

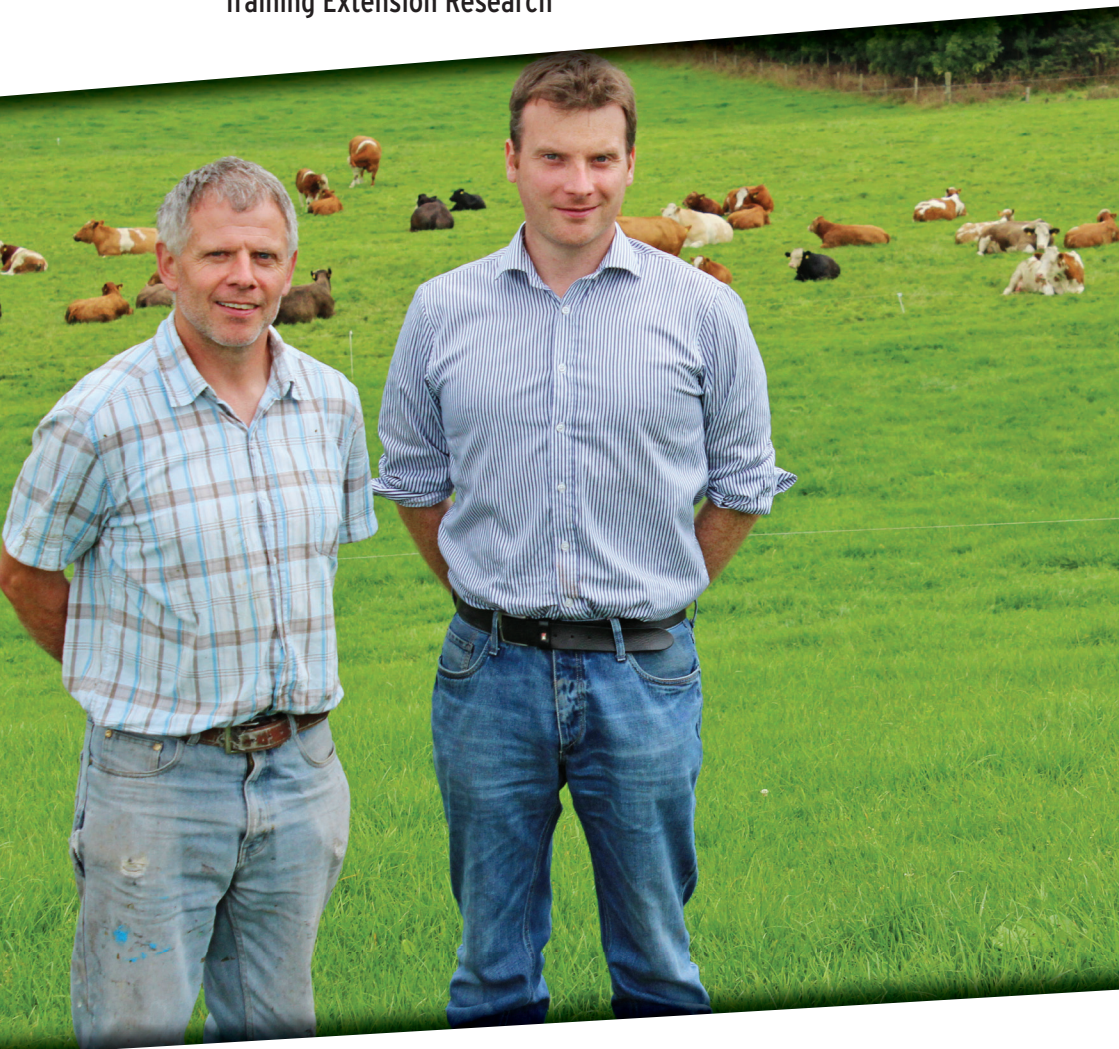


Business, Environment Technology through  
Training Extension Research

## PHASE 2 - FARM WALK

11 September 2014

Ger Dineen,  
Kilnamartyra,  
Macroom,  
Co Cork



A Teagasc/Irish Farmers Journal initiative, supported by industry sponsors





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➤ Welcome note/system targets .....	3
➤ Farm overview .....	4
➤ Farm layout .....	5
➤ Profit Monitor .....	6
➤ Grassland management .....	8
➤ Autumn grazing.....	9
➤ Soil fertility .....	10
➤ Bull finishing .....	12
➤ Animal performance.....	13
➤ Breeding .....	14
➤ Farm safety A-Z .....	16

