

TEAGASC Today's farm

NOVEMBER–DECEMBER 2010 VOLUME 21 NUMBER 6

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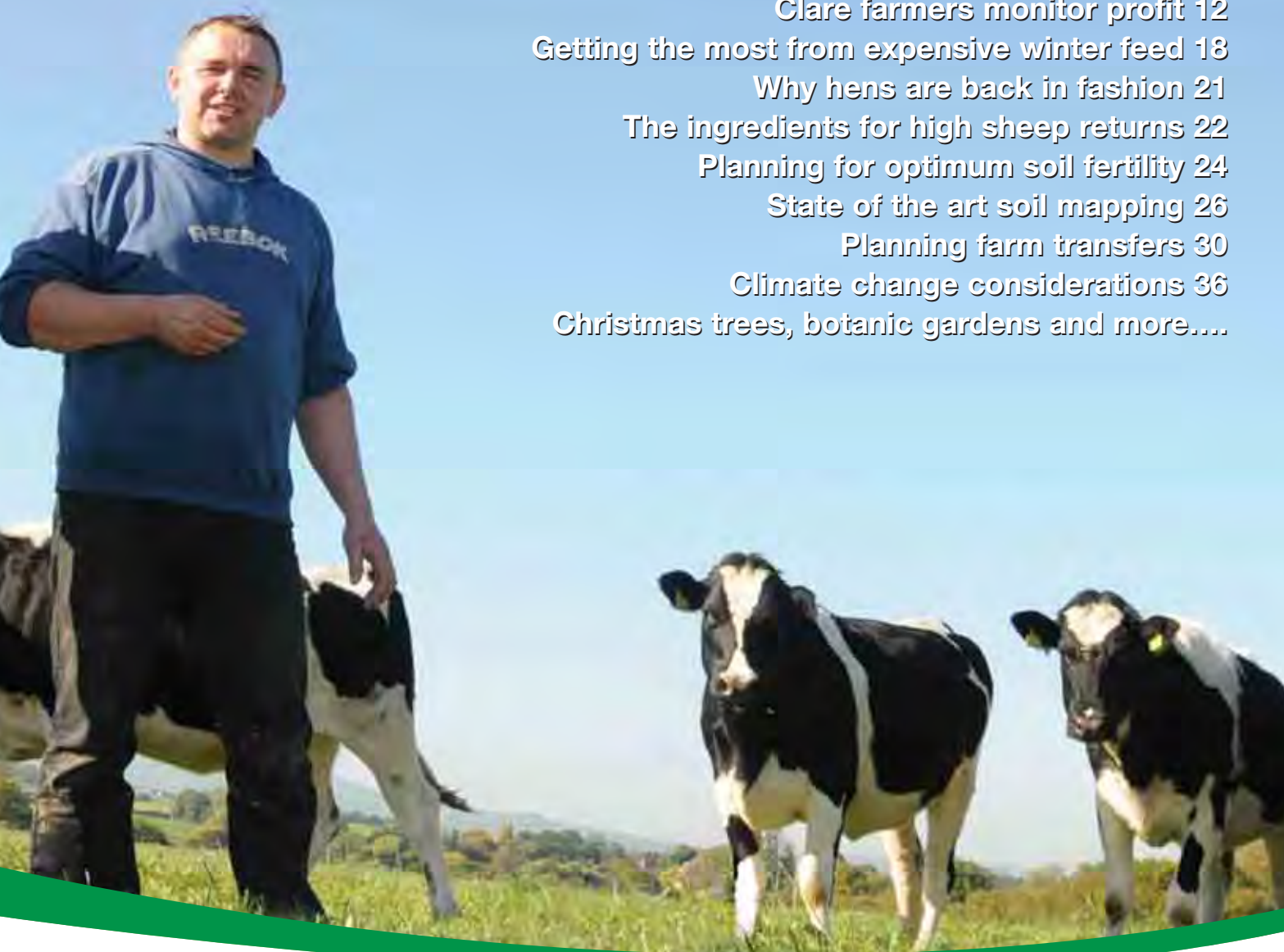
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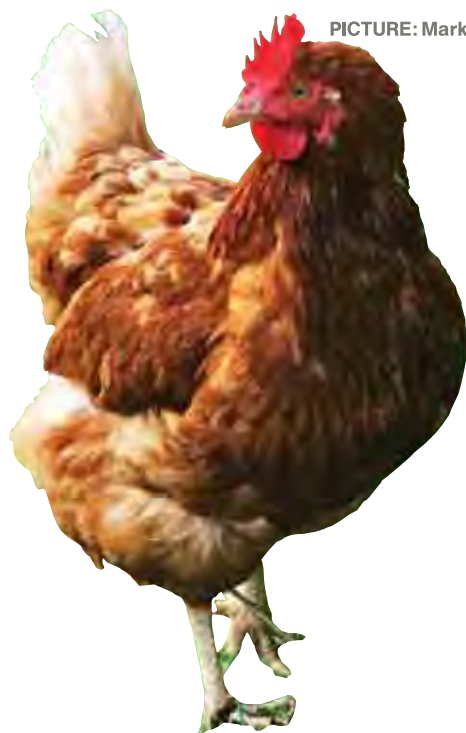
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Tipp dairy farmer Declan Ryan says that the huge amount of data available to dairy farmers can really improve management — but only if the stats are used to make better decisions. See page 16



PICTURE: Mark Moore

HENS R US

21 the fun and practicality of keeping poultry is back in fashion

COMMENT

The growing importance of SCC



Mark Moore
Editor,
Today's farm

Declan Ryan, the farmer featured on our cover, has been steadily growing his dairy business over the last five years, based on measurable progress — cow numbers, EBI scores, yield, protein levels, etc. Another key statistic for Declan is Somatic Cell Count (SCC) and, at 200,000, he is certainly among the better

producers. The picture nationally is not so bright; many producers are closer to 400,000 SCC.

If the dairy industry is to fulfil its potential on world markets, particularly post 2014, SCC counts must fall on many farms. The Teagasc dairy conference (see

p14-15) will introduce a major new SCC campaign to address the issue. This initiative will be led by Animal Health Ireland and involves a range of stakeholders including Teagasc, co-ops and other milk processors, veterinarians, the farm organisations and, most importantly, farmers themselves.

You are warmly invited to attend one of the conferences at either Charleville on 17 November or Mullingar on 18 November, at which strategies to address SCC, among other key topics, will be addressed.

Even farmers like Declan Ryan, with very good SCC performance, have an interest in this issue as it may determine prospects for all Irish dairy exports.



If the dairy industry is to fulfil its potential on world markets, particularly post 2014, SCC counts must fall on many farms

Is é Today's farm an iris do chliant Teagasc. Bíonn altanna teicniúla ann faoi chúrsaí déiríochta, faoin eallach, faoi chaoirigh agus faoin gcuradóireacht, agus faoi go leor eile. Is minic altanna faoin timpeallacht agus faoi dheiseanna éagsúlaithe feirme san iris freisin. Gné an-tábhachtach den iris is ea na haltanna faoin gcaoi le cúrsaí gnó na feirme a láimhseáil. Ar na topaicí eile a chlúdfófar amach anseo beidh táirgeadh fuinnimh ar an bhfeirm, an fhraoiseacht, an ghairneoireacht, srl. Agus beidh altanna ann ó thráth go chéile faoi chúrsaí feirmeoireachta thar lear freisin.

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One Goal Challenge

Results of One Goal Challenge

THOUSANDS of farmers and farm families visited the Teagasc stand at the Ploughing Match and 1,156 adult farmers took part in the One Goal Challenge. The competition encouraged the adoption of SMART Goals to improve the farm business. The geographical spread of participants shows that the event attracted visitors from each of the 26 counties and more from abroad.

SMART

The idea was to set Specific, Measurable, Achievable, Realistic and Time bound goals (SMART) for each individual business. At the Ploughing, visitors were able to choose from SMART goals listed under the categories: Education, Cattle/Sheep, Dairy, Environment, Farm management, Forestry, Tillage/Horticulture and Diversification.

Some chose to formulate their own individual SMART goals, based on the priorities they have for their businesses. All took home a copy of their goal and their names were entered in a prize draw.

The key point was to set just a few goals; too many and none would be achieved. If goals are too ambitious, or the means to achieve them are not with-



in your control, they are not SMART and you may fail.

By setting, and achieving, a sequence of modest goals you can make really significant changes to your business/life.

Examples of popular SMART goals are: 'I will join a dairy discussion group by the end of February 2011'; 'I will meet with relevant family members to discuss succession planning by Christmas' or 'I will complete a Teagasc profit monitor in January'.

Cash prize and book winners

1st Prize winners | (€150 each)

John Martin, Castleblayney, Co Monaghan
Seamus O'Dwyer, Currane, Nenagh, Co Tipperary
John Power, Barna, Co Kilkenny

2nd Prize winners | (€125 each)

Frank Snell, Ballysax, Curragh, Co Kildare
Michael Molloy, Doradee, Naas, Co Kildare
Thomas Hannan, Gorey, Co Wexford

3rd Prize winners | (€100 each)

Alex Crofts, Buttevant, Co Cork
Paddy Buggy, 3 New Road, Leighlinbridge, Co Carlow
Liam Long, Clonmel, Co Tipperary

Winners | of copies of the Teagasc book 'Growing Knowledge'

Denis Coleman, Dromin, Cloghroe, Co Cork
David Gray, Ballitore, Co Kildare
William Conway, Cullen, Co. Tipperary
David Scott, Shandra, Portarlinton, Co Laois

Thomas McConkey, Newbliss, Co Monaghan
G Carew, Kilrickle, Loughrea, Co Galway
W Quailtrough, Union Mills, Isle of Man
Mary Healy, Hollywood, Co Wicklow
David Halpin, Ballyorban, Co Cork
Michael J O'Sullivan, Ballineen, Co Cork
Richie Scanlan, Ballyhane, Cappoquin
Philip Kennedy, Physicianstown, Callan, Kilkenny
Bridie Laughen, Borahara, Newbridge, Co Kildare
Brian Lenihan, Mount Collins, Co Limerick
John Grehan, Toughmacconnell, Co Roscommon

- Congratulations to all cash winners, who will be contacted by their county Teagasc manager.
- Book winners will receive copies of 'Growing Knowledge' in the post.
- All of the 1,150 participants who follow through on the SMART goals they identified at the Ploughing will find they are winners too.
- **Queries to Mark Moore, at Teagasc, Oak Park, Co Carlow, Tel: 059-9183501.**

Participants

Participants | in the Teagasc One Goal Challenge at the Ploughing Match by county

Cork	206
Tipperary	107
Wexford	83
Laois	85
Kilkenny	77
Limerick	54
Galway	51
Waterford	48
Kildare	48
Kerry	47
Offaly	46
Clare	38
Carlow	31
Roscommon	31
Westmeath	29
Cavan	27
Meath	26
Wicklow	25
Mayo	22
Longford	16
Leitrim	12
Monaghan	11
Sligo	10
Donegal	8
Louth	7
Dublin	6
Antrim	2
Tyrone	2
Fermanagh	1
USA	1
Isle of Man	1

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Launch of 2011 JFC Innovation

Cash, mentoring and free publicity

Just over 23 years ago, on the 'Late Late Show', a young John Concannon from Tuam launched his innovative buckets for feeding calves. Today, his company sells a variety of products worldwide and employs over 200 people. Through an initiative called the 'JFC Innovation Awards for Rural Business', generously sponsored by John Concannon, he is offering others the start he had. Whether you have just a business idea or have already set up an enterprise in rural Ireland, then you can enter these national awards.

Now in its fifth year, the competition has given hundreds of businesses not only a chance to win prizes but, more importantly, to progress their business or business idea. The winners will take away €40,000 in prizes but everyone who enters will get valuable feedback on their business plan.

Achieving the award has really helped many previous winners and finalists, even in areas such as securing finance, support, grant aid and opening new markets.

"Winning the competition was a major boost to our company and the effort to grow our own energy at home. The publicity has helped to highlight the benefits of willow as a cash crop for farmers and to give credibility to our plans to plant an additional 5,000 acres of willow next year. If you can dream it, you can do it," said Patrick Farrelly, Farrelly Willow Ltd, overall winner of the 2010 JFC Innovation Awards.

A positive development for these awards is that LEADER are now heavily involved. They are already in contact with farmers who have business ideas and are looking for grant assistance. Many of these businesses would be ideal candidates to



enter the Innovation Awards.

The first step is to get an entry form and begin work on a simple plan that shows how you will progress. Entry forms are

available from your local Teagasc office or directly from the Teagasc website.

The deadline for entries is 10 December 2010. JFC is the commercial sponsor of

The Complete Field Guide to Ireland's Birds

The Complete Field Guide to Ireland's Birds, Eric Dempsey & Michael O'Clery (Gill & Macmillan)

There may be time to patiently differentiate the finches and tits around the peanut feeder, and some birds helpfully announce themselves in voice, but usually there is only a brief visual to rely on.

