New Entrants Thriving on Dairy Challenges.

Silage: planning for next winter
How to stick to your dietary goals
Managing cashflow in a crisis
Toning up your mental health muscles
Dairyman delivers
Sheep: more profit less hardship
Tips from a cattle trader
Tillage fungicides
The fruits of forestry
Botanic gardens and more.....
Know your enemy

Horse Fly
Tabanus sp.
Chrysops sp.
Haematopota sp.

Head Fly
Hydrotaea irritans

Face Fly
Musca autumnalis

Stable Fly
Stomoxys calcitrans

Horn Fly
Haematobia irritans

Midge
Culicoides

Dose monthly and prevent a season-long nuisance to your herd

Spot On keeps existing fly populations under control. When you’re on top of the problem you need to stay on top with a monthly programme. Spot On makes dead certain you’re killing the new wave as they emerge.

- Different fly species emerge throughout the summer
- Fly populations quickly expand to become large irritating swarms
- Keep fly problems at bay with regular, frequent treatment - Monthly: starting in April/May

Active against Culicoides the Schmallenberg Virus midge vector<sup>1</sup>

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Kills flies DEAD

For further information please contact your veterinary surgeon or Zoetis,
9 Riverwalk, Citywest Business Campus, Dublin 24 Tel: 01 467 6650

PF002 001 SPOT ON AD 2012 A4 IRELAND indd 1

1 Schmahl et al, Parasitol Res (2009) 104:809-813
Today’s farm is a bi-monthly publication produced in a joint venture between Teagasc and the Agricultural Trust, publishers of the Irish Farmers Journal and The Irish Field.

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Cover | New entrant dairy farmers (front four): Brendan Phelan, Sean Duggan, facilitator Roberta McDonald and Jimmy Payne. Next row: Ed Payne, Paul Kelly, Philip Dwyer, Ian Wharton, Brendan Horan (Teagasc), Patrick Murphy and John Payne. You can read more about the challenges they face on pages 25 to 27. Picture: Clare Frances

When researching the article on silage, we heard of the case of Carrick-on-Suir farmer Dermot Lanigan who found some 16-year-old silage at the back of a pit. The silage was well preserved and eaten with relish by his dry cows. This shows that well-made silage will last what seems an extraordinary length of time. Hopefully farmers will be able to harvest sufficient grass to consider building such a long-term buffer, if not this year, then possibly next. But to me, the case of the long-life silage shows that we sometimes set limits in our minds, or hold perceptions, which may not correspond to reality.

I didn’t think silage could remain palatable for so long. Now silage will either go off or it won’t. But how often do we decide in our minds that we can’t do this or that, when in reality the only thing stopping us may be our belief that it is so.

Sriantaí samhailta

Nuair a bhí ár gcuid taighde á dhéanamh ag an fheirmeora ó Charraig na Siúire, Dermot Lanigan a tháinig ar roinnt sadhlais a bhí ann le 16 bliana ag cúl chlaise. Bhi an sadhlas caomhnaíthe go maith ag d’fhéadfadh dith a chuid bo sheasc ag fonnmhar é. Léirionn sé seo go mhaithfidh sadhlas dea-dhéanta tréimhse imeachta atá na bearta.Táthar ag súil go mbeidh feirmeoirí in ann go leor féin a dháirf le fáth a bhaint le lón macha mhinimh a dhéanamh de stóras fadhbarmach dá leithéid sin a thógáil, marach i mbliana an bhí an chogadh a bhfeidir. Ach is mo thuaraimse, léirionn cáis an tsadhlais fadaíoslí go leagaimid teorainneacha inar n-aigne ar uairibh, nó go mbeidh barrulacha againn, a d’fhéadfadh na bhfuil ar chomhghníomh le réaltacht.

Níor cheap mé go bhfeidhfidh sadhlas a chomhghniomh dea-bhliasta ar feadh achar ama chomh fada sin. Anois éirícdh sadhlas bréan nó ní d’fhéadfaidh. Ach cé chomh minic inar n-aigne féin nach féidir linn é seo nó é sin a dhéanamh, ach i bhfrísinne an scéil nil faic ag cur bac óráin ach bhféidir ár gcréideamh féin gur mar sin atá.
Advanced Certificate in Horticulture (Level 6)

Horticultural students with a Certificate in Horticulture (Level 5) award should consider increasing their employability by progressing on to this Level 6 qualification. While the Level 5 award is a good general introduction to horticulture, this add-on year will enable the learner to acquire the knowledge, skill and competence to supervise work in a range of horticultural areas using specialised skills. This course also meets the training requirements for Stamp Duty Exemption. The course will be offered in four main streams of learning, Food Production, Nursery Production, Landscaping and Sports Turf, depending on student interest. Students will spend 16 weeks of practical learning within the horticultural industry directly linked to their chosen learning stream, while another 16 weeks will be spent at the college. This course is offered both at the College of Amenity Horticulture, National Botanic Gardens, Dublin and at Kildalton College, Pittown, Co Kilkenny.

Application forms are available directly from the colleges.

LEFT: Teagasc Kildalton student Edmond Doherty is pictured completing a landscape design drawing as part of his Advanced Certificate in Horticulture. Participation in Level 6 courses involves practical work experience, classroom tuition/lectures, and the development of advanced skills such as using AutoCad to generate highly sophisticated landscape designs.

BOOK REVIEW

Atlas of the Great Irish Famine
(Cork University Press, 2012)

A definitive study of the Famine, this hugely impressive book covers all the important issues surrounding a catastrophe in which over a million individuals perished in what at the time was the most advanced and civilized region of the world.

How and why it occurred, the witnesses, reactions and responses to it, the aftermath and the legacy, how it is remembered — and a section on the hunger and famine that continues to blight parts of our planet — all these vital and still relevant questions are addressed and explored by a team of over 60 scholars. Every one of the 700 pages of this hefty (about 4kg) book justifies itself and, with over 150 parish maps relating to the 1841-1851 decade and case studies covering all four provinces, you are very likely to find detailed information relating to how your locality was affected by this traumatic event.

Atlas of the Great Irish Famine, available in good bookshops, costs €46 from Amazon (http://www.amazon.co.uk/) including postage to Ireland.

— Sean Sheehan
Your barley yield is valuable to you, so you want to get the best to protect it. Siltra® Xpro has the exceptional chemistry of prothioconazole and bixafen, a powerful combination that’s the perfect product to form the cornerstone of your barley disease programme.

- Contains Bayer’s unique prothioconazole chemistry with new bixafen for exceptional disease control
- Ultimate protection against Rhynchosporium and rusts, with improved performance against Ramularia and net blotch in high disease pressure situations
- The perfect formulation for high yield potential crops

Find out more about the only protection you need for your barley at www.bayercropscience.ie

“You can always count on a great performance from me.”
Social media provide answers

Facebook and Twitter – the so-called social media – are mostly known as ways of sharing experiences, pictures and opinions. If you want to know what your teenagers are really up to, you need to see their Facebook page… though they may not be so keen to grant you access.

As the number of people using social media grows, their true potential as a communication tool is becoming clear. Teagasc is now using Twitter and Facebook to conduct live and interactive Question and Answer sessions on topical issues.

“People simply type a question and submit it via Facebook or Twitter,” says Alison Maloney of the Teagasc PR department, who has co-ordinated the first two sessions. "The first Q and A was on issues related to the fodder crisis. People sent a question to us via Facebook, Twitter or email and the answer was typed up and returned by Teagasc nutritionist Siobhan Kavanagh. The question and answer were also posted on Facebook and Twitter. Several thousand people viewed each answer soon after it was posted.”

A second Q and A session focused on issues in relation to education with John Mulhern of the Teagasc college at the Botanic Gardens and John Kelly of Teagasc Clonakilty college providing the answers.

“To participate in the Q and A sessions, you simply need to ‘Like’ Teagasc on Facebook,” says Alison Maloney. “Once you have done that, you will be notified in advance of future Q and A sessions.

All of the questions and answers are recorded and posted on the Teagasc website where anyone with internet access can view them. See http://www.teagasc.ie/publications/view_publication.aspx?PublicationID=1915

Many Teagasc events, such as the public lecture series conducted in collaboration with the Royal Dublin Society, are also using social media to allow people who may be watching online via ‘Webinars’ to participate in the live event. During these events, questions or comments on the material presented can be submitted by anyone, worldwide, with access to email or the social media.

Orange flour for gluten-free bread

During the processing of fruit and vegetables one third is discarded — this might include the core, pips and peel of the fruit or vegetable. This ‘waste’ can be costly for the manufacturer to dispose of and it may actually contain beneficial nutrients.

Orange pomace, a by-product from the smoothie and juice industry, has proven to have good nutritional attributes; it is low in fat (2% dry matter) and high in dietary fibre (40% dry matter) and has the potential to be used as a food ingredient.

Researchers at Teagasc Food Research Centre, Ashtown, and University College Cork have been looking at possible uses for this discard, for example, the use of orange flour in gluten-free bread formulations.

Nearly one in a hundred Irish people suffer from celiac disease, which means they are intolerant to wheat gluten. This greatly reduces their dietary options.

Dr Eimear Gallagher, Teagasc Food Research Centre, explains: “We have been working to establish the optimal level of orange pomace, water addition and ideal proofing time to produce a good, gluten-free bread.”

“Sensory panelists scored the bread favourably with respect to appearance, flavour, texture and overall acceptability,” says Norah O’Shea, a PhD student of Dr Gallagher. “The addition of this ingredient is not limited to gluten-free bread; it has potential to be used in both gluten-containing and gluten-free breads and confectionary,” adds Dr Gallagher.
Looking after and nurturing grassland is at the heart of a well run livestock enterprise. Whether you have unsightly docks, nettles, thistles, or insect pests like frit fly or leatherjackets, then Dow AgroSciences has a dedicated range of grassland herbicides and a leading insecticide to get your pasture back to full productivity and looking good.
ASH DIEBACK (Chalara fraxinea) INFORMATION MEETINGS, NATIONWIDE, 20 TO 31 MAY 2013

Ash dieback (Chalara fraxinea) is a serious concern for one of Ireland’s most important native trees. In response to recent findings of Chalara fraxinea, forest owners are asked to attend a Teagasc/Forest Service meeting in their local area to learn more about the disease. Staff from Teagasc and Forest Service will cover a range of topics including:

- What is ash dieback?
- What does it look like?
- What is the current situation in Ireland?
- What should you do if you have a suspect tree?
- What measures are being taken to eradicate the disease?

This series of evening meetings will run from 20 to 31 May and will be held in local Teagasc offices. All meetings start at 8pm. See Table 1 below for more information on meetings in your area.

- Understand how innovation, research and knowledge within a broader European context can create a strong platform for enhancing the competitiveness of the food sector.
- The theme of this first summit, which is sponsored by Teagasc and the Institute of Food Research. Reading, is ‘Exploiting synergies for growth through innovation, research, skills and knowledge.’
- For details, please contact: Mary Reilly | mary.reilly@teagasc.ie | +353 1 8059582

SHEEP OPEN DAY 2013
TEAGASC, ATHENRY, CO GALWAY, THURSDAY, 6 JUNE

Topics covered will include:
- Sheep breeding and genetics
- Ewe lifetime productivity
- Flock health and parasite control
- Results from the new Research Demonstration farm
- Teagasc BETTER sheep farm programme
- Reseeding and fertilisation
- Teagasc sheep advisory programme

KNOWLEDGE TRANSFER CONFERENCE 2013, UCD, 12, 13 AND 14 JUNE

The topic ‘Future of Farm Advisory Services, Delivering Innovative Systems’ will be the key focus at the three-day conference, which takes place at Astra Hall, Student Centre, University College Dublin, Belfield, Dublin 4. Teagasc, along with UCD and the European Commission, the Knowledge Transfer Conference to enable discussions among policymakers, advisory services managers and other stakeholders on the effectiveness of advisory services in providing innovation support to farmers through the measures proposed in CAP 2013-2020.

