BETTER farm
beef programme

Business, Environment Technology through Training Extension Research

PHASE 2 – FARM WALK
11 September 2012
Marty Lenehan
Liggan, Ballinfull,
Co Sligo

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

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On behalf of myself and wife, Fiona, I would like to welcome everyone to our farm today. We hope you have an enjoyable day and find it informative and worthwhile.

Since joining the Teagasc/*Irish Farmers Journal* BETTER farm programme in 2009, the farming enterprise has undergone many changes. These changes were all simple steps but proved to be very beneficial to my farm.

I was in a system of calving cows almost all year round. This meant that all the spring calves were kept to the following spring and sold out of the shed as stores. Cows on the farm were mostly Charolais and Limousin crosses and milking ability was a problem in the herd.

Sitting down around the table and completing a three-year plan was the first major step. It was evident that there was huge scope for improvement in the suckler enterprise. It was decided to calve cows down in two clear calving periods – 12 weeks in the autumn and 12 weeks in the spring.

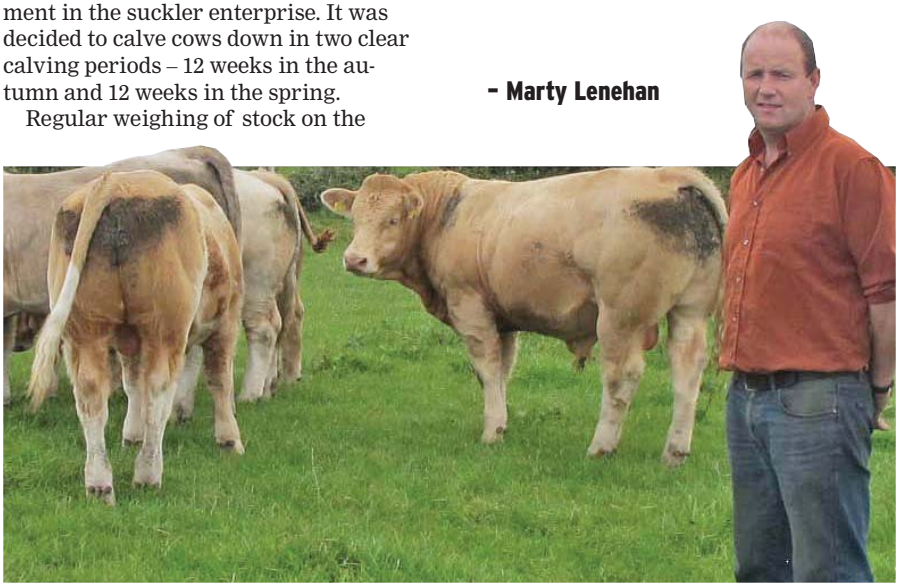
Regular weighing of stock on the farm has focused my attention on achieving high daily gains from grass. While huge changes have been made in this area, there is still more room for improvement.

Since joining the programme in 2009 I have changed my views on grassland management and have realised the huge role good quality grass swards have in achieving good weight for age when selling weanlings.

All of the changes on the farm have been relatively simple and have not required significant levels of capital expenditure.

Having a clear and defined plan has been important in us changing our farming business. Finally, we would like to thank both Teagasc and the *Irish Farmers Journal* for allowing us to participate in this programme and we would also like to thank the industry stakeholders for their continued support of the programme.

- Marty Lenehan



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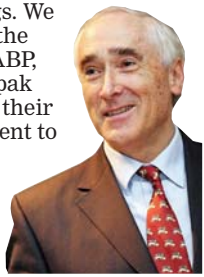
On behalf of the *Irish Farmers Journal*, I would like to thank Marty Lenehan and his family, not only for participating in the programme over the last three and a half years, but also for hosting the first of the two national BETTER farm programme walks this year. This is the largest farm development in which the Irish Farmers Journal has been involved. As a Trust, it fits ideally with our central aim of improving the competitiveness of Irish farming and the well-being of those in the sector.

The Teagasc/Irish Farmers Journal BETTER farm programme is expanding to where it will have a real national presence; a presence not just in the pages of the Irish Farmers Journal, but in every county. Phase 1, over the initial three years of the programme, was the first multi-disciplinary approach, coupled with intensive advice, to improving beef performance and profitability at farm level. It was a learning process for everybody involved. Improvements were seen in health through BVD and vaccination protocols, grassland management, fertility, weight gain and profitability which, stripping out the effect of beef price rises, increased by 67% on the participating farms. The results were so clear that a central recommendation of the Food Harvest 2020 implementation report was that the model be extended to where it operated on a national basis.