The Teagasc/Irish Farmers Journal BETTER Farm Phase 2 management team (clockwise, from top left): Adam Woods, Paul Crosson and Paul Maher, Teagasc, Darren Carty and Kieran Mailey, Irish Farmers Journal, and programme advisers Catherine Egan, Peter Lawrence and Alan Dillon.

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Edited by: Darren Carty. Copy supplied by: Alan Dillon, David Trent and Paul Crosson - Teagasc.

Production/artwork: Brian Murphy. Printer: Johnswood Press ([info@johnswoodpress.ie](mailto:info@johnswoodpress.ie))

## Welcome note

I would like to welcome everyone to Knockroe, Kilnamartrya, and I hope you find your visit to my farm informative. I am hopefully moving my farm towards making a significant net profit, along with all of my single farm payment and premia. I have had a demanding schedule over the course of the programme, but it has brought benefits in terms of a more organised workload and financial reward from production. I would like to thank the Teagasc team of Adam Woods, Alan Dillon and Michael Bourke for their involvement in the programme. I also wish to acknowledge the support over the years of my wife Gohnait and the continued help of my children Muireann, Ciara, Daniel and Ciaran, who have always lent a hand when required.

**GER DINEEN**

On behalf of the management team of the Teagasc/*Irish Farmers Journal* BETTER farm beef programme, I would like to welcome you to today's event. Teagasc and the *Irish Farmers Journal* have worked closely together over the last five years to make the programme a success. This would not have been possible without the commitment and drive of the participants.

Ger has been very open to new ideas and advice and we commend him for this and the improvements he has already put in place. With his management ability and commitment, we have no doubt that he will continue to push his business forward and we look forward to helping him achieve his potential.

**ADAM WOODS, PROGRAMME MANAGER**

### PHYSICAL SYSTEM

Measure	Current 2011	Target 2016
	Suckler to finish/store	Suckler to finish/store
Stocking rate (LU/ha)	1.71	2.2
Land base (adj ha)	31.2	31.2

### PURCHASES

Purchases	0	0
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### LIVEWEIGHT OUTPUT

Liveweight output (kg/ha)	729	1,000
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### FINANCIAL SYSTEM

Output value (€/ha)	1,396	2,200
Variable costs (% of output)	€844 (60%)	€1,200 (55%)
Gross margin (€/ha)	552	1,000

## Farming system

**G**er Dineen runs a 50-cow suckler herd on 32ha (adjusted) near the village of Kilnamartyra, Co Cork.

Ger has four children – Muireann (20), Ciara (19), Daniel (17) and Ciaran (15) – and is married to Gobnait.

Prior to joining the BETTER farm programme in 2012, Ger was operating a spring-calving 35-cow herd with the majority of cows calving from late January to late March.

Progeny were sold as under-16 month bulls and surplus replacement heifers at 13 months of age. Ger has continued with this system and has now increased to 50 cows.

The target on the farm is to move to 55 spring calving cows by 2016. Ger works closely with his BETTER farm adviser Alan Dillon and local B&T adviser Michael Bourke.

Since joining the BETTER farm programme, the emphasis has been on increasing herd output at lower cost, while constantly striving to improve the genetics of the herd.

The 50-cow herd calves inside eight weeks with 100% AI used on all cows and heifers.

All calves are bred with excellent conformation and growth rates. Bulls have averaged 1.45kg/day from birth up to weaning, while heifers averaged 1.31kg/day from a grass-only diet. Meal is not fed until after weaning.