For a booking form and conference programme, visit www.teagasc.ie/events or contact Liz O’Sullivan, Teagasc on 0599183489.

Table 1: Teagasc/Forest Service information meetings on ash dieback

<table>
<thead>
<tr>
<th>County</th>
<th>Location</th>
<th>Venue</th>
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<tbody>
<tr>
<td>Cavan</td>
<td>Ballyhaise</td>
<td>Advisory Office</td>
<td>Mon 20 May</td>
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<td>Clare</td>
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<td>Teagasc Office</td>
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<td>Cork</td>
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<td>Cork</td>
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<td>Wexford</td>
<td>Ennisclough</td>
<td>Teagasc Office</td>
<td>Thurs 30 May</td>
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Meetings start at 8pm

Table 1: Teagasc/Forest Service information meetings on ash dieback
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ash dieback is a serious concern for one of ireland’s most important native trees.

will have a chance to see the field experiments at teagasc oak park, carlow and discuss with researchers and crop specialists the latest methods for optimising crop production. a wide range of field experiments will be on display, including:

- Oilseed rape cultivation and management trials
- Cereal disease control
- Winter wheat and spring barley varieties
- Nitrogen management in cereals
- Spring barley growth experiments

carlow institute of technology will outline strategies for farmer to gain and maintain health.

all are welcome to attend the event. no booking is required.

for information, contact: john mcnamara, teagasc health and safety officer (051 644357). email: john.g.mcnamara@teagasc.ie

events

dairy open day, teagasc, moorepark, fermo, co. cork, wednesday, 3 july

world demand for dairy products is expected to increase further, due to global population growth and increases in per capita disposable income especially in developing countries.

the abolition of milk quotas in 2015 gives many dairy farmers scope to increase milk production for the first time in 30 years.

to ensure success, dairy farmers must be able to plan, finance and deliver expansion while at the same time confront issues such as volatility in milk price and difficult weather conditions as experienced in 2012.

expansion in the dairy farm business should only be undertaken if it increases profit and provides a better lifestyle to the farm family.

when eu milk quotas are abolished, farm profitability will depend on maximising profit per hectare, i.e. stocking your farm to match grass supply. this major open day will provide the roadmap to deliver these goals for the irish dairy industry.

paddy farmers are increasingly looking for ways to increase their milk production to justify the cost of new stock. however, the risk of increased production is that farmers may struggle to maintain the stock and input costs.

at the dairy open day, teagasc specialists will outline key strategies to manage safety and work organisation in agriculture which is poised for expansion.

dr noel richardson, director of the centre for men’s health at teagasc, will outline strategies for farmer to gain and maintain health.

we are all encouraged to improve our health, but this is often easier said than done. the centre for men’s health at teagasc is leading the way in this area and is very aware of the challenges farmers face.

at the conference, teagasc specialists will outline key strategies to manage safety and work organisation in agriculture which is poised for expansion.

the national farm health & safety conference is an annual event which is attended by delegates from across the globe.

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When a meadow is close to harvest for silage-making, these steps will help ensure the crop preserves properly in the silo or bale.

**Step one**

Check the ensilability

Meadows differ greatly in the ease with which they can be preserved as silage (i.e. in their ensilability). For example, it is easier to achieve good preservation with ryegrass swards that are successfully wilted than with swards that have little ryegrass and are harvested under wet conditions.

A reliable measure of ensilability is grass sugar content. This test that has proven reliable over many years. Crops with more than 3% sugar (in the grass juice) are relatively easy to preserve.

Knowing the ensilability can help you decide on the need for an additive (type, rate of application, etc, or alternatively maybe an additive is not needed).

**Step two**

Safety

Plan the silage-making with a strong focus on the safety of everyone involved.

**Step three**

Avoid contamination

Most grass is harvested cleanly, but occasionally grass can be contaminated with soil during mowing, harvesting or silo filling. The soil can inoculate the grass with high numbers of bacteria that are harmful to the preservation process.

**Step four**

Wilt effectively

If grass is quickly wilted so that it dries to over 25% dry matter within 24 hours of mowing, then the resultant silage should be well preserved and produce little or no effluent. Even in good weather, the mown grass to be wilted should be tedded or placed in wide rows to dry properly.

**Step five**

Keep the air out

This is vital. For both clamp and walled silos, fill quickly and seal immediately. In walled silos, place a strip of plastic sheeting along the wall during filling and fold this back onto the top of the grass in the filled silo. The two main sheets of black plastic sealing the top and side of the pit should extend over the wall sheet. An edge-to-edge layer of tyres will protect the top and sides but, in addition, place an unbroken row of sandbags where the plastic meets the wall.

Waste on the sides of a clamp is less likely if the slope is not too steep because tyres can keep the plastic pressed against the silage. Sandbags should be placed tightly where the plastic touches the ground.

Silage bales need to be wrapped in plastic stretch-film within an hour or two of being made, and the seal must be maintained thereafter. This is easier to achieve where bales are wrapped at the storage site. Where wrapped bales need to be transported,

**Vintage fodder:** Unlike wine, silage may not actually improve with age but this winter showed that it can certainly remain palatable and retain feeding value for many years. "We filled a pit in 1996 and we had not got to the back wall of it until this year," says Dermot Lanigan, a Teagasc/Glanbia monitor farmer close to Carrick-on-Suir. "There was a layer of waste at the surface of course," says Dermot. "But, when that was removed, the dry cows were happy to eat the silage underneath. I think if silage goes in well and is sealed right, there is no problem." This re-enforces the value of making good silage from good quality grass. If managed carefully, a surplus is never likely to go to waste and can act as a ‘strategic reserve’ for winters like 2012/13.
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The challenge this summer is to conserve enough forage to meet the need for winter feed and also to have a buffer of feed for spring and autumn. Here’s how to go about it.

**Work out how much you need**

There are two main factors to consider:

- Normal winter length on your farm
- Buffer feed required during the main grazing season and the ‘shoulders’ of the year.

**Winter feed**

Take a sample farm with 100 cows carrying 30 replacement units, which is a total of 130 livestock units. The ‘typical’ winter length for the farm depends on location/rainfall levels/soil type, etc. Table 1 shows how the total demand is calculated.

**Buffer feed**

In recent years, it’s the silage fed outside the normal winter that has created much of the feed shortages. Every farmer should estimate how much additional feed (buffer feed) is needed. Factors to consider include:

- Overall farm stocking rate: farms with high stocking rates will experience greater grass shortages in autumn/early spring. There should be a reserve of feed to cope with this risk. Also, any slowdown with growth during the summer will impact more quickly on highly stocked farms.

- Stocking rate on the milking block: extra cows on a set area will create added grazing pressure in autumn/spring on the grazing block.

- Soil type: risk of stock being unable to graze during high rainfall periods on heavy soils, also risk of drought on shallow light soils.

- Grass: growth potential in the region and on the farm.

- Rainfall levels: unpredictable for the farm to forecast, but must be considered taking into account soil type and stocking rate.

Some farmers aim to have one bale of high quality silage per cow as a buffer, in addition to normal winter feed. However, this won’t be enough in a difficult summer/winter and spring. Two bales of high quality silage is equivalent to an additional 400kg DM (~2.0 tonnes of pit silage). This would allow 5kg of silage DM to be fed per day for 40 days in autumn and 40 days in spring. On some farms, even this much may not be sufficient to cover the risk.

**Required winter feed and buffer feed**

Table 1 shows that 886 tonnes of winter feed is required on the sample farm, plus an addition 200 tonnes of buffer feed.

**Estimate how much silage two cuts will yield**

You should consider the following factors when making silage.

**Response to nitrogen fertilizer**

Response rate to nitrogen will vary from year to year due to temperature, sunshine, rainfall, ground conditions, type of grass sward, reseed or not, soil fertility, etc. But the biggest response to fertilizer is in the April/ May and June/July periods when the value of the additional grass for every 1kg N spread is €3 to €10. Assuming a price for CAN of €325/tonne or €1.20/kg N, this is an economic response. However, it must be stressed that applying nitrogen where soil fertility or pH status are not correct is wasteful.

**Closing date**

Many silage fields have been grazed late this spring. The effect on yields of grass for silage is significant. Work from Teagasc Grange suggests that silage dry matter yields could be up to 50% lower on fields grazed twice (in March and late April), compared with fields grazed once in March (Table 2).

Therefore, what is a realistic yield? For silage ground closed on 20 April and harvested on 20 June, a utilisable yield of approximately 7.5 tonnes fresh weight per acre might be expected. With twice-grazed grass, DMD will fall more slowly and be slightly higher in late June. The target for grass harvested on 20 June is approximately 70% DMD.

**Area closed**

Assume that our sample farm is stocked at 2.16 livestock units per hectare (three LU/ha on the milking platform) with a milking block of 33ha and 27ha on the outfarm. During the peak grass growing season, the farm can be stocked at four cows per hectare, which allows for a first cut of 8ha on the milking platform and 21ha on the outfarm. The deficit on this sample farm is 424 tonnes of silage (1,086t — 662t = 424t). The need for a buffer is contributing significantly to the deficit and the fact that there is no silage in reserve on this farm. Early planning is critical to ensuring that this deficit is filled. While the main focus of this article is filling the gap from the fodder supply perspective, it
is important to take a look the grass growing capacity of the farm, relative to stocking rate.

Identify your options if there is a gap

Surplus bales
Surplus grass baled as silage during periods of rapid growth is a high value product on any farm. It is a vital tool for good grassland management and is an alternative method of utilising homegrown forage. The quality of this material tends to be excellent and it can be an effective supplement to autumn grass, maintaining levels of milk solids. Comparing forages on an energy basis is more effective than comparing them on the basis of dry matter yield, because of variation in feeding value. In this case, surplus bales cost approx €190/1,000 units of energy (UFL). Surplus bales are a bonus and should not be relied on to fill a winter feed deficit.

Rent silage ground
Rental charges will drive the value of this option. In the case below, we have assumed fertilised ground closed on 20 April and harvested on 20 June. The yield potential of a crop is approximately 7.5 tonnes fresh weight of utilisable yield/acre, of good quality – 70% DMD. The quality and yield will be determined by the quality of the sward rented. The energy cost varies from €232/1,000 UFL for silage ground at €150/acre to €369/1,000 UFL for silage ground costing €300/acre. Work from Teagasc Grange suggests that silage dry matter yields could be up to 50% lower on fields grazed twice (in March and late April), compared with fields grazed once in March.

