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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 | Five-star cattle leave five-star profit. See article on page 16.
On 14 January, the Minister for Agriculture, Food and the Marine Simon Coveney announced some of the details in relation to the next CAP period (2015 to 2020). The announcement covered both Pillar I (direct payments) and Pillar II (rural development programme). Below is a summary of the key points of the announcement:

**PILLAR I SCHEMES**

**The Basic Payment Scheme**

- The Single Payment Scheme will be replaced by the Basic Payment Scheme.
- This new payment system gradually moves all farmers towards a national average value over five years.
- Farmers who hold entitlements with a unit value below 90% of the national average value will be increased by one third of the difference between their starting value and the 90% level over the five years of the scheme.
- No farmer will receive a payment under the Basic Payment Scheme of over €150,000 per annum.
- By 2019, no farmer will receive a payment per hectare (Basic Payment plus greening payment) greater than €700.
- Payments received under the 2014 Grassland Sheep Scheme will be incorporated into the new Basic Payment Scheme.
- Farmers who never held entitlements, either owned or leased, under the current Single Payment Scheme but who actively farmed in 2013 will be eligible for an allocation of entitlements in 2015.

**Young Farmers Scheme**

- The scheme will assist young farmers in the initial stages of establishing a farming enterprise in their own name by providing a 25% ‘top-up’ payment on the payment they receive under the Basic Payment Scheme up to a maximum of 50ha.

**National Reserve**

- Ireland will establish a National Reserve using 3% of the ceiling allocated to the Basic Payment Scheme in 2015. This is a once-off allocation and, in subsequent years, the reserve will be replenished from the return of unused entitlements.

**Greening**

Farmers who participate in the Basic Payment Scheme must implement the three standard greening measures:
- Crop diversification
- Permanent grassland
- Ecological Focus Area (EFA)

The greening payment will take the form of an annual payment per hectare. And will represent about 30% of each farmer’s total payment.

**Support for protein crops**

A new incentivised support programme for the protein sector will be introduced.

**PILLAR II SCHEMES**

With many of these schemes, further consultation is required with all the stakeholders and the resultant work will require EU approval.

**New agri-environment scheme**

- The proposed new agri-environment/climate change scheme — to be called GLAS (green, low carbon agri-environment scheme). It is proposed that a maximum payment of €5,000 per farmer will apply.

**Incentives for on-farm capital investment**

- A separate strand of the support for on-farm capital investment will be ring-fenced for young farmers setting up for the first time as the head of an agricultural holding.
- Knowledge transfer and innovation measures.
- Collaborative and quality-focused measures.
- Beef data and genomics measure
- Estimated costs of the programme are based on €80 per calved cow for approximately 650,000 participant calved cows.

**Other supports**

- Support for disadvantaged areas — Areas of Natural Constraint (ANCs).
- Organic Farming scheme.
- Support for island farming.

The announcement by the Minister for Agriculture was welcomed by the agri-sector. The new measures and supports announced are aimed at underpinning farm viability, sustainability and growth of the agriculture sector.

The implementation of the CAP and the Rural Development Programme creates a platform from which farmers can plan the future of their individual business, out to 2020. Further announcements are expected in due course on the more precise workings of the new Basic Payment Scheme.
TEAGASC HILL SHEEP CONFERENCE 2014

• Date: 22 January 2014
• Location: Westlodge Hotel, Bantry, Co. Cork

This Teagasc Hill Sheep Conference aims to deliver the most up to date information on genetics, nutrition, health, marketing and policy. It is a must-attend event for anyone with an interest in hill sheep production. Attendance is free of charge.

This is a Sheep Technology Adoption Programme (STAP) approved national event, registration for STAP from 5.30pm. The conference is sponsored by MSD Animal Health and Drinagh Co-op.

For further details please contact: Loreto Ferguson, phone +353 49 4338300 or email loreto.ferguson@teagasc.ie

TEAGASC NATIONAL SHEEP CONFERENCE

• Venues: Hodson Bay Hotel, Athlone, 0906-442020 info@hodsonbayhotel.com; Mount Errigal Hotel, Ballyraine, Letterkenny, Co Donegal 074-9122700 info@mounterrigal.com
• Dates: Tuesday 4 February 2014 (Athlone); Wednesday 5 February 2014 (Donegal).

This is a Sheep Technology Adoption Programme approved national event, registration for STAP from 2.30pm.

Conference opening
15.00-15.10: Mr Simon Coveney, TD, Minister for Agriculture, Food and the Marine.
15.10-15.20: Prof Gerry Boyle, Teagasc Director.

Session 1 Flock health
Chairman Mr Fergal Morris, MVB, MSD Animal Health.
15.20-15.45: The impact of Schmallenberg virus on performance in Irish sheep flocks in 2013 – Mr Damien Barrett RVL, DAFM.
15.45-16.10: Developing a worm control strategy for your farm – Tom Coll and Dr Orla Keane, Teagasc.
16.10-16.50: Flock health issues at lambing – Prof Neil Sargison, Royal (Dick) School of Veterinary Studies, Edinburgh.
16.50-17.30: Break tea/coffee, sandwiches and finger food served.

Session 2 Genetics and ewe lifetime performance
Chairman Prof Michael Diskin, Teagasc.
17.30-18.10: Future prospects for genetic improvement in sheep, a New Zealand perspective. Dr John McCowan, Agresearch, NZ.
18.10-18.35: Genetic improvement of sheep in Ireland - the next five years. Dr Noirin McHugh, Teagasc.
18.35-19.00: Factors affecting the lifetime performance of ewes. Dr Tim Keady, Teagasc.

NATIONAL TILLAGE CONFERENCE 2014

Understanding variability to improve precision and profit
• Venue: Lyrath Hotel, Kilkenny.
• Date: 30 January.
09.30: Registration / tea / coffee.
10.30: Conference opening – Frank O’Mara, director of research, Teagasc.

Session 1 - Chaired by Andy Doyle, Irish Farmers Journal
10.45: Accounting for variability in N requirement. Dan Kindred - ADAS.
11.15: Variation in crop growth and yield formation in spring barley. Shane Kennedy, Teagasc.
12.30: BETTER Farms II - Being more precise. Dermot Forristal.
12.45: Discussion.
13.00: Lunch.

Session 2 - Chaired by John Spink, head of crops research, Teagasc
15.00: Aphid control in cereals. Tom Kennedy.
15.30: Cereal disease control. Steven Kildea, Teagasc.
16.00: Close of conference. Professor Gerry Boyle, Teagasc director.
16.15: Tea/coffee.

Continued on Page 6
Preview of Teagasc forestry events for 2014

The programme will be updated regularly so keep an eye on the Teagasc forestry website at www.teagasc.ie/forestry for up to date event details.

In 2014, Teagasc will focus on promotion and training in relation to afforestation, forest management and thinning. It will see a continuation of the development of forest owner groups and timber supply chains around the country. Forestry advisers will advise and support forest owners in building knowledge around forest management, thinning and developing structures to harvest and market their timber. On-going promotion of the Afforestation and Native Woodland Schemes will continue.

A specific nationwide programme of awareness and promotion will be undertaken in January to promote forest establishment.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Venue</th>
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<tr>
<td>January 20-31</td>
<td>Nationwide series of one-to-one forestry advisory clinics</td>
<td>Nationwide</td>
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<tr>
<td>April 7-17</td>
<td>Nationwide series of forest walks focusing on early forest management</td>
<td>Nationwide</td>
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<tr>
<td>May</td>
<td>Broadleaf management event</td>
<td>Galway</td>
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<tr>
<td>June</td>
<td>Conifer thinning demo – focus on second thinning</td>
<td>Cork</td>
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<td>August 10</td>
<td>Forest and energy village at the Tullamore Show</td>
<td>Offaly</td>
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<tr>
<td>September</td>
<td>Timber marketing events</td>
<td>Waterford</td>
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<td>Teagasc forestry stand at the National Ploughing Championships</td>
<td>Laois</td>
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<tr>
<td>October</td>
<td>Broadleaf management event</td>
<td>Meath</td>
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<tr>
<td>November</td>
<td>Forest owner groups event</td>
<td>Laois</td>
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<tr>
<td>November</td>
<td>Teagasc bioenergy event</td>
<td>TBC</td>
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Contact your local forestry development officer for further details or see www.teagasc.ie/forestry.

All Teagasc forestry events are organised in association with the Forest Service, Department of Agriculture, Food and the Marine.

On rare occasions, Today’s Farm may arrive after an event has taken place. Our apologies should this occur.
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OVER QUOTA?
HERE ARE SOME OPTIONS

For 2013/14, the majority of farmers, and the country as a whole, are almost certainly going to fill the milk quota. Each case is unique and every producer will have to plan their strategy to deal with the possibility of superlevy.

George Ramsbottom
Dairy Specialist Animal and Grassland Research and Innovation Programme
Teagasc Oak Park

This article is in two parts: focusing first on short-term steps to reduce superlevy exposure next spring; then discussing important considerations to do with milk quota and quota regulations in the run up to 1 April 2015.

Summary
• It is safe to assume that the country will produce in excess of the national milk quota by the end of March 2014.
• Where over quota, a combination of

Figure 1
Milk sales in the January-March period for a 100-cow spring-calving herd

<table>
<thead>
<tr>
<th></th>
<th>Milk sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full production</td>
<td>81,840</td>
</tr>
<tr>
<td>Once a day</td>
<td>57,288</td>
</tr>
<tr>
<td>Feeding calves</td>
<td>51,160</td>
</tr>
</tbody>
</table>
options is available for farmers to reduce excess milk supply in spring 2014. Once a day (OAD) milking is the better option but only applicable where somatic cell count (SCC) is low.

- The milk quota regulations remain in place until 31 March 2015 – farmers without milk quota will not be eligible to supply milk until 1 April 2015.

Short-term steps
- It looks almost certain that the national quota will be completely filled in 2013/2014 for a number of reasons:
  - The positive milk price indicators for the start of the coming milk production season.
  - Cows are likely to calve in good condition this spring.
  - The expected further increase in dairy heifers calving down this year:
    Many farmers are over quota – some suppliers have already completely filled their annual quota. Cashflow will be extremely tight for them as it’s likely that they won’t receive another substantial milk cheque until May 2014.
    Farmers running over quota still have options to moderate supply between calving and 31 March which could reduce the final superlevy bill.

  The effects of a variety of milk supply actions on the volume supplied to the end of March 2014 are detailed in Figure 1.
- Full production assumes that all milk produced is sold as soon as possible after calving. On average, over 810 litres/cow are sold between calving and the end of March. Assuming that the farm is over quota, superlevy will be paid on the excess production. Don’t forget, however, that the superlevy fine of 28.6c/litre will be counterbalanced by the cur-

continued on Page 10

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rent relatively high base milk price of, e.g., 38c/litre. So some, if not all, of the variable costs will be covered. Depending on quota position on the individual farm, not all of the milk will be levied – some may be covered by ‘flexi-milk’ – the exact volume will depend on your quota category and the pool of unused quota available.

