitability has resulted in an increase of over €1,300 per hectare farmed in profitability over the five year period.

Return on Asset (ROA)

The ROA is likely to be higher on a fully leased farm such as the Shinagh dairy farm compared to a wholly owned farm like the Kellehers' farm. This is because of the greater investment required in land on an owned land farm compared to a leased farm. The effect of this is presented in Table 9. At Shinagh dairy farm, a total of €820,000 was invested in livestock and the construction of the new milking parlour and grazing infrastructure (roads, water and paddocks).

Table 9. Calculation of ROA for the Shinagh farm for 2017.

Net profit /ha	€1,179
	X
Hectares farmed	77.8
Farm net profit	€91,726
	+
Interest	€7,772
	+
Single Farm Payment	
Farm net profit + Interest+ SFP	**€99,498**
	÷
Total assets	€820,000
Return on Asset	12.1%

This analysis shows that the return on asset generated by Shinagh dairy farm in 2017 was 12.1%. Using a similar methodology, the ROA for the farm for the 5 years (2013-2017) is presented in Table 10.

Table 10. Return on asset for Shinagh dairy farm over the 2013-2017 period.

	2013	2014	2015	2016	2017	Change (2017-2013)
Return on asset	3.4%	10.02%	17.0%	12.8%	12.1%	+8.7%

The data in Table 10 indicate that as the herd at Shinagh dairy farm has matured, the ROA has increased. A sensitivity analysis of the impact of milk price, land lease cost and other costs of production on the ROA in 2017 are detailed in Table 11.

Table 11. Impact of changes in land lease cost, milk price or investment cost on return on asset at Shinagh dairy farm.

Factor	Total effect	ROA Change
Higher land lease cost (+ €100/ha)	- €7,780	- 0.9%
Lower milk price (– 1c/litre)	- €10,584	- 1.3%
Higher investment cost (+ €1,000/cow)	+ €200,000	- 2.4%

What the data in Table 11 show is that increased cost of production (in Table 11 through higher land lease charge); a reduction in milk price; and, higher investment costs all impact on ROA to a greater or lesser extent.

Appendix 1. Calculating adjusted net profit and return on assets.

	Total	Per hectare farmed	Moorepark targets
Hectares farmed			
Gross output			€6,531/ha
Total costs (variable, fixed & own labour)			€4,043/ha
Net profit (Gr. Output –Tot. Costs)			€2,489/ha
Cash flow (Cash sales – cash costs)			€2,740/ha
Return on asset (+SFP)			8%

Notes to help calculate the adjusted net profit and ROA.

Hectares farmed All hectares farmed are included here – not just grass area but all other crops are included

Gross output Milk sales should be adjusted to a 30c/litre milk price. Use the ICBF Co-op report to find your litres sold, composition and fat and protein %.

Worked example

	Annual average	Base content	Difference	Value per 0.1%	(c/litre)
				Base price	30
Fat (%)	***4.2%***	3.6%	***+0.6%***	3.0 c/l	***+1.8***
Protein (%)	***3.6%***	3.3%	***+0.3%***	7.0 c/l	***+2.1***
				Milk price	***33.9***

Where the milk price is higher than the annual price add on the difference in milk sales. Where the milk price calculated is lower than the annual price subtract the difference in milk sales value. So for example above if the actual price received was 35.9 c/litre, the adjusted price is 2 c/litre higher. For a farm selling 500,000 litres of milk the gross output is reduced by €10,000.

Total costs Total variable costs + Total Fixed costs + own labour. Calculate own labour by multiplying own (unpaid) annual labour by €15/hour. Totalling the three costs together and dividing by the number of hectares farmed gives the total cost per hectare

Net profit Gross output less total costs. Divide by the number of hectares farmed to obtain the net profit per hectare.

Return on asset To calculate the return on asset, calculate the value of all assets employed in the business i.e. all land, buildings, machinery etc. plus the value of the stock employed. Then add back the interest paid (overdraft, merchant credit and long term loans) to the net profit. Also add in all premia and area based payments. Divide this figure by the value of the assets employed to calculate the return on assets.

2018 – Exceptionally challenging but signs of improvement

Tadgh Buckley, Head of Agri Sector, AIB

More mouths to feed, for a longer period than expected means more expense. In this article Tadhg Buckley, Head of Agri Sector, AIB examines the financial impact of Spring/Summer 2018 and offers words of advice to those experiencing / anticipating cash flow pressure as a result.