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Table 1: Estimated pit silage (20% DM) for a 100-cow herd with 60 followers for a four-month winter and buffer feed of two tonnes per cow

<table>
<thead>
<tr>
<th>Stock type</th>
<th>Number</th>
<th>Tonnes per month</th>
<th>Length of winter, months</th>
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<td>Dairy cow</td>
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<td>1.6</td>
<td>4</td>
<td>640</td>
</tr>
<tr>
<td>0-1 replacement</td>
<td>30</td>
<td>0.7</td>
<td>4</td>
<td>84</td>
</tr>
<tr>
<td>1-2 replacement</td>
<td>30</td>
<td>1.3</td>
<td>4</td>
<td>156</td>
</tr>
<tr>
<td>2+ yr animals</td>
<td>1</td>
<td>1.6</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Buffer feed</td>
<td>100</td>
<td>Two bales per cow</td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>Total required</td>
<td></td>
<td></td>
<td></td>
<td>1,086</td>
</tr>
</tbody>
</table>

Table 2: Effect of spring grazing on utilisable grass silage yields (t DM/ha)

<table>
<thead>
<tr>
<th>Silage harvest date</th>
<th>Grazing in spring</th>
<th>Stocking rate on grazing area available (LU/ha)</th>
<th>Ha avail for silage</th>
<th>Yield tonnes fresh/ha</th>
<th>Tonnes conserved</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 May</td>
<td>Twice 16/3 &amp; 22/4</td>
<td>4.0</td>
<td>8</td>
<td>13.5</td>
<td>108</td>
</tr>
<tr>
<td>30 May</td>
<td>Once 16/3</td>
<td>4.0</td>
<td>8</td>
<td>13.5</td>
<td>108</td>
</tr>
<tr>
<td>9 June</td>
<td>None</td>
<td>4.0</td>
<td>8</td>
<td>13.5</td>
<td>108</td>
</tr>
<tr>
<td>19 June</td>
<td></td>
<td>4.0</td>
<td>21</td>
<td>18.5</td>
<td>389</td>
</tr>
<tr>
<td>First cut — outfarm (closed late April, cut early June)</td>
<td>Second cut — outfarm (closed late April, cut late June)</td>
<td>Total supplied</td>
<td>3.0</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.0</td>
<td>11</td>
<td>15</td>
<td>165</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total supplied</td>
<td>662 t fresh</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Expected silage yields

<table>
<thead>
<tr>
<th>Grafting period</th>
<th>Stocking rate on grazing area available (LU/ha)</th>
<th>Ha avail for silage</th>
<th>Yield tonnes fresh/ha</th>
<th>Tonnes conserved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertilizer</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tedding</td>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baling and wrapping</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land charge</td>
<td>5.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total costs</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>€/t</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>€/t DM</td>
<td>160</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silage DMD</td>
<td>75%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy UFL/kg DM</td>
<td>0.84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>€/1,000 UFL</td>
<td>190</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Cost of baling surplus grass as silage

<table>
<thead>
<tr>
<th>$ / bale</th>
<th>Fertilizer</th>
<th>Cutting</th>
<th>Tedding</th>
<th>Baling and wrapping</th>
<th>Land charge</th>
<th>Total costs</th>
<th>€/t</th>
<th>€/t DM</th>
<th>Silage DMD</th>
<th>Energy UFL/kg DM</th>
<th>€/1,000 UFL</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>6</td>
<td>3.5</td>
<td>10</td>
<td>5.5</td>
<td>32</td>
<td>32</td>
<td>48</td>
<td>160</td>
<td>75%</td>
<td>0.84</td>
<td>190</td>
</tr>
</tbody>
</table>

Continues >> page 14
silage

Closing up additional ground for silage

Some may be considering the option of closing up additional silage ground for first cut and feeding meals to fill the intake gap in May/early June.

Every kilo of meal fed will not prevent the cow eating 1kg grass unless a strip wire is used to restrict grass allocation for each grazing. This is not practical or advisable during the main grazing season. It is a costly way to conserve extra silage. A kilo of meal fed will cost about 30c (at €300/t), therefore, every kilo of DM of grass saved as silage will cost well in excess of 30c when harvesting and losses are taken into account.

In short, where meal is fed and grass is not restricted, there will not be a direct one to one substitution of feed for silage and milk yield will receive a boost. But the net result is the same — a very costly way to make additional winter feed.

Forage crops

Forage crops grazed in situ provide an option for farmers with access to dry land to reduce winter feed demand. Possibilities include kale, rape, swedes, and turnips. Swedes and kale are usually sown from mid-May to mid-July. The earlier they are sown, the higher the yield. Stubble turnips and rape are usually sown later.

Rape or stubble turnips could be sown after harvesting cereals in August. Target yields for these crops range from four tonnes DM/ha for rape to eight tonnes DM for kale. Yield and efficient utilisation will have a major effect on any potential cost saving with these crops. As most of these crops will be grazed in situ in the November to March period, care needs to be taken to minimise the potential for poaching and/or soil erosion. The production cost associated with brassica crops is €194 to €290/1,000 UFL assuming ploughing, till and sowing the crop. Given the low yields of rape, min-till or no-till would be more cost-effective.

Purchase alternative forages

Maize silage, whole crop cereal silage and fodder beet are options but yield and quality of these crops can be variable. Buying a standing crop on the basis of area instead of yield is fraught with error. It is difficult to visually estimate the yield of a crop. It is preferable to weigh loads of the crop, during harvesting, to establish yield. Yield potential can vary from 11.5t DM/h to 17t DM/ha for maize silage, depending on the year and plastic or no plastic.

The relative value of these crops will depend on concentrate price at any point in time. Fodder beet is worth approximately €34/tonne and maize silage (25% starch) is worth €44/tonne, when rolled barley is €200/tonne. When rolled barley is €250/tonne, fodder beet is worth €44/tonne and maize silage (25% starch) is worth €55/tonne.

Feed restricted roughage and meals

Some of the deficit in silage stocks can be filled by feeding restricted silage, e.g. feeding 75% of the normal forage requirements of the animal, plus 2kg meals for a period of time. Assuming rationing is costing €300/tonne, this option works out at €214/1,000 UFL. This compares favourably with other options.

### Table 5: Cost of first cut silage at different land rental charges

<table>
<thead>
<tr>
<th>Rental charge €/acre</th>
<th>€ / 1,000 UFL</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>€100</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>€150</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>€200</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>€250</td>
<td>300</td>
<td></td>
</tr>
</tbody>
</table>

*Rental charge for fertilised silage ground

### Table 6: Summary of the costs of the different options

<table>
<thead>
<tr>
<th></th>
<th>€ / 1,000 UFL</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surplus bales</td>
<td>190</td>
<td>Depends on stocking rate</td>
</tr>
<tr>
<td>Land rental</td>
<td>€100 /acre</td>
<td>€150</td>
</tr>
<tr>
<td></td>
<td>€200</td>
<td>€250</td>
</tr>
<tr>
<td>Forage crops* Kale</td>
<td>184</td>
<td>Must have suitable dry land, not on the grazing block</td>
</tr>
<tr>
<td>Rape**</td>
<td>236</td>
<td></td>
</tr>
<tr>
<td>Maize silage</td>
<td>180-229</td>
<td>Must be balanced for protein and minerals</td>
</tr>
<tr>
<td>Fodder beet</td>
<td>160-210</td>
<td>Must be balanced from protein &amp; minerals AND need handling equipment</td>
</tr>
<tr>
<td>Restricted silage + meals</td>
<td>214</td>
<td>Silage must be restricted and offer adequate feeding space</td>
</tr>
</tbody>
</table>

### Summary

- Act early: put a strategy in place this summer to ensure that you have adequate forage for the stock on the farm
- There is no ‘one-size-fits-all’ strategy to deal with this issue as every farm is different. It will require a combination of options
  - a) Aim to produce additional silage as surplus bales on the farm. This will require additional fertilizer application
  - b) Buy silage and other alternative forages
  - c) Examine stock numbers — ask yourself if you are stocked beyond the grass/silage growing potential of the farm
  - d) Feed restricted silage and meals
  - e) Consider selling stock
- The relative value of different options will vary from farm to farm and region to region. Concentrate prices will also vary and affect relative value. Seek advice from your local Teagasc office.
Why the path to the biscuit barrel is paved with good intentions

Paul Naughton
Teagasc Food Programme

Over the last four years, Teagasc food researchers have been exploring factors that prevent and promote healthy eating. The majority of Irish adults aspire to healthy eating but only a small minority follow healthy eating guidelines. That old cliché about the road to hell being paved with good intentions has a germ of truth to it. Our research shows that there is a complex interplay between the factors that underlie eating habits (e.g. a busy work schedule, the abundant availability of foods high in fat, sugar and salt, etc) and how well we control our dietary decisions. Understanding the factors driving our behaviour can help us succeed more often.

How human nature comes into this

In all aspects of life, people are motivated to make the best possible decision using the least amount of effort. For infrequent activities that entail a high cost (e.g. buying a car) people are highly focused on the decision. For things we do regularly, however, habits are likely to develop which facilitate quick and efficient decision-making.

Eating behaviour and food choice is largely determined by habit rather than considered decisions. Most of the time, we do what we do most of the time.

The efficiency comes from the fact that we don’t need to engage in a conscious decision-making process, it’s automatic.

As humans we have a natural preference for foods high in salt, fat and sugar and considering the pressures of modern lifestyles along with the abundant availability of inexpensive palatable foods, unhealthy habits can develop quite easily.

Once formed, habits can be very difficult to break because they are ‘triggered’ by environmental factors rather than intentionally set in motion. For example, a person may decide to reduce the amount of biscuits they consume (i.e. the good intention). However, when they arrive home in the evening after a hard day’s work, they sit down for a cup of tea and, without a second thought, eat a biscuit. The cup of tea is a ‘trigger’ for eating the biscuit.

Why is it so hard to stick with a healthy eating/healthy lifestyle plan? My research indicates that simply having a positive attitude towards eating a healthy diet is not enough. There are many other important variables that guide eating behaviour. As well as habits, our emotional state can dictate the food we eat. If we are in a bad mood, stressed, tired, or bored we are more likely to choose the foods high in fat, salt and sugar. The foods we need to limit in our diet are the foods we crave the most. It’s instinctive, impulsive and made easy because these types of foods are readily available.

Healthy eating tips

• Be wary of ‘triggers’. For example, the glimpse of a TV remote may derail a plan to go jogging or the sight of a piece of cake may trigger an urge to eat.
• Take responsibility for your lifestyle choices. In other words, regain control of your eating and exercising patterns. We can think of this as bringing the unconscious (i.e. habits) into the conscious (intended/deliberate behaviour).
• Plan behaviour in advance (e.g. eating a banana in late afternoon may reduce the amount of food consumed at evening dinner).
• Self-monitor by keeping a diary of the food you eat each day.
• Set attainable goals. For example, the goal to reduce the amount of biscuits consumed in a week is an attainable target whereas the goal to lose a set amount of weight may be more difficult to achieve, resulting in a loss of motivation to continue with healthy practices.
TEN STEPS to get through a cash crisis

Cashflow problems are common. All solutions involve talking — with family and friends, independent professional advisers, bank managers and creditors. In virtually all situations, solutions can be found.

Fintan Phelan
Teagasc Rural Economy & Development Programme

Disastrous weather conditions, both in summer 2012 and spring 2013, are continuing to have a physical effect on farms through damage done to fields and the delay in closing paddocks for silage. Building stocks of feed for next winter will be a key challenge. Less visible on farms but potentially more is the drain on cash.

At the moment, you can be certain that you are not the only farmer in this situation, but you can also be assured that help is available. Now is the time to look at putting the farm back on a sound financial footing again and to repair some of the recent damage.