- By choosing the OAD milking option, approximately 570 litres/cow are produced. I’ve assumed that, as research shows, milk volume is reduced by 30% from the date of calving. This option should not be considered where SCC is already high. Research shows that SCC levels in milk will double for a couple of weeks after you begin OAD milking followed by a decline. In my experience, SCC levels will level off at approximately 50% higher than the ‘normal’ SCC levels (when milking twice a day [TAD]).

- On the positive side, milk price will be higher with OAD milking – milk composition could increase by one percentage point, e.g. from 7% (remember we’re talking about early lactation milk) to 8%. At current milk pricing, this could be worth 5c/litre more than TAD milk.

- Another advantage of this option is that body condition score will be very good, provided that you continue to feed cows as though they were milking TAD. This will set them up for a very good breeding season in 2014 – having cows in good condition score at the start of the breeding season helps to improve their fertility.

- I’m often asked about the carryover effects of milking OAD – the experience is mixed. Research at Moorepark has shown no carryover effects either within, or between, lactations. Cows milked OAD for the first half of their lactation produced as much milk per day when returned to TAD milking as cows milked TAD from the start of lactation. Farmer experience is more mixed with reports that black and white cows with lower milk yield potential don’t perform as well on OAD milking – they tend to get fat and milk yield declines faster in the second half of lactation. Cows milked OAD for a full lactation produced as much milk when returned to TAD milking the following year as their counterparts milked TAD for the previous lactation.

- Feeding milk to calves reduced milk production year, depending on bulk milk production year.

2014/2015 milk quota management
While there are only another 15 months or so until the abolition of quota, don’t lose sight of the fact that quota remains in place and all elements of the milk quota regulations will apply up to and including 31 March 2015.

Any milk carried over to April 2014 will tighten the quota available in the last milk quota year, placing existing producers wishing to expand in the spring of 2015 under pressure until 1 April 2015.

Farmers wishing to start milk production in 2015 must appreciate that, under the milk quota regulations, a co-operative can only accept milk from a producer where the producer has a milk quota. This means that any producer planning to begin production in the January/March 2015 period will not be able to supply his milk buyer until 1 April of that year.
New research emphasises importance of colostrum timing and quantity

Colostrum is important for newborn calves, but new research by Muireann Conneely and Emer Kennedy at Teagasc Moorepark shows how important it is that the calf feeds immediately after birth and consumes 8.5% of its body weight.

Over 5% of dairy heifers (one in 20) don’t survive their first six months. That adds up to over 18,000 dead calves each year and losses to farmers of over €3.3m.

Norway has calf mortality rates of just 3.7% so it’s clear that mortality rates can be lowered. But how?

Muireann Conneely has investigated the area of colostrum and colostrum feeding which is known to be a key factor in calf health.

“The newly-born calf has a very weak immune system and relies on colostrum which contains the disease-preventing immunoglobulins, also known as antibodies, to fight infection,” said Muireann.

Testing carried out in Irish Regional Veterinary Laboratories in 2011 showed that two thirds of calves tested did not absorb enough immunoglobulins from colostrum. Muireann set out to discover why.

Do Irish cows produce enough good quality colostrum?

“We sampled the colostrum from 704 cows that were representative of the Irish dairy herd,” said Muireann.

“We found that over 95% of the cows we sampled produced good quality colostrum with high levels of immunoglobulins.

“Older cows are a little bit better at producing colostrum, but even first calvers almost always produce good quality colostrum.

“Good quality colostrum is also produced regardless of the month of calving, although colostrum produced in the later part of the spring was a little bit lower. So the quality of the cow’s colostrum is very rarely the reason why a calf doesn’t absorb enough antibodies.”

Is the calf getting colostrum quick enough?

“Timing is really the crucial factor,” said Muireann. “Most farmers know that the calf needs colostrum quickly, but many may not be aware that the first two hours are crucial – after two hours the calf’s ability to absorb the crucial immunoglobulins drops very rapidly.”

The other vital factor is the quantity of colostrum needed – and this is related to the weight of the calf.

“Past recommendations have talked about the number of litres of colostrum a calf should receive – we found that it is better to aim to feed 8.5% of the calf’s weight in the first two hours after birth. If a calf typically weighs 33kg, you would aim to feed about 3l of colostrum.”

Interestingly, the research showed that it is possible to feed too much colostrum – feeding 10% of birth bodyweight in colostrum was no better for the calf than feeding 7% of its body weight.

What is meant by transition milk?

Only the first milking is called colostrum. Transition milk is the milk that is taken from the cow in the second to sixth milkings after birth.

The immunoglobulin levels in transition milk are much lower than that of colostrum, and not high enough to protect the calf from disease.

However, transition milk can be fed to the calf for a few days following the colostrum feed (before moving the calf onto whole milk or milk replacer), and the research did suggest that calves fed transition milk for two days showed fewer symptoms of ill-health than calves who were not.
Early turn-out: always worth aiming for

Joe Patton, Dairy Specialist, Teagasc Animal & Grassland Research & Innovation Programme, Grange & John Lawlor, Dairy Adviser, Drogheda

Earl turnout to grass is sometimes viewed as the preserve of low-input spring-calving dairy herds. However, research and on-farm experience has shown that the potential benefits are just as great for farms in winter milk or farms operating at higher stocking rates.

Spring grazing starts early on the farm of Martin Quigley, who milks circa 70 Holstein cows near Inniskeen on the Louth-Monaghan border. Unusually, calving is confined to a 100% autumn block from September to November. This means all cows are at full feed intake by late January, but the aim remains to include grazed grass in the diet as early as possible.

“Ten years ago, we would have waited until mid-March before starting grazing,” noted Martin. “The thinking at that time was to wait until growth picked up because there wasn’t enough grass on the ground to meet the high demand. But in most years, there were issues with sward quality and running out of grass at some point in April.”

For the spring period, emphasis has shifted over time to early turnout and budgeting of available grass over a longer first rotation. This is achieved by setting out a simple first rotation plan to offer a proportion of the area for grazing each week. Herd feed demand is balanced by feeding silage and concentrate.

“The cows go to grass in late January or early February now,” Martin explained. “In the early weeks, it might only be 5kg or 6kg grass dry matter per day which is done by grazing for four hours after morning milking. This is stepped up to grazing by day and then full-time up through March. With all cows calved you could easily run ahead even grazing for a few hours each day, so it is important to stick to the rotation plan.”

Continued on Page 14

In summary

- Just as for spring calving herds, early turnout to grass has immediate and long-term benefits for winter milk and high stocking rate systems.
- For spring and winter herds alike, aim to graze one third of the farm by early March, another third by mid-March and the final third by early April. The Teagasc spring rotation planner is an excellent management tool and can make the task easier.
- The minimum grass allowance per grazing bout is 4kg to 5kg dry matter (DM) per animal. To avoid poaching, graze for three to four hours per bout and back-fence grazed areas.
- Maintaining forage intake is critical for good performance and health. Target a minimum 11kg to 12kg DM of forage per head per day using high quality silage to balance available grass. Supplement with concentrate as required thereafter.

Supplementary feeding

The targets set for the spring rotation plan are similar to those used by spring-calving counterparts; 33% of area grazed by 1 March, 66% grazed by 17 March and the remainder grazed by 5 April. The main differ-

With all cows calved you could easily run ahead even grazing for a few hours each day, so it is important to stick to the rotation plan

– Martin Quigley (pictured)
en, however, is the level of supplement feeding required for much of the first rotation. A minimum of 13kg DM forage is allocated daily as a combination of silage and available grass, with 4kg to 6kg concentrate offered to make up the diet.

Silage is needed in the diet until mid-March most years and Martin highlights the importance of matching indoor feed to grass allowance.

“We try to vary silage feeding depending on the grass in the diet. So, for example, if the herd is on 5kg (DM) grass this week, we will offer 8kg silage plus meal to balance, but when grass goes to 10kg the silage drops to 3kg or 4kg. This works better than having ad-lib silage at the barrier because cows are still well fed while getting post grazing heights to 4cm.”

**Aidan Lawless, Teagasc Johnstown Castle**

The practices employed on-farm in Inniskeen are very consistent with those in place for the Johnstown Castle winter milk research herd in Co Wexford.

Here, project manager Aidan Lawless has been working with high spring grass demand across various systems for a number of years.

The current project involves a 60:40 autumn/spring split calving herd at a grazing stocking rate of 3.1 cows per ha. Aidan describes some of the issues arising and how they are managed.

“Autumn grazing management directly affects what is possible in spring. Our approach has been to run lower autumn grass covers compared to spring herds and have a 35-day final rotation starting in early October. This results in more grass available in the spring.”

**How is available grass budgeted?**

“The focus has been to set up the farm for the second and subsequent rounds by grazing out a proportion of the farm each week - the amount of grass in the diet on a given day is less relevant.”

Approximately 25 units of early N are applied across the farm as urea or watery slurry in late January. Grazing by day begins in early February to reach the target of 33% grazed by the end of the month.

“I work to a target area grazed by the end of each week which works well,” noted Aidan. “In previous high stocking rate systems where grass on the budgeted area is very limited, we would have grazed four to five days per week to keep on track while offering at least 5kg grass per bout.”

**Milk solids**

In 2012/13, the herd averaged 338kg milk solids (7,112 litres) at a grazing stocking rate of 2.15 cows per ha. Concentrate fed per cow was 1.2 tonnes of concentrate or 5.1 cent per litre. The changes to grazing management at the shoulders of the year have contributed to steady improvements in feed cost and forage quality over time.

The issue of performance across all farm hectares is occupying Martin’s thoughts: “I had been relatively happy with our costs per litre and output per grazing hectare. But recently the discussion group has taken a detailed look at figures on a total farm basis rather than for grazing hectares only. This was a real eye-opener for me because it showed the value of pushing grass growth and utilisation across the unit as a whole.”

**Impact on cows**

Does this variation have any negative effect on cows?

“Over the last number of years, the trend was for milk yield to drop by one to two litres in the short-term when cows go to grass. This has been the case whether grazing five days or seven days a week, so it is not a big issue once total dry matter intake per day is kept stable.

“Spring and autumn calvers alike are offered 13kg total forage during spring, with 3kg and 6kg of high energy concentrates fed respectively.”

Aidan points out that milk yields tend to recover after a week and there is a definite feed cost saving up front, but the biggest benefit comes from having the farm well set up for the subsequent grazing.