The participation of the industry and FBD was a crucial part of its success, together with regular management and stakeholder meetings. We would like to thank the industry sponsors, ABP, Dawn Meats and Kepak Group, and FBD, for their continued commitment to Phase 2.



– Matt Dempsey, Editor, Irish Farmers Journal

On behalf of Teagasc, I welcome you to today's Teagasc/*Irish Farmers Journal* BETTER farm walk and I hope you find it enjoyable and informative. The purpose of the walk is to show how, with careful planning and setting of efficiency targets, you can improve both physical and financial performance on your farm.

The programme has focused on delivering relevant technologies to farmers in a practical way and that will be evident today. It has also highlighted the need for extra research in the areas of soil fertility, animal health and the revaluation of the beef breeding indices.

We have been able to demonstrate to farmers the very real benefits of focusing on technical efficiency and the factors farmers can control within the farm gate. Two thirds of the gains achieved in gross margin in the programme have come from improved efficiency.

The programme has re-emphasised to Teagasc the value of an intensive advisory and targeted research programme in driving technical efficiency in suckler and beef production nationally. The linking of the programme to the new Beef Technology Adoption Programme (BTAP) will further accelerate this.

I would like to thank the Irish Farmers Journal and our other stakeholders ABP, Kepak, Dawn Meats and FBD Trust for their continued support and commitment to the programme. Finally, I thank the Lenehan family for opening up their farm today and I wish them continued success in phase two of the programme.

– Prof Gerry Boyle, Director, Teagasc

Physical system

Measure	2008	Target 2011	Actual 2011
	Suckling to stores	Suckling to weanlings/stores	
Stocking rate (LU/ha)	1.24	2.19	1.87
Land base (adj. ha)	65.38	54.55	60.5
Cows calving	59	80	82

Calving spread

Spring	29	40 mid-December to mid-March	43 mid-December to mid-March
Autumn	30	40 Aug/Sept/Oct	39 Aug/Sept/Oct

Purchases

Purchases	No purchases	Option of purchasing replacements in calf	Purchased and home-bred replacements

Trading system (weanling, store, finish, etc)

Male progeny – Spring born	Sold as stores	Sold as weanlings in Oct/Nov	Sold as weanlings in Oct/Nov
Male progeny – Autumn born	Sold as weanlings	Sold as stores in July/August	Sold as stores in July/August
Female progeny – Spring-born	Sold as stores following Spring	Sold as beef following Aug/Sept	Sold as weanlings/stores
Female progeny – Autumn born	Sold as weanlings	Sold as weanlings in Aug/Sept	Sold as weanlings in Aug/Sept
Liveweight output (kg/ha)	276	668	487

Financial system

Output value (€/ha)	579	1,258	1,230
Variable costs (% of output)	75	34	55
Gross margin (€/ha)	-145	1,000	543