As you are aware, the repercussions from the current cashflow situation are likely to extend throughout 2013. In many cases, it may not be possible to resolve current difficulties in 2013 and a planned approach extending into 2014 may be the most prudent way of resolving problems.

Farmers should act now and involve their advisers at an early stage. Delay in taking action will only magnify the problems. Simply discussing the problem with another person starts the process of coming up with a solution.

In many cases, the underlying business is fundamentally sound and the conditions improve. Such farms need short-term access to additional cash to tide the business over and the farmer’s track record will support a high level of confidence in paying off this short-term debt when conditions improve.

By talking this through, you can plan, negotiate and farm your way out of the current problem.

Here’s how to work through issues:

1. Act early: Even the best farm plans and schedules are in need of adjustments. Delay will only magnify the problem. It will not solve it. If you believe that you will not be able to meet a repayment schedule, it is

Table 1: List of all current debt as of today, ____ / ____ /2013

<table>
<thead>
<tr>
<th>Loan name/ debtor</th>
<th>Current amount outstanding</th>
<th>Remaining loan term (years)</th>
<th>Current interest rate</th>
<th>Total repayment per year</th>
<th>Payments due before 1 Aug 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example Land purchase</td>
<td>€84,800</td>
<td>Tyrs 9mth</td>
<td>6.70%</td>
<td>€14,868</td>
<td></td>
</tr>
<tr>
<td>Term loans (incl house mortgage)</td>
<td>€</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overdraft &amp; Stocking Loans</td>
<td>€</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merchant Credit (including outstanding farm-to-farm debt)</td>
<td>€</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hire purchase/ finance</td>
<td>€</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total payments</td>
<td>€</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table: List of all current debt as of today, ____ / ____ /2013.

16 | Today’s farm | May/June 2013
far better to have this discussion in advance of the repayment date rather than after missing a payment.

2. Know your debt: Put together a list of all your debts, including who you owe, how much you owe, and the interest rate and term. Put this down on a sheet and include all bank repayments, all merchants, other farmers, contractor and vet. Table 1 can help you do this. By knowing this, you will not over-promise when it comes to speed of repayment.

3. Consult your Teagasc adviser or accountant: Draw up a cashflow plan, including a forecast for the remainder of 2013 and, possibly, beyond. They have the expertise and experience to help you present tailor-made proposals to your bank and/or your merchant/farm input supplier.

4. Arrange a meeting with your bank manager: Take time to prepare the appropriate information for this meeting including:
   • A recent set of farm accounts/Teagasc Profit Monitor;
   • A statement quantifying the effect of 2012 and 2013 weather related issues on your farm business; and
   • A cashflow forecast for the remainder of 2013.

5. Maintain contact with the bank manager throughout the remainder of the year.

6. Seek an extension, if needed. For those with short-term cashflow problems, an extension to an existing overdraft facility or a new overdraft facility may be all that is required. Some may need to restructure merchant credit into a short-term loan.

7. Meet creditors: Arrange a meeting with your main input suppliers and any others you owe money to. Explain your situation and offer them a realistic repayment schedule. Do not offer to pay more than you can afford against arrears. Look for staged repayments of the outstanding amount, without interest.

8. Delay non-essential investment or expenditure on your farm.

9. Review the main efficiency factors on your farm, identify where you can get the best return for your efforts.

10. Get what you’re entitled to. In more severe cases, the farm household income will be insufficient for living expenses. Find out your entitlement to income supplements, e.g. Supplementary Welfare Allowance, Farm Assist, Carer’s Allowance, etc. For more details, contact the Department of Social Protection’s representative (formerly the Community Welfare Officer) or you can get application forms by ringing the Department of Social Protection leaflet and document request service on 1890 202 325.

If you are under severe financial pressure, Farm Assist may be an option. Many farmers availed of this in 2009 with the downturn in milk prices. This should be looked on as a safety net and may have a part to play in getting you over this extreme period.

If you, or your spouse, are employed off-farm for 19 hours per week and you have children then you may be entitled to the family income supplement.

After completing the application form an inspector will visit your home – if approved the payments can be made directly to your bank account.

In short

Help is available. You can talk to your Teagasc adviser, bank manager, farm organisation representative, family or friends or other organisation, e.g. Money Advice and Budgeting Service (MABS, www.mabs.ie) for help and support. The MABS national helpline is 0761072200. The first step — making contact — is often the most difficult.

Prospects are good. Despite how things look at the moment, there are positives to look towards, the most important being the current buoyant prices and optimistic outlook for agricultural products. When we return to more normal weather conditions, the current financial difficulties can be turned around through a combination of good farming and good prices.

Table 1: Balance Sheet

<table>
<thead>
<tr>
<th>Total outstanding</th>
<th>From today to 15 October 2013</th>
<th>Total for Remainder of 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total cash in</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Less: Total cash out</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Needs/deficit</td>
<td>€</td>
<td>€</td>
</tr>
</tbody>
</table>

Table 2: Cashflow assessment

<table>
<thead>
<tr>
<th>Cash out (to 15 October 2013)</th>
<th>Current outstanding</th>
<th>From today to 15 Oct 2013</th>
<th>Total for Remainder of 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total repayments from above</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Feed and fertilizer</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Contractor</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Vet</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Other</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Policies (pension, etc)</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Health insurance</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Living expenses</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Total payments</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Cash in (to 15 October 2013)</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Less: Total expenses (not included above)</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Direct Payments (SFP, AEOS, SCWS)</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Off-farm income</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Child benefit, pension, Farm Assist, carers' allowance</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Total net income available</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
<tr>
<td>Balance surplus/deficit (deficit should not exceed available merchant credit and OD limit)</td>
<td>€</td>
<td>€</td>
<td>€</td>
</tr>
</tbody>
</table>
Tone up your mental health muscles

John McNamara
Teagasc health and safety officer

Stress can be positive and taking on a challenge can shake us up and help us reach our potential. Ongoing negative stress, however, can lead to anxiety and increased risk of ill health. Many studies have found that living in the countryside can deliver a very high quality of life. However, individual situations can vary. One study in Canada indicated raised stress levels in about one farmer in eight.

Teagasc, in association with UCD, has supported a major study entitled ‘Pain and Distress in Rural Ireland’ with support from the HSE and the farming organisations. The IFA Farm Family and Social Affairs committee has produced an excellent leaflet entitled ‘Let’s Talk: Dealing with Stress’.

What is stress?
Stress is your body’s way of responding to any kind of demand that makes you feel threatened or upsets your mental balance in some way. Stress is part of everyday life and can help you to stay focused, energetic, and alert. But beyond a certain point, it stops being helpful and starts causing damage to your health, your mood, your productivity, your relationships and your quality of life. Anyone can suffer from stress.

Signs of stress
Everyone has a different reaction to stress. Some of the more common warning signs outlined in Table 1 indicate that it is time to manage stress and consider getting help.

Stress in farming
International studies (USA, Norway) indicate that major sources of stress among farmers include farm finances, dealing with paperwork, poor farm work conditions such as poor safety standards, excessive workload and poor health. Periods of adverse weather can make farm management difficult too. It is obvious, but true, that positive working and personal relationships alleviate stress.

Managing stress
A key approach to managing stress is to recognise the signs and respond to them. Simply having information on stress, does not — on its own — affect behaviour. Each person must realise or ‘become aware’ of the issues leading to excessive stress and adopt positive strategies to help manage stress.

Changes to help manage stress in farming could include changing the farming system to reduce work time or having a health check. Practical steps to manage stress might include investing in animal handling facilities (see article on sheep facilities).

Positive strategies
- Being involved socially is crucial: — Talk to trusted family members, neighbours and friends.
— Discuss farming problems including ‘paper work’ with your agricultural adviser.
— Farm discussion groups have a social dimension as well as a practical farming one.
— Farming and sporting organisations offer valuable social networks in rural Ireland.
- Health related goals: — Have a regular health check-up. Forming this habit is crucial in the long-term.
— Exercise regularly; being physically active is key to stress management. Farm work, however, may lead to ‘strength’ but not to the ‘aerobic fitness’ which is required for cardiovascular health.
— Eat a balanced diet, including fruit and vegetables. Some foods such as alcohol, chocolate, coffee and soft drinks in excess can cause increased tension.

See change will be rolling out a month-long national green ribbon campaign in May 2013 to get people talking openly about mental health problems.
Farm stress reduction project

The Navan Dairy Discussion Group won an Innovation Award in December 2012 for their project on ‘Managing Mental Health in our Discussion Group’.

The project aimed to identify the key triggers of stress experienced by dairy farmers and to develop a DIY stress management blueprint. The group conducted a week-long survey related to stress events on three occasions during the year. This allowed the group to build up a picture of the ‘stressors’ members are experiencing and then to identify preventative measures to reduce the risk of stress.

The project found that the main forms of stress affecting discussion group members were categorised within: grassland management, financial management, time management, personal time. The group identified the need for farmers to focus on time, administration, personal and health management, as well as the technical challenges in running a farm.

Table 1: Signs of stress

<table>
<thead>
<tr>
<th>Physical signs</th>
<th>Mental signs</th>
<th>Behavioural signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>High blood pressure</td>
<td>Negative attitude</td>
<td>Loss of interest &amp; enjoyment</td>
</tr>
<tr>
<td>Muscle tension</td>
<td>Reduced concentration</td>
<td>Withdrawal from friends and family</td>
</tr>
<tr>
<td>Disturbed sleep pattern</td>
<td>Forgetfulness and confusion</td>
<td>Irritability and mood swings</td>
</tr>
<tr>
<td>Weight change</td>
<td>Difficulty in making decisions</td>
<td>Increased drinking, smoking, or drug use</td>
</tr>
<tr>
<td>Reduced energy</td>
<td>Feeling uncertain or over-whelmed</td>
<td>Loss of sense of humour.</td>
</tr>
</tbody>
</table>

Source: IFA leaflet ‘Let’s Talk – Dealing with Stress’

Acknowledgements: The author acknowledges use of material from the IFA leaflet: Let’s Talk Dealing with Stress, with permission, in this article.
Where France leads, will Ireland follow?

The Southern and Eastern (S&E) region of Ireland and Brittany in France are comparable in terms of size, type of agriculture and soils. Teagasc researchers have compared developments in these regions between 2000 and 2010 to help understand and predict trends here in Ireland.

Between 2000 and 2010, the agricultural area in the S&E region of Ireland increased by 1.7%, whereas the area in Brittany declined by 3.7%. In Brittany, the fall in the total agricultural area was driven by a drop in the number of farms from 45,800 to 34,447 (-33%). The elderly age profile of farmers, the absence of successors and, consequently, land abandonment were key factors. In contrast, the agricultural area in the S&E region of Ireland increased between 2000 and 2010 by 1.7% (from 2,508,151 to 2,549,572 hectares), while the number of farms actually fell by 1.4% to 65,979.

The rapid decline in the number of Brittany’s farms was matched by an increase in average area, from 33.2 to 47.6 hectares. The average farm size in the S&E region of Ireland increased by only 1.1 hectares (from 37.5 to 38.6 hectares) over the same period.

As of 2010, half of the farms in the S&E region were less than 30 hectares and just over 3% of farms were of 100 hectares or more. In Brittany, 40% of farms were smaller than 30 hectares and 10% owned 100 hectares or more.

Evolution of farming systems between 2000 and 2010

Although their number has fallen by 35%, dairy farms remain the dominant farm type in Brittany. Nearly four out of 10 farms are involved in milk production. Interestingly, the number of dairy producers in the S&E region also fell by about one third over the period from 2000 to 2010.