You take in a sense of colour and size, a distinctive flight pattern or song, perhaps, and you have the habitat and time of year, but not much else.

This should be enough if you have a copy of 'The Complete Field Guide to

Ireland's Birds'. It covers almost 370 species, plus 100 of the rarest visitors, and details key identification features alongside precise colour illustrations.

The book's compact size and weight makes it portable and it is durable enough to last for years and withstand the weather when out in the field.

Most bookshops should stock this book and, if not, one could easily order a copy.

The list price is €19.99, but an online purchase from The Book Depository (www.bookdepository.co.uk) costs €16.37, including postage to Ireland.



n Awards



the competition, which is run by Teagasc, the Department of Agriculture & Rural Development NI, LEADER and the *Irish Farmers Journal*.

Detergent study

A recent study by Dr David Gleeson and Dr Bernadette O'Brien at Teagasc Moorepark found that the chemical composition of some detergent-sterilisers in Ireland is not optimum for efficient cleaning of milking equipment; i.e. the level of caustic to chlorine is too low.

The study should assist dairy farmers to make informed decisions on which products are most suitable for milking equipment cleaning.

The list, at www.agresearch.teagasc.ie/moorepark/ can be used by advisers and farmers. It will be amended and updated as new products are introduced, as manufacturers modify the chemical content of their products and as the product registration status is established.

TEAGASC OPTIONS SEMINARS

Planning for the future

To ensure all farmers are familiar with the benefits of the programme Teagasc are putting on a series of seminars nationwide to inform farm families of the benefits to planning for the future through the Options Programme.

Teagasc advisers and specialists will be present at the seminars with other agencies such as LEADER, County Enterprise Boards, FÁS, and VECs.

4 November at 8.00pm	Park Hotel,	Kiltimagh, Co Mayo
11 November	Teagasc,	Sligo
23 November	Teagasc,	Cork (Cork East; Cork West)
30 November	Abbey Hotel,	

OPENDAY

2 December	Pallaskenry Agricultural College Open Day
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ORGANICS

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Pre-booking is essential.

Roscommon	Tue 9 Nov	Dan Clavin
Tuam	Thur 11 Nov	Dan Clavin

NATIONAL DAIRY CONFERENCES

17 November	Charleville Park Hotel
18 November	Mullingar Park Hotel

See article by Tom O'Dwyer on pages 14 and 15



RURAL DEVELOPMENT CONFERENCE

2 December	National Rural Development Conference	Tullamore Court Hotel
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Maintenance — key to safety



John McNamara
Teagasc Health & Safety Officer

A year-long European Campaign on Safe Maintenance 2010-2011 started across all industries during October. The campaign is led by the European Agency of Safety and Health at Work, who estimate that 15% to 20% of all accidents are connected with maintenance. Farming is no different from any other industry and maintenance is a key management task that requires ongoing attention.

What causes accidents?

Identifying injury causing situations and eliminating them in advance is the major management skill of health and safety management. Physical controls are crucial as they provide protection in the event of human error. Thus, if maintenance is properly carried out, it provides a physical 'shield' in the event of human error.

Take time

A study of 94 randomly selected farms was conducted by Teagasc to examine the implementation of safety controls. The study found that 27% (more than one in four) of the farms were not achieving satisfactory standards. Maintenance tasks which were not satisfactory included such issues as having uncovered power drive shafts; poorly developed and maintained livestock handling facilities; untidy farmyards and dated facilities,



Devoting time to both maintenance and farm development is crucial for farm safety management.

along with outdated electrical wiring.

A key finding was a link between long working hours and unsatisfactory safety management. It found that 60% of those with unsatisfactory standards worked excessively long hours (12 hours per day plus or pro rata for part-time farms). This compares with 25% of farmers working long hours on farms with satisfactory safety standards.

Working excessively long hours was particularly associated with dairy farming (54%), compared with drystock and tillage farms (22% each), and where the farmer worked full-time on the farm (41%) compared with part-time (12%). Overall, the data suggests that devoting

time to both maintenance and farm development is crucial for farm safety management.

UK study

An evaluation of the mechanical safety of agricultural vehicles, involving 242 vehicles, was conducted by the UK Health and Safety Executive. This indicated that safety mechanical problems occur in the range from 11.6% for faulty doors to 17.8% for wear of trailer hooks and locks. Adequate tractor braking was reported for 95.3% of tractors and handbrake function and cables were satisfactory in 88% of cases. Faulty hydraulic hoses were noted in 31% of cases.

Safety during maintenance

Accidents often occur during maintenance work. The European Health and Safety Agency emphasise the following five rules for safe maintenance work: 1, plan the maintenance task; 2, make the area safe; 3, use appropriate equipment; 4, stick to the work plan and avoiding short cuts, and 5, check the maintenance work before recommencing normal work.

Bryan Daniels, 2007 Young Farmer of the Year, farms at Raheen, Kilmoganny, Co Kilkenny, in partnership with his father, John, and brother, Philip.

The Daniels family strongly believe in farm maintenance as a driver of efficient farming.



Bryan Daniels: routine maintenance cuts risk of injury.

"We always put a lot of effort into maintaining our farm buildings and machinery. Routine maintenance on our farm cuts the risk of injury, saves work time and gives us much better control of livestock," said Bryan.



Teagasc has produced a booklet on 'Safety in the Farm Workshop' to assist farmers with machinery maintenance. This, along with other Teagasc health and safety publications, can be found at www.Teagasc.ie/health.safety/

MILK

Why less is more

More cows per hectare at slightly lower yields can give the highest profit



John Donworth,
Teagasc dairy specialist,
Limerick

MILK receipts are the lifeblood of any dairy farm and receipts of 30 cent per litre should see most dairy farms generate surplus cash in 2010.

Surplus, or 'free' cash, is what remains after tax, pension, principal payments on loans and living expenses are met from profits. The amount of surplus generated will vary from farm to farm and there are very few dairy farms that don't have loans to pay as a result of investment through the Farm Waste Management Scheme.

So, what should you do to enhance free cash? Do you maximise stocking rate on the milking block or do you optimise milk production per cow?

Let's say you sell 5,000 litres of milk from each cow in the herd. At 30 cent per litre net milk price, each cow will generate €1,500 in milk receipts. Of course, there will also be cull cow sales and calf sales, but the profit from these will be offset by the cost of the replacements coming back into the herd. If you make a profit from these, then that's a bonus.

Our mythical cow has generated €1,500 in milk receipts. Is that the end of the story? Certainly not! How much of the farm is devoted to feeding the cow? In other words, what's the stocking rate? Are the cows stocked at two livestock units per ha (1.25ac/cow), 2.47 livestock units per ha (one acre per cow) or 3.0 LU/ha (0.8ac/cow)?

On the one side we have milk receipts per cow, while on the other side we have stocking rate. Obviously, milk receipts are the most important but, in my view, stocking rate is a close second.



Milk receipts are the lifeblood of any dairy farm and receipts of 30 cent per litre should see most dairy farms generate surplus cash in 2010.

“ Stocking rate on the milking block, is a major driver of farm profit


» Next page

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The objective of any dairy farmer should be to maximise the profit from each acre of land that he/she owns or rents. Stocking rate becomes very important in ensuring that profit is optimised on the dairy farm, particularly stocking rate on the milking block.

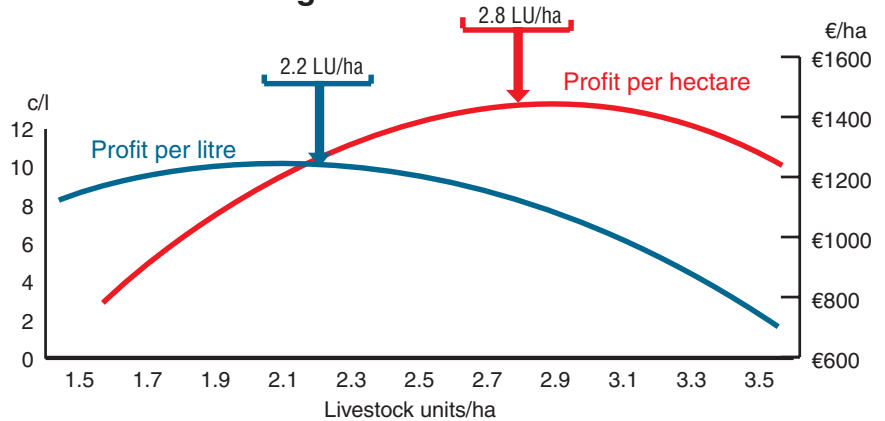
For instance, if dairy cows are stocked at two LU/ha and generating €1,500 per cow in receipts, the total milk receipts generated per ha is €3,000. Do the same sum at 2.47 LU/ha; the total amount of receipts now increases to €3,705/ha. At 3.0 LU/ha, total receipts amount to €4,500/ha.

So, when one talks about profitability on dairy farms, the effect of stocking rate on the top line cannot be overestimated.

Several questions will eventually arise about stocking rate. All the emphasis at the moment is on increasing stocking rate on the milking block; this is as things should be. Research is telling us that increasing grass utilisation per ha leads to increased profits.

Profit Monitor data analysed by Teagasc dairy specialist George Ramsbot-

Profit and stocking rate



tom is also telling us that increasing grass utilisation per ha improves profit per ha by €200.

But how far can one take stocking rate before the wheels come off the proverbial lorry?

In other words, when does the upward graph of farm profit per ha level off and

the profit begins to go in the opposite direction? George Ramsbottom gave an interesting presentation on farm profit and stocking rate at the Teagasc National Dairy Conference in 2007 (see graph). Overall farm profit per acre/hectare was maximised at a stocking rate of 2.8 LU/ha. The graph also shows that profit



opportunity is now there for every dairy farmer to increase cow numbers and maximise milk receipts on the milking block. But will milk production not drop off as stocking rates increase? Yes, is the answer. Brendan Horan, Teagasc, has measured a drop-off in milk performance per cow of the order of 6% to 8% going from 2.5 LU/ha to 3.3 LU/ha. Once stocking rate is at or above 2.8 LU/ha, then profit per ha is the driver.

One accepts the reduction in cow performance since one is optimising milk solids production/ha, but it must be done with very tight cost control.

George Ramsbottom's graph shows that profit/ha is optimised at 2.8 LU/ha. This is the stocking rate across the whole farm and not just the milking block. Where does this figure lie when trying to establish the correct stocking rate on the milking block only? Is profit optimised at 3.0 LU/ha on the milking block or is it 3.5 LU/ha. Both figures could be right, so long as the overall farm stocking does not exceed 2.8 LU/ha.

And, what of the profit per ha? At 2.0 LU/ha, milk receipts of €3,000/ha were generated. How much of the €3,000 will you call farm profit? At total costs of

production of 20 cent per litre, one is holding only 10 cent per litre or 33% of the profit. So the profit per ha is €1,000, or €500 per cow.

At 2.47 LU/ha, total receipts are €3,705. Again, assuming one is holding on to only 33% of the output, profit per ha now increases to €1,259. That is a 20% increase.

At 3.0 LU/ha, can one still say that one is holding on to 33% of the output? If it's the stocking rate on the milking block, yes is the answer. But, if it's the overall stocking rate across the farm, then it's certainly no. One won't be able to make enough winter feed at this stocking rate.

MILK PRODUCTION | key messages

- Stocking rate, and particularly stocking rate on the milking block, is a major driver of farm profit.
- We have established that 2.8 LU/ha is probably about right for overall stocking rate.
- Being able to make enough feed becomes the challenge after that.

“ When one talks about profitability on dairy farms, the effect of stocking rate on the top line cannot be overestimated

per litre of milk was maximised at a stocking rate of 2.2 LU/ha. At this stocking rate, cow performance must be optimised and the bulk tank must be watched. Profit is optimised through good gross output per cow and tight cost control. But, with quota no longer quite as much of an issue as it once was, the

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Profit Monitor

An eye-opener

Tim Clune has 90 dairy cows on 70 hectares of dry limestone land at Danganbrack, Quin, Co Clare. After completing a Teagasc Profit Monitor, he pulled the plug on a beef enterprise which was dragging down profits from the dairy herd. The Profit Monitor is now at the core of his dairy expansion plans

Aidan Bugler

Teagasc,
Co Clare

TIM'S first experience with a profit monitor was in 2008, and he describes the outcome as an 'eye-opener'. Results for his beef enterprise, which included some suckler cows and beef heifers, were shocking.

When examining the figures presented in the All Enterprises report, which allows a comparison of output, costs and net margin between the enterprises on the farm, he recalls phoning his adviser to know how he had managed to enter the wrong figures!

On closer examination it became clear that this part of his farming system was haemorrhaging money; the only advantage of the beef system was that selling cattle 'gave him a big bundle of cash at one time'.