Cow type is predominantly Simmental/Limousin cross served



with maternal AI sires to keep milk in the herd.

Some Salers bulls have been used on heifers in 2013 in a bid to increase the benefits of hybrid vigour by bringing a third breed into the herd. Some highly maternal Angus bulls have been used on heifers in 2014.

Soil type is mixed, with around 80% of land surrounding the farmyard being free-draining and south-facing. The remainder of the home farm and the outfarm consists of heavier, peaty ground.

All land has been reseeded in the last 15 years and Ger has started to reseed some of the older paddocks again.

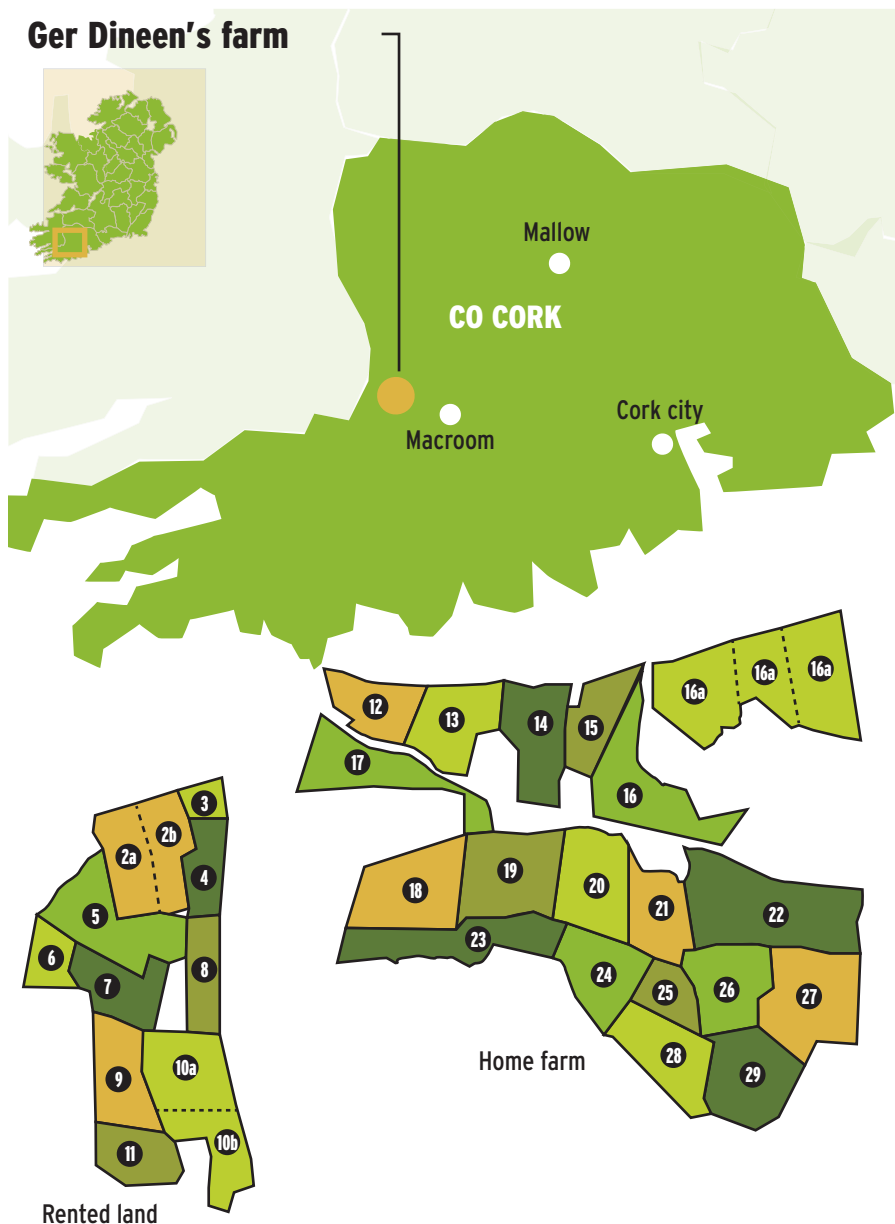
Soil fertility has been addressed by spreading more P and K type compounds.