“The herd averaged 3.62% protein through mid-season in 2013, and improved grass quality is essential to this. It requires good management of intakes and confidence to ride out blips in milk yield, but the gains from early grazing are certainly there for winter milk herds.”
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The Beef Euro-Star System was introduced in 2007 by The Irish Cattle Breeding Federation (ICBF), to identify the most profitable cattle in the beef herd.

Teagasc drystock adviser Christy Watson reports on progress.

The Beef Euro-Star system was introduced in 2007 by The Irish Cattle Breeding Federation (ICBF), to identify the most profitable cattle in the Irish beef herd. The 2008 ‘Animal Welfare, Recording And Breeding Scheme For Suckler Herds’ took beef breeding to a new level. By recording the calf’s sire, an essential link in genetic evaluation was created.

At the launch of this programme in 2008, I remember speaking to farmers at public meetings and pointing out that the scheme would only succeed if farmers used the Euro-Star ratings when making breeding decisions.

So, after seven years, what has the Euro-Star system to offer the beef cattle? To help answer this question, I studied the slaughter data for the herds of two of my clients who purchased cattle on the open market. The data presented here is based on the cattle slaughtered in the calendar year 2011. The data comes from the ‘ICBF HerdPlus Slaughter Report’ for 2011.

This report shows the key slaughter data, carcase weight, grade, age at slaughter and the Euro-Star rating of animals slaughtered in the herd. It’s one of a number of highly useful reports available to farmers signed up to ‘Beef HerdPlus’.

FARM 1
John McDonald farms cattle and tillage near Maganey where counties Kildare, Carlow and Laois meet. The beef system is: summer grazing with store cattle bought in spring from local marts and slaughtered in late summer/early autumn. Small quantities of meals are fed at grass for the last three to four weeks before slaughter.

The cattle are purchased on the basis of value for money and to ensure that they are fit by the end of summer. I have sorted the slaughter data by Euro-Star value and compared the performance of the one-star cattle with the five-star cattle.

There was very little difference in weight at purchase between one and five-star animals — just 17kg in favour of the five-star animals. The purchase price was similar but with slightly more paid for the five-star animals.

Slaughter performance
The real difference between one and five-star animals begins to emerge when you look at the slaughter performance. The five-star cattle were fit for slaughter four months earlier than the one-star cattle; they had carcases which were 50kg heavier, indicating that they were much more efficient at converting feed consumed to carcase weight.

The fact that the five-star animals reached slaughter at a younger age makes a big contribution to reducing the carbon footprint of the beef enterprise on this farm. If these cattle were slaughtered on the farm of birth, then the breeder would have benefitted from this improvement in efficiency, with 50kg extra carcase for sale, four months less feed consumed.

As in any farming system, it is all about profitability. Here, again, the five-star animals outperformed the one-stars achieving a sale price of €1,478 or €237 more than the one-star cattle.

Daily liveweight gain indicates the difference between one and five-star cattle. However, the major plus with the five-star cattle is in the efficiency of carcase gain.

Over their lifetime, the daily car-
**five-star profits**

The bulls purchased appear to be good quality. All of the bulls are continental crosses from the suckler herd and all of the main continental breeds available in Ireland are represented.

The first thing to note is that, again, at purchase the five-star bulls were 47kg heavier coming onto the farm, and cost €77 more, on average.

The first indicator of the superior genetics of the five-star cattle is the age at slaughter. The five-star cattle were finished two months earlier; a significant difference on a high input system where daily feed cost during the finishing stage can be up to €3/ head. The carcase is what the cattle finisher gets paid for.

In general, provided the carcase meets market specifications, the weight is the primary contributor to sale price. Again, the five-star cattle achieved an extra carcase weight of

**FARM 2**

The second farm (which chose to remain unidentified) operates a high input bull beef system buying approximately 500 weanling/store bulls annually with bulls at grass for approximately 100 days before being housed for 100 days on a high concentrate finishing diet.

Depending on the time of the year purchased and liveweight, some bulls might spend very little time at grass.

This farmer aims to buy the best quality available and, indeed, visually

**Continued on next page**

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**National Tree Week 2014**

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drystock

From page 17

87kg — a huge difference in performance. Bear in mind that this extra carcase weight was achieved where the five-star animals were two months younger at slaughter than their one-star comrades.

Both one and five-star cattle had the same opportunity to reach their potential at slaughter. The number of days on the farm was the same for both groups. All cattle were managed the same, fed the same diet and received the same veterinary treatments.

It is important to note that on both of these farms the farmers did not know the Euro-Star rating of the cattle they had in their herds, so any difference in performance is down to genetic ability and nothing to do with on-farm management.

**Carcass gain**

As with the first farm, the major difference between the one-star and five-star cattle is daily carcase gain, the five-star cattle achieved a carcase gain which was 40% better than the one-star cattle.

When we look at the difference in sale value between one-star and five-star, carcase weight accounts for 83% of the difference with grade accounting for 17%. The five-star cattle were on average grade U= with the one-star cattle grading R=.

The difference in performance between the one and five-star cattle is all the more dramatic when you consider that these cattle were purchased on quality and visually looked to be good, well-shaped animals, from the suckler herd.

**Benefits at housing**

The real gain with the five-star animals over the one-star animals is when the animals are housed for the 70 to 100-day final finishing high-cost period.

If we take the sale price and subtract the purchase price and then divide the answer by the number of days on the farm, we get the daily increase in value of the animals while on the farm.

For the one-star cattle, this works out at €2.44/day as opposed to €3.91/day for the five-star cattle.

When daily indoor feed cost is €3/day, the one-star cattle are losing money when indoors.

At grass, the less efficient one-star cattle are probably still showing a net daily gain in value. However, when housed, they are losing the farmer money every day.

So, in conclusion, from the performance on these commercial farms, it is clear that the beef Euro-Stars have a lot to offer the farmer who finishes cattle. Having been in operation for seven years, the system has a level of predictability that is robust when applied at commercial farm level.

At present, farmers purchasing cattle for finishing do not have ready access to the star rating of the cattle they are purchasing.

From the data, it is clear that without this information farmers end up, despite their best efforts, buying some cattle that lose them money alongside cattle that have the genetic potential to make a profit.

### Key questions

So, with regards to buying blind (genetically speaking) or selling without declaration of Euro-Star, some questions come to mind for the beef industry.

- As buyers/sellers, do you know what Euro-Star rating means?
- As sellers, do you see a benefit in declaring the Euro-Star rating of the cattle you are selling?
- As buyers, are you interested in knowing the Euro-Star rating of the cattle you are purchasing?

**Table 1: Difference in performance of Five-Star v One-star bulls**

<table>
<thead>
<tr>
<th>Cattle</th>
<th>One-star</th>
<th>Five-star</th>
<th>Difference (One-star v Five-star)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase weight (kg)</td>
<td>479</td>
<td>496</td>
<td>+17kg</td>
</tr>
<tr>
<td>Purchase price (€)</td>
<td>€982</td>
<td>€987</td>
<td>+€5</td>
</tr>
<tr>
<td>Purchase price (€/kg)</td>
<td>2.05</td>
<td>1.99</td>
<td>-6 cent/kg</td>
</tr>
<tr>
<td>Slaughter age (months)</td>
<td>30</td>
<td>26</td>
<td>-4 months</td>
</tr>
<tr>
<td>Carcase weight</td>
<td>353</td>
<td>403</td>
<td>+50kg</td>
</tr>
<tr>
<td>Sale price (€)</td>
<td>€1,241</td>
<td>€1,478</td>
<td>+€237</td>
</tr>
<tr>
<td>Average daily liveweight gain (kg)</td>
<td>1.0</td>
<td>1.1</td>
<td>+10%</td>
</tr>
</tbody>
</table>

**Table 2: Difference in performance of Five-star v One-star bulls for essential slaughter traits and commercial value**

<table>
<thead>
<tr>
<th>530 weanlings</th>
<th>One-star</th>
<th>Five-star</th>
<th>Difference (Five-star v One-star)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase weight (kg)</td>
<td>382</td>
<td>428</td>
<td>+46kg</td>
</tr>
<tr>
<td>Purchase price (€)</td>
<td>€768</td>
<td>€845</td>
<td>+€77</td>
</tr>
<tr>
<td>Slaughter age (months)</td>
<td>19</td>
<td>17</td>
<td>-2 months</td>
</tr>
<tr>
<td>Carcase weight</td>
<td>332</td>
<td>419</td>
<td>+87kg</td>
</tr>
<tr>
<td>Sale price (€)</td>
<td>€1,310</td>
<td>€1,723</td>
<td>+€413</td>
</tr>
<tr>
<td>Days on farm</td>
<td>222</td>
<td>224</td>
<td>+2 days</td>
</tr>
<tr>
<td>Average daily liveweight gain (kg)</td>
<td>0.92</td>
<td>1.30</td>
<td>+41%</td>
</tr>
</tbody>
</table>
Beef Specialist Adam Woods, Teagasc Animal & Grassland Research & Innovation Programme, looks at a British partnership which benefits a weanling producer and a cattle finisher

Confidence is high in the British meat sector with record prices for finished cattle. But suckled calf production margins are no different than in Ireland and profits are generally low. Many producers use their Single Farm Payment to underpin the business. Some are seeking new ways to enhance margins.

On a recent study trip to Britain organised by Simon Marsh, senior beef lecturer at Harper Adams University, farmers in the mid-Louth beef discussion group visited two beef units who have created an innovation partnership.

“The two farms we visited are an interesting case of how a suckler farmer producing exactly what the finisher needs gains a little more for his weanlings,” said Conor Dobson (local Teagasc B&T adviser), Drogheda, who facilitates the discussion group.

Frost farm overview

“Look lads, keep it simple, complicated isn’t profitable,” is Simon’s philosophy. His system is just that – simple. Cows calve in spring with a mean calving date of 10 February. Cow type is Limousin x Holstein. Twenty-five replacement heifers are purchased each year at the maiden stage from a local dairy farmer.

Simon isn’t concerned about the Holstein influence as he believes milk is the most important driver of weanling weight and that’s the weight he needs to maximise in his system. He is also maximising hybrid vigour in the herd with this three-way mix of Holstein/Limousin/Charolais.

Simon puts a huge amount of effort into the selection and purchase of a stock bull that will do the right job for him. Charolais bulls in the top 1% to 10% for terminal index with a focus on some specific traits, such as calving ease, birth weight, growth and muscle depth, are purchased.

Trust is put in these EBVs when purchasing bulls. “For us, the ideal bull is what is called a ‘curve bender bull’,” says Simon.

“That’s one with a low birth weight and high growth rates. In a weanling production system, there is no other breed to touch Charolais, they tick all the boxes.”