In 2010, beef production was the most common farm enterprise in the S&E region, and is the only type of farm enterprise to record an increase. This was driven by smaller dairy and sheep producers switching to beef production. In many instances, these farmers took an off-farm job. In Brittany the number of beef enterprises declined by 38% as the size of farms rose and the number of dairy producers increased as a proportion of total farms. These developments have been accompanied by increases in stocking densities. Sheep and poultry producers fell by 63% and 74% respectively in Brittany and 31% and 17%, respectively, in the S&E region.

Stocking densities in the S&E region, by contrast, declined between 2000 and 2010; as farmers shifted to lower labour systems combined with an off-farm job. The trend in dairy cows per farm is comparable in both regions (+46.7% in southern and eastern Ireland and +44.8% in Brittany). Dairy farms in the S&E region have 60.4 dairy cows versus 49.5 in Brittany.

In 2010, Brittany had more intensive poultry and pig farms, while south-
ern and eastern Ireland had more intensive dairying and sheep farms.

Conclusion

The S&E region of Ireland has not seen anything like the drop in farm numbers and corresponding increase in farm size which occurred in Brittany. This is due to a combination of an aversion to the sale of land among Irish landholders and the continued availability of off-farm income to farm households.

Partnerships have played a key role in increasing the scale of farms in Brittany.

This model must surely be worth promoting strongly in Ireland, if young farmers are to be encouraged and output increased.

Although their number has fallen by 35%, dairy farms, like this one, remain the dominant farm type in Brittany. Nearly four out of 10 farms are involved in milk production.
This transnational project is helping farmers drive down costs in dairying.

Mark Moore reports

Johan Dekker is a typical Dutch farmer. He is unassuming, exceptionally polite, technically excellent and can speak English with less of an accent than I do. Johan farms 170 cows on 50ha at 4.5m below sea level on the polder near Zeewolde. Together with a group of farmers from Holland, Johan recently visited a number of farms, Carbery Co-op, and Teagasc Moorepark as part of the Dairyman project.

“The Dairyman project links 127 dairy farms, researchers and advisers in Belgium, France, Germany, Luxembourg, Northern Ireland, Ireland and the Netherlands,” says Teagasc Dairyman project co-ordinator Andy Boland.

“The aim of Dairyman is to study the sustainability of dairy farms in the north-west of Europe in terms of economics, greenhouse gas emissions and nutrient use efficiency, as well as energy use. As part of the project, farmers are encouraged to visit their colleagues to learn and share information and personal experiences of dairying. Findings from the EU-supported project are widely publicised.”

Farm infrastructure

“The Dutch farmers were taken-aback when I told them I have well over a mile of internal roads on the farm,” says Cyril Draper, who farms with his wife Edith near Enniskane in west Cork. Cyril’s internal roads and paddock management are exceptional by any standards. Cyril is a member of the Bandon Young Discussion group, facilitated by Teagasc Advisor, Tom Curran.

“As part of the programme, I’ve been to a number of farms on the continent and it’s good to learn from foreign farmers,” says Cyril Draper. “In turn, they visit you. I often feel a few butterflies before talking to a group but once the discussion gets going it’s very enjoyable. You can also learn from the questions you are asked by visitors.”

Cyril has 180 cows and his farm is comparable to mine in many ways with two key differences,” says Johan. “The cows graze outdoors and the land is slightly hilly.” The maize and grass, which make up the bulk of the ration on Johan’s farm, are cut from land as flat as a snooker table and brought to the cows.

“At the moment, our cows are indoors all year round,” says Johan. “Until about 30 years ago, cows grazed the fields in Holland but, gradually, it became more efficient and cost-effective to zero-graze the animals. At that time, the average herd size was a lot lower and we really don’t have any recent experience of grazing large herds outdoors. That’s why Cyril’s paddock management is so interesting for us.”

Dutch farmers are going back to grazing, thanks to a combination of incentives and cost increases. “Dutch consumers are keen to see animals grazing outside and the milk processor offers an extra 0.5c/l for cows grazing outdoors,” says Johan. “To get the bonus, the cows have to be out for at least 120 days/year and at least six hours per day.

“The ever increasing cost of energy is also a consideration. When cows are grazing, we don’t have to harvest feed and there is less slurry to cart around. But we might have to teach the cows to graze!”

Efficient with electricity

The itinerary for the Dutch visitors included a visit to John Joe and
Theresa Sullivan at Roscarbery, also in west Cork. John Joe’s farm, in common with 21 other farms in the Dairyman programme, is being closely monitored for electricity usage across all aspects of milk production.

“We have a power meter on the farm, which collects the electricity usage for milk cooling, water heating, vacuum pumps and lighting,” says John Joe. “The information is sent via a wireless modem to John Upton at Teagasc Moorepark.”

John Joe receives feedback on how his energy usage compares with that of his foreign colleagues. “At 22.9l/ha, our diesel usage compares with a group average of 40.6l/ha,” he says. “Our electricity use at 64 kWh/t milk is also a bit lower than the average of 87.”

While grazing management and electricity usage were two high points for the Dutch visitors, the Dairyman project has a broad remit. Addressing the Dairyman farmers, Prof Gerry Boyle, Teagasc director said: “Dairyman is all about driving sustainable intensification. All of the factors that drive efficiency in dairy farms also deliver positive outcomes in terms of the environment.

Example

“An example is that on Irish dairy farms we have reduced usage of artificial nitrogen by 30% from its peak in the last few years. “That has had a real benefit for farmers in terms of profitability but it has also had obvious benefits for the environment.”

“The information that Irish farmers get from Dairyman about farming systems in other EU countries is helping them to take decisions that will make dairy farming sustainable in the long term,” says Andy Boland.

“And the success of the original Dairyman project has now led to further spin-off projects on Irish farms over the last 18 months. For example, the new Carbery Greener Dairy Farms project started with Carbery Group milk suppliers.”

“The individual challenges we have, as dairy farmers, might be a bit different,” concludes Johan Dekker.

“But the struggle to keep costs in check and remain environmentally sustainable is common to us all.”

The Dairyman project is funded by INTERREG IVB North West Europe (NWE).
TEAGASC DAIRY MANUAL

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- Why dairy farming?
- Business management
- Dairy facilities
- Dairy farming and the environment
- Milk quality
- Feeding dairy animals
- Dairy breeding
- Dairy animal health

These sections are further divided into a total of 49 chapters with titles such as: Creating a Business Plan, Winter Facilities, Feeding the Dairy Cow, Managing Your Grass, Replacement Heifer Management etc.

The information within each chapter is built on feedback from farmers and is laid out as Questions and Answers, How-to’s, Key Performance Indicators, Key risks, etc. making the Manual extremely easy to read and use. The Manual will be of particular interest to anyone planning to expand over coming years.

A must for anyone with an interest in dairy farming the 310-page Manual is produced using tear-proof, water-proof paper for real world conditions.

The Teagasc Dairy Manual is available from your local Teagasc office (clients €25, non-clients €50). Alternatively contact Alison Maloney (059 9183409) who will send you a copy by post (p&p €7.50 extra).
New entrants thriving on dairy challenges

Since 2009, non-dairy farmers have been able to compete for milk quota under the DAFM new entrant scheme. Though few in number, these pioneers are likely to be followed into dairying by many others once quotas are lifted. Achieving the ambitious national milk production targets under FoodHarvest 2020 depends on it.

Roberta McDonald, a Teagasc/UCD Walsh Fellowship PhD student, based at Moorepark, who is working with new entrants to identify the unique challenges of beginning milk production, reports.

By the end of 2013, over 400 new dairy farmers will have each received up to 200,000 litres of milk quota under the DAFM scheme. The majority were previously beef and or sheep producers.

A ‘new entrant group’ was established in 2012 to share physical and financial performance information and identify the challenges experienced in developing a new dairy farm enterprise.

The group includes 10 new dairy farmers from seven different counties. All began dairying between 2009 and 2012. Despite the distances involved, the group meet regularly on each others’ farms for often animated discussions on technical and financial issues.

Group member John Payne studied at Harper Adams College before returning home to the family drystock farm in Moydow, County Longford. “In 2008, I was at a Teagasc event in Athenry and met Teagasc dairy specialist George Ramsbottom who convinced me that there was a better future in dairying.”

Today, John has managed to build up a substantial quota thanks to the DAFM scheme and also by purchasing...
Today's farm dairying

Today’s farm dairying quota. “This has been easier in the Connacht Gold region than in other areas,” said John.

He farms with his wife Jasmine on 80 hectares, about half of which is rented. Post-2015, John aims to be milking three cows per hectare on this land.

“It’s hard work in the first few years but there’s good support available in groups like this one, and the training days which were part of the DAFM scheme were really useful too,” he said. “It’s great to be able to compare notes with other people in a similar situation.

“I’m happy with the progress we’ve made and I strongly encourage my friends who are in drystock to consider dairying. It’s a big step and you need to think a lot about going into cows. But I’m enjoying it now.”

So what are the main challenges for new dairy farmers?

Dairy farm expansion is not for the faint-hearted. As well as the significant workload associated with developing and running a new dairy enterprise, cashflow can be extremely tight and there’s also the technical challenges such as managing grazing pastures to achieve high animal performance.

Developing a broad skill-set, which includes animal breeding and financial management and recording skills, for the new dairy unit over a very short time period requires courage and exceptional openness to new ideas.

Large scale dairy expansion also demands significant expenditure and technically excellent systems which are entirely profit-focused and highly efficient per unit of land, labour and capital.

The vast majority of new entrants immediately adopt grazing management, animal breeding and financial planning technologies to quickly maximise the performance of these new farm businesses.

Ian Wharton farms near Buttevant in Cork with his wife Jane. He started dairy farming in 2009 when milk prices slumped.

“It was a tough year for everyone but, as new entrants, managing cashflow and staying within budget was a real challenge,” said Ian, who is about half-way to his target of around 100 cows and still has land in tillage and drystock.

“We love punishment,” he says smiling. “But seriously, we had a reasonably good Single Farm Payment but we are concerned as to whether it will always be there. Getting into dairying certainly took us out of our comfort zone but we are glad we made the move.”

The results of our study show that farm performance typically dips during the development phase. Table 1 highlights the group performance from 2012 compared with the average and top 10% of dairy farmers based on the 2012 profit monitor.

Unsurprisingly, group physical, and consequently financial, performance is below the levels achieved by established dairy farmers, as new entrant

### Table 1: The physical and financial performance of the new entrant group compared to the top 10% of dairy farmers based on 2012 profit monitor

<table>
<thead>
<tr>
<th></th>
<th>New Entrant Group</th>
<th>Average</th>
<th>Top 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stocking rate (cows/ha)</td>
<td>1.83</td>
<td>2.11</td>
<td>2.26</td>
</tr>
<tr>
<td>Herd size (No. cows)</td>
<td>90</td>
<td>91</td>
<td>99</td>
</tr>
<tr>
<td>Milk yield (litres/cow)</td>
<td>4,660</td>
<td>5,019</td>
<td>5,142</td>
</tr>
<tr>
<td>Milk solids (kg/cow)</td>
<td>364</td>
<td>386</td>
<td>403</td>
</tr>
<tr>
<td>Variable Costs (€ cent/l)</td>
<td>12.9</td>
<td>13.0</td>
<td>10.3</td>
</tr>
<tr>
<td>Fixed Costs (€ cent/l)</td>
<td>12.4</td>
<td>9.7</td>
<td>7.3</td>
</tr>
<tr>
<td>Net Profit (€ cent/l)</td>
<td>7.9</td>
<td>11.5</td>
<td>19.2</td>
</tr>
</tbody>
</table>
If you are considering becoming a dairy farmer, you can come and meet Roberta, John, Ian or Philip and the other new entrant group members at the Teagasc New Entrant Marquee, at the Moorepark Open Day on 3 July. The new entrant group members will chat with anyone who is interested in getting into dairying themselves or would just like to hear their experiences in setting up a new dairy farm.