Re seeding and paddock grazing, along with weekly grass measuring, form the cornerstone of Ger's efforts to increase output on his farm.

Extra water troughs have been installed to allow paddocks to be further divided into one-day grazing blocks for each group of stock.



# Ger Dineen's farm



# Controlling costs while increasing output

**T**he use of accurate information in terms of financial and physical data are crucial, not only in highlighting the strengths and weaknesses of a farming system, but in laying down targets and keeping a focus.

The profit monitor is a valuable tool, allowing farmers to examine how the farm is performing and measure physical and financial performance under a number of key headings such as:

- Gross output/ha
- Gross margin/ha
- Variable costs/ha
- Stocking rate
- kg liveweight/ha

Ger has been completing profit monitors since 2011. This gives him a better overall picture of how his farm is performing, rather than focussing on one year where individual circumstances may give a distorted picture, for



example increased production costs in 2012. It will also allow Ger to identify areas of weakness that need improvement.

Insufficient output is one of the main reasons for poor profitability on suckler farms. If gross margin is to be improved, the level of output needs to be addressed.

Output can be targeted in terms of kilogrammes of liveweight produced per livestock unit or on a per hectare basis.

Cattle performance and breeding performance on the farm are excellent, so increasing stocking rate will result in higher output from a lower-cost, grass-based system and be the key driver in

**Table 1: Profit monitor yearly comparison**

Year	Area farmed (ha)	Stocking rate LU/ha	Lwt output kg/ha	Value of output €/ha	
2013	31.2	2.2	874	1748	
2012	31.2	1.93	703	1549	
2011	31.2	1.71	729	1396	



profitability on Ger's farm. Since joining the programme, the farm's stocking rate has increased by 30%.

As the part of the farm land is heavy in nature, the cost of production may increase in a difficult year, weather-wise. Prolonged winters can delay turnout and increase costs through extra meal and silage feeding.

This was evident in 2013, when the late spring led to increased meal bills and fodder being purchased.

This meant gross margin remained relatively static in 2013 at €555/ha, compared with €552/ha gross margin in 2011.

However, as Ger is building cow numbers and holding onto extra stock that would have otherwise been sold, the herd output is being diluted by reduced sales in the short-term.

As a result of the increased grazing demand from the higher stocking rate, there has been an increase in variable costs. Part of the additional cost comes from greater use of compound fertilizer, rather than CAN, to improve soil fertility.

While variable costs were high on the farm in 2013 compared with output, they have remained at the same level in 2014 but output has risen substantially.

	Feed	Fert/lime	Vet	Contractor	AI	Other	Gross margin
	479	262	108	203	55	87	555
	369	202	110	170	38	92	567
	296	181	73	167	36	91	552



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# Maximising growth rates and reducing costs

**T**hroughout the BETTER farm programme, emphasis has been placed on prolonging the grazing season, reducing feed costs and increasing animal performance as a means of increasing output and profitability.

Proper subdivision of grazing land is essential to be able to successfully manage pasture and achieve desirable rotation intervals.

Since joining the programme, one of Ger's first tasks was to increase the number of paddocks on the farm. This also meant installing extra drinking troughs to allow for more flexibility in grassland management.

Ger is able to subdivide paddocks into four smaller areas due to good placement of water troughs. Ger now has a potential 34 paddocks on the farm between two groups of stock, which means he has up to 11 paddocks per grazing group when silage ground is back in the rotation. Paddocks range from 0.5ha to 1ha in size.

The aim is to graze out paddocks in three days and allow 18 to 21 days for re-growth. By measuring grass growth weekly, Ger can establish his number of grazing days ahead.

