TEAGASC OCCUPANGUST 2011 VOLUME 22 NUMBER 4 TEAGASC Advice on business, production, environment, and countryside issues







effective against midges.1



Flies



Midges



Biting Lice



Sucking Lice



Butox 7.5 mg/ml Pour-On Suspension contains 7.5 mg Deltamethrin per ml. Do not eat, drink or smoke while using the product. Wash hands and exposed skin before meals and after work. No restrictions apply for use during pregnancy and lactation. Some organo-phosphorous insecticides can reduce metabolism rate and thus enhance Deltamethrin toxicity. Therefore, it is not advisable to use in association with organo-phosphate insecticides. Overdose of twice the recommended treatment dose does not induce any adverse effects. Withdrawal periods in cattle: Meat: 18 days; Milk: 12 hours. Do not store above 25 °C. Unused product or waste material should be disposed of in accordance with current practice for pharmaceutical waste under national waste disposal regulations.

Further information is available from: Intervet / Schering-Plough Animal Health, Boghall Road, Bray, Co. Wicklow. Tel: 01 205 0900 VPA 10996/103/001 LM

1. Mehlhorn (2008) Parasitology Research 102(3), 515-518



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Luke Dray from Wicklow left Kildalton College with the ambition of being a professional event rider — a difficult challenge for a young person without access to land or facilities. See pages 32 to 35

SOCIAL

KEEPING IN TOUCH

The phenomenon of 'Social Media' is all about keeping in touch or forming links with people or organisations via computer or mobile phone — 28 to 29

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

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COMMENT

Why we have to keep on, keeping on



Mark Moore Editor, Today's farm

he Derrypatrick Herd at Teagase Grange in Co Meath has had its setbacks — in particular a bull which didn't quite get the job done. As the saying goes, cows and heifers are either pregnant or they are not — there's no in-between. Evidence already

suggests that despite teething problems, the goals set for the Derrypatrick Herd are achievable.

The main target of a gross margin greater than €1,000 per hectare is based on high output, resulting from high performance per animal, a high stocking rate

Evidence suggests that despite teething problems, the goals set for the herd are achievable

and, crucially, performance based largely on grazed grass to keep costs low.

Currently, National Farm Survey data and evidence from eProfit Monitors suggests that most farms are only achieving a fraction of this gross margin figure, though recent rises in the beef price will help.

The Derrypatrick Herd can show how healthier gross margins can be achieved in practical, on-farm situations, despite what Mother Nature might throw at us. Monitor farms' performance

T'S always nice to get a look at someone else's figures and the 2010 Focus on Profit report from the KerryAgribusiness/Teagasc partnership is worth seeing.

2010 brought welcome relief to dairy farming from the difficult milk production and dairymarket conditions of

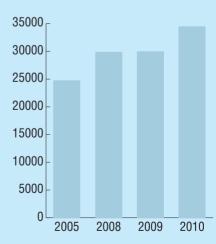
Milk output

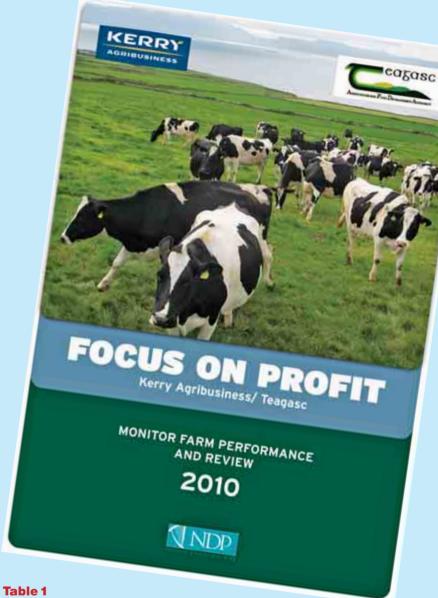
- Milk solids production increased by 14% compared to 2009.
- Milk solids per hectare of milking block exceeded 1,000kg for the first time in 2010
- Monitor farmers milked 85 cows/ farm with a stocking rate of 2.5 livestock units/ha
- Milk output was 5,332 litres/cow at 3.43% protein and at 3.87% butterfat

Dairy income

- Dairy income (excluding direct payments and own labour) was 12.57c/ litre in 2010.
- It cost monitor farms 18.39c to produce a litre of milk
- There is a significant range in dairy income from 4.9c/litre to 16.20c/litre.