AIB representatives will also be present, giving farmers the opportunity to ask questions and learn about the IMPORTANCEOFl NANCIALPLANNINGAND debt servicing capacity on farm.

In addition, Macra representatives will be present to discuss their role in supporting young farmers and increasing awareness of such ventures for young and new dairy farmers.

Visit the New Entrant Marquee at Moorepark’13

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Dairying is the most profitable agricultural enterprise in Ireland today, and the overall outlook for the sector is positive. Irish dairy farmers, by virtue of our traditional grass-based systems, have a distinct advantage over other production systems due to our capacity to produce high quality product at comparatively low cost.

Philip Dwyer and his wife Paula farm at Ballycahill, near Thurles, Co Tipperary. The farm was previously in beef and sheep.

“I’m in my mid-40s and I would have got into dairying 10 years ago if the opportunity had been there,” says Philip. “The DAFM new entrant scheme gave us the chance to start. We had been doing Teagasc profit monitors on the beef and sheep for a number of years, and when you compare the returns with dairying, there’s a vast difference in profitability.”

Philip supplies Drombane Co-op and has purchased quota which has allowed him to build a herd of 70 cows. His target is to reach 110-120.

“The new entrant group is really good because we are all at roughly the same level of knowledge. In a long established group, we’d be at a big disadvantage.”

Although, the transition to dairy farming is difficult, the group are enjoying the challenge and none have any regrets about making the move to dairying.

- New Entrant Scheme applications will be taken until 7th June 2013.
- Acknowledgements: We would like to thank the new entrant focus group for participating in project and AIB for funding this research.

“Today’s farm” Ed Payne and Roberta McDonald at a New Entrant Discussion Group meeting in Longford.
Mayo sheep producers are highly progressive and there are already 22 STAP groups and a number of marketing groups in the county. But Vincent Ronayne and Agricultural Catchments adviser Noel Meehan and myself have noticed that many farms could benefit by upgrading their sheep facilities. Once facilities are in place, long-term planning and preparation really pay off and you can greatly reduce your work peaks and overall workload. Part-time farmers often stand to gain the most.

Stock proof fencing
Rotational grazing, management at weaning, restriction of ewes post weaning and control of rams all hinge round good fencing. Well-hung gates with close bars are ideal. Creep gates will allow forward creep grazing. TAMS can help fund improved fencing. There’s 40% grant aid on sheep fencing plus rebate of VAT, and the remainder can be written off against tax. This puts good fencing within reach of sheep farms with over 50 HZHV*UDQWDLGIRUoHOGJDWHVDVSDUW of a new fence encourages subdivi-

Well-designed handling unit
Inadequate handling facilities on sheep farms fuel the view that sheep farming is highly labour intensive. Good design reduces time spent doing jobs, allowing the unit to be a one man show. A good handling unit can free up 1.2 hours/ewe/year. Guillotine gates front and rear of the race, an integrated footbath, rollover crate and scales and two-way drafting gates reduce handling times and difficulty.

The unit should include a gathering area, circular forcing pen, narrow working pen, a race and footbath and may include a dipping unit.

Where the farm is fragmented, part of the unit can consist of demountable gates, which are easily transported elsewhere for routine flocking, dosing etc. Again, TAMS funding covers many of these items including race, footbath, rollover crate, weighing scales and up to 75m of mobile penning. The latter can be used on an outfarm and within the lambing unit in springtime.

A well-trained sheepdog eliminates the need for two-legged help. Today’s dogs are highly bred animals and your average farmer has limited skill in training a dog. In most cases, the fault lies with the trainer rather than the dog.

The options
• You could buy a trained dog. Expect to spend anything from €800 to €1,500 for a well-trained animal. Considering that his effective working life is six to eight years, barring accidents, it is only an investment of €3 per week. Viewed as a labour saving device or spread out over a flock the cost is a pittance. Buy from a reputable trainer and, for your first dog, perhaps you should stay local.
• The alternative is to buy a pup or young, untrained dog and bring him on yourself. This option has many advantages provided you can train the dog.

Many breeders of good sheepdog pups are themselves accomplished trainers. They may be willing to give you some lessons or start you off on the right foot.

Well-known Roscommon retired Teagasc Adviser and dog handler Eamon Egan has run many courses throughout the country designed to train handlers and their dogs. They consist of six sessions spread over 12 weeks. Eamon assesses both dog and handler and works on each individual’s weaknesses and strengths. Specific advice and work to be done for the next session gives the handler a blueprint for the next two weeks. Initially, the work is done in a confined paddock, where the dog is easy to control and the sheep movements are curtailed. Once the dog and handler get more competent, lessons can move to a larger field.

There are four basic commands to control and work your dog. Once the dog and handler understand these, then the rest is simply a matter of refinement.

Being able to work your own dog leaves you relaxed, independent and truly in control of stock.
Tips to reduce workload

• **Dosing:** Dose strategically rather than routinely. Could cobalt be given by mineral or feed bucket cutting out the need for dosing every two to three weeks?

• **Disease prevention:** Prevent diseases with vaccination (Clostridia, pasteurella, orf, toxoplasma, enzootic abortion and E.Coli.).

• **Footbath:** Routine foot bathing will reduce the time spent handling and treating for scalds and foot rot. This can be done in conjunction with weighing, dosing, etc.

• **Dipping:** Pour-ons can be much quicker and act for longer than dipping for fly strike. Injectable will control sheep scab while also treating for worms.

• **Combine tasks:** Use one gathering to weigh lambs, dose for worms, cobalt drenching and footbath ewes and lambs.

• **Reduce handling:** Select and separate ewe lambs for breeding, at weaning, so that they are not gathered at each weighing. Reduce the number of lambs for weighing by separating into heavy (over 35kg) and lighter groups.

• **Marketing:** Marketing lambs through a producer group reduces time and cost spent transporting and selling lambs. Aim for a definite ‘cut off’ date, where all lambs are sold and you are left with just the ewe flock.

• **Shearing:** Winter shearing, if lambing in March, can help spread workload. Erecting ‘scratching posts’ helps to prevent ewes going on their backs, reducing the need for shepherding.

• **Reducing work indoors:** Consider re-designing the sheep house for a one-man feeding system. Slatted tanks remove need for straw. Building up a bank of grass in autumn can mean a shorter indoor wintering period. Concentrate feeding of early lambing ewes removes the need for roughage. Flat rate feeding cuts down the need for twice-a-day feeds.

• **Reduce lambing spread:** Use the ‘ram effect’ for compact mating. Sponging might be useful, especially in smaller flocks. Have a definite ‘cut off’ date for the ram.

• **Lambing:** Ensure that there are sufficient individual and group pens. Prepare a well-stocked lambing kit well in advance.

• **Scanning:** Aids feeding.

• **Castrating and tailing:** These tasks can be done before lambs leave the shed. Dosing of ewes post lambing could take place at this time.

• **Good records:** The basis of good planning, which saves time.

Good fencing and handling facilities can dramatically reduce the need for labour in sheep husbandry.

A well-trained sheepdog eliminates the need for two-legged help.
Breeding is the key

For these weanling producers, superior genetics is key to increasing the value of their output.

Mark Moore reports

It’s mid-April and members of the Tulla/Broadford BTAP discussion group are due to arrive any minute. Host and currently chairman of the group, Sean Hayes, is laying out buns decorated with fancy icing. With a smile Sean identifies group member Donal Consadine as having started this tradition. With a biting east wind, all 18 group members are glad of the foam cups of steaming hot tea and the banter begins to flow. It’s all hurling here in east Clare.

Teagasc adviser Conor O’Reilly gets the meeting started by ‘going round the table’ to ensure that members are on track with their obligations under BTAP. Soon, attention turns to all aspects of the host farm. An eight-page ‘hand-out’ with background info prepared in advance by Conor and Sean is supplied to members. Breeding, in particular, is the focus of this meeting.

Like virtually all members — Mike Murphy of Clooney is the only cattle operator — Sean produces calves which will be born in autumn or spring and sold as top quality weanlings for the domestic or overseas markets.

Sean farms about 45 hectares, which is in two blocks. Twenty suckler cows calve in July/August and 40 calve from December to February. Group member Tadgh Halpin explains that farmers in east Clare were forced to switch to some autumn calving because a glut of weanlings from spring calvers in key markets like Ennis was driving down prices.

Genetics
“Sean has always been exceptionally focused on genetics and breeding,” says Conor O’Reilly. “So, it’s particularly appropriate that his turn to host comes at this time of year. He really started focusing on the genetics of his cows seven or eight years ago, so he has a really deep knowledge of the performance of his animals, their individual genetic merit and their complete ancestry.”

The 60 suckler cows are mostly a mix of Belgian Blue, Limousin and Charolais blood. “From generation to generation, Sean’s cows are improving in genetic merit,” says Conor O’Reilly. “Sean’s skill has been to match the right bull to the right cow so that he’s not ending up having to deliver calves via Caesarian section.”

Sean’s breeding strategy involves the use of a high quality Charolais stock bull and AI. As a trained AI operator, Sean is able to inseminate cows himself. Asked if it’s worthwhile getting trained up (with the cost estimated at €1,200 for the AI...
The Tulla/Broadford BTAP discussion group.

training course and liquid nitrogen storage tank), Sean acknowledges the benefits but points out that if you are inseminating a relatively small number of animals, it may be better to leave it to the AI companies.

Most members of the group do not use AI and Sean too relies on his stock bull for most cows but knows the EuroStar rating for every trait. “In the past, I had a number of Belgian Blue stock bulls and I’ve gone back to a Charolais to get a slightly larger framed calf,” he says.

Replacements
It’s Sean’s policy for breeding replacements that really catches the attention of the group.

“My aim is to produce the majority of replacements from within the herd and I always use AI on the cows I want to breed from. I’ll select from one of four or five bulls, depending on their traits and the traits of the mother,” says Sean.

“That would allow us to make even more efficient progress with breeding.”

A pen of 15 yearling heifers attract the group and Sean explains that he bought the animals in October and plans to grow them on and sell them as stores — a small, side venture which he feels may yield a modest profit.

“But the beauty of the HerdPlus system is that I can find out the genetic merit of these animals and if it so happens that I like the look of them and they also have the right genetic merit I might keep one or two as replacements.”

Focus on the ‘bottom line’ is a key feature of any progressive group and the Tulla/Broadford group were all enthusiastic to complete a Profit Monitor and are ready to share the results. With gross output at €946/ha and gross margin at €450/ha, Sean Hayes’s figures are good but he believes that they can be improved further.

“The aim is to sell more kilos of beef per livestock unit,” says Sean.

“That’s why we focus so heavily on genetics — the better the quality of the weanlings, the more they will be worth.”

Traditions
The Tulla/Broadford group has built a number of traditions beyond tea and buns. They occasionally invite vets or commercial technical people to address the group at the end of BTAP meetings.