A decision can be made to take out surplus grass as baled silage or spread extra fertilizer if he can



identify a potential deficit.

Grass budgeting using the grass wedge is key to maintaining highly digestible grass swards at all stages during the grazing season to optimise animal performance. Ger aims to increase the utilisation of grass by maintaining pre-grazing heights of around 10cm (1,600kg to 1,700kg DM/ha) and graze paddocks down to 4cm.

Getting cattle out to grass early in the spring prolongs the grazing season and reduces the expensive indoor winter period. This is achieved by having drier fields closed early in autumn to have grass available in spring.

Ger is also very flexible with his grazing management and has practised on-off grazing with cows and calves during difficult weather periods.

Paddocks have produced an average of 10.4t DM/ha to mid-August, which is well ahead of the national average of 7t DM/ha.



**Table 1: Area available for grazing each day this autumn**

	60%	40%
Date	Date 60% is grazed 10 Nov	Date cows are full-time housed 10 Dec
Number of days	From start to 60% date 30 days	From 40% date to housing date 30 days
Hectares to be grazed	19.2 (0.6 x total area)	12.8 (0.4 x total area)
Hectares per day	0.64ha (c ÷ a)	0.42ha (d ÷ b)

**Table 2: Autumn grazing planner with weekly targets\***

Week	Grazing area		Actual area grazed per week
	per day (ha)	per week (ha)	
10 Oct	0.64	4.48	
17 Oct	0.64	4.48	
24 Oct	0.64	4.48	
31 Oct	0.64	4.48	
7 Nov	0.64	4.48	
14 Nov	0.42	2.94	
21 Nov	0.42	2.94	
28 Nov	0.42	2.94	
Total		31.22Ha	

\*from Table 1

**TOP TIPS FOR AUTUMN GRAZING**

- ➔ On dry farms, start closing paddocks from 10 October.
- ➔ On heavy farms, start closing paddocks from 1 October
- ➔ Aim to have 60% grazed 4 weeks later.
- ➔ Target best quality swards for priority stock.
- ➔ Aim for average cover of 7cm to 8cm in late September.
- ➔ Increase rotation length from 30 days in early September to 40 days by October.
- ➔ Graze driest paddocks first near the sheds and do not re-graze after closing.

## Autumn grassland management

**P**lanning for autumn grass starts in late July. Nitrogen is spread across all paddocks at a rate of 27 to 30 units per acre in early August to build grass for the autumn period. Ger aims to have 30 days of grass ahead of stock by early September.

The autumn rotation planner can plan out how much grass is needed for grazing each week in the autumn. On Ger's farm, the aim is to begin closing paddocks by around 10 October and have 60% closed by 10 November. This means Ger will have to graze around 15% of his land per week once he begins closing up. The remaining 40% of ground will be closed up by early December.



# Foundation for good grass growth

**T**he maintenance and improvement of soil fertility are important tasks to maximise grass growth.

On good mineral soils, a soil pH of 6.3 and soil phosphorus (P) and potassium (K) at index 3 are required.

Ger soil-tested his farm in January 2013. Approximately 87% of the farm tested for optimal pH. Soil pH on the farm ranges from 6.11 to 6.69. Table 1 outlines the range of soil pH on the farm.

The pH status of the soil has a significant influence on the availability and uptake of both soil nutrients in the form of either artificial fertilizers or organic manures by the plant.

Grassland soils maintained at pH 6.3 to 6.5 will release approximately 60kg/ha to 80kg/ha more nitrogen per year than soils with pH 5.0.

This represents a potential cost saving of €60/ha to €80/ha.

Phosphorus is important for crop establishment and root development. It also plays an important role in the nutrition of livestock.

Soils at index 1 for phosphorus will produce approximately 1.5t/



ha less grass dry matter, compared with soils at index 3.

As can be seen from Figure 1, 87% of the farm is index 1 and 13% is categorised as index 2 for P.

This area has been addressed in the last two years by applying straight phosphate along with compounds to raise soil P levels.