There are certain years that remain in farmers' memory long after they pass, and although we are little over halfway through, there is little doubt that 2018 is a year that will not be easily forgotten by those involved in farming.

2018 has been exceptional from a weather perspective, with the current persisting weather conditions resulting in additional costs, stress, workload and a reduction in already low winter fodder reserves as many farmers reopen recently replenished silage stocks to compensate for limited grass growth (back by over 1.2t/ha at the beginning of July on the previous year). What is unique about this year is that all farms have been affected - farmers on heavier land more so in the spring and farmers on drier type soils more so in recent weeks.

From a financial perspective, the sector came into 2018 in a relatively strong position, which has helped, at least to some extent, buffer some of the higher costs incurred. To date we have not seen a substantial increase for working capital support and see no material pressure on farm current accounts. However, we understand that averages can conceal a lot, and that there are, and will be, individual farm cashflow challenges as merchant credit, tax liabilities and outstanding bills fall due later in the year.

We are encouraging our farming customers to determine how the additional costs incurred are likely to affect their individual farm systems, be that poorer yields/output, reduced thrive and/or higher feed costs. I've included below an example and some key considerations to bear in mind when quantifying your potential working capital need:

1. Identify the additional costs incurred/potential production losses in 2018 (see example below)
2. Establish your current cash position
3. Identify the level of Creditors/Merchant credit outstanding and the interest being charged
4. Estimate the potential impact on 2018 sales
5. Collate the above and establish if Bank support is required.

This calculation can also help your cashflow planning for 2018 and onwards. There is a useful cashflow planner and Winter Fodder planner on www.aib.ie/farming which may be useful and of interest. If you are not familiar with these tools, I suggest utilising your Accountant/ Agricultural Adviser for assistance.

Example: 100 cow Spring calving herd (replacements contract reared).

Cows usually out to grass by day from early February (mean turnout date 15th Feb) but this year they largely remained housed until 16th March. The farmer only had silage stocks sufficient to 28th Feb, which meant he purchased 40 bales silage (average quality) at €30/bale. Poor grass growth in late March/early April resulted in feeding an extra 8t of meal (€300/t). Combined, the total cost for extra inputs came to €3,600 (i.e. 40 bales x €30) + (8 tonne x €300).

Total silage demand for the winter period is 600 tonne (800 bales). First cut silage delivered 450 bales but limited grass growth resulted in the farmer feeding all their ground earmarked for second-cut silage. In addition, the farmer fed an additional 12 tonne of meal in June/July as a result of the collapse in grass growth. Combined with this, milk production per cow is now expected to be 5% lower than budgeted at the start of 2018 and there was an increase labour requirement on the farm due to the difficult conditions during the Spring.

Therefore the estimated combined cost of the weather is as follows

* Additional costs incurred during Spring 2018	€3,600	
* Additional meal in June/July period	€3,300	(12 tonne x €275)
* Additional silage purchase for winter '17/'18	€10,500	(350 bales x €30/bale)
* Additional farm labour cost	€1,800	
* Impact of reduced milk production	€9,350	(100 cows x 275 litres x 34 c/l [solids-adjusted])

Combined, the expected impact of 2018 relative to initial farm budget is c. €28,550. This will have to be funded either by farm cash reserves and/or bank finance

AIB has a range of options to support our farming customers which are subject to normal lending conditions, including:

- 48 hour decision on business loans and overdrafts up to €60,000 for AIB customers;
- AIB Farmer Credit Line; and,
- Extended contact hours for farmers via a dedicated phone line, 1890 47 88 33, which is available Monday to Friday 8am to 9pm and Saturdays from 9am to 6pm.

In AIB we have a long tradition of supporting farmers through periods of income volatility. Whilst it is not possible to predict all externalities including weather, financial planning will help to mitigate against periods of income pressure. We are encouraging our customers who may need support to contact us early. We will work with farmers on a case by case basis to find the most appropriate and cost effective solution for their farm.