They also make several trips each year to ‘open days’ or events. Last year, a visit to the Teagasc farm at Solohind was followed by the group’s Christmas dinner.

Mike Murphy is a cattle finisher and, therefore, aspects such as breeding are of limited benefit to him but he still attends all the meetings. “I get plenty out of the group,” he concludes. “It’s worth it for aspects such as grassland management, there’s a great spirit in the group and Conor keeps us on our toes.” The buns are pretty good too.

Sean’s skill has been to match the right bull to the right cow so that he’s not ending up having to deliver calves via Caesarian section.

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The secrets of success in drystock

Unlike the majority of producers in the Teagasc/Irish Farmers Journal BETTER Farm Beef Programme, Sean Power of Woodsgift, north Kilkenny, operates a trading beef system.

Peter Lawrence
Programme adviser

When I was producing my three-year farm plan with Terry Carroll and members from the BETTER Farm management team, we identified key objectives for the farm,” says Sean Power. “They are to increase stocking rate and output of beef cost-effectively, by making better use of grass, and improve farm cashflow by having heifers available to slaughter almost all year round.”

Sean and his family farm 116ha, all in grass (96ha for cattle and 18ha for a 130 mid-season ewe flock and a store hogget enterprise). The land is in five blocks, the furthest five miles from home. Two-thirds of the land is free-draining limestone – the rest is heavier clay and more prone to poaching.

Buying cattle

Before starting to farm full-time, Sean spent several years working as a procurement manager for a meat factory. “That was the best education I could have gotten, in terms of understanding how a trading beef system operates,” he says.

Sean purchases most of the cattle himself from local marts and aims to get to the mart at least two days per week, so time management is a crucial element in managing this beef system.

“Farmers have very little control over the price they get from the factories,” says Sean. “The areas where we have at least some control are the price we pay for animals and the money we spend feeding them.”

Sean believes that purchasing and killing heifers almost all year round, together with his skills as a buyer, will reduce the risk of buying high and selling low.

“Even a couple of bids too many in the mart can dramatically reduce the

<table>
<thead>
<tr>
<th>Table 1: Benchmarking Sean Power’s beef production system against the top 1/3 of Teagasc e-PM non-breeding cattle farms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Top 1/3 Teagasc e-PM</strong></td>
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<tr>
<td><strong>2011 non-breeding cattle farms</strong></td>
</tr>
<tr>
<td><strong>Physical Performance</strong></td>
</tr>
<tr>
<td>Farm Size (Ha)</td>
</tr>
<tr>
<td>Stocking Rate (LU/ha)</td>
</tr>
<tr>
<td>Liveweight produced (Kg/LU)</td>
</tr>
<tr>
<td>Liveweight produced (Kg/ha)</td>
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<tr>
<td><strong>Financial Performance (€/ha)</strong></td>
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<tr>
<td>Gross Output Value</td>
</tr>
<tr>
<td>Variable Costs</td>
</tr>
<tr>
<td>Variable costs % of Gross Output</td>
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<tr>
<td>Gross Margin</td>
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</tbody>
</table>
potential profit on an animal,” says Sean. “Most farmers buy and sell infrequently and it’s hard to be an expert at something you don’t do every day, or even every week.”

Sean purchases approximately 360 yearling heifers each year, weighing between 300kg and 350kg. They include both late and early maturing cross-bred heifers with some having dairy genetics also. Heifers are finished under 30 months of age at 590kg liveweight (300kg carcase weight) with the majority grading as Rs.

To date, approximately one-third of the heifers have been purchased between February and April, and the remaining two-thirds later in October to December. Generally, 50% of the heifers are finished off grass, starting from June through to October, as they become fit.

“I follow a rotational grazing system which groups the heifers in batches of 50 by age, weight and body condition score, so we can easily manage and identify heifers that are near to slaughter specification,” says Sean.

**Finishing**

At about four weeks prior to slaughter, Sean selects and assembles a group of heifers within 30kg to 40kg of their slaughter weight and supplements them with 3kg of concentrates at grass. Similarly, during the winter housing period, he groups the remaining heifers by age, weight and body condition score.

The most suitable heifers for slaughter are then placed on a finishing diet of first-cut grass silage and 3kg to 4kg of concentrates for 60 days. These heifers are generally slaughtered between January and March. The feed cost per day during the finishing period outdoors is considerably less than that during the finishing indoor period (approximately €1.10 vs €2.60) and Sean hopes to exploit this feed cost saving by slaughtering more heifers from grass during the course of the programme.

Approximately, 350 store hogget lambs are purchased in local marts each year from October to December and, depending on grass availability, most are finished off grass between January and early June. The store lamb enterprise complements the beef enterprise late in the grazing season, as the sheep allow Sean to graze out the wetter paddocks without causing poaching during wet periods when closing up for spring grass.

**Stocking rate**

In 2011 and 2012, Sean’s stocking rate was running on the upper end of the scale at 1.90LU/ha and 1.84LU/ha respectively, and this places him among the top third of non-breeding farms in the 2011 e-Profit Monitor analysis.

The aim during this programme is for Sean to increase his stocking rate up to 2.5LU/ha and this will hopefully see him finish close to 500 heifers during the year. This will entail dropping sheep numbers to make more land available for the increase in cattle.

“For carry the extra stock, I’ll have to finish heifers younger (22 to 24 months) and finish more out of the shed during a shorter, more intense, finishing phase during the year to allow for the increased throughput of animals,” says Sean.

Sean’s gross output (kg of grain produced) in 2011 and 2012 was 490kg/ha and 584kg/ha, respectively, which is just below the average of 699kg/ha in 2011 e-Profit Monitor analysis.

This is mainly because of the type of heifer that Sean buys. He is not in the market for high quality E or U grading heifers that would yield more meat but would cost considerably more to purchase.

Animal performance at grass will be a key factor in driving this system forward and making weight gain cost efficient. “Since joining the programme, I’ve focussed more on grassland management skills,” says Sean.

“This means grass measuring and budgeting, setting up more paddocks on the farm and installing more water troughs to allow greater flexibility if paddocks are to be sub-divided at different stages during the year.”

**Soil fertility**

As Sean hopes to grow more grass to accommodate the extra stock, soil samples were taken this spring. Results indicate deficiencies in soil pH and phosphorus. Sean has spread two tonnes of lime per acre where needed and will now spread 18-6-12 fertilizer to build phosphorus levels up to index 3 to help improve grass growth yields. Poor under-performing paddocks with low proportion of ryegrass within the sward or high weed infestations will be reseeded over the course of the programme.

“It’s all about trying to influence the areas you can control,” Sean concludes. “Soil fertility, the amount of grass in the animal’s diet and, most importantly, the price you pay for the animal are all in your hands.”
Fungicide returns still fabulous

Data from 2012 shows that even in a bad season fungicides are crucial. Careful management will optimise returns

Michael Hennessy, Crops Environment and Land Use Programme

Met Éireann records show that solar radiation levels reaching crops were down by between 13% and 22% in 2012 compared with 2011. This may also have contributed to the difference in grain filling, which started 10 days later and was two to six days shorter than 2011. But what part did fungicides play in the lead up to, and during, the grain filling period? And what was their contribution to final yield?

Research by John Spink and his team at Oak Park throughout 2012 sheds light on these questions.

From Figure 1, you can see increased yields from a single spray at each of the main timings in winter wheat. The yields from a single spray over the untreated were: 1.61t/ha at T1, 2.56 t/ha at T2 and 1.39t/ha at T3.

If we cost each fungicide application at €66/ha and grain at €175/t, then the payback (return for each euro spent on fungicides) at each timing is as follows: T1 =4.21, T2 =6.71 and the T3 =3.71. This shows the potential return from a single application only but, more importantly, shows the huge benefit from fungicides generally.

Typically, growers apply three fungicides to winter wheat and expect to get between 3.5t/ha and 5t/ha compared with the untreated.

Spring barley

The benefit from a two-spray fungicide programme on spring barley in 2012 trials was 1.8t/ha. Costing the fungicide programme at €75/ha and grain at €165/t, the payback (or return for each euro spent on fungicides) was 4.1. In other words, for €1 spent on fungicides in these trials, the subsequent return was €4 of grain.

The next question is, how can we maximise this benefit from the fungicides used? I will focus on spring barley as it occupies an even larger percentage of overall cropland this year.

Generally, spring barley is behind where you would like it to be at this time of the year but the crop will race through the growth stages this year and harvest date for these crops will not differ greatly from normal.

High yields

Maximising the numbers of grains per square metre is the key to high yield. Barley cannot compensate by increasing grain numbers per head, to the same extent as wheat. Consequently, a high yielding crop needs high head (shoots) numbers per square metre.

The best chance a grower has to influence these tiller (or shoot) numbers is generally before stem extension. Maximising tiller numbers involves good seed, seed beds, nitrogen (plus other basic nutrients and trace elements) and other factors, such as pest control, plant growth regulators and disease control.

Disease control is important as a severe attack of disease at early tillering stage can kill tillers, decreasing the eventual number of heads and reduce yield.

Fungicide timings

When focusing on spring barley disease control, we must look to research, which has shown that spraying four times during the season will not yield any more than a two-spray programme.

Research also shows that returns tend to be greater at the second timing (flag leaf to head emerged) compared with earlier timings (but not always). If disease attacks a crop in its early growth stages, returns from controlling the disease often outstrips disease control later in the season.

Varieties with good disease resistance (Rhyncho/net blotch), such as Quench, Propino or SY Taberna, can be managed using two reduced rates at both fungicide timings. Higher rates may be needed (depending on the season) on Snakebite for Rhyncho and Azalea and Cocktail for net blotch at an early stage.

This may mean spending 50% of total fungicide spend when controlling disease early and reducing the spend on the final application.

Figure 1
Yield effects of spray timings in winter wheat (t/ha fresh)

Follow the tillage team on Twitter @TeagascCrops
When focusing on spring barley disease control, we must look to research, which has shown that spraying four times during the season will not yield any more than a two-spray programme.

### Products to use

There are many products which can be used at each timing and, due to the sheer volume of products available, this article will not be able to mention them all.

The first fungicide can be applied from mid to late tillering but it is generally applied before the first node detectable stage. Half rates are generally sufficient. Products like Proline (prothioconazole), Punch C, Lyric, Stereo, etc, will all do an excellent job.

Where Rhyncho is a problem early, use Proline at a higher rate (60%+ rate of a full rate of prothioconazole), as it has the best curative activity on Rhyncho of the products mentioned. Where net blotch is a problem use higher rates of Proline and the addition of strobilurins (Modem, Galileo, etc).

The second fungicide application (T2) will coincide with the ‘awns visible’ stage. Triazoles form the cornerstone of disease control at the T2 timing. Barley is generally able to produce more green leaf or starch producing capacity than it can store in the grain. This means for most crops, apart from those with a very high tiller number, keeping barley green for longer will generally not result in extra yield. Therefore a good, but not over the top, final fungicide is appropriate.

Product choices include Siltra, Bontima, Barley Pack, Fandango, etc. Other alternatives can be used such as Venture Extra, Allegro Plus, or triazoles (Proline, Strand, etc), plus strobilurin mixes (Amistar Opti, Credo, etc). For further information, contact your Teagasc tillage adviser.