Figure 1: milk solids produced (kg/farm)





	2009	2010
Cow numbers	82	85
Litres produced	402,344	453,224
Litres per cow	4,919	5,332
% protein	3.36	3.43
% butterfat	3.88	3.87
Kg milk solids/farm	30,043	34,152
Milking block area (ha)	34	34
Stocking rate cows/ha	2.37	2.50
Milk solids kg/Ha	870	1,004
Grass utilised (tonnes DM/ha)	9	9.2

Infant milk formula

The global market for infant milk formula is estimated to be worth €3bn to €5bn and companies based in Ireland trade 15% of the infant milk formula traded internationally.

The Teagasc Food Research centre, Moorepark, is building on its research programme which has a central role in supporting the technological development of the infant milk formula sector

At a recent workshop, Teagasc and partners, including UCC, discussed opportunities to grow the infant milk formula sector.



'Tip top' teat tips

Wearing gloves at milking doesn't make you soft......just your hands!

What's the benefit?

It reduces the risk of transferring bacteria from cow to cow in the following ways:

- Preventing bacteria from getting lodged in skin cracks, creases and around the nails of milkers' hands.
- The smooth surface of the glove makes it easier to remove any bacteria by washing and disinfecting.
- Milkers who wear gloves generally have hands that are smoother, softer and cleaner, a benefit not to be underestimated....just ask the people in your life!
- Gloves come in various sizes, so for those of you that may have already tried them and think "they're too small for me".....don't give up, just try a bigger size!
- Use two new disposable gloves for every milking, and replace them if they get torn during milking. Put them

on when your hands are completely dry.

- Disinfect them at regular intervals, ideally in a solution of peracetic acid. Rinse with water before dipping your hands in the bucket, to avoid creating a 'soup' of bacteria.
- Always disinfect your hands after finding clinical cases and after forestripping known high SCC cows i.e. subclinically infected.

— Finola McCoy

Getting to grips with plant botany and gardening

A-Z Encyclopaedia of Garden Plants

By Christopher Brickell, Publisher: Dorling Kindersley

The 1,000+ pages of the latest two-volume A-Z Encyclopaedia of Garden Plants has 15,000 entries on plants, arranged alphabetically from their Latin names (with an index of common names), and 6,000 colour photographs. Its introduction covers plant botany and gardening techniques. This is the ultimate reference book for its subject, sturdy and hard-backed, and will last a lifetime.

The A-Z Encyclopaedia of Garden Plants costs €45 from www.amazon.-co.uk. Prices include postage to Ireland

Teagasc Guide to Vegetable Growing

Also for plant lovers is a new revised edition of the popular *Teagasc Guide to Vegetable Growing*. The publication has been updated and expanded to include new topics like plant raising and



watering of vegetable crops.

The difficulties and problems plants encountered during the cold weather in 2010 are also covered.

This book is full of tips and advice in how to grow the A-Z of vegetables. The ever present problems of pests and diseases are addressed along with suggested solutions.

The emphasis is on cultural and physical controls rather than relying on pesticides.

There are also handy ready-reference tables laying out the season of production, plant spacing, sowing, planting and harvesting dates for all the crops mentioned in the main text.

Download a copy of the *Guide to Vegetable Growing* from the Teagasc website. Copies are also available from Teagasc Kinsealy at 01 — 8459 000, or email stephen.alexander@teagasc.ie

Book reviews: Sean Sheehan

Methane production

Teagasc scientists at the Animal and Grassland Research and Innovation Centre, Grange, working with colleagues from Bristol University have discovered a compound called archaeol in the dung of cattle and sheep. The discovery is important as the level of archeol appears to be linked to production of methane, a greenhouse gas. The discovery may allow scientists to measure the degree to which cows contribute to global warming. Ultimately, breeders may be able to breed cows which emit less methane for any given level of production.

Teagasc supports suppliers

Teagasc will participate in the 2011 Enterprise Ireland SuperValu Supplier Development Programme, launched recently by Minister for jobs, Enterprise and Innovation, Richard Bruton, TD. The programme will see 10 Irish food start-up companies receive customised training and one-on-one mentoring support. In 2010, Dr Gerard Barry of Teagasc, Limerick, provided individual mentoring through in-company visits and a workshop on meeting food assurance technical standards for businesses supplying the food retail group.

Upcoming events



There will be an open day on dairy bull beef production at Johnstown Castle on Thursday, 7 July



DAIRY CALF TO BEEF OPEN DAY, JOHNSTOWN CASTLE, THURSDAY, 7 JULY 2011

The Teagasc/Dawn Meats dairy calf to beef project is now into its second year in Johnstown Castle, Co Wexford. The purpose of this research is to show the potential that exists for Irish beef farmers to finish dairy bred calves in profitable beef systems.

There will be an open day on the farm on 7 July, where all aspects of dairy bull beef production will be discussed, along with the performance to date of the bulls being finished. By July, all of the 2010-born calves that were to be finished under eight, 12 and 16 months will have been slaughtered.