Lending criteria, terms and conditions apply. Allied Irish Banks, p.l.c. is regulated by the Central Bank of Ireland. We aim to provide a decision within 48 hours, for a minimum of 85% of applications from AIB customers on business loans and overdrafts, upon receipt of all required information. 48 hours excludes Saturdays, Sundays and Bank Holidays. If you have previously been through a restructure, please talk to us in more detail so we can advise the best solution for you.

Notes

Notes

KELLEHER BOARDS

Achieving a profit of >€2,000/ha

Farm details

- Total area farmed – 58.1ha
- Milking platform – 41.7ha
- Stocking rate – 2.9 LU/ha (3.6 cows/ha MP)
- Dairy Cows - 147
- 1-2 YO Replacement heifers - 41
- 0–1 YO Replacement heifers - 27
- Facilities
  - 20 unit parlour built in 2018
  - 165 cubicles built in 2006-15
- Labour – Conor & part-time help

Farming system

- Grass-based milk production
- Increasing output & maintaining cost base
- Simple system

CK1

Cow genetics & performance

Herd ICBF EBI Report

Fertility performance 17/18

Calving interval: 367 days

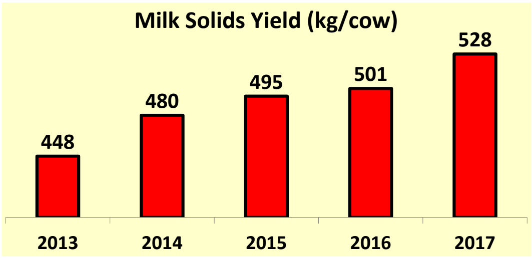
6-week calving rate: 87%

Empty rate: 8%

Calving season: 10 wks 3 days

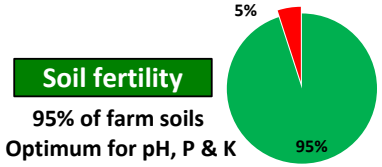
Current performance

Milk yield (l/cow) -	Supplementation
Fat (%) -	Meal (kg) -
Protein (%) -	
Milk solids (kg) -	Silage (kg DM) -



CK2

Grassland performance



Soil fertility

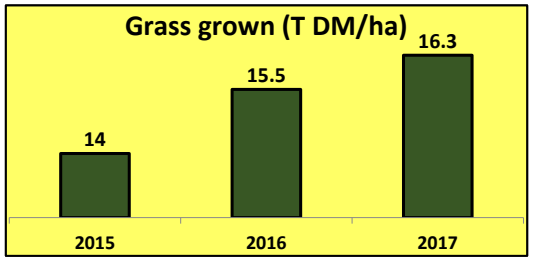
95% of farm soils
Optimum for pH, P & K

		2017
Stocking rate (MP)		2.9 (3.4)
Milk solids	Kg/ha	1,293
	Kg/cow	528
	Kg/farm	75,000
Meal + Forage (kg/cow)		832 + 33

CK3

Current performance

Pre-grazing HM (kg DM/ha) -
Farm cover/cow (kg DM) -
Farm cover/ha (kg DM) -
Rotation length (days) -



Net Profit per hectare farmed *(adj. base 30 c/l)*

	€ ,000
Farm gross output	380
Adjust milk sales (30 c/l base price = 36.1c/l)	-30
Adj. gross output	350
Less costs (Incl. €60k own labour)	-227
Farm net margin	123
	€ /ha
Farm net margin/ha (Divide by 58.1 ha farmed)	2,113

CK4

Core principles

- The right cow
- The right feed
- Financial focus
- Tipping point

Net Profit per hectare farmed *(adj. base 30 c/l)*

	Kelleher	Target
Stocking rate (LU/ha)	2.9	2.9
% Cows	82	100
Milk solids (kg/cow)	528	475
Milk solids (kg/ha farmed)	1,244	1,380
Meal fed (kg/cow)	832 + 33	450
Grass used (T DM/ha)	14.2	13.1

CK5

	Kelleher	Target
	€/ha	€/ha
Gross output	6,027	6,531
Total costs	3,913	4,043
Farm net margin	2,113	2,489
	%	%
Return on Asset	6.9	8.0

Conor Kelleher

Background to Shinagh Farm

Shinagh Estates Limited

Objectives:

- Demonstrate that a grass based dairy farm can remunerate all resources employed
- Operate a resilient system that can cope with milk price and weather volatility
- Produce milk through operation of best practice with people, animals, and the environment