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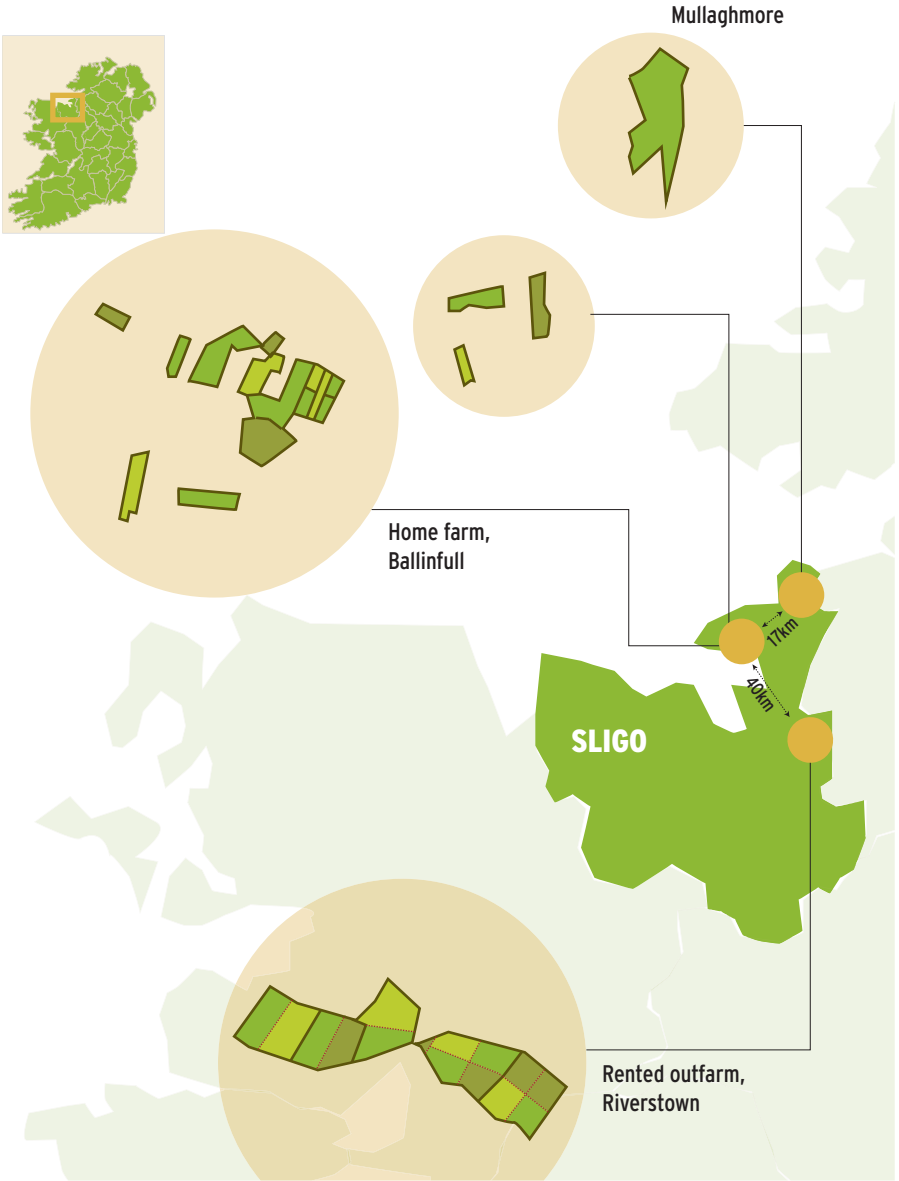
Marthy Lenehan's Farm



Grassland management and utilization of grass was a key area identified while completing the three-year farm plan on the Lenehan farm. In 2008, no cattle were turned out to grass until after mid-April and this was something that had to be addressed if the gross margin was to be improved.

The first step was to take soil samples on the entire farm. The results showed that phosphorus and potassium levels were low and needed correction for good quality grass to be grown. Balanced fertilizers, such as 18-6-12 and 10-10-20, were used over the past three years along with some pig slurry.

The quality of the swards and the tonnage of grass grown have increased but it is a job in progress and it will be another two to three years before all soils are at index 3.

Dividing the Riverstown leased farm into paddocks, using a single strand of electric wire, proved to be the key to transforming grass sward quality. As can be seen from the *map (left)*, this farm was traditionally grazed in five large fields. Cattle were turned into fields and could have spent up to two weeks grazing one field.

This changed with the introduction of paddocks and the aim is to grow the grass in three weeks and eat it in three days. This farm is closed up in rotation in the autumn and this year the first batch of cows and calves were put to grass in mid-March – a full month ahead of four years ago. Marty is measuring grass on a weekly basis and completing a grass budget. By doing this he knows exactly what grass is ahead or when he is likely to run tight on grass and act accordingly. Grassland management is simple, provided it is kept simple.

ABOVE: A field divided into four paddocks.

BELOW: Autumn-born calves on grass.

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Tightening

A spread out calving pattern drives up production costs, significantly reduces farm output and increases labour demand. Irrespective of when your calving season starts, your focus should be to keep the calving pattern to a maximum of 12 weeks. Some farms have reduced this to nine weeks.

There are a number of incentives to keeping the calving pattern tight, including:

- Ease of management
- Better use of grass
- Improved heard health
- Higher level of output.

MANAGEMENT

A tight calving pattern allows for much easier management of stock. All calves will be around the same age and, therefore, can be managed as one group. This makes grassland management a lot easier as you have only a few groups of stock on the farm.

On farms with a spread out calving pattern it is impossible to manage grass and develop feeding regimes due to the huge range in the age profile of animals on the farm.