Working with Tim as his Teagasc adviser, I quickly pinpointed where the beef system was going wrong. Extra land was being leased to conserve enough winter fodder, partly for the drystock, and this was putting a huge demand on farm profitability. The extra leasing and contractor costs were a big drain on

“ A profit monitor allows you to take stock of where you are and to develop a roadmap for where you want to go

margins. A quick decision to cease the beef enterprise in 2009 resulted in contractor and leasing costs dropping from 5.51c/litre in 2008 to 2.60c/litre in 2009.

With this and some other cost adjustments, Tim managed to reduce total costs on the farm by 5.17c/litre from 2008 to 2009. The 2009 profit monitor showed that veterinary costs had increased significantly, which Tim attributed to a bad spring that year.

He identified bad quality silage as the cause of poor cow condition at calving. Tim remedied this last winter and feels his vet costs are under control again.

Herd fertility

While the profit monitor is not designed as a tool to measure herd fertility, Tim believes it alerted him to the seriousness of infertility in his herd.

This hit home with what appeared to be very poor cow yields in 2008. While most cows were milking well, Tim said 'passengers' or empty cows, which contributed nothing to production, were badly affecting average cow performance.

He realised that all these empty cows were 'costing money to keep, delivering little and not helping to dilute overhead costs'. He decided to milk empty cows and late calvers through the winter last year, as he said 'having cows completely idle was not helping output'.

He does not intend to carry on milking in the winter long term, however, as it is much more costly, and he is now focusing strongly on breeding good fertility into the herd, which he hopes will bring him back to a fully spring-calving system within a few years.

Expansion

Tim is using the profit monitor analysis as a key tool in planning expansion. This expansion will see numbers grow to



around 120 cows, with about 40 replacement heifers reared on the farm.

Reseeding the farm will have a big role to play in this and it is well on the way at this stage, with over 30 acres (12ha) reseeded in the last two years. A 16-unit parlour and additional slurry storage will be required which he sees as the 'next big challenge', especially now that access to credit is tight.

Tim said he is committed to dairying and feels now is the time to push ahead. "I don't want to be looking back in 10 or 15 years time and realising I am still at a standstill," he said.

Tim is married to Una and they have two children, Keelin, aged two and half, and six-months-old Bobby.

He sees himself as a profit monitor 'novice'. However, he feels that continuing to complete a profit monitor is essential as 'something new seems to be thrown up each year'.

Tim is a member of the local Tulla dairy discussion group and feels that the



Niall, Sean and PJ Carraig examining reseeded pasture.

group is the 'genesis of many the decisions taken on the farm'. He said that the individual analysis of his own figures is good, but when combined with a discussion group session where all the figures from the farmers in the group are analysed together, it becomes really beneficial.

"You can benchmark yourself against local farms that you know well and are operating in similar conditions. Without profit monitor analysis you are inclined to look at things the wrong way around, focusing on milk price that you are not in control of. But when you complete a profit monitor, the focus switches to costs that are in your control and price becomes a lesser consideration," he added.

A similar view is held by Sean Carraig, who farms a 66-head herd in partnership with his father, PJ, at Tiermaclane, Ennis Co Clare.

Sean said their position is that 'costs are the only thing you can control; you cannot control price'. Farm production is

strong, with over 1,100kg milks solids produced per ha in 2009. This is a reflection of a high stocking rate and relatively good cow yields. Because the farm is tightly stocked, especially relative to the level of reseeded pasture on the milking block, keeping a handle on costs is vital to the viability of the holding.

"We did our first profit monitor in 2008 and we found it very beneficial as it allowed the overall cost structure of the farm to be broken down in a per unit basis (i.e. per litre, per cow and per ha)," he said.

After seeing the figures, Sean and PJ focused closely on saving costs in 2009 and 1.56c/l was saved in what was a very difficult year. The review of the 2009 figures 'put us in a good mood', said Sean. "Until you see costs analysed on a per litre basis, it's hard to see the benefits of savings you have made," he added. "However, at year end, you cannot change what happened in the year gone by. This is why using the figures to go

forward is so important and the reason that we implement monthly cashflow budgets. The cashflow budget is generated on the farm by looking at what was spent the previous year, how savings can be implemented on individual costs, and then putting in projected income, based on predicted milk sales.

"This is the only way to keep control of costs and expenditure, and may mean not spending on non-essentials if the cashflow does not allow it. In short, a profit monitor allows you to take stock of where you are and to develop a roadmap for where you want to go," he concluded.

PROFIT MONITOR | contact

- If you would like to complete a Teagasc profit monitor simply contact your local Teagasc adviser. This is a completely free service for Teagasc clients.

You earn what you learn

Entering a decade of opportunity

Tom O'Dwyer outlines some of the highlights at the upcoming national dairy conferences



Tom O'Dwyer,
Programme
Manager,
Dairying

IT'S said that in today's world, 'you earn what you learn'. Over time, skills can fade or be replaced by new technologies. None of us can claim to know enough. We must all take every opportunity to 'top up' our knowledge reservoir to flourish and prosper.

By attending the Teagasc National Dairy Conference 2010, you will be able to update yourself on a number of important current issues; network with other dairy farmers; hear about the strategic market outlook, and get up to date on the latest research findings. The conferences should be both useful and enjoyable.

This year's event take place at two venues on successive dates. The first is on 17 November at Charleville Park Hotel, Charleville, Co Cork. It is followed by a second conference on 18 November at Mullingar Park Hotel, Mullingar, Co Westmeath. Both will follow the same programme so you can attend the conference most suitable for you and still not miss anything.

Marina Rabello is part of the Rabobank global team of dairy analysts, based in Holland. She will outline the recent developments in supply, trade and demand for dairy products and,

most importantly, give Rabobank's view on the potential impact of these developments on Irish milk prices.

Rabobank will launch their Global Dairy Report in early November and she will be able to draw on the latest analysis in this report at the Teagasc conferences.

The *Food Harvest 2020* report concludes that 'the most compelling picture that emerges of the decade ahead is one of opportunity'. Increased global demand for milk and milk products, coupled with the abolition of EU milk quotas in 2015, presents a real opportunity for the Irish dairy sector.

Analysis suggests that a 50% increase in milk production is achievable by 2020. But changes are required by all in the dairy industry if this ambitious target is to be met. Change is never easy. Coping with expansion will be difficult — for farmers, the processing sector and for others involved. Planning and prioritisation is required.

By working together and focusing on the benefits of increased milk output, we can make this vision a reality.

Poor animal health is costing dairy farmers and the Irish dairy industry dearly. A new initiative will be launched by **Animal Health Ireland (AHI)**, with support from a number of dairy industry stakeholders, including Teagasc, by the end of 2010 to tackle milk quality issues, especially Somatic Cell Count (SCC).

We can learn from the experiences of other countries in this area. Australia has developed a national, industry-led programme to tackle mastitis and milk





quality called 'Countdown Downunder'. **Pauline Brightling and John Penry** have played leading roles in the Countdown Downunder programme and they will outline how the programme was developed and the achievements of the initiative to date. Pauline Brightling said that the programme has been built around the concept of capacity-building; i.e. increasing the abilities and resources of individuals, organisations and communities to manage change.

The initiative has focused on increasing the capacity of farmers to address mastitis and milk quality issues. This is achieved by ensuring that all farmers have a good understanding of the principles underpinning mastitis control, the skills and confidence to achieve best practice on farm, and resources and services to support change on farms.

An interesting aspect of this part of the conference is that time is being allowed for a panel discussion involving Pauline Brightling, **Finola McCoy**, Teagasc, and four others who have an interest in milk quality issues: a dairy farmer, AHI representative, milk processor representative and a veterinary surgeon.

The launch of the Dairy Efficiency Programme (DEP) in 2010 has led to a doubling of the number of dairy farmers participating in discussion groups. **Thia Hennessy**, Teagasc, will outline her latest research, showing how membership of such groups leads to increased rates of technology adoption and improved profit levels. Teagasc dairy advisers **Stuart Childs and Patrick Gowling**, supported by a number of dairy farmer discussion group members, will highlight the strategies that will allow you to get the most from your discussion group in 2011.

The final conference session will highlight the latest technologies in the areas of soil fertility, grassland, replacement heifer rearing and animal health. Proven technologies must be more widely adopted if farmers are to get a fair return on your investment and management inputs.

CONFERENCE | booking

You can book your place for either conference by contacting:

- **Catriona Twohig**,
catriona.twohig@teagasc.ie
or 029-60220 if you wish to attend on 17 November at Charleville Park Hotel, Charleville, Co Cork
- **Celine Delaney**,
celine.delaney@teagasc.ie
or 057-9169400 if you wish to attend on 18 November at Mullingar Park Hotel, Mullingar, Co Westmeath.
- Further details, and booking forms, are available at www.teagasc.ie
- Early booking is recommended as numbers will be limited.

Turning data into better decisions

Careful use of farm data, combined with particularly effective use of AI, are the key to progress on this still-expanding Tipp dairy farm

ATa time when banks require billions as if we were in the Monopoly Money zone rather than the eurozone, a chat with Declan Ryan, one of three Tipperary Co-op Teagasc monitor farmers, provides re-assurance that dairy farmers, at least, understand basic business principles.

"It's all about what we're keeping out of every litre of milk," said Declan, who farms at Rathcannon, Holycross, with substantial input from his wife Claire.

Declan's system is based on keeping costs low while profitably building both herd size and individual cow yield. He has steadily increased his herd from 58 to 80 cows and, while he is aiming for 90 to 100, he wants to remain a one-man operation. He readily admits he has scope to increase individual cow yield from its current level of about 5,100 litres/cow and around 380kg to 400kg milk solids per cow predicted this year.

"Declan is a great example of a dairy farmer who not only gathers a lot of data about his business, but understands and uses that information in his management decisions," said Tipperary-based Teagasc adviser Kevin Barron.

Declan's breeding policy is based on EBI figures and he has steadily raised the EBI of the herd from €47 in 2006 to €93 today, and he aims to maintain that improvement. Progress has been hampered due to disease and IBR over the last eight years.

Declan took over the family farm in 2002 from his parents, John and Mary. "I started milking in 2002 with 57 cows, all of which were relatively well bred to a pretty good stock bull," said Declan.

Having qualified as an AI technician, Declan buys straws from a range of semen providers, choosing the bulls best suited to each cow, and stores them on the farm until needed. At the start of each season he takes a refresher course, practising on live cows. The number of straws used is a healthy 178, with an

average EBI of 194, proving that Declan is doing a good job. He bred heifers to AI as well.

Calving begins in February but is still too drawn out. A relatively high rate of AI use means that Declan is planning to have plenty of good heifers in the pipeline. "There will be plenty of replacements which gives Declan scope to cull cows with poor reproductive performance and increase numbers," said Kevin Barron.

Always on the look-out for ways to use hard facts to improve his management, Declan is considering whether he should acquire a cattle scales, possibly with other farmers. "We recently discovered as part of the monitor farm checks that some of our heifers were lighter than the ideal weight. As livestock farmers we need to get accurate weights for animals at key stages," said Declan.

Little concentrate

In 2009, Declan's cows received 600kg/cow of meal. Last year was to prove a particularly challenging grazing season. This year they'll get little more than 400kg./cow. "It's all about grass," said Declan, whose milking platform of 43 hectares is divided into 36 paddocks and is managed by using the Teagasc wedge system. "Grass management is probably the biggest benefit I've had out of being part of the Teagasc/Tipperary Co-op Joint Programme," he said.

Declan is a monitor farmer within the programme. "I walk the farm and measure covers at least once a week, and there's another check when Kevin Barron and Denis Carr visit the farm regularly."

Cows enter fresh paddocks first, and when they move on, 18-month-old bullocks are brought into the paddock that the cows have just left. This reduces the need for topping. "By keeping on top of the system, and taking out paddocks if they got forward, I was able to make an extra 230 bales of really high quality si-



lage this year," said Declan.

Asked if he finds the wedge complicated, Declan remarked: "Not at all. It allows you to immediately see if a paddock is getting out of line because it's visual and you get an immediate overall impression of how paddocks are progressing."

A tributary of the Suir floods at least 40 acres once a year. "We put in extra roadways over the last couple of years and that proved to be a key investment to protect the swards from poaching," said Declan. The paddock system is built



Teagasc/Tipperary Co-op Dairy Advisory Programme 2010

Declan Ryan is currently joint chairman of the 14-member Mid-West Tipperary dairy discussion group. "I've benefited unbelievably from being in the group," said Declan.

"Being a member brings you on because you benefit from group members' views and having access to advisers like Kevin (Barron) and specialists. I also like the access to Teagasc specialists which we get at special workshop/seminars that are part of the Teagasc/Tipperary Co-op programme."

Donal Mullane, area manager, Teagasc, said that successful joint programmes between Teagasc and Tipperary Co-op have been operating since 1999. "The support for the programme from the suppliers has been heartening," he said. "I am very proud of the progress that has been achieved and is so visible on the ground. The success of the programme, which is focused on profitability, can be attributed to the teamwork of the parties involved."