The groups finishing at 19 months and 22 months of age will be on show, along with all of the 2011-born calves. The effect of the significant changes in both meal and beef-selling prices on the potential margins to be made from these systems since the last open day (November 2010) in Johnstown Castle will also be displayed.

TEAGASC/HORSESPORTIRELAND EQUINE DEMONSTRATIONS: JULY

Preparing for the 2011 HIS mare inspections

A series of equine demonstrations will take



place in July in association with Horse Sport Ireland and Teagasc. These demonstrations will provide information on:

- What to expect on the day of the inspection.
- How to prepare your mare for the inspections in autumn 2011.
- Monday,11 July: Uppermace Equestrian Centre, Claremorris, Co Mayo.
- Tuesday, 12 July: Clare Equestrian Centre, Doora, Co Clare.
- Monday,18 July: Castle Leslie Estate, Glaslough, Co Monaghan.
- Tuesday, 19 July: Spruce Lodge Equestrian Centre, Redcross, Co Wicklow.

All demonstrations will start at 7pm sharp and admission is free.

For further information, please contact Declan McArdle, Teagasc on 087-6831876.

TEAGASC / IRISH FARMERS JOURNAL BETTER FARM OPEN DAYS: AUGUST

Open days are to take place in August on two of the BETTER beef farms.

The first will take place on Wednesday, 10 August on the farm of Pat O'Reilly Rathmore, Sixmilebridge, Co Clare.

Pat runs 120 suckler cows with a split

autumn and spring calving system. Bulls and heifers from the autumn herd are sold as weanlings. Male progeny from the spring herd are finished as bulls and heifers finished before they reach 24 months.

The second open day will be on the farm of Marcus Wallace, Meenahoney, Castlefin, Co Donegal, on Wednesday 31 August.

Marcus runs a mixed system of spring calving suckler cows and a mid-season lambing ewe flock.

All bull calves are sold as weanlings and heifers are sold as forward stores at 18 months.

Both farms have made substantial gains over the last two years in terms of financial performance and, in particular, gross margin. At both events, there will be a number of stands explaining what changes have occurred on the farms as part of the programme.

Information

Detailed information will be given on the following:

- Animal performance
- Breeding programme
- Grassland management
- Animal health
- Financial performance

Apart from the host farmers, other farmers in the programme and the management team will be available on each of the stands to discuss and debate all the topics.

If you are interested in improving profitability and technical efficiency on your farm, come along and hear directly from other farmers what their experiences have been.



Teagasc researcher Mark McGee at the Teagasc Grange beef open day.

The Derrypatrick Herd at Grange

Mark McGee, Eddie O'Riordan, Denis Minogue and Paul Crosson,

Teagasc Animal & Grassland Programme

HE Derrypatrick Herd is a suckler beef systems research farm established at Teagasc Grange in 2009 to help demonstrate the practical application of beef research. The project is evaluating cow breed types, with a particular focus on replacement females, either sourced from the dairy herd or the suckler herd, and pasture-based systems research trials for spring-calving herds.

The herd is made up of Limousin X

The project is evaluating cow breed types, with a particular focus on replacement females, either sourced from the dairy herd or the suckler herd, and pasture-based research trials for spring-calving herds

Holstein-Friesian (LF), Limousin X Simmental (LS), Charolais X Limousin (CL) and Charolais X Simmental (CS) suckler cows, mated to high genetic merit, late-maturing sire breeds. The breeding policy to date is to maximise hybrid vigour (advantage of crossbreds over the average of the parent breeds) and avail of enhanced reproductive performance, lower calf mortality and higher calf growth.

The LF cow, typical of animals sourced from the dairy herd, is the recommended cow 'type', based on cow breed comparisons carried out at Teagasc Grange to date. This cow 'type' with moderate feed intake produces calves with a higher ability to fight-off disease (passive immunity) due to high colostrum production by the cow; a higher weaning weight due to higher milk production by the cow; higher carcaseweight per day, mainly due to higher preweaning growth and good carcase conformation and fat score.

The other three cow breed types (LS, CL and CS) are more typical of animals sourced from the suckler herd.

Male calves will be sold as bulls at 18 months and heifers at 20 months, with target carcase weights of 390kg and 310kg, respectively. The carcases will be

lean and of good conformation, suitable for the high-price continental EU markets

The herd is operated as a high stocking rate (225kg organic nitrogen/ha (2.9 LU/ha)) grass-based production system. Mean calving date coincides with the start of the grass growing season. The diet of the cow is confined to high quality grass during the grazing season and moderate digestibility grass silage (plus minerals/vitamins) during the indoor winter feeding season. First calvers also get 2kg of concentrate from calving until turnout to pasture.