Cows and calves stay indoors after calving and are turned out at the end of April. Cows with bull calves are grazed together and those with heifer calves are grazed in a separate group. Creep feeding starts in mid-August.

Continued on Page 20
when calves are fed 1.5kg/day of ration until weaning around the first week of October.

Two weeks prior to weaning, calves are vaccinated for pneumonia and dosed for fluke, lice and worms. Their backs are also clipped at this stage. They then move to the finishing farm for intensive finishing at 14 to 15 months.

“" In a weanling production system, there is no other breed to touch Charolais, they tick all the boxes

Simon Marsh, senior beef lecturer at Harper Adams University, has followed Simon Frost’s system in great detail in recent years. He also analysed the individual kill data when they moved to the finishing farm. See Table 1 for details. Simon Marsh is also a firm believer in EBVs and he would love to see EBVs displayed at live marts where finishers could pay more for animals of high genetic merit.

Alan and John Dore, Home Farm, Glapwell, Chesterfield.

• System: Lowland farm consisting of 1,200 acres.
• 200 acres in grass with the remainder growing barley, wheat and oilseed rape.
• 600 cattle finished annually.

Dore farm overview

The Dore brothers run an intensive finishing farm with most of the ingredients in the finishing diet grown on the farm. The majority of the 600 cattle finished annually are suckled calves bought in at 350kg to 400kg. These calves are finished at up to 20 months old ranging from 370kg to 500kg for bulls and steers and 290kg to 320kg for heifers. The Dore brothers purchase 120 12-week-old Belgian blue x Holstein Friesian bull calves and are finished at a carcass weight of 380kg to 390kg in a traditional barley beef enterprise.

Very little grazing takes place on the farm with the 200 acres in grass mainly used for silage and forage production. Top class management from purchase to slaughter ensures that the animals all perform to their maximum potential.

Alan Dore said: “When weaned calves come in, it’s all about minimising stress. We house the calves in well-ventilated straw-bedded sheds and allocate double the recommended space allowance.”

During this initial phase, calves are fed top quality silage ad lib and ration is gradually built up over eight weeks starting at 4kg in week one and 8kg by week eight. They then proceed to ad-lib meal feeding.

When the group compared the difference between the bulls and the heifers, a lively discussion ensued about the use of semen in the suckler herd. The bulls killed 154kg heavier than heifers at a similar age. Based on current feed costs, the bulls leave an extra £492 compared with the heifers. Obviously, purchase price and market requirements need to be taken into account but the conclusion was that semen male semen may have a role to play in the future on suckler farms.

Key messages

• Simple systems are best.
• Milk is a key driver of weanling weights.
• Top terminal genetics can deliver exceptional performance when crossed with the right cow.
• Produce what the customer wants and the market will deliver.
• Economies of scale important in finishing systems.
• Attention to detail is important, particularly in the finishing phase.
Table 1: Calf weaning weights on Simon Frost’s farm compared with EBLEX recorded lowland suckler herds in Britain

<table>
<thead>
<tr>
<th></th>
<th>EBLEX Average</th>
<th>Top third</th>
<th>Bulls</th>
<th>Heifers</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wean age</td>
<td>246</td>
<td>239</td>
<td>212</td>
<td>231</td>
<td>217</td>
</tr>
<tr>
<td>Wean weight</td>
<td>294</td>
<td>298</td>
<td>391</td>
<td>329</td>
<td>360</td>
</tr>
<tr>
<td>DLWG</td>
<td>1.03</td>
<td>1.08</td>
<td>1.63</td>
<td>1.31</td>
<td>1.47</td>
</tr>
<tr>
<td>200-day weight</td>
<td>246</td>
<td>256</td>
<td>370</td>
<td>302</td>
<td>336</td>
</tr>
</tbody>
</table>

Table 2: Finishing results from the Dore farm on Simon Frost’s bulls compared with Eblex targets

<table>
<thead>
<tr>
<th></th>
<th>EBLEX</th>
<th>Simon Frost’s bulls</th>
<th>Targets</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slaughter age (months)</td>
<td>14</td>
<td>13.6</td>
<td>14.4</td>
<td>14.4</td>
<td>14.4</td>
</tr>
<tr>
<td>Slaughter weight (kg)</td>
<td>590</td>
<td>714</td>
<td>773</td>
<td>773</td>
<td>773</td>
</tr>
<tr>
<td>DLWG birth to slaughter (kg)</td>
<td>1.28</td>
<td>1.62</td>
<td>1.66</td>
<td>1.66</td>
<td>1.66</td>
</tr>
<tr>
<td>Kill out %</td>
<td>59</td>
<td>59.9</td>
<td>59.9</td>
<td>59.9</td>
<td>59.9</td>
</tr>
<tr>
<td>Carcase weight (kg)</td>
<td>348</td>
<td>427</td>
<td>462</td>
<td>462</td>
<td>462</td>
</tr>
<tr>
<td>Daily carcase gain from birth (kg)</td>
<td>0.77</td>
<td>0.97</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>% E and U grades</td>
<td>N/A</td>
<td>96</td>
<td>96</td>
<td>96</td>
<td>96</td>
</tr>
<tr>
<td>Concentrates (kg/bull)</td>
<td>1500</td>
<td>1384</td>
<td>1662</td>
<td>1662</td>
<td>1662</td>
</tr>
<tr>
<td>Silage (kg DM/bull)</td>
<td>N/A</td>
<td>412</td>
<td>681</td>
<td>681</td>
<td>681</td>
</tr>
<tr>
<td>Feed conversion ratio (kg feed DM/kg gain)</td>
<td>5.3:1</td>
<td>4.7:1</td>
<td>4.9:1</td>
<td>4.9:1</td>
<td>4.9:1</td>
</tr>
</tbody>
</table>

Table 3: The Dore farm heifer finishing results

<table>
<thead>
<tr>
<th></th>
<th>Simon Frost heifers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slaughter age (months)</td>
<td>14.8 (450 days)</td>
</tr>
<tr>
<td>Slaughter weight (kg)</td>
<td>550</td>
</tr>
<tr>
<td>DLWG birth to slaughter</td>
<td>1.14</td>
</tr>
<tr>
<td>Killout %</td>
<td>56</td>
</tr>
<tr>
<td>Carcase weight</td>
<td>308</td>
</tr>
<tr>
<td>Daily carcase gain from birth</td>
<td>0.64</td>
</tr>
<tr>
<td>Confirmation class</td>
<td>4% E, 60% U, 34% R, 2%O</td>
</tr>
<tr>
<td>Concentrates (kg/head)</td>
<td>799kg + 1,038kg DM silage</td>
</tr>
<tr>
<td>Feed conversion ratio (kg feed DM/kg gain)</td>
<td>6.5:1</td>
</tr>
</tbody>
</table>

Table 4: Dore finishing ration

<table>
<thead>
<tr>
<th>Feed</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rolled barley</td>
<td>63</td>
</tr>
<tr>
<td>Rolled oats</td>
<td>15.5</td>
</tr>
<tr>
<td>Soya bean meal</td>
<td>10</td>
</tr>
<tr>
<td>Linseed flakes</td>
<td>10</td>
</tr>
<tr>
<td>Beef mineral</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Data courtesy of Simon Marsh, Harper Adams University
Sheep rations –

Know what your animals need and read the small print

Michael Gottstein,
Head of Sheep,
Teagasc Animal & Grassland Research & Innovation Programme, Macroom

The majority of sheep farmers feed concentrates to boost animal performance at specific times of the year:
- Ewes pre-lambing,
- Ewes post-lambing,
- Lambs pre-weaning (creep feed),
- Lambs post-weaning,
- Animals finishing indoors.

Most sheep farmers are feeding concentrates to ewes as lambing approaches. But there is also a considerable share of last year’s lamb crop on farms and these are also receiving concentrate supplementation. Given that expenditure on concentrate feed is the single biggest variable cost on sheep farms, how can farmers ensure they are getting best value for money?

Coarse vs pelleted

Coarse feeds are cheaper to manufacture and are becoming increasingly common on many sheep farms. Coarse feeds can be formulated to contain a greater proportion of unprocessed ingredients which results in slower fermentation in the rumen and reduced risk of dietary upsets.

On the other hand, coarse feeds allow the sheep to sort out ingredients that are less palatable (usually only a problem when feeding lambs ad lib concentrates) and they are not suitable for feeding on the ground without troughs.

Coarse feeds tend to attract more birds if fed on hay or silage. There is also the risk of ‘separating-out’ of ingredients, particularly minerals, if stored for long periods.

Pelleted feed ingredients are finely ground before being pressed into a pellet. While it is possible to incorporate a certain quantity of whole grain, most pellets contain only finely ground ingredients. Pellets dissolve quickly in the rumen and because the ingredients are finely ground, they are rapidly digested. Poor management of pellets can lead to acidosis in sheep. In their favour, pellets are better if fed on the ground and they prevent animals from sorting ingredients that they don’t like.

Energy

Most concentrate feeds are sold under a brand name and/or a protein percentage (e.g. intensive lamb nut or Ewe 18). With the exception of ewes in the last three weeks of pregnancy, or in early lactation, energy will be the most important component of the concentrate feed. There is no legal requirement for feed manufacturers to display the energy content of the concentrate feed. Therefore, looking at the ingredients is the only way to assess how good or bad a feed is.

<table>
<thead>
<tr>
<th>Table 1: Quality of ingredients in concentrate feed*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereals (maize, barley, oats, wheat)</td>
</tr>
<tr>
<td>Pulps (citrus and beet)</td>
</tr>
<tr>
<td>Soyabean meal</td>
</tr>
<tr>
<td>Distillers grains</td>
</tr>
<tr>
<td>Peas and beans</td>
</tr>
<tr>
<td>Molasses (less than 5%)</td>
</tr>
<tr>
<td>Oil (small quantities)</td>
</tr>
</tbody>
</table>

*Green = best quality, orange = average, red = poor
buyer beware

For simplicity, I have divided the ingredients into three different categories using a traffic light system where green is best, orange is average and red is poor (Table 1).

In most cases, ingredients are listed in descending order of inclusion in the ration. By looking at the first five or six ingredients, you will have a good idea of the energy value of the ration. Ideally, there should be no poor quality ingredients in the first five or six listed in descending order. If, however, the ingredients are list in alphabetical order, then a breakdown of the quantities of each is required to enable the concentrate to be assessed.

**Protein**

For finishing lambs, a crude protein level of 14% should be adequate. Lambs that are being fed ad-lib concentrates will make do with 11% or 12% crude protein, provided that they are well developed.

For ewes in late pregnancy, or early lactation, protein quantity and quality is important. The aim should be to deliver at least 200g per day of crude protein to ewes carrying twins in the last three weeks of pregnancy. Ideally, at least half of this protein should come from soya bean meal.