"Tipperary Co-op has a track record of working closely with Teagasc, in conjunction with Solohead Research Farm, to transfer the most up-to-date technology and research onto its milk suppliers and to help Tipperary Co-op's suppliers to be at the leading edge of production efficiency," said Ted O'Connor, general manager, Tipperary Co-op.

"I would like to express a special word of appreciation to the three monitor farmers who made their farms available for walks and for their generosity in providing information for the benefit of our suppliers."

The three monitor farmers are Declan Ryan, Tim Crotty, Shronnell, and Seamus Farrell, Borrisoleigh.

The advisers are Kevin Barron (pictured, above right), John JM O'Dwyer and James Mullane, together with back-up from Denis Carr. Paul Fortune (pictured, above left), organises from the Tipperary Co-op side, together with other co-op personnel.

on regular reseeded, with about 10 acres done each year, while clover is included in every seed mix.

Declan is in REPS. His 14-unit dairy parlour allows for swift milking of the existing herd and has scope to accommodate future expansion.

Cell counts of under 200,000 show that this aspect of milk quality is well in hand. The Teagasc Profit Monitor is a key source of data for Declan. "You have to keep an eye on your costs per litre and, of course, your profit per litre — that's what it's all about."



ABOVE: Kevin Barron and Declan inspect a group of heifers.
LEFT: Future dairy farmer Tadgh with his dad.

Getting the most from



Liam Fitzgerald,
Beef Specialist,
Teagasc,
Athenry

HIGHER grain prices have resulted in an increase in concentrate costs of €50 to €60 per tonne. The biggest effect will be on finishing systems, where large amounts of concentrates are fed. But most cattle get some concentrates over the winter, so winter feed costs will increase for most classes of stock. Good management can lessen the effect.

Feed issues

Before you purchase feed, it is worth estimating exactly how much feed and the type of concentrate you need for the winter. You can then get quotations and negotiate on price.

It will simplify matters in relation to purchase, storage and feeding if one ration formulation can be used for all (or most) stock. For example, a mix of rolled barley, citrus pulp and distillers could be used for fattening cattle, weanlings and suckler cows in milk, with the appropriate minerals added later.

Teagasc have a complete nutrition advisory service that provides information on the nutrient value of ingredients and the formulation of specific rations for all categories of stock. Teagasc clients can also use the web-based ration reckoner which allows them to formulate a ration and compare a complete diet (forage and concentrates) with Teagasc recommendations.

On the Teagasc client site (www.client.teagasc.ie) there is an interactive calculator that allows you to calculate the value of most common feeds relative to rolled barley and soyabean or rolled barley and distillers grains. To access this site, go on the Teagasc client site, click on 'interactive calculators' and scroll to 'nutrition' (see graph).

This year there are indications from analysis that silage quality is well above average. This should allow scope for meal saving with autumn calving cows, store cattle and weanlings. Each three units improvement in digestibility will save 1kg meal/day.

It is worth having silage analysed if you are unsure of its feeding value. Consider if there is scope to reduce the meal allowance to cows, weanlings and stores by about 1kg/day where good silage is available. Dry cows don't need any meal, except where silage is restricted or cows



on poor quality silage are thin at housing.

Keep a close watch on performance of animals intended for grass in spring and reduce meal where performance is satisfactory.

An alternative approach would be to feed normal amounts of meal at the start and reduce or withdraw meal in the second half of the indoor period, having assessed the performance of stock. Reducing meal feeding before going to grass improves the opportunity for better compensatory growth.

How can you save on meal?

- **Buy in bulk** — meal bought in bags is €40/tonne more expensive than bulk purchases. Small-scale producers could collect a bulk supply from merchants or co-ops and store in a trailer under cover.
- **Buy off-farm cereals**, such as barley or barley/wheat mix, from cereal farmers.

A protein balancer and mineral/vitamin supplement can be added at feeding.

Where good silage is available, rolled barley, with added minerals, is adequate for store cattle and strong weanlings.

- **Feed-to-need only** by monitoring the condition of suckler cows, stores and weanlings throughout the winter to see if savings can be made. Weanlings and stores can have meal feeding reduced three to six weeks before going to grass.
- **Early turnout in spring** will reduce the overall meal requirements. Draw up a spring grazing plan and aim to get priority stock to grass in February.

Meal supplementation with silage

Since silage forms the basis of most cattle diets in winter (apart from the final finishing stage), the amount of meal needed to meet target gains determines the quantity to be purchased. The target liveweight gain for weanlings and store

expensive winter feed

A diet of silage, waste bread and straw being fed to cattle on John White's farm in Cratloe, Co Clare (see page 20).



cattle going to grass in spring is 0.5kg/day to 0.6kg/day. Cows with calves produce six to 10 litres of milk per day and need to maintain a body condition of 2.0 to 2.5.

Finishing cattle

In recent years, most beef cattle have been finished on an ad lib concentrate diet, with minimal roughage, over a period of about 100 days, having been brought to within 120kg to 150kg of their slaughter weight on forage-based diets of grass or silage.

Even at the higher meal prices, Dr Siobhán Kavanagh, Teagasc, has shown that the ad lib concentrate diet remains competitive against alternatives such as high quality grass silage, maize silage and fodder beet-based diets.

» Next page

Go to www.client.teagasc.ie, click on 'interactive calculators' and scroll to 'nutrition'.

Table 1 | Meal requirements, kg/day

Silage quality	Weanlings	Store cattle	Cows with calves
High — 74% DMD	1kg for first six weeks after housing	None	None
Moderate — 68% DMD	1kg	1kg for first 60 days	2kg to mating; 1kg thereafter
Low — 62% DMD	3kg at start, reduce to 2kg	2kg to 3kg	3kg to mating reduce to 2kg thereafter, depending on body condition

To control the feed cost on the ad lib concentrate diet, the meal should be bought at a competitive price, the rate of gain must be high (in the range 1.3kg to 1.5kg liveweight/day), and the animals should be finished in a relatively short period.

Teagasc recommend that animals should be grown on mainly forage diets, with high concentrate feeding confined to the final 80 to 90 days for heifers; 90 to 120 days for steers and about 200 days for young bulls.

Diets should have a high energy content (0.97 UFV or higher as fed) and about 12% crude protein. Don't neglect the water supply; stock should have a constant supply of fresh water.

Animal concerns

Feeding management should concentrate on getting the best performance possible from the feeds provided. With finishing cattle, the optimum level of intake is essential to maximise weight gain.

Regular feeding, a fresh supply, adequate feed space, feed available to appetite and no big or sudden changes to the diet help to ensure high intakes.

The next priority are the environmental conditions in the cattle house. The lying area needed in a slatted house ranges from 1.7m² for a weanling to 2.5m² for a large animal at finish.

Cattle produce a lot of body heat and moisture (especially those on finishing diets) which has to be expelled by ventilation. Excessive moisture on roofs is a sign of inadequate ventilation.

The third major area is animal health. A healthy environment will help to reduce the risk of diseases such as pneumonia. Fluke (including rumen fluke), stomach worms and lice are the main parasitic diseases that have to be controlled to get the most from the feed inputs.



John White and Clare B & Tadviseer Jim Hayes discuss the feeding of waste bread, which is ensiled under grass silage.

Clare farmer secures feed requirement in good time

JOHN White farms near Cratloe in Co Clare, keeping 100 suckler cows and selling the progeny mostly as yearlings.

The bull weanlings, all continental crosses, are sold at about 400kg. John has a big number of replacements at present so all the best heifers are kept for breeding.

The cow herd is mainly Limousin cross, with some Belgian Blue and Salers. He runs two bulls, a Limousin and Blonde d'Aquitaine, and also uses

some Belgian Blue AI. In August, as feed prices were escalating, John moved to secure some of his winter feed supply when he got the opportunity to purchase waste bread from the UK.

He bought 120 tonnes of bread at €120 per tonne and ensiled it in a narrow walled silo under a layer of second cut grass/clover silage.

The bread has a dry matter of 65%, a crude protein of 14.4% and an energy value similar to barley or wheat. At current barley prices, bread of 65% DM is

worth about €146 per tonne. The current price has risen in the UK and is now costing €150/tonne. The bread will be fed to the autumn calving cows and the weanlings, mixed with first cut silage in a diet feeder.

The yearlings for sale will get first cut silage, 3kg bread and 1kg to 2kg of beef ration. The autumn calvers will get a daily diet of first cut silage plus 4kg bread. Dry cows will get a mixture of silage and a small amount of straw, depending on body condition score.

Hens R Us

As times get hard, the fun and practicality of keeping poultry is back in fashion, writes **Nuala King**, Teagasc poultry specialist

HENS are 'in'. Time was when every farmyard boasted a flock of hens, a few cockerels for the pot and turkeys or geese for the Christmas dinner.

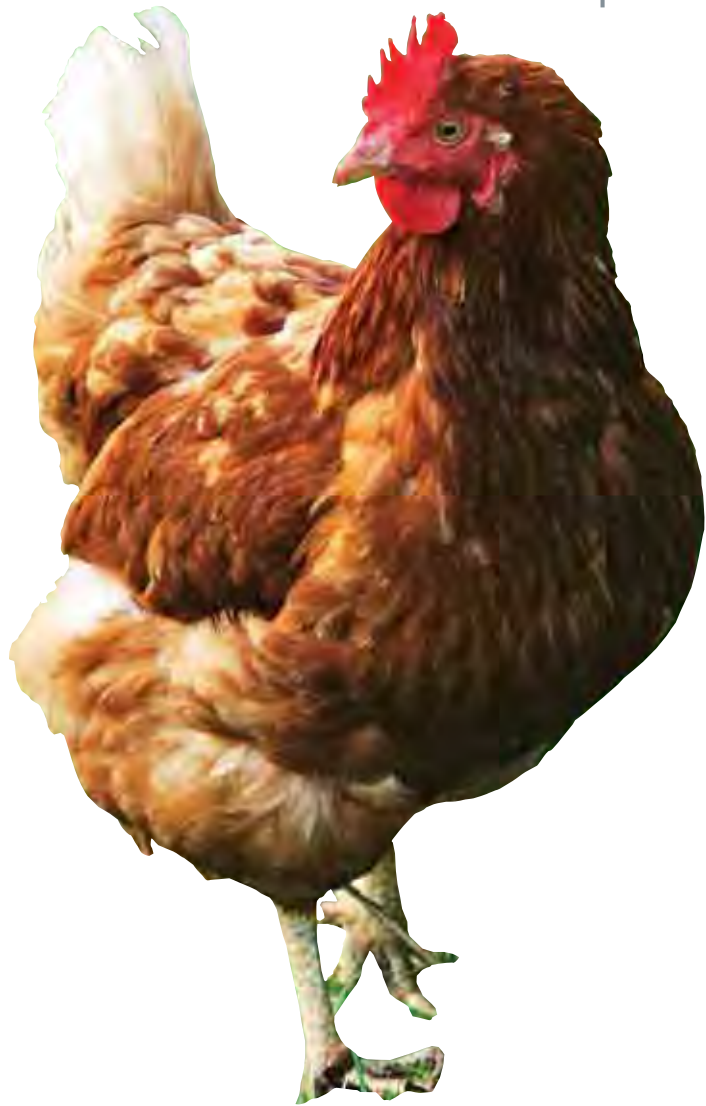
But times changed and poultry on the farm became almost taboo. Now it's trendy today, in both rural and urban settings, to declare that you have eggs fresh from the hens in your own back garden.

'Should I follow the trend?' is a question that's frequently asked. Make your decision on the basis of a list of pros and cons. In favour of hens you could perhaps list:

Pros

- You will have the freshest eggs possible — tasty and nutritious
- You will enjoy having hens, looking after them and observing their carefree behaviour
- Hens provide rich education and interest for children
- They will greatly improve the compost bank
- You'll have stress-busters on your door step.

“ At this family 'back garden' level, other values are in play. Do what suits your situation and do it well. Above all, enjoy the hen experience!



Cons

The cons might include:

- A little attention is needed every day of the year
- Hens need a house or an ark
- They can be messy if left on the same patch of grass for too long
- Hens can attract pests, if feed is left exposed
- They may upset the neighbours, particularly if you keep a crowing rooster (cockerel).

If you want hens to produce eggs, you should get point of lay pullets (young hens). These will be specialist layers, but virtually useless as poultrymeat birds.

Buy pullets from a reliable source; I'd like to see where they were reared. Don't pay a fortune for them. No modern point of lay pullet is worth the €12 that is sometimes requested. (that's 55 cent per dozen of eggs straight away). If you want rare breeds, that is a different matter.

Six pullets fed a balanced diet, given fresh, cold water and 14 hours light will supply about five good sized eggs per hen per week once they get into their laying stride.

Eggs will be small for the first few weeks. Lighting is important; traditionally, hens stopped laying in winter and farmers preserved eggs from the excess of the summer. Knowledge about the role

of lighting solved that dilemma.

Be aware that hens deprived of water for a few hours will cease to lay. Hens are gentle creatures and need protection from foxes and other predators. Cockerels are totally unnecessary with a laying flock. Provide a bed of chopped straw or white wood shavings. Give them a perching bar and have a nestbox for every six birds.