Cows and calves are kept together and rotationally grazed from March to November, depending on conditions. Preweaning, calves receive the level of concentrates stipulated within the Suckler Welfare Scheme (1kg/head/day). The concentrate is introduced at approximately five weeks before the expected weaning date. Calves are weaned gradually.

At the end of the first grazing season, weanlings are housed and offered first harvest grass silage (high digestibility) ad lib plus supplementary concentrates — 1kg/day for heifers and 2kg/day for bulls.

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drystock

The objective is to grow the animals at 0.5kg to 0.6kg liveweight per day and to avail of compensatory growth during the subsequent grazing season.

At the end of the first winter they are turned out to pasture (early-mid March) and rotationally grazed. Bulls will be housed after about 100 days (end of June) and finished on an ad lib concentrate diet over 100 days. Heifers will be housed around mid-September and finished indoors over 60 days on ad lib grass silage plus 3kg of concentrate per head per day.

Grazed grass is considerably cheaper than grass silage and concentrates so maximising its proportion of the annual feed budget, while achieving high animal performance and providing sufficient grass silage of appropriate digestibility for the indoor winter period, is central to the production system.

The annual feed budget of the calf-to-beef system will be made up of approximately 60% grazed grass, 30% grass silage and 10% concentrates. To further increase the proportion and nutritive value of grazed grass consumed, strategies involving earlier turnout to pasture in spring and a comparison of two postgrazing sward height systems — 4cm and 5.5cm — were evaluated in 2010.

Herd performance 2010/11

In 2010, all cows were first-calvers (thus, lower performance than a mature cow herd) and bred to Blonde d'Aquitaine sires. At weaning, liveweight and body condition score (BCS) was lower for LF than the beef crossbred cows, which were similar (*Table 1*). Milk yield was highest for LF and lowest for CL; animals with Simmental ancestry were in-between.

Calf birth weight was not significantly different between the cow breed types. Differences in calf pre-weaning growth largely reflected differences in milk yield. At weaning, LF calves were 52kg heavier than CL calves and about 32kg heavier than LS and CS calves.

Average daily gain of the weanlings during the following winter indoor period and subsequently at pasture from March until mid-May 2011 was not significantly different between the four cow breed types. Consequently, weight differences evident in the yearlings (to date) are mainly a reflection of preweaning liveweight gain, highlighting the importance of cow milk yield.

Breeding

Breeding of replacement heifers and cows began on 11 April and 26 April 2010, respectively, and ended on 15 July 2010. Replacement heifers were bred to a Blonde d'Aquitaine stock bull. The cow herd were artificially inseminated (LF to Belgian Blue, LS and CS to both Simmental and Belgian Blue and CL to both Limousin and Belgian Blue) for seven weeks, followed by the introduction of two Belgian Blue stock bulls for a further 28 days (11-week breeding season).

Pregnancy scanning took place on 31

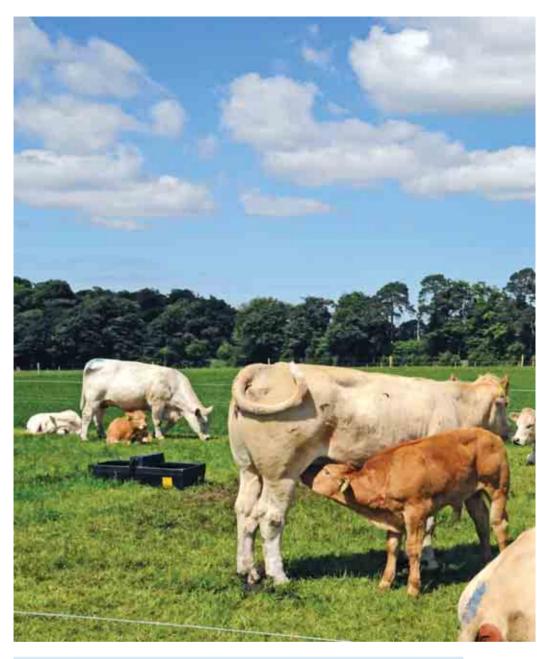


Table 1 Performance of first-calving Limousin X Holstein-Friesian (LF), Limousin X Simmental (LS), Charolais X Limousin (CL) and Charolais X Simmental (CS) cows, and growth of their progeny