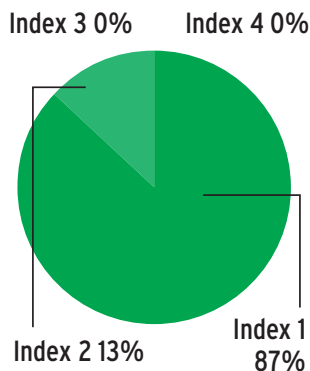
Potassium increases stem strength, improves drought resistance and cold tolerance. More importantly, it increases yield.

Ger targets slurry to fields that are low in both P and K and uses compounds such as 10:10:20 and 18:6:12.



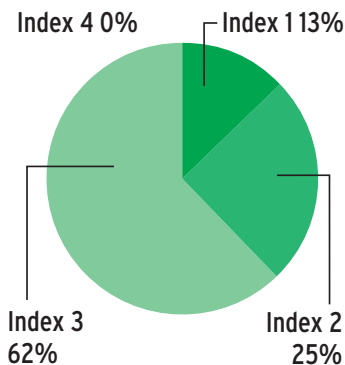
## Figure 1

P index of farm



## Figure 2

K index of farm



**Table 2: N, P & K recommendations for a beef farm stocked at 2LU/ha on index 1 and 3 soil**

INDEX 3	N	P	K
Kg/ha	201	8	15
Units/acre	163	6	12

**Example products:** 5.5 bags/acre CAN; 1 bag/acre 18:6:12

INDEX 1	N	P	K
Kg/ha	201	28	75
Units/acre	163	23	60

**Example products:** 2 bags/acre CAN; 3 bags/acre 18:6:12; 2 bags/acre 24:2.5:10

**Table 1: Soil pH range on farm 2014**

Soil pH range	% of the farm within range
<5.5	0%
5.5-5.9	0%
5.9-6.2	13%
6.2-6.5	50%
>6.5	37%

## Performance of finishing bulls

**F**or the past five years, bulls have been finished under 16 months of age. Last year, 22 bulls were finished under 16 months with the first 12 animals slaughtered at 13.8 months. They averaged 733kg live-weight, or a 413kg carcass, with all bulls hitting E or U grades. They averaged €1,757 per head.

The final 10 bulls finished at 14.8 months of age and averaged 404kg carcass weight, either U= or U+ grade, and an average €1,711/head. All stock were paid on the QPS grid and achieved the quality assurance scheme bonus.

The higher margins from finishing the bulls are basically down to high growth rates from grass and milk from the cows.

Bull calves gained 1.45kg/day up to weaning with no meal fed. This level of weight gain contin-

“

The higher margins from finishing the bulls are basically down to high growth rates from grass and milk from the cows

**Table 2: Grades of under 16-month finished bulls**

Grade	E	U+	U=
No. of bulls	2	13	7
Percentage of total	9%	59%	32%

ued post-weaning on grass, plus 3kg of ration, until housing.

On ad-lib ration during the finishing period, bulls gained up to 2.5kg/day with an average daily gain across the group of 1.87kg/day from housing on 18 November until the beginning of April, when the first group were slaughtered.

All cows are bred to top maternal five-star bulls, which show excellent growth rates and keep milk in the herd. The first group of bulls slaughtered consumed 1.22t with the second group consuming 1.6t.

**Table 1: Analysis of finishing costs for bulls finished in 2014**

Age at slaughter (months)	13.8	14.8
No. of bulls	12	10
Date of slaughter	08/04/14	26/05/14
Ration consumed (@€260/t)	€317 (1.22t)	€416 (1.6t)
Grass cost post-weaning (€)	15	15
Forage consumed (€/head)	57	70
Vet/medicines (€/head)	25	25
Price/kg (€)	4.24	4.24
Average carcass weight (kg)	413	404
Sale value (€)	1,734	1,711
Average animal value at weaning (350kg @ €2.30/kg)	805	805
Margin over selling as weanling (excl levies) @€2.30/kg	515	380