Let the birds graze in a confined area on short grass during the day. Lock them in at night. Feed consumption depends on the temperature. In cold weather they eat a lot more than the usual 125g to 140g (4.5 to 5 ounces) per bird per day. Feed is expensive — don't waste it.

Keep the nests clean

Collect eggs as soon as possible after they are laid — young children will find this a magical task — and keep the eggs in a cool place.

Remember: you cannot improve an egg after it is laid; you do your best to maintain its quality. Eggs deteriorate rapidly in warm conditions.

Intensive poultry farming is very big business, focused on profit. At this family 'back garden' level there are other values in play. Do what suits your situation and do it well. Above all, enjoy the hen experience!

Breeding

The key to better sheep profits

Tom Coll, Drystock B&T
Adviser Sligo/Leitrim AMU

PHILIP Higgins farms a mixed enterprise of suckler cows and sheep with his wife, Amanda, and their children, Jonathan (15), Naomie (13) and Hannah (7), in Skreen, Co Sligo. The children help out on the farm and have a keen interest, especially in the sheep. Philip's farm illustrates that lambs reared per ewe to the ram, high stocking rate, lamb price and reduced variable costs are the factors which drive gross margins on lowland sheep farms.

"Our enterprise consists of 200 lowland ewes, made up of 25% mules, 20% Texel X mules and the remaining 55% Suffolk X mules stocked at eight ewes to the ram per ha," said Philip.

Mature ewes are large, 90kgs plus; cull ewes slaughtered this year averaged 41kgs carcase and made €99. Suffolk and Texel rams are used both as terminal sires and for breeding replacements. "Traditionally, we have bought mule replacement lambs at the annual mule sale in Ballinrobe," said Phillip. "Now we source our replacements from our own mature mules."

In 2009, a total of 154 mature ewes and 46 ewe lambs — 36 of which were home bred — went to the ram in early September. The ram was used both on mature ewes and ewe lambs. Philip said he finds that the Suffolk cross ewes show heat two weeks earlier than the mule ewes.

Litter size

Ewes are not pregnancy scanned, mainly because of the predictability of litter size on the Higgins farm, which is consistently in excess of 1.7 lambs weaned per

ewe put to the ram. This year this figure was 1.74, which exceeds the Teagasc target of 1.6 for the lowland BETTER Farms and, when broken down, is made up of 1.84 for mature ewes and 1.4 for ewe lambs. Lamb mortality is less than 10% for the farm.

"Triplet lambs are cross fostered at birth, sometimes to ewe lambs," said Phillip. "Two thirds of ewe lambs reared doubles in 2010. Good quality, well-grown ewe lambs are selected for breeding at first draft and are in excess of 60kgs going to the ram. Lambing began on 7 February, and by 20 March, 95% of the flock had lambed."

By mid-October just seven lambs remain on the farm for sale. The average lamb price achieved this year was €96.60. Details of this year's lamb drafting are shown *Table 1*. The lambs drafted from August onwards were mainly those reared by ewe lambs.

How's it done?

Fields are closed from mid-October to create a grass wedge and ensure there's enough grass at turnout in mid-February. Twenty units of pasture sward is spread on all fields in early February, weather permitting, with barer fields receiving a light dressing of slurry. By early December, all ewes are housed on plastic slats and are fed pit silage plus concentrates from housing, gradually increasing to 1kg/head/day at lambing. Ewes and lambs are put to grass as soon as possible after lambing and are fed 1kg of concentrates to the end of March.

Creep is introduced to lambs from mid-March. Ewes are batched in four groups, with ewe lambs run as a separate group. "This year, ewes consumed 95kgs of concentrates per head at a cost of €23.20 and lambs consumed 27kgs at a cost of €7 per lamb," said Phillip. "That equates to €35 per ewe, or about 50% of total variable costs for 2010."

Philip is a founder member of the Sligo/Leitrim Lamb Producer Group, which was established in 2009. The group supplies lambs to Irish Country Meats in Navan and works closely with Teagasc and ICM to ensure that progress is made in lamb quality and selection, carcase-

weight, grade fat score and health.

The group, in conjunction with Teagasc Sligo/Leitrim and ICM Navan, recently ran a field evening and stock judging competition. The classes were: best upland and lowland ewe lamb for breeding and best factory upland and lowland lamb. Philip is delighted with the group. He said the main advantages for him are:

- The time saved; lambs are collected by the group at nearby stops
- Improved drafting of lambs as lambs can be selected every week
- Improved lamb price, due to better selection, and



Draft date	Running % of total
End May	47%
End June	73%
End July	80%
End Aug	83%
End Sept	94%
Mid Oct	98%



Philip Higgins: output per ewe is the main driver of gross margin on his Co Sligo farm.

- Factory feedback on liver damage.

Lamb kill to date on the Higgins farm shows that 64% of lambs graded U with 34% R. Only 2% of lambs fell in fat class 4, with an average carcaseweight of 20.1kgs. The group's lamb kill figures for 2010 show that 44% of lambs graded U, with 43% R, of which 8% were R2s.

Eighty seven per cent of the lambs were fat class 3 with only 3% overfats 4 and 5.

The average carcaseweight for the group was 19.3kgs. The projected gross output per ewe for 2010 for Philip is €164, with a gross margin of €97 per ewe. This equates to a 62% improvement over the previous year, when the gross margin per

ewe was €60. The increased lamb price, better lamb selection (i.e. heavier carcaseweights), more kgs sold per ewe and breeding from a greater percentage of ewe lambs bred from his own flock leading to reduced replacement costs and high cull values, all contribute to the better gross margin achieved.

"Output per ewe is the main driver of gross margin on my farm," said Philip "Through better grassland management and more effective use of paddocks, savings can be made, especially in meals fed to ewes at grass."

As for his breeding system, Phillip remarked: "If it works, why change it?"

“ Through better grassland management and more effective use of paddocks, savings can be made, especially in meals fed to ewes at grass

Plan P & K

for spring crops



Mark Plunkett
Johnstown Castle &
John Pettit, Teagasc,
Wexford

ARTIFICIAL fertilizer now accounts for about half of the total variable costs in cereal production. With this in mind, it is essential to keep an eye on fertilizer costs and tailor crop fertilizer programmes to satisfy crop nutrient requirements.

This is bread and butter stuff on George and Kenneth Williamson's farm, which is the Teagasc tillage BETTER farm in Wexford. The entire farm was soil tested in September 2009 to establish the soil's major and minor nutrients as well as soil organic matter. These provided up-to-date soil fertility information and the basis for good fertilizer planning in 2010.

Lime

A key starting point was to check the soil's lime status and ensure that soil pH was correct for the crop being planted. Soil test results indicated that the majority of the farm had good lime status, which is a reflection of the ongoing lime programme on the farm.

Calcium limestone was applied, as per lime recommendations, from the soil test reports, as soil magnesium levels were high. The aim is to maintain a soil pH of 6.5 for crops in the rotation.

Farm soil P & K

Soil test results in *Table 1* show that a large proportion of the farm was at soil index 1 and 2 for P, with the majority of the farm at index 2 and 3 for K. Up to

Table 1: | % of soil samples at various soil P & K indices

Soil Index	P	K
1	32	0
2	36	23
3	27	60
4	5	17

2009, 18-6-12 was the predominant compound fertilizer used for spring cereal crops. Soil test results showed that 10-10-20 would be a more suitable fertilizer as it better matched crop P & K requirements. This is required to get crops off to a good start in the spring as sufficient levels of P & K must be available in the rooting zone for plant uptake.

In 2010, yield potential for spring barley on the farm was 7.5t/ha (3.0t/acre). *Table 2* shows the potential crop offtakes at 29kg P/ha and 86kg K/ha between grain and straw at harvest.

The continued use of 370kg/ha (three bags/acre) of the compound 18-6-12 would have supplied 67kg N/ha, 22kg P/ha and 45kg K/ha. Hence, there would have been a shortfall of 7kg P/ha and 41kg K/ha, resulting in a decline in soil fertility and a possible reduction in future crop yield potential.

In 2010, index 1 soils received 430kg/ha (3.5 bags/acre) of 10-10-20, providing 43kg N/ha, 43kg P/ha and 86kg K/ha, while index 2 soils received 370kg/ha (three bags/acre), providing 37kg N/ha, 37kg P/ha and 74kg K/ha, which was incorporated at sowing time.

This paid dividends as April and May were very dry and this ensured that there was no restriction in the early stages of root and tiller development.

Index 3 soils received a maintenance application of 18-6-12 plus additional K



Table 2 | P & K offtakes in cereal grain and straw

Crop	Yield Potential (t/ha)	P Offtake (kg/ha)	K Offtake (kg/ha)
Spring barley	7.5	29 (23)	86 (68)
	6.5	25 (20)	74 (59)
Winter Wheat	11.0	42 (34)	108 (86)
	10.0	38 (30)	98 (78)
Winter Oats	9.0	34 (27)	130 (104)
	8.0	30 (24)	115 (92)

() — Units/acre

LEFT: George and Kenneth Williamson, who operate the Teagasc tillage BETTER farm in Co Wexford.



as muriate of potash (50% K) to ensure the crop had sufficient levels of K.

P & K trials 2010

Teagasc conducted a trial in 2010 to investigate the effect of P & K rates on grain yield and quality in spring barley.

This trial indicated the importance of supplying sufficient levels of P & K at sowing time on index 1 soils. Omitting P & K resulted in a yield penalty of 1.1t/ha to 1.25t/ha in 2010. This equals a return on P & K investment of approximately 2:1.

Trace elements

The importance of trace elements on the Williamson's farm was well recognised, with a previous policy of applying a broad spectrum trace element mix to cover all possible deficiencies.

Recent soil test results identified specific fields with low levels of manganese and zinc, or a combination of both.

As a result, a more targeted approach was adopted to trace element applications, where specific products were chosen to deliver either zinc or manganese to satisfy crop requirements.

Trace elements were applied early (three-leaf stage to first node) and consisted of either a single or split application, depending on the soil test results.

With the heavy soil type on the Williamson farm, all the land receives a pass of a heavy soil press before sowing to ensure a sufficiently fine and firm seedbed. This facilitates better soil to root contact, which improves trace element availability and plant uptake.

Plans for 2011

In 2011, fertilizers will be selected on soil P & K levels plus crop yield potential.

For example, spring barley crops will receive 370kg/ha (three bags/acre) of 13-9-22, which will provide 48kg N/ha, 33kg P/ha and 96kg K/ha. This better

matches crop offtakes and provides more N in the primary fertilizer application, which will be of particular importance on continuous tillage fields.

Soil test results have showed that a number of fields on the farm have low manganese (Mn) levels. Manganese plays an important function in the early stages of crop rooting and tiller development. To prevent a shortage of Mn in the early stages of development, spring barley seed will be dressed with Mn seed dressing for the very deficient sites.

Manganese also has a role to play in reducing the crops risk to Take-all infection.

In 2010, an area of forage maize silage was grown on the farm for a local livestock farmer. This provides many benefits in terms of crop rotation and the importation of organic manure onto the farm.

The addition of organic manure supplies a cost effective source of N, P, K and other nutrients, plus organic matter.

Maize will be rotated around the farm to maximise both soil and crop rotational benefits.

“ Artificial fertilizer now accounts for about half of the total variable costs in cereal production. With this in mind, it is essential to keep an eye on fertilizer costs and tailor crop fertilizer programmes to satisfy crop nutrient requirements

KEY POINTS | P & K for spring crops

- Over the past decade there has been a decline nationally in the usage of P & K fertilizer on farms, with a 60% and 58% reduction, respectively.
- Where this continues, soil fertility levels and crop yield potential will decline.
- In order to maintain soil fertility, fertilizer programmes should replace crop P & K offtakes for future crop yields.
- Now is a good time to take soil samples and check your farm's soil fertility levels and address soils with low lime status over the coming months.
- Organic manures offer a good opportunity to cost effectively replace fertilizers

and add soil organic matter to continuous tillage soils.

- In 2010, cross compliance requires soil organic matter to be monitored on continuous tillage soils.
- By the end of this year, 50% of continuous soils must be tested, with the remaining 50% tested in 2011. Soil organic matter results from the Wexford BETTER farm, which is a heavy soil type, are all above the soil organic matter threshold value of 3.4%.
- Request an S9 soil test (pH, LR, P, K, Mg, Cu, Mn, Zn) for tillage soils, which includes soil organic matter analysis, for €45, including VAT.

Soil mapping moving

The ISIS project will build on soil mapping which began in the 1960s

Sean Kenny,
Teagasc, Johnstown Castle

“ISIS is breaking new grounds, nationally and internationally, for the farming sector and for scientists. It will provide the knowledge and data that will help us manage our soil resources productively and sustainably.” So said Teagasc director, Professor Gerry Boyle, at the March 2009 launch of the Irish Soil Information System (ISIS) project, which has as its aim the completion of the soil map of Ireland to a scale of 1:250,000 (circa one inch to four miles).