		Cow br	eed type	
Cow	LF	LS	CL	CS
Liveweight (kg)				
Post-calving (mid-March)	563	583	585	599
June	525	578	581	590
Weaning (Early-November)	579	652	654	654
Body condition score (0-5)				
Post-calving (Mid-March)	2.9	3.1	3.0	3.0
June	2.7	3.1	3.0	3.0
Weaning (Early-Nov.)	2.8	3.2	3.2	3.2
Milk yield — July (kg/day)	8.8	6.6	5.7	6.6
Progeny (kg) (average of males & females)				
Birth weight	44.9	42.3	42.8	44.4
ADG pre-weaning (Mar-November)	1.18	1.06	0.97	1.07
Liveweight — Housing (November 2010)	316	283	264	284
Liveweight — Pasture (May 2011)	440	401	382	407
ADG - Indoor winter period				
Males	0.71	0.63	0.63	0.72
Females	0.51	0.49	0.50	0.45
ADG - Pasture (Mid-March to Mid-May)				
Males	1.54	1.32	1.37	1.35
Females	1.19	1.27	1.22	1.30

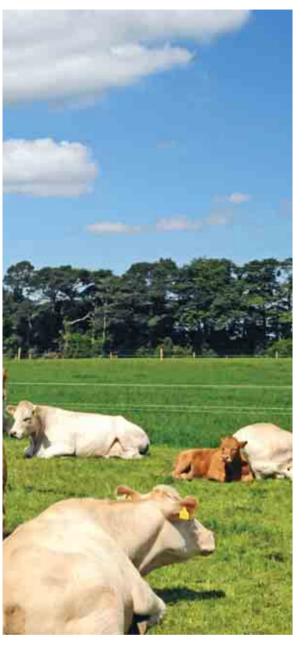


Table 2 | Calving performance 2011

	'Original' Derrypatrick cows	'Original' Derrypatrick Herd <u>cows</u> + heifers	(Purchased pregnant cows)
Number calved	74	93	(23)
Live calves	71	88	(18)
Set of twins	0	1	(0)
Stillborn	1	3	(2)
Death at calving	1	1	(2)
Death following caesarean section	0	0	(0)
Death due to calf deformity	1	2	(0)
Accidental death (cow lay on calf)	0	0	(1)
Calf mortality to date (%)	4.0%	6.4%	(21%)
Live calves per 100 cows	96	95	(79)

intake and performance of first-calving suckler cows, was evaluated. Results showed short-term benefits in animal performance from earlier turnout.

Replacing expensive feedstuffs with cheaper to produce grass, and less slurry to be handled, meant greater cost savings. Compared with full-time indoor feeding, feed cost savings of $\epsilon 0.52/\text{cow}/\text{day}$ were achieved with restricted grazing and $\epsilon 1.11/\text{cow}/\text{day}$ with full-time grazing.

• The effect of two post-grazing sward heights (PGSH) — 4cm (tight grazing) versus 5.5cm (more conventional grazing) — on performance of first-calving suckler cows and their calves during the grazing season was studied.

Cow liveweight gain was lower (gutfill effects) and cow body condition score gain tended to be lower for the 4cm than for the 5.5cm PGSH. Calf liveweight gain was 8kg to 10kg lower with the 4cm PGSH.

Winter 2010 — spring 2011

During the indoor winter feeding period, cows and replacement heifers were offered moderate digestibility grass silage (DMD 66%) ad lib plus a dry cow mineral spread on the silage daily. This diet meets 75% of their theoretical energy requirements during late pregnancy (as shown by a 0.55 unit loss in cow BCS before calving). This diet is generally adequate for cows in good BCS at the start of the winter indoor period.

For the 'original' Derrypatrick animals, calving started on 29 January and 15 February 2011, and finished on 15 April and 1 May 2011 for the heifers and cows, respectively, with a mean calving date of 12 March. Mean calving date of the purchased pregnant cows was two weeks earlier.

There was the equivalent of 95 live calves born per 100 cows for the original Derrypatrick Herd (on target) but this was reduced to 91 live calves due to the difficulties that arose with the purchased, in-calf, animals (*Table 2*).

At calving, the number of Caesarean sections was much higher than expected with nine, two and four sections occurring with the 'original' Derrypatrick

cows, 'original' Derrypatrick heifers and purchased pregnant cows, respectively.

The reason for these individual cases is unclear. Caesareans were predominantly associated with male calves, with very high birth weight relative to average birth weight and relative to cow liveweight post-calving. They occurred throughout the calving season and were not obviously related to cow BCS or cow feeding, as all cows were treated the same. There was also no link to sire breed. There were no calf deaths due to Caesarean section (*Table 2*). Calving difficulty score or calf birth weight did not differ significantly between the cow breed types.

The breed type rankings for cow liveweight and BCS, and calf growth in 2011, are the same as results obtained in 2010.

Financial performance

One of the objectives of the Derrypatrick Herd is to demonstrate systems of production which generate high levels of profitability.