Once ewes start milking, the need for protein increases dramatically. In early lactation (the first three weeks), a ewe rearing twin lambs will require 400g of crude protein per day. Where there is sufficient grass available, it should supply all of the protein required in most situations. Where grass is in short supply (less than 4cm) supplementing with a high protein concentrate will enable the ewe to mobilise body fat and maximise milk yield.

**Minerals and vitamins**

Mineral and vitamin supplementation is important to balance the mineral and vitamin profiles of the ingredients of the concentrate feed. Mineral and vitamin supplementation is a complicated area and there are strict limits set out in law for the maximum levels of supplementation for certain minerals. Therefore, it is best to leave this area to animal nutritionists who have expertise in this area. But a couple of points are worth noting.

- Where concentrates are fed for long periods or as a significant part of the animal’s daily intake (more than 30%), mineral supplementation is required.
- Oral mineral drenches/boluses are not a substitute for a concentrate feed that is correctly balanced for mineral and vitamins.
- For intensively-fed lambs, ammonium chloride should be included in the ration to avoid urinary calculi. Including extra salt (sodium chloride) instead of ammonium chloride is not recommended.
- Never feed sheep with minerals formulated for cattle.

**Key messages**

Concentrates are a major expense on Irish sheep farms. When comparing competing products, it is important to look at what is in the feed rather than the name that has been ascribed to it (e.g. high energy nut). Identify what the most important components should be. It may be protein for lactating ewes; energy for finishing lambs. The concentrate must have the correct levels of appropriate minerals and vitamins.

Use the ingredients that are contained in the feed to estimate if it is a high quality ration or if it has a lot of fillers that make it look good value in terms of price per tonne. If you need assistance, your local Teagasc adviser will be able to help you.
Phosphorus (P) fertility has been declining in Irish soils in recent years, according to results of soil tests analysed through Teagasc. This is a cause for concern given the production targets laid down within Food Harvest 2020.

Soil P availability and fertilizer use efficiency are key elements in the Environment Soils and Land Use Research programme at Teagasc Johnstown Castle.

**Soil pH and lime**

The optimum soil pH for mineral soils is pH 6.3 to 6.5. If the pH is either too low, or too high, the availability of soil P is reduced, and less of the bank of total P that is in the soil will be released to plants for uptake. Most Irish soils suffer from low soil pH (i.e. acid soils) rather than too high. Approximately 60% of grassland soil samples analysed through Teagasc have a soil pH below 6.0. Soil pH can be increased by applying lime. Soil pH and lime requirement are standard tests that are included on a soil test report.

**Lime increases P availability**

A recent study completed at Johnstown Castle demonstrates how critical lime application can be for increasing soil P availability. A range of contrasting soils types from around Ireland (16 in total) were treated with either fertilizer P, lime...
or both, and incubated in controlled conditions. After 12 months, the soil test P was measured in each soil and compared with the soil test P level at the start. Results showed that, on average, across the 16 soils, there was an increase in the soil test P with both the lime and P fertilizer. The highest increase in soil test P was found when P and lime were both applied to the soil (Figure 1). The results also showed that across the 16 soils, only between 4 and 31% of the fertilizer P applied was recovered in a soil test after 12 months. These results indicate two things. Firstly, a large proportion of fertilizer P applied can be fixed by the soil and made unavailable after application. Secondly, lime has a key role to play in reducing this fixation of P and increasing its availability for uptake and utilisation by grass and crops. Many Irish farms are aiming to correct soil pH by applying lime, where required, is critical to maximising the availability of P in soil and fertilizers – maintain soil pH between 6.3 and 6.5 through regular lime applications based on soil test results. P fertilizer is important for grass DM yield, particularly in spring. Apply P in a 'little and often' pattern during spring and summer to increase the nutritional value of grass in terms of P concentration.

**Key messages**

- Correcting soil pH by applying lime, where required, is critical to maximising the availability of P in soil and fertilizers – maintain soil pH between 6.3 and 6.5 through regular lime applications based on soil test results.
- P fertilizer is important for grass DM yield, particularly in spring.
- Apply P in a ‘little and often’ pattern during spring and summer to increase the nutritional value of grass in terms of P concentration.

**Grass production**

The effect of P fertilizer on grass dry matter yield has also been investigated in a long-term grassland trial at Johnstown Castle. This trial measured grass dry matter yields at four rates of P fertilizer (0kg, 15kg, 30kg and 45kg/ha of P) on two low P fertility (Index 2) sites since 1995. On average, grass dry matter yield (t/ha) over the 17 years of the trial was increased by 11% through the application of fertilizer P compared with plots that received no P during the experiment. The increase in herbage yield was greatest during the spring period. This experiment also showed that the rate of P fertilizer applied (0 to 45 kg/ha) had a large effect on herbage P concentration in spring and summer. Having a P concentration in herbage of 0.35% is needed throughout the grazing season to meet the dietary requirements of productive animals. This experiment showed that during the maximum grass production period (May/June) and during summer months (July), grass herbage concentration was not maintained above 0.35% P, even with the highest P fertilizer application of 45kg/ha. However, in this experiment, all the fertilizer P was applied in early spring (February). These results indicate that splitting P application with a ‘little and often’ approach during the spring and summer may help to ensure that there is enough P in grazed grass to meet animal requirements.

A separate experiment in Johnstown Castle has shown that splitting P fertilizer into a number of applications between April and July gave higher herbage P concentrations in July than where the P fertilizer was applied in a single application in spring.

**Figure 1**

Change in soil test P after 12 months*

<table>
<thead>
<tr>
<th>Time</th>
<th>mg/litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>No P, no lime</td>
<td>0.8</td>
</tr>
<tr>
<td>Lime only</td>
<td>5.7</td>
</tr>
<tr>
<td>P only</td>
<td>8.1</td>
</tr>
<tr>
<td>P + lime</td>
<td>17.7</td>
</tr>
</tbody>
</table>

*Average change in soil test P (Morgan’s test) across 16 soils treated with P (100 kg/ha of P), Lime (5 t/ha of lime), and P + Lime and incubated over 12 months in controlled conditions.
Living with cereal crop uncertainty

While cereal production will always be at the mercy of the weather, the 2014 Teagasc National Tillage Conference taking place in Kilkenny on 30 January aims to address some of the other variability often experienced by Irish crops. Notable among those are the efficient use of N fertilizers and the development of resistance to the pesticides used to maintain healthy crops.

N variability in cereals crops

With the costs of agricultural production constantly increasing, ensuring that all inputs are utilised efficiently is central to optimising profitability. Within cereal systems, yield responses to nitrogen application are often difficult to predict. This makes it difficult to provide accurate advice on the specific nutrient requirements of any given crop.

To help identify and explain the origins of this variability, Dr Daniel Kindred (ADAS, Britain) will present an overview of crop N requirements and findings from collaborative projects which are ongoing in Britain. Dr Kindred will outline how this information is being used to predict N requirements, but also the difficulties faced in doing so at the farm level. Among the most difficult aspects is predicting potential yield.

To help address yield prediction in spring barley in Ireland, Shane Kennedy will present details on the development of spring barley crops at different locations throughout the country over three contrasting seasons (2011-2013).

Understanding how crop growth responds to varying levels of solar radiation, temperature and rainfall throughout a particular season, and between several sites and seasons, is important to identify benchmarks for growers. These include maximum potential dry matter achievable and the important growth periods in the crop life cycle which most influence final grain yield. Such targets can aid decision-making on inputs throughout the season.

Transferring research findings to farm

Michael Hennessey will review the outcome of the first BETTER farm tillage programme which will highlight the host farms’ financial and crop performance and outline the changes which have occurred over the three-year programme. Michael will also highlight their role in transferring research technology to a wide audience.

The theme of managing variability, which will be evident in the earlier N papers, will be picked up by Dermot Forristal in his presentation on the precision agriculture research component of the next phase of the BETTER farm programme. The role of newer sensing and variable management technologies will be assessed on these farms.

Pesticide resistance and control

The ability to efficiently control weeds, pests and diseases is essential to the cost-effective production of cereals. Grain aphids are a major pest of both wheat and barley, both direct-
Understanding how crop growth responds to varying levels of temperature, solar radiation, and rainfall throughout a particular season, and between several sites and seasons, is important to identify benchmarks for growers.

By feeding and indirectly as a vector of Barley Yellow Dwarf Virus (BYDV). In the summer of 2011 incidents of poor control of grain aphids following treatment with pyrethroids were reported in English wheat crops. Analysis of these samples confirmed the presence of resistance to pyrethroid insecticides.

Dr Steve Foster (Rothamsted Research, Britain) will outline how this resistance has now spread throughout English cereal populations. More importantly, Dr Foster will confirm the presence of resistance in Irish populations following monitoring in 2013.

Given the prevalence of grain aphids in Irish cereal crops in late autumn, and implications of poor control on the spread of BYDV, Dr Tom Kennedy (formerly Teagasc) will summarise the alternative chemistries available and their effectiveness for grain aphid control.

Similar to insecticides, the development of resistance against the fungicides used to keep crops clean of disease can have immediate and long lasting implications.

Dr Steven Kildea will provide an update on the sensitivity of septoria to the triazole and SDHI fungicides. Strains of septoria with reduced sensitivity to the triazole fungicides are now widespread throughout wheat crops. The findings from trials aimed at slowing this selection, while maintaining disease control, will also be discussed.

On barley, the most recent results from net blotch monitoring will be outlined, specifically the frequency of mutations associated with strobilurin resistance and the initiation of SDHI sensitivity monitoring.

Although 2013 was a low disease pressure season, efficacy results from fungicide performance trials will be presented with the aim of providing guidance for disease control programmes for the current season.
“Buy land, they’re not making it anymore” – Mark Twain

With the abolition of quotas looming, the measure of one’s wealth has changed to “how many hectares are on your grazing platform?”

There is a lot of farm fragmentation in Ireland and the problem has been getting worse in recent years. Figures from the Central Statistics Office show the average number of separate land parcels per farm in Ireland has increased from 3.1 in 2000 to 3.8 in 2010. In 2010, 80,000 farms had three or more separate land parcels.

Fragmentation adds to farm costs and reduces the operational efficiency of the farm. Extra labour, travel time, stock movement and inspection, extra machinery and facilities and crossing roadways are among the issues that arise.

Fragmentation is an important issue on some dairy farms where there is not enough land for the milking platform to provide dairy cows with adequate grazing land close to the milking facilities.

Farm restructuring
The Food Harvest 2020 report has set a strong challenge for the industry; land fragmentation is one potential stumbling block to achieving the targets. With this in mind, the present government launched a new scheme to help farmers to tackle the fragmentations of their farms by reducing the taxation costs associated with selling and purchasing land. There are two taxes on selling and purchasing land.