The project builds on the work of Teagasc's predecessor An Foras Talúntais, which produced detailed soil maps at scale 1:126,000 (circa one inch to two miles) and red hard-backed reports by county for 44% of the country that was completed under that project.

The counties mapped by An Foras Talúntais are: Wexford, Carlow, Limerick, Laois, Offaly, Leitrim, Westmeath, Meath, Clare, Kildare, Waterford. Parts of north Tipperary, west Mayo, west Cork and west Donegal were also mapped.

These soil maps delineate areas of different soil type based on characteristics such as depth, drainage, texture and stoniness and are the basis for understanding the soil resources that sustain our agriculture systems.

Familiar

Indeed, many farmers are very familiar with soil series such as Clonroche, Elton and Patrickswell, which were defined by the survey and subsequently widely adopted and understood in regional vocabulary to define a particular soil type.

These names have, for those counties that were surveyed, become a commonly understood standard of soil quality and production potential. Unfortunately, the project was brought to a close in the mid-1980s with the result that the remaining 56% of the country was mapped at a much less detailed scale with no detailed soil series information produced.

The ISIS project aims to address this soil knowledge deficit by completing the soil map of Ireland at a scale of 1:250,000, thus providing the basis upon which future research can build to provide



The ISIS team pictured on Nicholas Bielenberg's farm at Munny House, Tullow, Co Carlow. From left: Billy Hamilton, Eoin Dooley, Nicholas Bielenberg (farmer), Rachel Creamer, Gero Jahns, Julian Spurway and Sean Kenny.

better soil specific nutrient advice while meeting with the requirement to have such soil information available to the public as recommended by EU legislation.

Original maps

Whereas the original maps were produced exclusively from an intensive field sampling programme, ISIS will combine cutting edge spatial mapping technology developed in the intervening years with traditional field surveying to produce the new map.

It is the first time that such an approach will be applied at a national scale and, as a result, the project has attracted

significant interest from scientists across the world. This process utilises the fact that a given soil is a function of five factors: climate, relief, parent material, time and organisms including humans.

For the counties already mapped, a statistical model can be constructed which can determine the relative contribution of each to the soil classification assigned.

Using the knowledge of this relationship and digital datasets for each of the five factors outlined above, a prediction of the soil types in the currently unmapped areas is produced from a Geographical Information System (GIS). This map is then taken into the field and



“ ISIS is breaking new grounds, nationally and internationally, for the farming sector and for scientists. It will provide the knowledge and data that will help us manage our soil resources productively and sustainably

Professor Gerry Boyle,
Teagasc director

used to inform the selection of sampling points as part of the traditional field survey element of the project to calibrate and verify the predictions. Survey teams visit representative areas within each of the soil units predicted by the map and using a 'Dutch' hand auger, bore down to 80cm.

Each 10cm of soil is brought to the surface in sequence where changes in texture, colour, wetness, stoniness, etc, are recorded and classification assigned.

The two-year field survey element of the project which started this year has already taken the team through Kilkenny, south Tipperary, west Mayo and into Wicklow.

Commenting on the progress of the field work to date, project scientist Dr Rachel Creamer of Teagasc, Johnstown Castle, said: "We have been delighted with the reception we have received on farms this year."

Co-operation

"We have had excellent co-operation from farmers regarding access to their lands and great understanding of the necessity for completing the soil map and information system and the role it will play in helping manage our soil resources," Dr Creamer said.

For 2011, it is planned to complete the field survey for Dublin, Cork, Kerry

Louth, Cavan, Longford, Roscommon, Monaghan and east Mayo with Sligo, Galway and East Donegal scheduled for 2012.

"Farmers in these counties can expect to hear from the project team as the project progresses and we are very grateful for the support of farmers for allowing access to their lands, without which the project could not be undertaken," said Dr Creamer.

On completion of data modelling, collection and validation, all of the soil information generated by the project will be made publicly available through a web-based interactive map.



Slurry is an excellent source of potassium and should be applied as early as possible (and allowed) in spring.

The K ain't always okay

Anthony O'Connor, Teagasc, Athenry

Do Galway farmers face a 'K'-lamity? Maybe yes, maybe no, let's hope it ain't so

POTASSIUM, or potash as many people know it, is essential for plant growth and animal nutrition. Potassium — designated with the letter K — promotes root development, vigorous growth and clover development in grass swards. It aids the uptake and utilisation of other major nutrients, such as nitrogen and phosphorus in grassland. Without sufficient K, you will get reduced grass yield in pasture, even with good levels of nitrogen.

In recent years there has been a major reduction in the usage of K in Ireland partly due to its increasing cost, a trend

Table 1 | Soil samples

	2006	2007	2008	2009
Index 4	45%	33%	27%	23%
Index 3	28%	29%	32%	29%
Index 2	22%	29%	34%	39%
Index 1	5%	8%	7%	9%

to compound fertilizers which are low in K, and also environmental concerns, which have led to lower use of fertilizer.

This decrease has been reflected on drystock farms in Co Galway.

- The ideal K Index is soil index 3.
- Index 1 and Index 2 indicate a deficiency of soil K.
- Index 4 may mean excessive K in the soil.

From *Table 1*, note the fall in index 4, with a large increase in soil samples at soil index 2 and soil index 1.

K requirements for grassland

Potassium requirement for grazed grass is low as K is recycled back on to the pasture in the form of dung, and especially in the form of urine.

Intensively cut swards have a much higher need for K, thus soil reserves of K may become depleted unless adequately fertilized.

Signs of K deficiency are poor and uneven growth in pasture, with grass species such as ryegrasses and clover fading from the sward.

Soil samples are the basis for good K management. Recommendations for farms should be drawn up by a Teagasc adviser or agricultural consultant. If there is a REPS or fertilizer plan on the farm, recommendations should be followed closely.

If index 4 is found, then the excessive K can lead to a problem with docks in pasture. It may also inhibit the uptake of magnesium from grass, which can lead to grass tetany in cows, thus high K fertilizer should only be applied in the autumn.

If index 1 or 2 are present, an application of K will give a vigorous response.

Sources of K

Slurry is an excellent source of potassium and should be applied as early as possible in spring. Straight fertilizers such as 0-7-30 and 0-10-20 are high in K, but their use may be limited if you are in REPS. Compound fertilizers such as 18-6-12 and 27-2.5-5 are low in K but are used widely. Muriate of potash (50% potassium) is very high in K but has become very expensive in recent years.

KEY POINTS | Potassium

- To maintain optimum growth, ensure that potassium is kept at index 3.
- This can be achieved through regular soil analysis every five to six years and by following recommendations carefully.
- The K ain't okay, but let's hope it will not get any worse!

Christmas trees — a growing market

Kevin O'Connell, Teagasc
Forest Development Officer

Ireland's 50 commercial Christmas tree growers produce around 600,000 trees annually, generating €12 million. Half are sold on the home market, with the rest going to the UK, France and Germany. In Europe, 32.8 million Christmas trees will be produced this year, with another four million imported from outside the EU. Therefore, huge potential exists for Irish growers who can produce a quality tree.

Ireland has the climate and soil types to produce the very best quality trees. Unlike commercial forestry, there are no grants or premia for growing Christmas

trees but, as a forest product, they are exempt from income tax.

The two main species grown are Nordmann fir (70%) and Noble fir (30%). Both are non-shed and have replaced the traditional Norway spruce.

Nordmann fir is suitable for heavier soils and is relatively easy to work with.

Noble fir is more site demanding and requires more intensive management.

Trees are grown on a 10-year rotation and are separated into two quality categories, generally breaking down 50:50 into premium and first choice.

Trees are colour tagged and sold by height.

Table 1 | Christmas tree price list

Colour	Size (feet)	Premium	First Choice
Pink	4 to 5	€15.00	€9.00
Green	5 to 6	€20.00	€14.00
Blue	6 to 7	€22.00	€16.00
Yellow	7 to 8	€25.00	€19.00
Orange	8 to 10	€35.00	€29.00

Christy's Christmas

CHRISTY and Kathleen Kavanagh run a 40-acre Christmas tree farm near Newtownmountkennedy, Co Wicklow. It is a family business, with brothers and sisters helping out at busy times. Christy trained as a commercial horticulturalist at Warrenstown College in 1979 and worked in the mushroom industry for a number of years before returning to the family farm.

"The home farm was a small mixed farm with cattle and sheep and I couldn't see a future in it," said Christy, who planted a few acres of Norway spruce in the first year. "I had no experience and, of course, made mistakes, but one of the most important lessons I learned was to get advice and education."

Christy joined the Irish Christmas Tree Growers (ICTG), attended their meetings, went on field trips, spoke to other growers and began to build up a sound knowledge base for growing the trees. He discovered that his farm was ideally suited for growing Noble fir.

He is now a full-time Christmas tree farmer, growing the non-shed species Nordmann fir and Noble fir and has the capacity to produce up to 7,000 trees per annum.

Growing Christmas trees is a full-time job that requires a number of different skills — planting, weed control, fertilizing, bud picking and shaping, pest and disease control, selecting and tagging, harvesting, transportation, presentation and selling.

Kathleen manages the business: administration, accounts, advertising, budgets, bookkeeping and web site. "Your annual income comes in over just one week!" she said.



Conor and Niamh Kavanagh with the supreme champion Christmas tree 2010

Marketing is key

Christy markets his wholesale sales on the Irish Christmas Tree Growers website.

Each year, from 1 to 24 December, he takes out a stand at Leopardstown Racecourse and sells his trees directly to the public.

"Customers come back year after year and pick out their Christmas tree; the trees are not more than a day cut."

Christy has twice won the national

Christmas tree competition and is the supreme champion for 2010.

"Get advice before you commit yourself," advises Christy. "Join an organisation like the Christmas Tree Growers and strive for quality. The markets are there, and if you can consistently produce a quality tree, then you will be rewarded with the best price."

- www.kavanaghchristmastrees.ie
- www.christmastreesireland.ie

Farm transfer

& retirement

The taxation issues



John Norris,
Farm Management
Specialist, Teagasc
Kildalton

WHEN a farm is transferred by gift, the owner 'disposing' of the farm must do the calculations for Capital Gains Tax (CGT) and the young farmer receiving the farm must check for two taxes — stamp duty and Capital Acquisition Tax (CAT). These taxes can be high but can be eliminated or substantially reduced where the full range of reliefs is available, but usually there are conditions to be met.

The **example** (*facing page*) illustrates the various taxes and reliefs which apply to a farm transfer.

Stamp Duty (the son in this example) Stamp duty is a tax charged on the legal documents transferring fixed assets by gift or purchase. The fixed assets include farmland, buildings, farm dwellings and milk quota.

Stamp duty does not apply to the mobile assets like livestock and machinery or the Single Farm Payment. There is a sliding rate of stamp duty of 1% to 5% on transactions up to €80,000, but once the transaction exceeds €80,000, the top rate of 6% applies to the full amount.

For transfers within the close family, stamp duty is reduced by 50% (the half rate); e.g. the 6% rate is reduced to 3% (this is referred to as consanguinity relief). Young farmers can claim 100% relief

“ It may be possible to reduce the CGT bill by allowing for capital improvement expenditure (net of grants) since the date the farm was acquired



Example | A dairy farmer approaching 66 years and applying for the contributory old pension wishes to transfer the farm and related farming assets to his son who is aged 29 years and has completed agricultural training. The market value of the assets is as follows:

(a) Farm — 120 acres (48.6 ha) at €10,000/acre	=	€1,200,000
(b) Farm buildings and facilities	=	€ 220,000
(c) Livestock (70 dairy cows + replacements + cattle)	=	€ 110,000
(d) Milk quota (80,000 gls = 363,688 litres at 12 cent/l)	=	€ 43,642
(e) Single farm payment (46 entls. At €350 each x 1.4 times)	=	€ 22,540
(f) Machinery and equipment	=	€ 45,000
Total	=	€1,641,182

(1) An average milk quota price of 12 cent/litre is used for this farm. Milk quota prices recently in the milk quota trading scheme have varied from a low of 4 cent/litre in parts of the West and north to a high of 15 to 18 cent/litre in the high demand areas in southern co-ops.

(2) The Single Payment entitlements are valued at 1.4 times the annual value, which reflects the local market value.

on stamp duty on the gift or purchase of farmland where the following conditions are satisfied on the date of transfer:

- (a) Must be under 35 years of age
- (b) Have the educational qualifications required (check with agricultural college or Teagasc education officer)
- (c) For a period of five years from date of transfer the young, trained, farmer must:
 - Spend not less than 50% of normal working time farming the land
 - Retain ownership of land and replace any land sold within one year

If education requirements are not met at time of transfer, stamp duty is payable, but a refund can be claimed if qualifications are achieved within four years.

In our example, stamp duty applies at 3% on €1,463,642 (land, buildings, quota) = €43,909. The son meets the conditions for young farmer relief and can claim 100% relief on this.

The relief is available for farm transfers up to 31 December 2012.