A target gross margin greater than €1,000 per hectare was set at the start of the project. This gross margin is 9.2 times and 2.8 times greater than National Farm Survey (NFS) and eProfit Monitor (ePM) levels of performance, respectively (Table 3, next page). For the NFS, ePM and Derrypatrick Herd, the farmer's own labour and owned land is not included. Two key principles for achieving targets set for the Derrypatrick Herd are:

- Output of beef per hectare must be high. This is achieved through high output per livestock unit and a high stocking rate. Total beef liveweight output for the Derrypatrick Herd, at 1,260kg/ha, is 3.8 and 2.2 times greater than NFS and ePM farms, respectively.
- It is vital that this output is generated while keeping costs down, which means that a high proportion of lifetime daily gain is achieved from grazed grass. Estimates suggest that, on average, grazed grass constitutes just under half (49%) of the total feed budget on Irish suckler calf-to-beef farms and total herbage utilised is less than five tonnes of DM/ha.

>> Next page

Mean carcase price was €1,146. Grazing trials 2010

the existing herd.

• The effect of earlier turnout to pasture in spring, with restricted grazing (six hours per day) or full-time grazing, on

August and confirmed a fertility pro-

blem with one of the Belgian Blue stock

bulls. In the group where the stock bull

was fertile, total herd pregnancy rate

was 91% (close to mature herd target)

and calving interval was 365 days (on

target). In the group where the stock bull

Following the fertility issue with the

stock bull, which resulted in a higher re-

(€1,400 each) to replace those not in-calf

due to the infertile bull. These cows were

did not work, pregnancy rate was 54%.

placement rate than expected, it was

decided to purchase 23 pregnant cows

identified with the assistance of ICBF

and were of the same breed types as in

grass silage plus 7kg/day concentrates

and were slaughtered in February 2011.

Cull cows were finished on a diet of

drystock

This is considerably lower than targets set for the Derrypatrick Herd, where grazed grass is estimated to account for 60% of the total feed budget and herbage utilised is $11t\ DM/ha$.

For bull and heifer progeny in the Derrypatrick Herd, approximately 65% and 70%, respectively, of slaughter weight will be achieved from grazed grass.

To evaluate the implications of 2011 animal performance levels on the profitability of the Derrypatrick Herd, a number of 'production shocks' were taken into account (*Table 3*); replacement rate was increased from 20% to 35% to account for the high number of nonpregnant cows that were replaced in 2011 due to an infertile bull.

Calf mortality was increased from 5% to 9%, largely due to high calf mortality in purchased pregnant cows, incidence of Caesarean sections was increased to 12% and liveweight per day of age of progeny was reduced by 3% to take into account that all current yearling heifers and bulls are from first-calvers.

The net effect of these factors reduced expected gross margin in 2011 to €856/ha, assuming a beef price of €3.25/kg carcase. Although this is a reduction of 18% from target, it is still 7.6 times greater than NFS and 2.3 times greater than ePM levels of profitability.

If current beef price of $\leqslant 3.60$ /kg carcase is still available at time of slaughter of the Derrypatrick animals, the gross margin, given current performance, would be $\leqslant 1,105$ /ha.

Sensitivity analysis

The sensitivity of the Derrypatrick financial targets to a number of critical factors were quantified independently (*Table 4*). It is clear that the two factors having the greatest effect on gross margin are beef price and stocking rate. However, calf mortality, liveweight per day of age and concentrate price are also critical factors influencing profitability.

The remaining factors — fertilizer price, incidence of Caesarean sections, maiden heifer price and replacement rate — while not unimportant, have a lesser effect on system profitability for the range of values and assumptions investigated in this analysis.

If current beef price of €3.60/kg carcase is still available at time of slaughter of the Derrypatrick animals, the gross margin, given current performance, would be €1,105/ha



One of the objectives of the Derrypatrick Herd is to demonstrate systems of production which generate high levels of profitability.

Table 3 Benchmarking production and financial performance for National Farm Survey (NFS), eProfit Monitor (ePM) and Derrypatrick Herd suckler beef production systems

	NFS 2009 ¹	ePM 2009 ²	Derrypatrick	Derrypatrick
			target	2011
Area farmed (ha)	44	56	65	
Cow numbers	25	-	116	
Cattle finished	-	-	108	
Stocking rate (LU/ha)	1.0	1.8	2.9	
Output (liveweight/LU)	333	318	435	
Output (liveweight/ha)	333	573	1263	
Financial (€/ha)				
Output	483	930	1,927	1,767
Variable costs	370	562	885	910
Gross margin	113	368	1,042	856 (1,105 ⁴)
Fixed costs	146	508	474	476
Net margin ³	-33	-140	573	388

¹Teagasc, National Farm Survey. Single suckling to finish systems. ²Teagasc, eProfit Monitor. Single suckling to beef systems. ³Net margin excludes land and labour costs. ⁴Derrypatrick Herd expected gross margin in 2011 where beef price is €3.60/kg carcase