HERD HEALTH

In terms of herd health it is much easier to administer vaccination programmes as all cows/calves will be at the same stages of the cycle. Where the calving pattern is spread out, vaccinating for BVD or scour can be much more difficult as cows are at different stages of the breeding programme or pregnancy.

Also, farms with a tight calving pattern tend to record lower mortality rates. This is mainly because they remained focused on the calving pens for a period of 10 to 12 weeks.

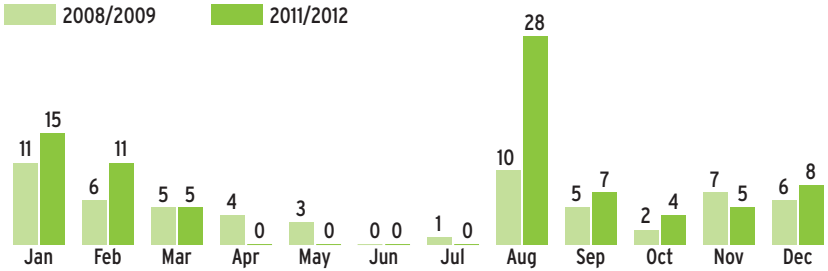
Where the calving pattern is spread out, other jobs, especially in spring calving herds, start to take priority and attention is

Table 1: Marty Lenehan, Sligo

Calving spread 2008	Cows calved from August to June
Action 2009	Bull removed from spring calving cows in mid-June. Cows scanned six weeks later. Any older cows culled. Young cows were moved into autumn herd. AI started in autumn herd in early November to late January.
Action 2010	Spring herd started calving in early January and finished in late March. Autumn calving herd started calving in early August and finished mid-October – total calving spread of 10 weeks.
Action 2011	Spring calving herd started calving on 20 December and finished in late March. Bull will be removed from the cows after 12 weeks. Autumn calving spread will be 12 weeks.
Comments	Separating the calves from the cows after four to five weeks has helped to tighten the calving interval in the autumn herd. At the start of the season it is critical that you set a date on which the breeding season will finish.

the calving pattern

Figure 1
Cows calved on Marty Lenehan's farm in 2008/2009 and 2010/2011



Heifers are calved down before the main herd

KEY POINTS

CALVING REPORT 2011/2012 ON MARTY LENEHAN'S FARM

- Calving interval – 374 days
- Calves per cow per year – 0.96
- Mortality at birth – 0%
- Mortality at 28 days – 3.5%

FERTILITY TARGETS ON TEAGASC/IRISH FARMERS JOURNAL BETTER FARMS

- Calving spread – 12 weeks
- Calving interval – 365 days
- Greater than 0.9 calves per cow per year
- Mortality at birth less than 2.5%
- Mortality at 28 days less than 5%
- 60% of cows calved in first four weeks of calving season
- 80% of cows calved in first eight weeks of calving season

taken away from the calving pens.

One of the key points for the demonstration farms participating in the BETTER farm programme has been to tighten the calving pattern.

Prior to entering the programme, ICBF figures showed some farms as having recorded cows calving down across 11 months of the year.

CALVING SPREAD

Figure 1 shows the calving spread on Marty Lenehan's farm in 2008/2009 compared with 2010/2011.

Marty has tightened his calving spread mainly by culling the late calving cows, setting clear dates for the start and end of the breeding season and allowing the autumn calves restricted access to the cows.

Marty's focus is to calve down the spring herd over a period of 12 weeks with calving in the autumn calving herd running over 10 weeks.

> Farms with a tight calving pattern tend to record lower mortality rates. This is mainly because they remained focused on the calving pens for a period of 10 to 12 weeks.

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Autumn born calves

The autumn herd calves from August to mid-October. After calving, the cows are grazed on top quality aftergrass until housing in late October/early November. All autumn calves are vaccinated for RSV four to six weeks prior to housing. A booster is given approximately four weeks after the initial shot.

When the cows are housed, the calves are allowed to creep graze paddocks around the yard using a small walkway which was specifically built to give the calves access to five to six paddocks. In addition, the calves are supplemented with 0.5kg of meal/day during until December, when meal feeding levels are increased to 1kg/head/day. In January the calves start to graze off silage ground.

During the winter, autumn calving cows have access to the highest quality silage on the farm. Also, the body condition score of the cows is monitored closely. If condition score falls below 2.5, cows are fed 2.5kg concentrates/day.