Capital Acquisition Tax (CAT) —
(the son in this example)

CAT applies to assets received as a gift (gift tax) or an inheritance (inheritance tax). The tax rate is 25% on the value of assets received in excess of the reliefs available. The son is getting a gift of agricultural assets valued at €1,641,182 and he must check two important tax reliefs available:

(1) Agricultural relief

This special relief for farmers allows for a 90% reduction in the market value of farm assets for CAT purposes. The son qualifies as a farmer if at least 80% of his 'gross property' is agricultural property after receiving the gift.

He owns a principal private residence off farm, valued at €280,000, from which he can deduct the mortgage of €120,000 to give a net value of €160,000. He owns cash/shares worth €45,000 to give total non-farm assets of €205,000.

After the gift, 88.9% of his total assets are agricultural and he qualifies for 90% agricultural relief reducing their value for CAT from €1,641,182 to €164,118.

The agricultural relief can be clawed back if the property is not retained for six years, or up to 10 years for land sold for development. Farmers need to plan in advance to ensure they qualify for agricultural relief.

(2) Tax free thresholds for CAT

The Class A tax free threshold for CAT allows each son/daughter to receive a total of €414,719 in their lifetime from their parents as gifts/inheritances. It includes anything received since 5 December 1991.

The son in this case is getting €164,118 after agricultural relief, which is well within his Class A allowance, so no CAT applies. The tax free thresholds are much lower for transfers between brothers and sisters or to nieces/nephews.

Capital Gains Tax —

(the father in this example)

The increase in the value of land from the date it was acquired up to the date of disposal is a capital gain subject to tax at 25%. Capital Gains Tax was first introduced on 6 April 1974. Indexation relief is available to allow for the effect of inflation. In this example, the value of the 120-acre farm in 1974 at €850/acre is €102,000. This is indexed by a factor of 7.528 to give an adjusted cost of €767,856 in October 2010 when the father gifts the land to his son. The CGT calculation is as follows:

(a) Market value at transfer (land + buildings + milk quota + Single Payment but excluding livestock and machinery)	=	€1,486,182
(b) Less indexed cost	=	€ 767,856
(c) Total capital gain	=	€ 718,326
(d) Less personal tax exemption	=	€ 1,270
(e) Taxable gain	=	€ 717,056
(f) Tax due at 25%	=	€ 179,264

It may be possible to reduce the CGT bill further by allowing for capital improvement expenditure (net of grants) since the date the farm was acquired; get your accountant to check this.

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Retirement relief is available to farmers who meet three main conditions at the date of transfer:

- Must be over 55 years of age
- Must have owned the land for 10 years or longer
- Must have farmed the land for 10 years or longer.

The father meets these conditions and can claim full retirement relief on the CGT tax of €179,264. It is a condition that the son retains ownership of the land for at least six years to avoid claw-back of the relief. Various rules apply if land was leased out or, under the farm retirement scheme, before transfer, and these must be carefully checked with an accountant to see if relief applies. Also, check the rules carefully where land is jointly owned as, on some farms, one of the spouses might not qualify as a farmer based on the rules.

Other issues to be checked

- The father is retiring from farming and on the income tax side he needs to check with the accountant any adjustments required under the cessation rules.

Areas examined will include finishing up on 'income averaging', valuations of stock on transfer, dealing with leased machinery, transfer of capital allowances, etc. The son will be commencing farming and the commencement rules will apply to him.

- Contact the District Veterinary Office (DVO) for the changeover of the herd number.

A transfer of entitlements form needs to be completed, signed by father and son, for the gifting of the Single Farm Payment entitlements, and returned to DAFF Single Payment Unit before the closing date of 16 May 2011. The son will be the new applicant for the Single Payment in the future.

- Discuss with the Co-op the transfer procedure for the milk quota
- This farm is not in REPS, but those who are will need to check with their REPS planner regarding the procedures and paperwork to be completed for transfer of the REPS contract and commitments.

Arrangements need to be made with the bank and other financial institutions for outstanding loans, leases and hire purchase agreements on the farm. Are these to be transferred to the successor or paid off, etc? In this example, the father will be transferring some farm loans to the son.

Are other family members catered for? Parents are allowed to gift one site, up to an acre in size, to each child for their principal private residence — various rules apply. These transfers are free of stamp duty and capital gains tax when they are transferred by the parents. Sites received from a brother or sister or uncle/aunt do not qualify for this concession. This has been used in this case.

Farmers need to be careful not to



KEY POINTS | Retirement

- Retirement is a big life change for farmers and they need to plan for this, in conjunction with their nominated successors, well in advance.
- They need to plan for lifestyle changes and, most importantly, to have adequate income.
- Check the various reliefs available for stamp duty, Capital Gains Tax and Capital Acquisitions Tax and make sure the various conditions can be satisfied. The successor

needs to ensure they have their agricultural education completed.

- It is very important that the successor will be viable and not be overburdened with debt due to family settlements or excessive lease or support payments to parents, relative to the income generated by the farm and outside sources.
- Discuss the issues with your accountant, solicitor and agricultural adviser.
- Every farm family situation is different.

overburden the successor with large debts for family settlements.

- The parents in this case are retaining the farm dwelling. Some farmers may have rights of residence or move into a separate house. Get legal and tax advice on the various options.
- On bigger farms, land may be split between two or more children, or some land may be retained by parents and leased during their lifetime to give them security and an additional source of income.
- Where land transfers by inheritance after death, stamp duty or capital gains tax do not apply, but capital acquisitions tax (inheritance tax) applies and follows the same rules discussed above.

The parents in this example have adequate provision made for income in their retirement in addition to old age pension. They have a private pension fund, savings and some off-farm property.

Future budgets may change reliefs

Changes may occur in some of the tax reliefs relating to farm transfers in future budgets, based on recommendations by the Commission for Taxation in 2009. Discuss these issues with your accountant well in advance of this year's budget on 7 December 2010. This is particularly important for the larger farms where any change in relief or tax rates would have a larger effect.

A joint approach to tackling poor prices



Ben Roche & Áine Macken-Walsh

A recent Bord Bia report 'Pathways for Growth', produced by Harvard University experts, notes that "Ireland's grass-based production system wins points for sustainability and enhanced nutrition. Its people are viewed as friendly and open. It is small (not 'multinational') and close to Europe...Its competitors for the 'green' market cannot deliver on that promise. New Zealand, which otherwise would be comparable, is too far away for most. Argentina is too big and too far away."

As noted in the same report, grass-fed beef sells for \$26 a pound in New York, more than three times the price of conventional beef. The majority of Irish beef and lamb is grass fed, free range and produced on family farms that have a traditional and cultural significance in rural Ireland. All of these characteristics and qualities are potential branding capital for marketing a high-quality, differentiated food product that receives a higher price than low value-added commodities.

As there is a relatively small number of factories in Ireland farmers operating as individuals have little influence in setting the price paid for beef and lamb.

The small number of large supermarket multiples can, in turn, exert pricing pressure on factories. As a result of factors such as these, farmers have poor bargaining power.

An American solution to improve declining farm incomes, the Middle Agriculture Movement, discusses how food production has come to follow one of two paths:

- Artisan food production and direct selling with high value-added, or
- Mass-production of agricultural commodities competitively priced on the world market.

Many family farms in Ireland and elsewhere in Europe fall between these two extremes and are going out of business. They are too small to compete in the commodity markets and too conventional to sell in the direct speciality markets. A potential strategy to address falling prices paid for family farmed food is to add value by highlighting the uniqueness of family farmed food through sophisticated public relations, branding, marketing, and packaging.

Could the Middle Agriculture Movement be relevant in Ireland?

High value-added differentiated food



Members of the Ring of Kerry Quality Lamb group.

Figure 1. Value chain for beef. Primary activities



does not mean processed food (such as cheese) or organic food, and according to experts, there is potential for adding branding to family farmed food that has a place-based regional distinctiveness and superior quality comparative to low-cost mass-produced commodities.

Arguably, Irish farmers are already producing superior quality foods with regional distinctiveness but strategic branding and marketing activities must be applied in order to enter high value-added markets.

Some farmers are now starting to form groups such as Connemara Hill Lamb, Ring of Kerry Lamb, Mayo Lamb Direct, and Burren Beef and Lamb.

Such groups are producing superior quality distinctive products that are desired by a growing consumer group that does not necessarily want imported organic food, but healthy regionally-branded food that is produced in an environmentally and socially sustainable way.

Branding regional food is a strategy to differentiate family farmed food in the marketplace. Connemara Hill Lamb, for example, was given Protected Geographic Indication (PGI) status by the European Commission. Lamb produced outside of the region cannot be marketed

or sold as Connemara lamb.

Many producer groups have set-up marketing networks and are succeeding on the basis of supplying customers with unique, naturally produced lamb from defined geographical areas. They are being rewarded with higher prices for their produce. However, such producer groups are not without difficulties and challenges.

The producer groups face difficulties in keeping all aspects of their businesses running effectively: producing, processing, branding, marketing, advertising, distribution, and sales.

Small producer groups are challenged with undertaking all of these activities that are necessary to make their product a success and they lack the scale and financial resources of other large food companies to hire in the necessary expertise and services, such as marketing experts and large distributors.

Many producer groups attempt to do all of this work themselves but, considering that they are also producing the primary product, they can have insufficient time. Many producer groups can easily neglect parts of the business or can have insufficient expertise in one or more areas.

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Federated Co-operatives

Small co-operatives in the Middle Agriculture Movement have taken steps to address these challenges. While keeping their own independent brand and identity, small co-operatives have joined together in what is called a 'Federated Co-operative'.

By joining together, they achieve scale in contracting processing facilities; packaging facilities; marketing expertise; public relations; advertising; and large-scale, efficient distribution.

Financing such facilities and professional expertise is more affordable and efficient when funded and shared collectively. The Federated Co-operative, because of its larger scale and impact, can also attain greater visibility and bargaining power in national and international markets. It also facilitates potential contracts with meat processors and supermarket multiples where farmers have strong bargaining power and where the farmers needs are met.

Federated Co-operatives in the Middle Agriculture Movement typically engage in one or more of the following:

- Professional broad-scale marketing and advertising,
- Regional/national co-ordination of activities and flows of product,
- Research, education and other professional supports,
- Third-party certification to ensure quality and consistency.

The principles of the co-operatives are that they are owned by the farmers who use them, controlled by the farmers who use them and that benefits generated by the co-operative should accrue to their users on the basis of their use.

Funding such ventures?

The EU LEADER Programme was designed to provide financial support for establishing 'alternative' rural enterprises. It has a total fund of €425m for the period 2007 to 2013. Farmers in Ireland and elsewhere in the EU have been relatively slow to avail of this programme compared with other social groups. Through a Federated Co-operative structure, farmers could leverage supports for research and development as well as capital for processing and other industry facilities and services.

EU rules suggest LEADER funding could be used to provide financial support for:

- Professional development for establishing and developing value added supply chains,
- Identifying and developing new ecological/cultural type services related to agriculture and forestry,
- Co-operation for development of critical mass and economies of scope for added value products, services, processes and technologies in the agriculture, food, and forestry sectors (co-operation between primary producers, processors, community, society and/or third parties),



Ring of Kerry Quality Lamb (currently about 30 producers and growing) aspires to becoming the market leader in terms of taste, quality and innovation.

- Establishing and meeting the quality standards for local and regional agriculture branded services and foods.

At a recent meeting facilitated by Áine Macken-Walsh and Ben Roche, representatives of existing producer groups expressed enthusiasm for the potential of a federated co-op.

"We all want to retain our identity but a larger body could help share some marketing costs," said Tom Staunton of Lamb Direct in Mayo.

"But it won't be easy to co-ordinate it all, Teagasc could play a role in that. Markets are getting more difficult as the recession bites. Hotels, for example, are becoming extremely price conscious. Small co-ops can help each other at a very practical level — sharing experiences and describing pitfalls they have encountered. A Federated Co-op could also potentially benefit smaller groups."

Christy Roche is part of the Burren Beef and Lamb Group who sell beef and lamb direct to consumers.

"The recession is causing difficulties and people are not as ready to pay extra for food but this is still a good way to make better returns from cattle," says Christy. "Factory prices are a dead duck. I'm hopeful something good will come from this initiative. We have an excellent product but we don't have the expertise to do marketing."

"The Ring of Kerry is an internationally-renowned part of Ireland and, as such, had the potential to be developed into a powerful brand," says Teagasc adviser Michael Gottstein who has helped establish the Ring of Kerry Quality lamb Group. "Yet processing, marketing and

delivering lamb to the end consumer was a huge challenge for a group of sheep farmers with virtually no experience in red meat sales/marketing. Producing a superior quality product was relatively easy, getting consumers to pay for it required huge effort and was more difficult than anyone in the group had anticipated."

Ring of Kerry Quality Lamb (currently about 30 producers and growing) aspires to become the market leader in terms of taste, quality and innovation. As the group controls the entire production chain right through to the delivery of the end product to the end user, it is possible to ensure quality/service at a level that no other processor/retailer can. To date, the product offering has met standards which are unparalleled in the red meat industry.