Table 4 | Sensitivity analysis of price and production factors on gross margin (GM) of the Derrypatrick Herd

Factor	Target	Sensitivity	Effect on GM (€/ha)
Replacement rate (%)	20	30	-27
Maiden heifer price (€/head) ¹	900	1000	-31
Incidence of caesareans (%)	4	10	-32
Fertilizer price	-	+20%	-35
Concentrate price	-	+20%	-55
Live weight per day of age (g)	1065	1015	-64
Calf mortality (%)	5	10	-78
Beef price (€/kg carcass)	3.25	3.60	+ 244
Stocking rate (LU/ha)	2.9	2.2	-252

¹Maiden heifers purchased in February of the year in which they are bred

Clare **BETTER Farm** increases gross margin by 59 per cent

Aidan Murray & Shane McHugh

Teagasc Animal & Grassland Programme

AT O'Reilly family and his mother, Mary, from Rathmore, Sixmilebridge, Co Clare, farm a combined total of 96ha of free draining limestone land. The farm consists of the home parcel, which has 43ha, and an outside farm in Kilmurry and Drumullan with 53ha. Pat's local Teagasc adviser is Jim Hayes, Ennis.

At the beginning of the Teagasc/Irish Farmers Journal programme in 2008, the O'Reillys had 103 suckler cows with 75 cows calving in the spring and 28 in the autumn. "We had no distinct start or end to the spring or autumn calving and, in effect, we were calving cows for 11 months of the year," said Pat. This was confirmed in data from ICBF HerdPlus.

"Male calves from the spring herd were sold as weanling/stores and heifers were finished in their second year. All the progeny from the autumn herd were sold as weanlings," Pat added.

By analysing the 2008 eProfit Monitor it was clear that stocking rate on the farm was good at 2.26 LU/ha but this was not reflected in the value of gross output which was only €982/ha. This led the management team to target more kilograms of liveweight per ha through a further increase in stocking rate, but also better individual animal performance and weight for age.

"Our variable costs were high relative to output," said Pat. "We agreed with the

Several methods were used to try and pull back late calving cows. Scanning helped to identify empty cows and poor performers were culled



Pat O'Reilly, his nephew Evan Neenan and Shane McHugh.

team that there was huge scope on the farm to improve the potential of grass pastures to boost animal performance at low cost. Increased output and greater efficiency would also dilute the variable

Calving spread

The very protracted calving spread was one of the first areas to be tackled in 2009.

Having such a wide calving spread increased the numbers of animal groups on the farm, all with varying ages. Too many groupings makes grassland management extremely difficult.

The target was to have two distinct 12-

week calving periods for the spring and autumn calving herds. Definite dates were outlined for the start of the breeding season. "In 2010 we took the bull out from the spring calving herd in mid-June to eliminate April born calves in 2011,"

Several methods were used to try and pull back late calving cows. Scanning helped to identify empty cows and poor performers were culled.

As Figure 1 shows, significant progress has been made in the first two years in tightening the calving spread.

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The benefits of this are:

- More concentrated supervision at calving
- Calves are more uniform
- The disease risk is reduced, and
- Labour is much more targeted.

"We have a number of cow types on the farm but Limousin cross cows make up the majority," said Pat. The herd is made up of good functional cows with plenty of milk. In 2009, around 46 cows were culled — cows that weren't going back in calf, breeding poorer quality calves or not achieving good weight for age in their calves. Replacements were purchased from outside and bred from within the herd to replenish and increase cow numbers to the current 120.

With good limestone ground, the farm offered great potential to drive more production from grass. "I started measuring grass weekly in the spring of 2009 and that quickly showed me what needed to be done," said Pat. All of the farm was soil tested. Extra money was spent on fertilizer to address any P & K imbalances. The grass measuring showed up paddocks that were not performing and, in 2010, eight hectares were reseeded and a further eight hectares are targeted for 2011.

"This year we divided the outside farm in Kilmurry into paddocks," said Pat. "Without question, that gives you more control and flexibility in managing grass."

With controlled closing of paddocks each autumn, Pat anticipates earlier turnout on the farm, with autumn born calves grazing by day through the winter on the home farm from late November. Other stock, including yearling bulls, are turned out from mid-February.

As mentioned earlier, in 2008 the stocking rate on the farm was $2.26\,LU/ha$. This was well ahead of the other farms in the programme, which were stocked at $1.85\,LU/ha$. In 2009 there was a drop of 7% in stocking rate compared with the 2008 figure. This drop to $2.11\,LU/ha$ reflected the streamlining of the animal groupings on the farm, including the culling of poorly performing cows. "We

also got rid of an overhang of dairy stock from my previous enterprise in 2009, which had an impact on the figures," said

"Surplus heifers were also sold." By the end of 2010, stocking rate was only up marginally (2.8%) on the 2009 figure, but with extra bulls purchased for grazing and additional cows on the ground in 2011, the stocking rate has improved to 2.38 LU/ha.