• 1. Stamp duty charges on land purchased (current rate is 2%).
• 2. Capital gains tax on land disposed of during your lifetime (current rate is 33%).

Capital gains tax (CGT)
When a farmer disposes of farmland during his lifetime, by sale, gift or exchange to another person, CGT rules apply. CGT can be substantial due to the rapid rise in land values in recent years.

Farmers over 55 years old may be eligible for CGT retirement relief if they satisfy a number of conditions. Check the CGT calculations with your accountant before land disposal transactions take place.

Indexation relief (adjusting the value of the lands for inflation) may also apply for lands owned prior to 1 January 2003.

Capital gains tax relief on agricultural land transactions
Budget 2013 included a new relief on CGT for agricultural land transactions leading to efficient farm restructuring. The relief aims to improve the viability and efficiency of farm holdings. The commencement order to give legislative effect to the provision for the relief as outlined in the
Finance Act 2013 was signed last July by the Minister for Finance, following approval by the EU. It provides a relief for CGT where a farmer sells and purchases qualifying land in order to consolidate his/her farm. The sale and purchase transactions for qualifying land must be within 24 months of each other and must also be within the scheme period (1 January 2013 to 31 December 2015).

What is farm restructuring for the purposes of CGT relief?

The interaction of the sale and purchase together of qualifying land must result in:

a) Where a parcel of land is sold by an individual farmer (or, where sold by more than one individual jointly, and at least one of the individuals is a farmer);

b) Where a parcel of land is purchased by the same individual farmer (or where purchased by more than one individual jointly, and at least one of the individuals is the same farmer);

c) Where the sale and purchase occur within 24 months of each other and the initial sale or purchase of land took place in the period 1 January 2013 to 31 December 2015;

d) The interaction of the sale and purchase together result in an overall reduction in the distance between parcels comprised in the farm, including land that has been leased for at least two years with a minimum of five years to run;

e) Thereby leading to a reduction in the fragmentation of the farm and an improvement in the operation and viability of the consolidated farm.

Note that the sale of an existing farm and the replacement of it by the purchase of another farm is not farm restructuring for the purposes of the relief.

What is a parcel of land for the purposes of the relief?

A parcel of land means an entire field or group of fields.

Qualifying land

Land sold and purchased as part of a farm restructuring must comply with the following conditions:

a) The land must be in the state;

b) The land must be agricultural land as defined in Section 60B TCA.

As the definition of agricultural land does not include afforested land, peat land, or habitable dwellings, the value of these should be deducted by the individual claiming relief when the relevant chargeable gain is being calculated.

Examples

1. John sold parcel A which is five miles away (10ha) for €260,000 with disposal costs of €6,000, giving a net disposal value of €254,000.

2. John purchases parcel B across the road from his farmyard (12ha for €270,000) – both parcels are qualifying land.

3. Parcel A was acquired in February 1982 for a cost (including expenses) of €30,500.

4. This acquisition cost is adjusted upwards for inflation (indexation relief) using the CGT multiplier €30,500 x 2.678 = €91,679.

5. Capital Gain = €254,000 - €81,679 = €172,321.

6. Deduct annual CGT allowance of €1,270.

7. Capital Gains Tax saving = €172,321 - €1,270 = €171,051 @ 33% tax = €56,447 tax due.

8. He now qualifies for restructuring relief (less distance between land parcels) and obtains a farm restructuring certificate from Teagasc.

9. The value of land sale exceeds the purchase as all proceeds were invested.

10. The saving in this case is €56,447.

Note: Land sales under Compulsory Purchase Orders will not qualify.

Conditions a farmer must satisfy

When applying for farm restructuring relief to the Revenue commissioners, the farmer must sign a declaration that it is his/her intention for a period of five years from the date of execution of the deed of transfer:

1. To spend not less than 50% of his/her normal working time farming.

2. To farm the lands purchased.

3. To retain ownership of the lands.

Farm Restructuring Certificate (FRC)

The FRC is a certificate issued by Teagasc to the farmer restructuring his/her farm where the sale and purchase transactions meet the restructuring conditions.

If the restructuring conditions are not met, Teagasc will give reasons why it cannot issue an FRC and there is scope to appeal.

The farmer applies to Teagasc filling out the FR1 application and supplying supporting documentation for existing lands owned and farmed and the sale and purchase transactions.

Documentation required includes legal documentation, maps of the lands, LPIS numbers under the Single Payment System etc.
The carbon navigator can reduce greenhouse gases (GHGs) while boosting productivity on Irish farms

Pat Murphy, Head of Environment, Knowledge Transfer, Teagasc Crops, Environment and Land Use Programme, Johnstown Castle

How can we curb greenhouse gas emissions from food production and, at the same time, provide access to affordable food for everyone? Achieving both goals simultaneously is ‘the great challenge’ for world agriculture.

The problem
Agriculture is responsible for approximately 32%, almost one third, of Irish GHG emissions. Additional agricultural production will increase this further unless there is a concerted industry-wide effort to reduce it. Following significant research and policy submissions, policy-makers are beginning to accept the difficulty faced by farmers in reducing GHGs. This may lead to a slightly more lenient reduction requirement than for the rest of the economy. Nonetheless, agriculture faces a huge challenge to become more carbon efficient if it is to avoid restrictions on production. In particular, farmers need to adopt technologies which have been shown to reduce emissions.

The carbon navigator is a tool which can help farmers understand their GHG emissions, set reduction targets and, at the same time, improve profitability. The carbon navigator has been developed in a collaboration between Teagasc and Bord Bia.

Data is collected during Bord Bia Quality Assurance audits which allow the farmer and adviser to focus on setting targets and on planning what needs to be done on the farm to achieve them. The output indicates the effect of each measure on profitability and GHG emission reduction. Added together, the effect can be substantial.

When compared with other producers in Europe and around the world, Irish dairy and beef production is relatively carbon efficient. This presents us with an opportunity to gain access and market share in higher-priced markets where provable environmental sustainability and, particularly, GHG efficiency are a requirement for market entry.

However, none of our competitors are standing still and they are putting a huge amount of research and development into reducing their GHG emissions. It is essential that the entire Irish food industry, farmers, processors, marketing organisations and Teagasc, work together to reduce Irish agricultural emissions.

Reducing GHGs is achieved by improving production efficiency, so both farmers and the environment benefit. The carbon navigator can help by identifying the key improvements in efficiency that can reduce GHG emissions on your farm and quantifying both the potential reduction in emissions and increase in profitability.

The carbon navigator examines the level of performance of the farm and Teagasc joins with researchers from around the world with the aim of quantifying and reducing GHG emissions from agriculture. Teagasc will be rolling out the dairy and beef carbon navigators in 2014.

Key numbers

Irish agricultural greenhouse gas production in numbers:
- 32%: The proportion of total Irish GHGs that come from agriculture.
- 20%: Ireland commitment to reduce national GHG emissions by 2020.
- 1st: Ireland’s position in Europe on GHG efficiency of dairy production.
- 1kg: The amount of CO2 equivalent per kg milk.
- 20kg: The amount of CO2 equivalent per kg beef.
- 50%: The planned increase in dairy output in Food Harvest.
- 10%: Projected increase in agricultural greenhouse gas by 2020 with normal level of farm efficiency improvements.
- 50%: Proportion of Ag GHGs from rumen enteric fermentation.
Table 1: Efficiency criteria used in dairy and beef carbon navigators and how it affects GHG emissions

<table>
<thead>
<tr>
<th>Factor</th>
<th>Explanation</th>
<th>Dairy or beef</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved EBI</td>
<td>Increases output and improves breeding, health and longevity.</td>
<td>Dairy</td>
</tr>
<tr>
<td>Increase grazing season length</td>
<td>Better quality forage reduces rumen methane emissions. Shorter housing period reduces slurry related emissions.</td>
<td>Dairy and beef</td>
</tr>
<tr>
<td>Slurry management</td>
<td>Spreading slurry in the spring reduces spreading losses (cool moist conditions) and storage losses (shorter storage period). Trailing shoe or bandspraying can further reduce losses.</td>
<td>Dairy and beef</td>
</tr>
<tr>
<td>Nitrogen efficiency</td>
<td>Improving N efficiency reduces losses associated with the both the manufacture and spreading of nitrogen. Urea requires less energy to produce than CAN and can reduce emissions when spread in appropriate conditions.</td>
<td>Dairy and beef</td>
</tr>
<tr>
<td>Calving rate</td>
<td>An empty cow produces GHG and no output.</td>
<td>Beef</td>
</tr>
<tr>
<td>Reduce age of first calving</td>
<td>Reduces the time when the heifer is emitting GHGs while not producing output.</td>
<td>Beef</td>
</tr>
<tr>
<td>Live weight performance</td>
<td>Increasing average daily gain improves output and/or reduces the lifespan of the beef animal thereby reducing the emissions per kg of meat.</td>
<td>Beef</td>
</tr>
<tr>
<td>Energy usage</td>
<td>Energy usage in dairying can be reduced if the right equipment is installed and operating correctly.</td>
<td>Dairy</td>
</tr>
</tbody>
</table>

Teagasc greenhouse gas research

Teagasc collaborates with researchers from around the world on quantifying and reducing GHG emissions from agriculture. The major areas of focus are on reducing nitrous oxide (N₂O) emissions from fertilizer and manures, measuring and improving carbon sequestration in soil, improving the carbon efficiency in farming systems and providing scientific backup for the measurement of farm emissions and mitigation efforts.
Nip problems in the bud in your wood

This is a perfect time of the year to walk your forest crop and to see whether any work needs to be carried out. A lot of time, effort and money can be saved by addressing problems early on.

John Casey
Forestry Development Officer, Teagasc Crops, Environment & Land Use Programme, Mallow, Co Cork.

Replace dead trees
Replanting or ‘beating up’ should be done between November and March depending on the tree species and site type. To receive the Forest Service second instalment grant, at least 90% of the trees should be in free growth by the fourth year.

It is important to replace any tree failures as early as possible, to ensure that the forest develops evenly and to avoid unnecessary maintenance later on. If the stocking density is too low, the Forest Service may delay or refuse the second instalment grant and premium payments could also be affected.

The number of trees per hectare can be estimated using circular plots. Count the number of trees within an eight metre radius circle, and multiply by 50 to calculate the stocking on a per hectare basis.

You could do this by tying an 8m tape or string to a tree – the circle centred on this tree is the circular plot. Count the trees in a number of plots to get an accurate, representative assessment.

Take conifer foliar samples mid-winter
The nutrient requirements of trees are low in comparison with agricultural crops. Trees planted on certain soil types can, however, develop nutrient deficiencies resulting in slower growth and reduced timber yields.