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KEY POINTS

- AI bulls used: Terminal, Char – HWN/KIB/Plexus. Maternal, IS4/Panda/APZ
- Easy calving LM GZP used on heifers calving down at 24 months
- Cows – ad lib first cut silage only (heifers/thin cows, and offered 2.5kg meal)
- Calves access to grass and 0.5kg meal
- Early December 1kg meal/day to calves
- January – calves begin grazing silage land
- Weaned on 19 March – 2kg at grass for two weeks
- Bulls/heifers separated
- Grazed on paddock system
- 2kg meal introduced mid-June
- Bulls moved to 3kg in mid-July

The calves are weaned in mid-March and meal feeding levels are increased to 2kg/head/day for two weeks. At this stage meal is removed from the diet and the calves are offered top quality grass only. From mid-June, the meal feeding level is increased to 2kg/day. In July this is further increased to 3kg/day in preparation for sale (*Tables 1 and 2*).

Table 1: Autumn bulls 2011/12

Weigh date	Av. weight Kg	ADG kg/day from birth	ADG kg/day from last weighing
5 April	308	1.21	
21 June	389	1.24	1.52
16 Aug	511	1.32	1.42

Table 2: Autumn heifers 2011/12

Weigh date	Av. weight kg	ADG kg/day from birth	ADG kg/day from last weighing
5 April	263	0.99	
21 June	299	0.94	0.86
16 Aug	408	1.01	1.24

A walkway from the slatted shed to five paddocks to allow autumn-born calves to creep graze during the winter months.

Simple steps deliver big gains

MORE PADDOCKS

- Paddocks put in place in Riverstown farm where cows and calves are grazed
- Water troughs placed in centre of fields allowing four paddock divisions
- Aiming for three to four days grazing from each paddock
- Better control of grass during peak growth with rotational grazing allowing surplus paddocks to be easily taken out and baled
- More grass grown as result of paddock system
- Better weight gain from cattle
- Easier managed – one man operation
- Paddocks closed in rotation in autumn
- Cheap weight gain with early grazing
- Priority paddocks closed early in autumn
- Young, autumn born weanlings grazing paddocks surrounding the yard throughout the winter
- Spring born yearling heifers grazing silage fields from mid-February
- Early weaning autumn calving herd with cows used to clean out paddocks through the summer months

KEY LESSONS LEARNED

- Sitting down and looking at the farm as a business is key to identifying where improvements can be made
- A tight calving interval is the first step to increasing the productivity of the herd and improving grassland management
- Discipline required when trying to tighten the calving spread
- Despite having increased cow numbers by 55%, labour has reduced through better planning
- The key to grassland management is identifying problems early and taking action in time
- Getting soil P and K levels right is essential part of improving grass growth on the farm

USE OF MATERNAL SIRES

- Maternally proven AI sires are used in autumn herd
- Simmental and Limousin bulls selected with high maternal reliability
- Simmental stock bull purchased to run with milky spring cows

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Gross output up

The 2008 Profit Monitor revealed that several areas needed to be addressed on Marty Lenehan's farm if gross margin was to improve.

Although Marty was farming 54.5 hectares of predominantly rented land, he had a modest stocking rate of 1.71 LU/ha and a gross output value of just €695/ha in 2008. Even with modest variable costs, when gross output value is low, you will struggle to generate a meaningful gross margin, leaving very little to cover fixed costs.

ADDRESSING OUTPUT

To increase output, three main factors were examined:

- Stocking rate
- Kilograms of liveweight produced per hectare
- The value of the liveweight.

The first two factors are areas we can control. Increasing stock numbers and making sure that the stock on the farm are productive in terms of breeding performance and achieving good weight for age are key areas if output is to rise.

Although we can improve the quality of the stock, the price per kg achieved will often be determined by market conditions.

Over the course of the programme Marty has increased stocking rate by 8% from 1.71 LU/ha in 2008 to 1.85 in 2011. Cow numbers have gone from 62 to over 90 today.

In 2008 the farm produced 18,071kg of liveweight or 332kg/ha. By 2011 this had risen to 29,434kg or 487kg/ha – an increase of 47%.

Culling of poor performing cows for lack of milk, poor calf quality and age was necessary to improve calf performance up to weaning, along with tightening up the calving pattern.

Better management and utilisation of grass helped to improve animal performance, both pre and post weaning.

Another significant area that needed attention to keep animal performance targets on track was animal health.

In 2011 the farm was producing the equivalent of 263kg/LU, up from 194kg/LU in 2008. The target for the future would be to have the farm consistently producing 350kg/LU.