The Federated Co-operative model was identified as having potential in the Irish context through a research project conducted by Áine Macken-Walsh at Teagasc's Rural Economy and Development Programme (REDP). A current project involving Teagasc's Ben Roche, Áine Macken-Walsh, Paul McCarthy, Eddie O'Neill and a wide range of partners in other Government and voluntary agencies, aims to assist groups such as Ring of Kerry, Burren Beef and Lamb in Clare, Lamb Direct in Mayo and many other small co-ops to move to the next level possibly by forming a Federated Co-op.

- For more details, contact Ben Roche at Teagasc Moorepark 025 42222.



Clem McMahon competing on NLS Coole
AI Clover 6, Y/O winner, Lanaken 2010.

Breeding: it's all in the genes

Good quality mares and sires are the foundation of breeding success and profit, writes **Declan McArdle**

WHO wouldn't want to have been in Eamonn Kenny's shoes at Lanaken when the horse he bred, NLS Coole AL Clover, took gold at the FEI World Breeding Jumping Championships for Young Horses? As breeders, we fantasise about such moments, and dreams can get us through the tough days. But, if we want to ensure we have a realistic chance of success, we need to focus on what will genuinely increase the likelihood of producing a winner.

The upcoming Teagasc seminar in association with Pegus Horse feeds, 'Breeding for Profit and Performance', will discuss what Irish breeders need to do to breed gold medallists. And, if not gold, at least perform competitively and leave a profit.

Comdt John Ledingham, international rider and coach, says it is time to 'stop looking over the fence; it's time to jump it!' He believes that breeders must reflect on their produce to date, decide on what they want to breed and take stock of the herd they intend to work

“ Stop looking
over the fence;
it's time to jump it!

SEMINAR DATES

'Breeding for profit & performance'

- Tuesday 2 November, Cavan Crystal Hotel, Cavan, 8pm
- Wednesday 3 November, Loughrea Hotel and Spa, Loughrea, Co Galway, 8pm

with. John will discuss his ideas on the way forward, derived from his experience as an international competitor, coach and HSI inspector.

Carol Gee, international rider and producer of event horses, will answer the question: 'is the modern day event horse just a lucky bag?' Was it just a freak that La Biosthetique-Sam F'BW led all the way with his dressage score at the World Equestrian Games recently to take gold? Is it possible to breed a world class competitive event horse? Her answer is yes.

Carol will discuss the Irish-bred horse and the huge role it plays in the world of eventing. She will outline how the sport has changed and how breeders must change with it if they are to remain successful.

For Ireland to produce top equine

athletes into the future, the younger generation needs to be educated on the requirements of the modern-day equine athlete. The Teagasc equine team will describe the work they continue to do in conjunction with Horse Sport Ireland with young breeders. Also speaking will be Jane Hurley, Devenish Nutrition, who will offer advice on feeding horses this winter on a budget.

The seminars will stress that if you wish to make a profit you must breed for performance. There is strong demand for quality animals but too many vendors are returning home with light pockets or heavy horseboxes because too many below average horses are being produced.

It is unrealistic to expect a mare with no pedigree and no performance to produce a superstar.

The Teagasc seminars provide a unique opportunity to engage with experts on the issues of current market demands and how to produce commercially viable horses which will ultimately put more money in your back pocket and maybe make that dream come true!

Admission is free and all are welcome.

• For further details contact the Teagasc equine team: Declan McArdle, 087-6831876; Wendy Conlon, 087-9879083; Norman Storey, 087-2222513; Ruth Fennell, 087-9602537, or David Stone, Pegus Horse Feeds, 086-3000500.

Opportunities for the



Mark Gibson,
environment
specialist,
Teagasc, Athenry

IRELAND is unique among EU countries in that our national GHG (greenhouse gas) emissions from agriculture are higher than the EU average. A little over one quarter of our GHG emissions originate in agriculture. This level of emission is easily explained by the dominance of livestock farming here.

New Zealand is the only developed country in the world with a higher proportion of emissions from agriculture than Ireland. Major inroads have been made into reducing the level of GHG emissions from Irish agriculture. Irish agriculture has reduced GHG emissions by 8% since 1990. This has occurred through reduced fertilizer use and more efficient production systems. This reduction in agriculture is set against the background where most other sectors have increased their emissions to levels well above Kyoto targets.

It would be incorrect to pinpoint agriculture as the chief culprit in the global greenhouse gas debate. In fact, it is a relatively small player, although it presents particular challenges since methane and nitrous oxide are much more powerful greenhouse gases than carbon dioxide (about 20 and 300 times respectively) and emissions of these gases are strongly related to livestock production.



New Zealand is the only developed country in the world with a higher proportion of emissions from agriculture than Ireland. Major inroads have been made into reducing the level of GHG emissions from Irish agriculture

Approximately half of agricultural GHG emissions in Ireland come in the form of methane arising from enteric fermentation. This is the process where grass is broken down in a cow's stomach. Despite popular belief, 80% of the methane is produced by belching. The other half of GHG emissions from Irish agriculture come in the form of nitrous oxide. Nitrous oxide is emitted from agricultural soils and manure management. Teagasc has established a major cross centre programme focused on both quantifying accurately GHG emissions from agriculture and reducing these emissions.

Major inroads have been made into reducing nitrous oxide emissions through techniques such as using clover, improving the genetic merit of animals, diet manipulation, biofuels, min-till as well as on-farm energy efficiency. There are many more approaches that are currently under development. Of course, forestry has the potential to play a large role in terms of offsetting GHG emissions from agriculture.

To co-ordinate the organisation's efforts, Teagasc has established a multidisciplinary internal working group on climate change. This group has been tasked with providing scientific comment on climate change matters relating to agriculture as well as identifying future research opportunities.

The working group builds on the fact that climate change is affecting, and will continue to affect, all parts of agriculture and therefore includes representatives from all Teagasc programmes.

Irish farming is carbon efficient

Many of us often complain about the high rainfall and cloudy days we experience in Ireland. However, it is our temperate climate that gives us a competitive advantage over many other agricultural nations. Our mild climate means that we can grow grass much more efficiently than other countries. This also means that we can produce milk and meat with a much lower carbon footprint than competing countries — a fact which has been acknowledged in a report by the UN Food and Agriculture Organisation (FAO).

This is an extremely important finding and gives direction to the task of reducing global greenhouse gas emissions from agriculture. The Teagasc Climate Change Working Group recently organised an international climate change conference in the Mansion House, Dublin title 'Opportunities for Carbon Efficient Farming'. A strong message arising from this conference was that Ireland is uniquely positioned to turn



future of Irish farming

Climate change in a nutshell

Climate change has been recognised as the greatest threat to the planet and the greatest challenge facing humanity. Since the beginning of the industrial revolution in the 1750s, concentrations of the three main greenhouse gases (carbon dioxide, methane and nitrous oxide) in our atmosphere have increased dramatically. Scientists are now unequivocal that this dramatic increase in greenhouse gases is as a result of human activity.

As a result of this increase, global average air and ocean temperatures are slowly increasing. Scientists don't believe that the unstable climate conditions we have observed over the last number of years are as a direct result of climate change but have more to do with natural fluctuations in climatic cycles. The Intergovernmental Panel on Climate Change has established that this increase in temperature of the earth will have significant effects on our climate. Some of these effects include:

- 1) Increases in rainfall in many temperate regions, such as Ireland, while droughts will become more frequent.
- 2) Increased risk of inland flash floods and more frequent coastal flooding and increased erosion.
- 3) Many of the presently water-stressed areas of Africa are likely to become more drought-prone, seriously

the threat of greenhouse gas emissions into an opportunity for Irish farming.

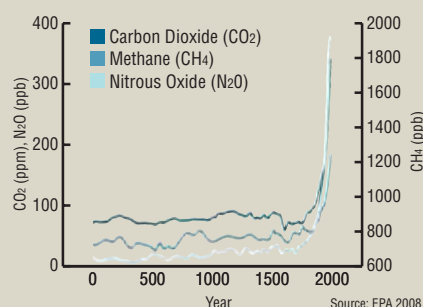
Should Irish livestock numbers be reduced to meet our GHG targets? This was a key question that was posed at the conference. The simple answer is no.

While it may appear an obvious solution on the surface, such a move would actually increase global greenhouse gas emissions through 'carbon leakage'. The reason for this is that global demand for food is rising. Ireland is the fifth largest exporter of beef in the world.

In a scenario where Ireland would decide to limit its food production to meet its own GHG target, the increased demand for food will be met by agriculture in other regions of the world. It is highly likely that the production of meat and milk in these other regions will have a higher carbon footprint than if it was produced in Ireland.

Carbon leakage relates directly to the point made earlier that Ireland has one of the most carbon efficient livestock systems in the world.

Atmospheric GHG levels



compromising their agricultural productivity.

In a bid to reduce global greenhouse gas (GHG) emissions, the United Nations established the Kyoto Protocol in 1997. This global agreement established legally binding targets for countries to reduce their GHG emissions. In effect, each country has been given a quota of GHG emissions.

The European Union has taken a further initiative of introducing European targets for each member state. Ireland has a target to reduce greenhouse gas emissions from the non-emissions traded sector by 20% by the year 2020. The non-emissions traded sector comprises transport, agriculture and residential.

So, how can we feed the world and, at the same time, reduce greenhouse gas emissions?

International research

International research has established that the fairest and most accurate way of measuring GHG emissions is on a per unit product basis. For example, the total GHG emissions from a litre of milk or a kilogram of meat. By reducing the 'carbon footprint' of our produce, all countries would compete on a level playing pitch and work toward reducing GHG emissions from global agriculture.

Our low carbon footprint means there are vast marketing opportunities for Irish food products. Teagasc, in conjunction with other agencies, has established many initiatives that aim to capitalise on this natural advantage we have in Ireland.

Teagasc has allied with International and European research partners in a joint effort to develop strategies to reduce the carbon footprint of agriculture.

Cattle at Moorepark equipped with GHG monitoring equipment.

Bamboozled

Paul Fitters Botanic Gardens

BAMBOOS were introduced to Europe in the middle of the 19th century and have since become well established as ornamental plants here. Although you might not think it, bamboos belong to the Poaceae or grass family.

The term 'grass' is also applied to plants that are not members of the Poaceae family, including the rushes (Juncaceae) and sedges (Cyperaceae). This broad use of the word 'grass' has led to plants of the Poaceae family often being called 'true grasses'. There is a useful rhyme (author unknown) to help distinguish these groups of plants:

*Sedges have edges,
rushes are round
and grasses are hollow
right up from the ground.*

As most schoolboys can tell you, bamboos are hollow between the nodes (the knobby bits on the stem).

Generally, grasses only produce hollow stems when they flower. Until then, they keep low to the ground and tiller (produce side shoots). These shoots have their leaves very closely packed on very short stems. This is why grasses can be grazed without losing their growing points and can continue to generate new grass blades. Only when they intend to flower will they send their growing point skywards in order to let the wind help with pollination.

Unlike most European native grasses, bamboos rarely flower. Many bamboos flower at intervals of as long as 60 to 120 years, so they are propagated by division.

Popular bamboo species often come from a few individuals or clones and, therefore, all are the same 'age'. As the clones are genetically identical, when they do finally decide to flower they tend to flower all at the same time, wherever they are in the world.

This unusual flowering mechanism is

“ Managed well, bamboos can be very useful and versatile evergreen ornamental garden plants, with their own distinctive elegance. They can be grown very dramatically as individual clumps or used as hedges for screening



ABOVE & LEFT: Elegant clump forming *Thamnocalamus spathiflorus* at the National Botanic Gardens in winter.



BELOW: *Phyllostachys flexuosa* at the National Botanic Gardens.



An occasional series by experts at the Teagasc college at the National Botanic Gardens aimed at adding to the appearance and value of your farm



still largely a mystery, but would indicate some kind of internal 'alarm clock' that triggers the diversion of all energy away from vegetative growth into flower production. It might take a long time for them to flower but, when they do, the plant can wear itself out and even die. Some *Fargesia* species, for instance, flowered in most gardens last year and have since died.

When buying bamboos, be sure they are not likely to be too invasive. As a rough guide, bamboos are either clumpers or runners. The clump forming type tends to be better behaved in the sense that all the shoots (culms) arrive from the ground closely packed together. In time, the plant will grow in size, slowly in-

creasing its clump. Examples include *Phyllostachys* and *Semiarundinaria* species. Despite this non-invasive nature, these bamboos can grow into considerable clumps and, once established, will be difficult to remove.

Runners, on the other hand, tend to send out horizontally, growing underground shoots with vertical shoots at considerable distance from each other along the shoot. These types, such as *Pseudosasa* and *Sasa* species should be used with care as they can run wild in a garden. One way of containing them is to dig in a root barrier around the plant. This is an impenetrable sheet of rubber, which prevents the runners from escaping.

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