Walk your plantation to check for common symptoms of nutrient problems such as changes in tree colour, reduction in shoot growth, reduction in needle length/leaf size, die-back of top or side shoots and general reduction in vigour.

Remember that other factors such as poor drainage, exposure, frost and vermin damage can cause similar symptoms. Always identify the cause of a growth problem before trying to rectify it. Foliage samples should be taken for broadleaves in the summer; for conifers mid-winter is the time to do it.

Oak shaping
Shaping is the process of removing forks and very large competing side branches in order to produce long straight lengths of timber for high value markets.

Shaping is a requirement for the payment of the second instalment grant at year four for broadleaf plantations (except alder). Read leaflet Teagasc Forestry Series No. 3: Shaping Young Broadleaves for Quality Timber on www.teagasc.ie/forestry for more details on how to shape young broadleaf trees. Again, mid-winter is the best time to shape oak.

Reducing fire damage risk
Burning vegetation is an accepted land management tool but requires expert skill. Uncontrolled burning of vegetation poses a grave and unacceptable risk to the lives and livelihoods of farmers and forest owners.

A rigorous fire plan needs to be in place. Before setting a controlled fire, the following questions should be asked:

- Is it within the legally permitted period for controlled burning?
- Is it the fire within one mile of a woodland or forest?
- Have neighbours and the owners of nearby plantations been notified?
- Have An Garda Síochána and the Fire Service Regional Control Centre (Tel. 999 or 112) been notified?
- Is the tree plan thoroughly prepared?
- Is there sufficient help and equipment on standby to control the planned fire?
- Are there adequate means of communication with others should an emergency arise?

Department of Agriculture’s online forestry premium application service
Applicants are now able to apply online for their 2014 premium, if they have registered for the Department’s online service. This service allows clients to view some of their payment history and maps of their forest plantations.

By applying online, forest owners will speed up the premium payment process.

Payments can be made within weeks of the submission of the application instead of having to wait until April, providing these owners with an earlier boost to cashflow.
To avail of the facility, applicants must register with the Department’s Online Services (http://www.agfood.ie/) and obtain a username and password. They are then able to log-in through the Department’s website and submit their forestry premium application form online.

Forestry advisory clinics

A nationwide series of 39 forestry advisory clinics for people who are considering forestry or who are existing forest owners has been organised by Teagasc’s Forestry Development Department.

These one-to-one consultations are being held between 20 and 31 January. This is an ideal opportunity to pHVKRXWWKHGHWDLOVDVWRKRZIRUHVWU\ might work for you. If you are already a forest owner you are welcome to come along to discuss forest management issues.

These clinics will provide private landowners with free, independent and objective advice and can help you to answer the following questions:

- How a forest enterprise can improve farm and household income.
- Timber and non-timber benefits.
- Applying for the higher farmer rate of premium.
- The effect of planting on other farm schemes.
- How to get the job done right first time.

Clinics will take place in local Teagasc offices between 10am and 4pm. Prior booking is essential. Please bring maps and other relevant information.

Table 1: Number of live trees required (at 100% tree stocking)

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of trees required per hectare</th>
<th>Number of trees required per 8m circular plot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lodgepole pine (pure)</td>
<td>3,100</td>
<td>62</td>
</tr>
<tr>
<td>All other conifers</td>
<td>2,500</td>
<td>50</td>
</tr>
<tr>
<td>Alder</td>
<td>2,500</td>
<td>50</td>
</tr>
<tr>
<td>Ash, Sycamore, other broadleaves</td>
<td>3,300</td>
<td>66</td>
</tr>
<tr>
<td>Oak, beech pure</td>
<td>3,300</td>
<td>66</td>
</tr>
<tr>
<td>Oak, beech with nurse mix</td>
<td>3,300</td>
<td>66</td>
</tr>
</tbody>
</table>

Table 2: Teagasc forestry advisory clinics

<table>
<thead>
<tr>
<th>County</th>
<th>Location</th>
<th>Venue</th>
<th>Date</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlow</td>
<td>Oak Park, Carlow</td>
<td>Teagasc Advisory Office</td>
<td>29 January</td>
<td>059 9183555</td>
</tr>
<tr>
<td>Cavan</td>
<td>Ballyhaise</td>
<td>Teagasc County Office</td>
<td>23 January</td>
<td>049 4338300</td>
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<tr>
<td>Clare</td>
<td>Ennis</td>
<td>Teagasc Office</td>
<td>22 January</td>
<td>065 6828676</td>
</tr>
<tr>
<td>Clare</td>
<td>Kilrush</td>
<td>Teagasc Office</td>
<td>23 January</td>
<td>087 6184353</td>
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<tr>
<td>Cork</td>
<td>Kanturk</td>
<td>Teagasc Office</td>
<td>23 January</td>
<td>029 50886</td>
</tr>
<tr>
<td>Cork</td>
<td>Macroom</td>
<td>Teagasc Office</td>
<td>28 January</td>
<td>026 41604</td>
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<tr>
<td>Cork</td>
<td>Mallow</td>
<td>Teagasc Office</td>
<td>21 January</td>
<td>022 21936</td>
</tr>
<tr>
<td>Cork</td>
<td>Midleton</td>
<td>Teagasc Office</td>
<td>27 January</td>
<td>021 4631898</td>
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<tr>
<td>Cork</td>
<td>Moorepark, Fermoy</td>
<td>Teagasc Advisory Office</td>
<td>29 January</td>
<td>025 42244</td>
</tr>
<tr>
<td>Cork</td>
<td>Skibbereen</td>
<td>Teagasc Office</td>
<td>22 January</td>
<td>028 21888</td>
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<td>Donegal</td>
<td>Ballyfoyle</td>
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<td>Ballinasloe</td>
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<td>Tuam</td>
<td>Teagasc Office</td>
<td>31 January</td>
<td>093 28123</td>
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<tr>
<td>Kerry</td>
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<td>27 January</td>
<td>064 32344</td>
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<td>Kerry</td>
<td>Listowel</td>
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<td>30 January</td>
<td>068 21266</td>
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<tr>
<td>Kerry</td>
<td>Tralee</td>
<td>Teagasc Office</td>
<td>28 January</td>
<td>066 7125077</td>
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<tr>
<td>Kildare</td>
<td>Naas</td>
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<td>30 January</td>
<td>045 879203</td>
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<tr>
<td>Kilkenny</td>
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<td>24 January</td>
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<tr>
<td>Laois</td>
<td>Portlaoise</td>
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<td>27 January</td>
<td>057 8621326</td>
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<tr>
<td>Leitrim</td>
<td>Mohill</td>
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<td>30 January</td>
<td>071 9631076</td>
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<tr>
<td>Limerick</td>
<td>Kilmallock</td>
<td>Deebert House Hotel</td>
<td>22 January</td>
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<tr>
<td>Limerick</td>
<td>Newcastlewest</td>
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<td>20 January</td>
<td>069 61444</td>
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<td>Longford</td>
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<td>22 January</td>
<td>043 3341021</td>
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<tr>
<td>Louth</td>
<td>Dundalk</td>
<td>Teagasc Office</td>
<td>31 January</td>
<td>042 9332636</td>
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<tr>
<td>Mayo</td>
<td>Ballina</td>
<td>Teagasc Office</td>
<td>22 January</td>
<td>096 22335</td>
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<td>Mayo</td>
<td>Claremorris</td>
<td>Teagasc Office</td>
<td>20 January</td>
<td>094 9371360</td>
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<tr>
<td>Meath</td>
<td>Navan</td>
<td>Teagasc Office</td>
<td>30 January</td>
<td>046 9021792</td>
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<td>Monaghan</td>
<td>Monaghan</td>
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<td>24 January</td>
<td>047 61188</td>
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<td>Offaly</td>
<td>Tullamore</td>
<td>Teagasc Office</td>
<td>24 January</td>
<td>057 921405</td>
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<td>Roscommon</td>
<td>Castlerea</td>
<td>Teagasc Office</td>
<td>27 January</td>
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<td>Roscommon</td>
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<td>24 January</td>
<td>090 6626166</td>
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<td>Sligo</td>
<td>Ballymote</td>
<td>Teagasc Office</td>
<td>29 January</td>
<td>071 9183969</td>
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<tr>
<td>Tipperary</td>
<td>Cloneel</td>
<td>Teagasc Office</td>
<td>23 January</td>
<td>052 6121300</td>
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<tr>
<td>Tipperary</td>
<td>Nenagh</td>
<td>Teagasc Office</td>
<td>27 January</td>
<td>067 31821</td>
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<tr>
<td>Tipperary</td>
<td>Thurles</td>
<td>Teagasc Office</td>
<td>20 January</td>
<td>050 21777</td>
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<tr>
<td>Waterford</td>
<td>Dungarvan</td>
<td>Teagasc Office</td>
<td>20 January</td>
<td>058 41211</td>
</tr>
<tr>
<td>Westmeath</td>
<td>Mullingar</td>
<td>Teagasc Office</td>
<td>20 January</td>
<td>044 9340721</td>
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<tr>
<td>Wexford</td>
<td>Enniscorthy</td>
<td>Teagasc Office</td>
<td>21 January</td>
<td>053 9239210</td>
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<tr>
<td>Wicklow</td>
<td>Tinahely</td>
<td>Teagasc Office</td>
<td>22 January</td>
<td>0402 38171</td>
</tr>
</tbody>
</table>

Table 1: Number of live trees required (at 100% tree stocking)

To book your one to one consultation:

- Please consult Table 2 for locations, dates and contact details.
- Visit www.teagasc.ie/forestry
- Scan the QR code on the left.
health and safety

It’s from Janus we get the name January, a month when we review the year gone by, and more importantly, look ahead, and make the necessary changes. Now is the time to review your farm safety and make changes

John McNamara,
Teagasc Health and Safety Officer

Janus – the Roman God of the transition/new year had two faces – one looking backwards and the other looking ahead. A useful safety feature, if ever there was one. This article seeks to motivate readers to consider important health and safety issues and to plan any changes needed.

Farm deaths in 2013

In 2013, tragically, 16 deaths occurred on farms out of 46 at all workplaces. The agriculture sector accounts for 35% of all workplace accidents even though only about 7% of the working population is engaged in this sector. So, a fatality is five times more likely to occur at a farm workplace. While the number of farm deaths in 2013 was down by 25% on the previous year, there is clearly room for improvement. Zero must be the target.

The fatal accidents in 2013 mainly resulted from crushing or blows from tractors or farm vehicles which were associated with 56% (nine) deaths. The remaining farm deaths were linked to livestock, drowning/suffocation or collapsing loads with 12.5% (two) each and one electrocution (6%).