> Over the course of the programme Marty has increased stocking rate by 8% from 1.71 LU/ha in 2008 to 1.85 in 2011. Cow numbers have gone from 62 to over 90 today

Table 1: Breakdown of physical and financial performance

	2008	2011	Difference '08-'11
Stocking Rate LU/ha	1.71	1.85	+8%
Area Farmed (Adj ha)	54.5	60.5	+11%
Gross Output (kg/ha)	332	487	+47%
Gross Output (€/ha)	695	1230	+77%
Variable Costs (€/ha)	521	687	+32%
Purchased Feed (€/ha)	182	124	-31%
Fertilizer (€/ha)	151	238	+58%
Veterinary (€/ha)	68	155	+127%
Gross Margin (€/ha)	174	543	+212%

by 77% over four years

Figure 1
Variable costs as % of gross output

The increase in stocking rate and the improved animal performance means that Marty is now selling more kilos of liveweight off the farm. This is reflected in the gross output where values have increased from €695/ha in 2008 to €1,230/ha – a rise of 77%. He expects gross output to improve further over the next few years as some of the changes made to the genetics of the cow herd come to fruition.

VARIABLE COSTS

As output increases it is important to try and control costs. What has been discovered on many farms in the programme is that farmers have had to incur extra costs in the short term to reap the rewards over the longer term.

Overall, variable costs on the Lenehan farm have risen from €521 in 2008 to €687 in 2011 – an increase of 32%. But in real terms, variable costs have been falling as a proportion of output value (*Figure 1*) and they now stand at 56% of output compared with 75% of output in 2008.

The three main variable costs on the farm are purchased feed, fertilizer and veterinary, which were €124, €238 and €155/ha, respectively, in 2011.

Purchased feed costs have decreased by 31% since 2008 as more was gained from grazed grass with earlier turnout, rotational paddock grazing and animals leaving the farm at a younger age.

Fertilizer costs have increased by 58% over the period but this is due in the main to addressing low P and K levels and the extra fertilizer required for reseeding. This is seen as worthwhile expenditure that will allow Marty to grow and utilise more grass in the future.

Veterinary costs have also risen to €155/ha in 2011. The increase reflects the extra costs associated with preventative measures taken on the farm to control mineral imbalances and respiratory disease, etc. The extra money spent on improving herd health has had a major effect on improving physical output.

> The increased expenditure on variable costs is more than justified when one considers the extra gains in output value. This is reflected in the increase in gross margin from €174/ha in 2008 to €543 in 2011

The increased expenditure on variable costs is more than justified when one considers the extra gains in output value. This is reflected in the increase in gross margin from €174/ha in 2008 to €543 in 2011.

On a whole farm basis the improvements have added over €22,000 to overall gross margin.

The farm certainly has the potential to increase gross margin further.

Output can certainly increase by pushing stocking rate and possibly cow numbers. And by growing and using more grass, costs can be controlled.

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BETTER farm health

Animal health became extremely important at an early stage of phase one of the Teagasc/*Irish Farmers Journal* BETTER farm programme. As a result, herd health plans were drawn up for each farm with input from the management team and the local vet. The plans detail farm specific dosing and vaccination strategies along with more detailed prevention strategies for other health issues such as pneumonia, scour and fertility.

ADAPTING HOUSING

On several farms, increasing ventilation, eliminating draughts and regular disinfecting were highlighted as specific areas of focus to reduce the prevalence of pneumonia.

Following smoke bomb tests on the ventilation rates in sheds, some of the farmers raised sheets in roofs or installed adjustable air inlets to improve and adjust the air flow.

Creep grazing of autumn born calves during the winter also helped to reduce the incidence of pneumonia. Draught excluders were put in place around doors on some farms to reduce the risk of calves getting chills. Ammonia emitted from bedding was highlighted as a contributing factor to pneumonia outbreaks. Regular bedding, disinfecting and cleaning of pens has reduced the incidence of pneumonia further.

MINERAL SUPPLEMENTATION

The programme participants have focused strongly on getting the cows' mineral balance right prior to calving and breeding. Dry cow minerals have been fed to cows for at least six weeks prior to calving and, as a result, cows have less retained cleanings and have started to cycle faster after calving.

In addition, the incidence of milk fever has reduced and calves appear stronger and healthier at birth.