**Table 1: Performance of 2014 spring-born bulls and heifers**

	<b>Bulls</b>	<b>Heifers</b>
Average D.O.B.	Feb/March 2014	Feb/March 2014
Weight (kg)	313	309
ADG from birth (kg/day)	1.45	1.39

**Table 2: Performance of 2013 spring-born bulls and heifers**

<b>Weigh date</b>	<b>Avg weight (kg)</b>	<b>ADG from birth (kg/day)</b>	<b>ADG from last weighing (kg/day)</b>
<b>Bulls</b>			
22/07/13	240	1.31	
19/09/13	347	1.45	1.81
18/11/13	430	1.44	1.38
07/01/14	517	1.49	1.74
03/03/14	614	1.53	1.76
04/04/14	681	1.56	1.97
<b>Heifers</b>			
22/07/13	233	1.22	
19/09/13	323	1.31	1.53
07/01/14	420	1.16	0.8

# Top animal performance

The high levels of liveweight gain are achieved by:

**1** Good herd health and stock management, as the calves have fewer setbacks from birth to selling time.

**2** Breeding cows with good maternal traits that are able to produce heavy weanlings. As milk is the driver of calf weaning weight, Ger is very conscious of maintaining milky cows within his herd.

**3** Using animals with good genetic merit and growth rate traits.

**4** Cross-breeding has been shown to increase growth rates when two to three different breeds are used.

**5** Good grassland management to provide highly digestible grass to cows and calves at all times during the year.

**6** Turning calved cows out to grass from late-February in order to prolong the grazing season and creep-grazing calves around the shed during the winter period when ground conditions allow to increase thrive at lower cost.



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# Breeding using 100% AI

**G**er has used 100% artificial insemination (AI) on his herd for the past 15 years and focused on top maternal sires to ensure milk and fertility are retained in the herd.

The vast majority of cows are bred to Simmental and Limousin sires. In recent years, Ger has experimented with Salers and Angus on heifers and late-calving cows.

The herd is completely closed, as replacements are bred from the top cows.

The herd calved in less than eight weeks in 2014, with the aim to reduce this further in 2015, to reduce workload.

Using 100% AI in a spring-calving suckler herd is not commonplace in Ireland, but Ger has engineered a system that allows him to round up, detect and inseminate cows easily.

## TOP TIPS FOR USING SPRING AI

➤ Separate cows and calves during the breeding season. Breaking the cow/calf bond will help cows return to heat quicker. Ger has devised a system whereby cows and calves are separated with calves only allowed to suck cows for a short period morning and evening. At both these times, cows showing signs of heat are rounded up and brought into the yard for AI.

➤ Have cows in good body condition. Cows must be on a rising plane of nutrition to promote a positive energy balance by getting cows turned out to grass as soon as possible after calving. Supplement with ration and/or top-quality silage when poor ground conditions prevent grazing.

➤ Using heat detection aids, such as scratch cards or tail painting, can help determine which cows are in heat. A vasectomised bull may also be an option.

➤ Breed replacements from the most fertile cows. Fertility is hereditary and using heifers from late calvers or poor breeders will lead to lower herd fertility.

➤ Check cows regularly. Cows may show very short periods of heat and require observing four to five times daily.

➤ Good herd health is essential. Having an up-to-date vaccination policy is crucial to ensure no upsets to fertility levels of the herd.

➤ Have an adequate supply of replacement heifers annually. Replacements heifers are the lifeblood of any herd and cutting back on the number retained will lead to a tendency to keep late-calving or problem cows to maintain herd size.

➤ Use AI bulls suited to your cows. Bulls with extremely hard calving traits will delay cows coming back into heat, which prolongs the breeding and calving period.