### Spring barley suggested fungicide programmes

<table>
<thead>
<tr>
<th>Timing</th>
<th>Disease</th>
<th>Products (litres per ha)</th>
</tr>
</thead>
</table>
| T1 GS 30-31 | Low disease pressure | Triazole (Proline, Rubric, Punch C etc) @ ½ rate  
+/- Corbel – ½ rate (mildew)  
or  
Stereo 1.25 L / Tocata 1.0 L |
| T1 GS 25-30 | High disease pressure | Rhyncho: Use high rates of prothioconazole (~150 g al/ha)  
Net Blotch: Use higher rates of triazoles above and include a ½ rate strobilurin  
Proline 0.5 L, Strand 0.8 L, Punch C 0.6 L, Stereo 1.5 L  
+  
(Modern, Amistar, Galileo) @ ½ rate (see also T2 for pre-formulated options) |
| T2 Flag Leaf to awns visible (GS 37-49) | Normal disease levels | Chlorothalonil 1.0 L  
+  
(Adexar, Barley Pack, Bontima, Cauldron, Siltra,)  
or  
Chlorothalonil 1.0 L  
+  
Triazole (Proline, Strand, Punch C etc) @ ½ - ¾ rate  
+  
Strobilurin (Amistar, Galileo, Modem) @ ½ rate  
(Pre-formulated mixtures of the above and other actives are widely available, e.g. Teoris, Acanto Prima, Amistar Opti, Credo, Fandango, Lumen, Jenton, etc)  
+ Mildew  
+ 0.3-0.5 L Corbel/Tern/Winger |
The fruits of forestry

Work, income and long-term prosperity are the rewards of a professional approach to forestry according to this Roscommon beef producer. Noel Kennedy reports

Martin Beirne, who farms near Elphin, Co Roscommon, has three strings to his bow: a beef finishing enterprise on 125 acres, an off-farm job, and a forestry enterprise which he has built up to more than 200 acres over the last 14 years.

In the 1990s, Martin began planning for his pension and future farming options though his retirement was still a long way off. “I looked into what was involved — from planting grants and premia to management and timber sales — and I became convinced that planting trees would prove to be the right choice.”

Having decided to keep his own land for cattle, Martin made his first foray into forestry in 1999, buying and planting a local 35-acre farm of marginal land. The advice from his Coillte forester was to plant a Sitka spruce and Japanese larch crop that would grow quickly and provide the best longer term returns on the heavy mineral soil.

Over the next 10 years, the Celtic Tiger roared but Martin resisted the siren call of bricks and mortar. He retained his faith in Sitka spruce, buying and planting five more farms and building his forest ownership to over 200 acres by 2009.

“I availed of afforestation grants to ‘plant and maintain the forests for the first four years’ and, in all cases, the cost of the work was fully covered,” says Martin.

Martin qualified for the farmer rate of annual forestry premium which is paid for 20 years. Currently, his annual premium is worth €35,000.

“The premium income is very welcome and it goes towards repaying the loans I took out to buy the land,” says Martin. “It also helps with the day-to-day expenses of managing the forest, including fire, insurance which is so important.”

Importance of a professional approach

With so much depending on his forestry investment, Martin decided that the only way to ensure the best possible outcome was to take an entirely professional approach to forest management. In line with Forest Service requirements, Martin has management plans for all his plantations.

In addition to regular visits to check his forests, he keeps himself up to date with current forestry issues, including certification, through regular contact with his local Coillte and Teagasc foresters. “I think forestry has tremendous potential on many farms and I would encourage farmers to look seriously at it as an alternative enterprise.”

Choosing land

With plans to buy more land for planting, Martin adopts a cautious approach. He focuses on buying land that will meet his primary objective of growing productive Yield Class 24+ Sitka spruce. Other important criteria are:

1. Choose only fertile enclosed mineral gley sites.
2. Avoid fragmented parcels.
3. Ensure good road access — avoiding narrow bridges and culverts.
4. Prefer sites within 10km to 15km of the home farm.
5. Select sheltered sites but avoid potential frost hollows.
6. Be flexible on the size of parcels, depending on proximity to home farm.

Yield class is how forest productivity is measured — a Yield Class 24 forest has the potential to increase its volume by 24 cubic metres per hectare each year over its lifetime.

Clustering

Five of Martin’s six plantations are within a 10km radius which allows him to develop a forest ‘cluster’. Clustering has proven advantages — it allows economies of scale for thinning and appeals to timber buyers attracted by larger timber sales, future
Planting better quality land makes your money grow faster. Sitka spruce will grow on a wide range of site types. Using Teagasc’s FIVE (forestry financial calculator) you can compare the returns from forestry on two different sites. The results show the clear financial benefits of planting sites which are productive for trees yet only produce marginal returns from cattle and sheep.

It’s possible that two pieces of land could both be marginal for agriculture and roughly the same price. The forestry yield potential of the two plots might vary greatly, however.

The key message is that if you are intending to buy land for forestry, have a professional assess its yield class before investing. See Table 2.

### Table 1: Martin Beirne – Forestry details

<table>
<thead>
<tr>
<th>Planting year</th>
<th>Conifers (ha) *</th>
<th>Broadleaves (ha) **</th>
<th>Total area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>12.2</td>
<td>1.8</td>
<td>14.0</td>
</tr>
<tr>
<td>2001</td>
<td>8.43</td>
<td>0</td>
<td>8.43</td>
</tr>
<tr>
<td>2004</td>
<td>11.2</td>
<td>1.8</td>
<td>13.0</td>
</tr>
<tr>
<td>2005</td>
<td>17.72</td>
<td>0</td>
<td>17.72</td>
</tr>
<tr>
<td>2006</td>
<td>15.12</td>
<td>0</td>
<td>15.12</td>
</tr>
<tr>
<td>2009</td>
<td>14.0</td>
<td>0</td>
<td>14.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>78.67</strong></td>
<td><strong>3.6</strong></td>
<td><strong>82.27</strong> (203 acres)</td>
</tr>
</tbody>
</table>

Current annual afforestation premium €35,300
* Sitka spruce (80%) and Japanese larch (20%) — annual premium @ €427 per ha
** Ash – annual premium @ €481 per ha.

Please note that the broadleaf area relates to grant-aided areas and does not include bands of broadleaves planted for landscaping, e.g., along roads, watercourses, etc.

### Table 2: Comparing timber crop value based on land quality scenario — planting one hectare of Sitka spruce (including 10% Hybrid larch). These returns are based on owned-land.

<table>
<thead>
<tr>
<th>Site type 1</th>
<th>Site type 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fertile grass/rush wet mineral soil</td>
<td>Less fertile rushy peat soil</td>
</tr>
<tr>
<td>Sitka spruce Yield Class*** 24</td>
<td>Sitka spruce Yield Class 16</td>
</tr>
<tr>
<td>Crop rotation 38 years</td>
<td>Crop rotation 44 years</td>
</tr>
<tr>
<td>NPV* = €9,547</td>
<td>NPV = €6,857</td>
</tr>
<tr>
<td>AE** = €5666 per hectare</td>
<td>AE = €3888 per hectare</td>
</tr>
</tbody>
</table>

*Net present value (NPV) = Total net value of timber crop over the rotation expressed in today’s money.
**Annual equivalent (AV) = Annualised value of timber crop in today’s money.
***Yield class is how forest productivity is measured — a Yield Class 24 forest has the potential to increase its volume by 24 cubic metres per hectare each year over its lifetime (38 years) compared with a Yield Class 16 forest which has the potential to only increase its volume by 16 cubic metres per hectare each year over its lifetime (44 years).

### Other assumptions:
- Land: Owned
- Age: New planting
- Timber prices: 10-year average prices
- Discount rate: 5%
- Premium: GPC three to 20 years (farmer rate) @ €427 per hectare
- Costs: maintenance, insurance, brashing, roading and reforestation

Firewood business
With his own thinnings scheduled to come on stream from 2015, Martin began developing an enterprise that would provide a ready outlet for some of the thinnings. With a suitable yard, sheds and willing labour, Martin and sons Ronan and Shane (both at college) set up a small firewood processing and sales business three years ago.

Since then the business, which is run (mostly at weekends) by Ronan and Shane, is supplying a growing base of local customers. Until they have their own timber, they are buying thinnings from local Coille forests. They believe that their firewood, which is dried to under 25% moisture content, has a competitive price and a free delivery service are key to the successful expansion of the business.

There are already plans for a new storage shed and modernised bagging system and more ambitious longer term plans for a larger firewood processor, kindling machine and customised processing shed.

“We are creating a value-added market for when our own timber comes on stream,” says Martin. “It is providing the lads with some work, responsibility and business experience.”

As he heads towards retirement, Martin’s vision for a thriving farming and forestry businesses is well on course. As he watches his trees growing taller and more bags of firewood leaving his yard, he knows he was right — his faith in forestry is already being rewarded.
A trough can be a simple way to create your own miniature garden, writes Paul Fitters at the Teagasc College, National Botanic Gardens

There can be many reasons for wanting to create a miniature garden. You have a small garden or patio and want to pack it with as many different plants as you can; you may want to create a focal point; you may need something sturdy to prevent people cutting corners in your garden or you are a keen alpine plant lover and need to create that special environment for that plant treasure. Whatever your reasons, a trough can be a simple solution and a long lasting feature in your garden. However, buying the 'real thing', a genuine carved old stone trough, can be very expensive, so why not consider making it yourself, for a fraction of the cost, and lots of satisfaction?

Making a trough is easy enough and the possible variations in size and style are infinite. I have been making troughs with students for a good few years and have found that it is fun to do and that the final products are as varied as there are students in the class.

First of all you need to get a big cardboard box that will dictate the final outer size of your trough. Then you need to find a second cardboard box that will fit into the first, leaving about 6cm to 10cm space on all sides (see diagram). This box will dictate the final inner planting space.

Next the trough mixture, or hypertufa, has to be made; this goes either of one part cement, one part fine peat (or alternative) and one part sand. The peat will give the final trough a more natural look and will facilitate algae to colonise it over time, giving it that genuine look. However, it will also make the concrete mix a bit more fragile, so don’t overdo the peat.

Start with filling the bottom 6cm of the big cardboard box with this mixture. It is important to provide drainage in any trough, so as not to end up with a pond after a downpour. One way of doing that is to press wooden dowels into the mix, somewhere in the middle, that are of equal height to the mixture poured in. Than the inner box is placed on that mix and dowels and the vertical space between both boxes is packed with the remaining mixture. How high you go is your own choice. As the hypertufa mixture is very wet, the boxes tend to get soft and start to buckle. To prevent this, fill the inner box with dry sand or bricks and support the outer box with bricks. Cover the construction with plastic and leave for a few days to harden. Than remove the plastic and cardboard boxes and carefully knock out the dowels. This is the tricky bit as the cement is not fully hardened yet and could easily crack. However, it needs to be done now as the dowels are unlikely to come out when fully set.

Also, this is the time to give your trough that weathered look by taking off the sharp edges that are created by the cardboard boxes. Use any utensil you like to scratch and carve the outside of your trough. In my view you cannot make it rough enough. When this is done you need to let the trough dry fully for at least a week.

Planting up is the easy bit, but as the planting volume is rather limited and likely to dry out quickly, choose plants that are dry tolerant, such as Sedum, Sempervivum or herbs. Small bulbs would work well too.

Finally, to help preserve moisture in the soil, give the trough a generous top dressing of gravel, which will also aid in the alpine 'look'. All you now have to do is place it somewhere you like and enjoy it. Good luck.
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