CARBERY Bandon co-op Barryroe Co-operative Limited Drinagh LISAVAIRD co-op teagasc

KA1

Achieving a 16% return on assets

Shinagh Dairy Farm Investment	
Grass, Water, Roads	€121,000
Parlour	€238,000
Housing, Machinery	€160,000
Stock	€301,000
Land Purchase	€0
Total	€820,000

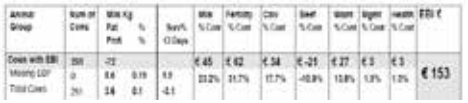
KA2

Farm details

- Total area farmed – 77.8ha
- Milking platform – 77.8ha
- Stocking rate - 3.2 LU/ha
- Dairy Cows - 244
- 1 – 2 year olds – 55 – *off farm*
- 0 – 1 years - 112 – (55 *off farm)*
- Facilities
  - 20 unit parlour built in 2011
  - 190 cubicles built in 2010/11
- Labour – Kevin & part-time help

Cow genetics & performance

Herd ICBF EBI Report



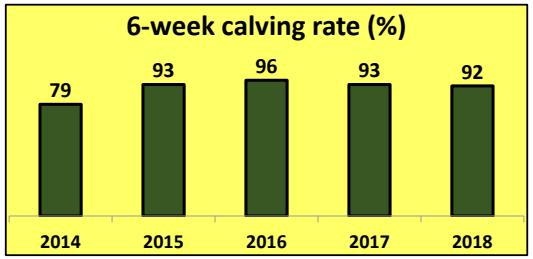
Current milk

Milk yield (l/cow) -	Supplementation
Fat (%) -	Meal (kg) -
Protein (%) -	Silage (kg DM) -
Milk solids (kg) -	

Fertility performance 17/18

- Calving interval: 370 days
- 6-week calving rate: 92%
- Empty rate: 6.7%
- Calving season: 13 weeks

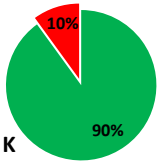
KA3



Grassland performance

Soil fertility

90% of farm soils
Optimum for pH, P & K

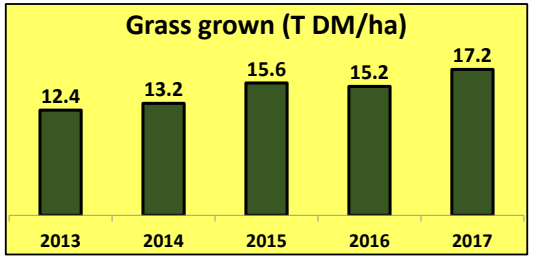


Current grass

- Pre-grazing HM (kg DM/ha) -
- Farm cover/cow (kg DM) -
- Farm cover/ha (kg DM) -
- Rotation length (days) -

		2017
Stocking rate (MP)		3.2 (2.9)
Milk solids	Kg/ha farmed	1,183
	Kg/cow	397
	Kg/farm	92,000
Meal + Forage (kg/cow)		300 + 300

KA4



Net Profit per hectare farmed (adj. base 30 c/l)

	Shinagh	Target
Stocking rate (LU/ha)	3.1	2.9
% Cows	94	100
Milk solids (kg/cow)	397	475
Milk solids (kg/ha)	1,183	1,380
Meal fed (kg/cow)	300+300	450
Grass used (T DM/ha)	14.2	13.1

KA5

	Shinagh	Target
	€/ha	€/ha
Gross output	6,035	6,531
Total costs	4,856	4,043
Farm net margin	1,179	2,489
Cash flow	1,335	2,740
	%	%
Return on Asset	12.1	8.0

Profitability & investment (adj. base 30 c/l)

Net profit/ha	€1,179
Ha farmed	77.8
Whole farm net profit	€91,726
+ Interest	€7,772
Return	€99,498
Total invested	€820,000
Return on asset	12.1%

KA6

Sensitivity analysis

		Total	ROA
Land lease cost incr.	+ €100/ha	+ €7,780	- 0.9%
Milk price decrease	- 1c/litre	- €10,584	- 1.3%
Higher investment cost	+ €1,000/cow	+ €200,000	- 2.4%

Lunch Ticket

Breakfast Ticket

Breakfast Ticket

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