**Table 1: Three-year calving performance statistics**

	2011-2012	2012-2013	2013-2014	Current national averages
Total no. of calvings	43	48	49	
No. of cows	29	41	36	
No. of heifers	14	9	13	
Calving interval (days)	375	369	374	395
Mortality at birth %	4.7%	4.2%	0%	4.7
Mortality at 28 days %	4.7%	4.2%	0%	6.1
Females not calved in period %	0%	0%	0%	10
Calves per cow per year	0.93	0.96	1.02	0.83
Births with known sire %	100	100	100	61
Births with difficult calving %		6.4%	9.8%	3.9



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# A to Z of FARM SAFETY



**A**

**Always** consider **SAFETY** on the farm.

**B**

**BULLS:** Beware of aggressive animals on your farm. Be sure to cull cross bulls, cows, rams, stags from your farm.

**C**

**CHILDREN:** Always supervise children on the farm, especially during machinery operations.

**D**

**DRAWBARS:** Never let anyone ride on the drawbar of your tractor or any other machinery. Do not allow anyone ride in an open trailer.

**E**

**ELECTRICITY** can kill. Beware of overhead power lines and buried cables.

**F**

**FORESTRY and tree felling:** Take care not to be caught under falling trees and logs. Attend a chainsaw and tree felling course.

**G**

**GAS:** Slurry gases can kill. Remove all stock from slatted sheds before agitating. Never enter a shed when slurry is being agitated. Close agitation point after each use.

**H**

**HORSES:** Some horses can be dangerous. Always wear safety equipment e.g. helmet when handling or riding horses. Be wary of being kicked by horses.

**I**

**INSPECT:** Check safety equipment on your farm regularly, e.g. machinery safety covers, PTO guards, fire extinguishers and First Aid kits.

**J**

**JAWS:** Keep away from blades of shear grabs, mowers, revolving knives and chainsaws.

**K**

**KEEP CLEAR** of machinery such as tractors, HiMacs, bulldozers when they are working. Stay in their line of vision and wear a high visibility jacket or vest.

**L**

**LIVESTOCK:** Be wary of being kicked or crushed while working in pens, yards or fields with livestock.

**M**

**MACHINERY:** Ensure safety covers and PTO guards are in place and working on all farm machinery. Avoid wearing loose clothing near machinery.

**N**

**NEVER** start a tractor when you are standing on the ground alongside it.

**O**

**OVERTURN:** Remember tractors have a high centre of gravity and can overturn easily. Drive slowly over uneven ground.

**P**

**PESTICIDES** and other toxic chemicals: Keep them out of the reach of children. Read the label and follow the manufacturer's advice on proper use, storage and disposal.

**Q**

**QUAD bikes:** Always wear a safety helmet when using a quad bike. Avoid letting children on them. Drive slowly over rough ground.

**R**

**ROOFS:** Use a roofing ladder when working on farm sheds. Stay clear of skylights.

**S**

**SAFETY:** Complete and update your Risk Assessment Document. This can be completed online at [www.farmsafely.com](http://www.farmsafely.com). Take action on risks highlighted.

**T**

**TRAINING:** Attend a Farm Safety training course NOW at your local Teagasc centre.

**U**

**UNTIDY:** Poorly maintained farmyards/farm can lead to accidents. Keep your farmyard/farm neat, tidy and well maintained.

**V**

**VISION:** Your eyesight is vital – protect it. Wear safety goggles where your eyes are in danger.

**W**

**WARNING SIGNS** should be erected to warn the public of dangers or hazards such as "Tractors Crossing", "Beware of Bull".

**X**

**XTRA:** Be extra careful when there are children or elderly people on the family farm. Restrict access to dangerous ponds, tanks, unstable heights etc.

**Y**

**YOU and YOUR FAMILY:** Take every precaution to remain safe and healthy. Assess every farm task carefully for potential dangers or risks. Organise and complete tasks with safety in mind.

**Z**

**ZOO NOTIC DISEASES** and infections which can be transmitted from animals to humans. E.g. TB, Toxoplasmosis, Weil's Disease, E.Coli ... Wear gloves when handling livestock. Always wash your hands after being in contact with animals.