Sadly, four children under 17 years lost their lives on farms in 2013, which is a major increase on the trend in recent years. Five farmers over 65 died in farm accidents and the remaining seven were in the 40 to 61 age range. The data indicate a trend in farm deaths with increasing age. Fatal accidents occurred in 10 counties; Cork had six deaths, with the other counties having one each except one county (Cavan) where two occurred.

The principal preventative message to emerge from last year is that operating a farm vehicle or being in the area around a moving vehicle means you are in a ‘danger zone’. Also, collapsing loads and livestock are major killers on farms.

On a more positive note, no farm death occurred as a result of entanglement with a PTO or rotating drive, but vigilance is always required with rotating shafts, particularly those used where the machine is stationary and where a farmer can get caught, due to the dangers involved.

Extra vigilance, however, is also required when loading diet feeders or seeking to remove polythene as several fatalities have occurred with such activity in recent years.

Non-fatal accidents

The Teagasc National Farm Survey has found that about 2,500 serious farm accidents occur each year:

- Injuries from trips falls and blows, account for 42% of injuries.
- Livestock-related injuries (33%).
- Vehicle and machinery (11%).
- Chainsaws (3%)
- Other (8%).

Of these accidents, 49% required hospital inpatient treatment and 36% required hospital A&E treatment. Over 89% of injuries caused four or more lost work days and 71% lost 10 or more work days, with 41% causing more than 20 days lost and 15% causing more than 100 days. It is clear that...
Today’s farm

Today’s farm

the majority of farm injuries reported were serious.

Quad DVD
Quads or ATVs are superb tools for transport around the farm. Among students on agricultural training courses, about 50% report using a quad. However, quads are also potentially lethal and on average each year, one person is killed while riding a quad on farms. FBD Insurance has sponsored the production of a new DVD, in association with Teagasc and the HSA on safety when using quads. This DVD can be viewed on Teagasc YouTube at www.teagasc.ie

Preventive measures
It is a legal requirement to complete, or revise, the Risk Assessment for your farm on an ongoing basis. The Farm Safety Risk Assessment document provides a comprehensive checklist of hazards and associated controls and should be used as a tool to manage health and safety on your farm.

Health is wealth
A booklet on farmers’ health will be circulated as an insert in the Irish Farmers Journal issue of 25 January. The booklet is also available from Teagasc offices.

The booklet is entitled ‘Staying Fit for Farming’ and, as the caption on the front cover illustrates, discussion on this issue is needed.

Worldwide, men in particular tend not to give their health the priority it deserves.

The booklet is designed to be both informative and challenging. Recent data indicates that farmers in Ireland have a negative health profile. This may come as a surprise to many farmers who regard it as a ‘healthy outdoor occupation with lots of exercise’. However, more health maintenance action is needed!

Recent Irish research by Dr Broda Smyth, a HSE specialist in population health, was based on national causes of death in the population. The data available from this study indicates that farmers are five times more likely to die in the working age range of 16 to 65 compared with salaried employees.

Circulatory diseases (6.7 times higher), cancers (3.5 times), and injuries including poisonings (5.6 times) are the main causes of death.

The research findings on farmer mortality are reflected in Teagasc studies which indicate that farmers have a high awareness of safety but a low awareness of health issues. Feedback from farmers includes comments such as “farmers are a bit slow on this issue” and “need a more defined programme on farmers health” reflect the sentiment expressed. This is principally the reason for production of the farmers’ health booklet ‘Staying Fit for Farming’.

Good health is crucial for lifestyle and it is a key requirement to farming successfully.

Teagasc studies have consistently shown that farmers with poor health have reduced income. Please review the health booklet and retain it for future reference and update your risk assessment.

Most importantly, consider what action needs to be taken regarding health and safety in 2014.

To-do list

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<tr>
<td>Review risk assessment</td>
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<td>Implement safety controls</td>
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<td>Obtain health check</td>
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<td>Follow-up health actions</td>
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**A course in horticulture can yield a varied and satisfying career**

Grainne McMahon, Teagasc Kildalton College

Deirdre Howlin is a plant lover, entrepreneur and a graduate of Teagasc Kildalton College. She initially completed a Level 5 Certificate in Horticulture, and then a degree in horticulture from Kildalton/Waterford Institute of Technology in 2007. Since graduating, Deirdre has established several successful horticultural businesses: Grange Greens Plant Centre, as well as ‘Bridal Bloom’, a floristry business directed at the bridal market.

“I love the variety,” says Deirdre, whose businesses are run from the family farm near Kilmore, Co Wexford. “At Christmas, we were producing thousands of ornamental displays for sale in supermarkets in Britain. This month, it will be something completely different like tending to plants here in the garden centre. You need business management skills as well as being able to produce top quality plants. We learned both at Kildalton.”

It’s clear that Deirdre also has the ‘people skills’ which are vital when dealing with members of the public, as well as her passion for producing top quality plants. She says she has her dream job but she is also realistic about the industry. “Amenity horticulture is supplying a luxury product and, naturally, the recession has had an effect and there is fierce competition from the supermarkets.”

Societal trends such as ‘family flowers only’ at funerals have also reduced demand for florists. On the other hand, exports of cut foliage are booming.

“You have to be versatile and have a number of sources of revenue,” says Deirdre, who grows Pittosporum and other plants for the cut foliage industry on the farm. “The work can be extremely hard, both physically and mentally, but I find it a satisfying way to make a living.”

**College options**

Teagasc Kildalton College has been providing high quality horticultural education for 36 years. The emphasis is on a mix of study and hands-on, practical, experience. A state-of-the-art horticultural practical training facility and Spanish tunnels have been added to the extensive facilities and training equipment.

The college offers a range of courses in horticulture from Level 5 to Level 7. The Level 5 Certificate in horticulture is a one-year introductory course for people who are interested in making a career in horticulture. It gives students the opportunity to explore a variety of areas in horticulture and to advance their practical skills and knowledge.

Students have the opportunity to gain experience in fruit and vegetable production, nursery production, landscape construction and turfgrass.

The sharing of facilities and knowledge provides advisers with commercial facilities to show potential new growers effective management techniques and commercial viability. Students can apply directly to the college for this course, which allows students to progress on to the Level 6 Certificate in Horticulture.

Kildalton is one of the few centres offering the Level 6 Advanced Certificate in Horticulture. This is an add-on year for students who have completed a Level 5 Certificate in Horticulture. It is ideal for those seeking employment in supervisory positions, as technicians, or as unit managers within the horticultural industry.

It also provides a link for students to enter the second year of the Bachelor of Science in Horticulture in Waterford Institute of Technology. This is a path that many students are now taking. Students can apply for the Level 6 Advanced Certificate in Horticulture course directly through the college.

Teagasc Kildalton College has offered the Bachelors Degree in Horticulture (Level 7) in conjunction with
the Waterford Institute of Technology for the past 12 years. The link offers students an opportunity to progress to higher education. Students specialise in two of the following major areas of horticulture: food crops, landscape design, turfgrass or nursery production.

Many other aspects of horticulture are also covered on this course, including floristry, garden management, protected crop production, garden centre operations, horticultural therapy and greenkeeping. Applications for this course are made directly through the CAO system.

Co-operation with advisers
A recent development at Teagasc Kildalton is collaboration with Teagasc advisers and specialists. Joint efforts between advisers and college staff include projects in areas of potential improvement such as soft fruit production, pest monitoring and cut foliage production, including novel crops such as ornamental cabbage for the cut foliage industry.

The sharing of facilities and knowledge provides advisers with commercial facilities to show potential new growers effective management techniques and commercial viability as well as new techniques, varieties and pest control measures.

It also provides the commercial horticulture students at Kildalton with a viable commercial unit in which they gain valuable experience in management of commercially attractive crops.

“The collaborative work with the students in the college under Grainne’s guidance is working well and helps to solve field and other issues for very little cost and effort. It is invaluable experience for students to address real issues affecting industry. It is a good example of education, research and advice working well in commercial horticulture,” said Andy Whelton, Teagasc specialist in cut foliage. All of the trials carried out in Kildalton are based on crops that are known to have significant potential for production in the future. “Our students get the opportunity to gain first-hand experience working with these crops and acquire valuable guidance and experience from both advisers and lecturers,” reported Frank Murphy, Kildalton College principal.

Several of the third year Bachelor Degree in Horticulture students (in conjunction with WIT) are completing their final-year projects on these crops. He also said: “We are providing our students with the opportunity to complete relevant, viable projects on potential and exciting areas of horticulture that were not known of a couple of years ago.”

Demand for high quality, well-graded cut foliage or greenery to export markets in Britain and Holland for use in bouquets and other flower arrangements is increasing and prospects for continuing expansion of the small Irish Industry are good.

Currently, 25 growers are exporting over €3.5m of greenery providing much-needed employment in harvesting and processing in Kerry, Wexford and Waterford.

Teagasc, Bord Bia and Enterprise Ireland are confident that DAFM Food Harvest 2020 targets of producing foliage valued at €20m and generating 300 full-time jobs in rural Ireland can be met.

A total of 150ha of foliage has been planted in the past four years, with the support of grant aid from the Department of Agriculture.

Effective technical and research support is proving vital to the success of this new enterprise. More sustainable control measures fostering eco-friendly production is a major cornerstone of the current research programme in Teagasc. Buyers are constantly looking for innovation with new products displaying different textures, colours and scents.

Teagasc leads this work in Kildalton College by evaluating a range of ornamental plants with potential for foliage. For further information on any aspect of the commercial cut foliage business, contact Teagasc ornamentals specialist Andy Whelton on 087-7848065.
People of all ages and backgrounds are contacting Teagasc about careers in horticulture.

BSc in Horticulture, Teagasc Clonakilty College

This 7th degree course is applied for through the CAO, course code CR011, and is run in partnership with Cork Institute of Technology.

The six-semester course is delivered over three years to provide participants with a combination of horticulture and business oriented study at degree level. Students spend four days per week in Clonakilty during the first two semesters, two days per week in the third semester, and one day per week in the last two semesters.

Graduates may be employed in the horticultural industry, including landscaping, grounds maintenance, and nursery stock, or they may choose to set up their own business.

Also, remember that progression all the way through to the Level 7 and 8 degrees that we conduct with WIT and DCU, respectively, is entirely possible for all students who enter through Level 5. Please feel free to contact me at 01-8040205 or john.mulhern@teagasc.ie for more information at any time.

The next course and careers open day in horticulture at the Teagasc College National Botanic Gardens is on Thursday, 20 March, from 2pm to 4pm. We will have staff and students available to answer all your queries and concerns about how to get started in horticulture.
There’s a qualified farming expert nearby - just call

Contact your local FBD office and we’ll call out to you.

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