A strong emphasis has been placed on magnesium supplementation during spring and autumn to reduce the incidence of grass tetany (hypomagnesaemia). An increase in stocking rates, grass growth and compound fertilizer use can increase the incidence of grass tetany.

> The herd health plans detail farm specific dosing and vaccination strategies along with more detailed prevention strategies for other health issues such as pneumonia, scour and fertility

BVD

The health history of some of the herds in the programme sparked a question over the presence of BVD (Bovine Viral Diarrhoea). As a result, 10 of the farms earnotched entire herds and the samples were screened. In total, 2,652 animals were tested for BVD. The overall number of animals which tested positive was 0.98% or (32 animals). This was slightly greater than expected.

The results showed that the average age of cattle which tested positive to BVD was seven months. Just two persistently infected (PI) cows were identified. PI animals were mainly calves and yearlings.

➲ The management team would like to acknowledge the role of Animal Health Ireland and the assistance of Damien Barrett from the Regional Veterinary Laboratory for their input.

LEFT: A Charolais cross cow with a Simmental cross bull calf at foot.

ABOVE: One of the main changes that Marty made was the introduction of on-off suckling for autumn born calves during the winter months. The creep gate allows the calves access to grass.
LEFT: Autumn-born bulls which were sold off the farm at the end of August.

ABOVE, LEFT: A Simmental cross cow with a spring-born Simmental cross calf at foot. RIGHT: Autumn cows and calves grazing on the rented outfarm in the spring.

PHASE 2 PARTICIPANTS

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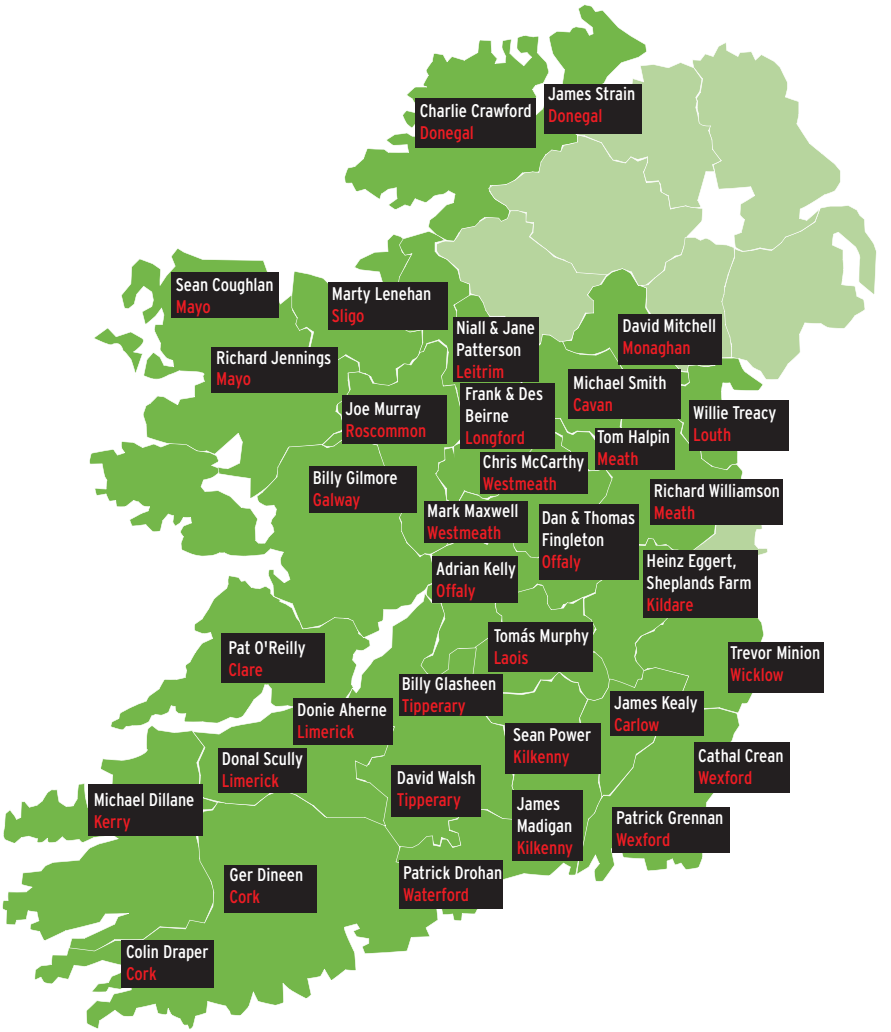

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