Figure 2 shows that in 2008, Pat was producing the equivalent of 576kg of liveweight per hectare. This increased slightly to 581kg in 2009 and 996kg in 2010. This represents an increase of 73% in liveweight output per hectare since 2008. In terms of kgs of liveweight per LU, the farm produced 255kg/LU in 2008; this increased by 8% in 2009 to 275kg/LU and to 459kg/LU in 2010.

In real terms, the total kilograms



Figure 1: Calving spread

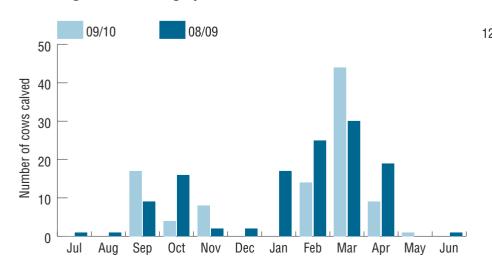
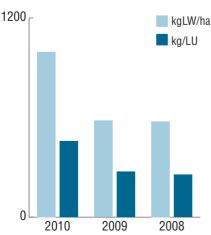
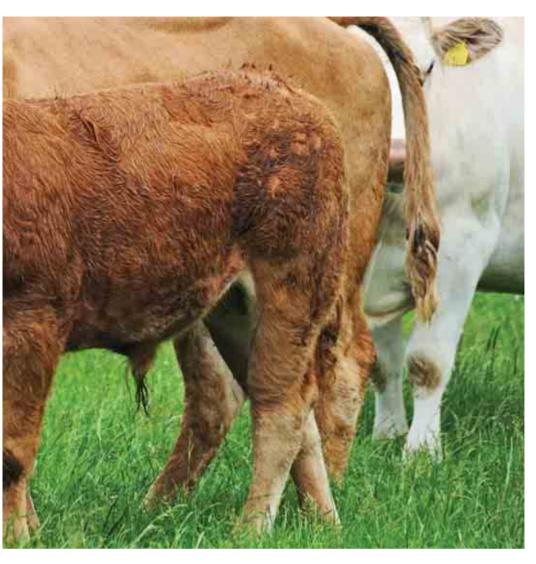


Figure 2: kgLW/ha & per LU

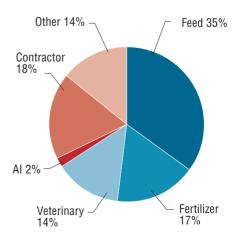




produced on the farm rose from 55,581kg in 2009 to 95,303kg last year - an increase of 71%.

Total sales per hectare were €1,380 in 2008, €1,229 in 2009 and €1,394 last year. When purchases and inventory changes are accounted for, the gross output figure per hectare was €982 in 2008 compared with €1,023/ha in 2009 and €1,394 in 2010. Moving to bull beef finishing has increased stock weights

Figure 3: Variable costs



and this has impacted on inventory values at the end of 2010, where bulls were near finishing at the end of the year and slaughtered in January 2011.

Despite the obvious rise in the kilograms of output, variable costs have only increased by 6% over the three years from 2008. Variable costs on the farm are running at approximately 47% of gross output. This is good compared with the other farms in the programme, where variable costs account for almost 56% of output.

Variable costs

As Figure 3 shows, variable costs per hectare increased in 2009 by 3% to €579/ ha compared with €562 in 2008. This is a very small increase when you consider the difficult grazing year we had in 2009 and the fact that extra cattle were finished off the farm.

In 2010 we saw a further increase in variable costs of 3%.

Feed costs increased by 8% in 2009 over the 2008 figure. We suspect this would have been greater but for the fact that Pat made better use of grass and had stock out on grass since early February 2009. The extra feed costs were necessary to finish the extra cattle and some stock had to be carried for longer than anticipated. Extra fodder was purchased in May 2009 due to the poor growing conditions. The better grazing conditions in 2010 helped to reduce feed costs slightly, despite extra bulls being finished on the farm.

Fertilizer and lime costs increased by 13% in 2009. At €72/ha, fertilizer costs are quite modest for the stocking rate. Fertilizer costs on the O'Reilly farm were running at about 48% of the cost compared with the rest of the farms in the programme. Regular measuring of grass on the farm over the year helped in having a more targeted approach to both fertilizer and slurry use.

Fertilizer costs rose by 46% between 2009 and 2010 but they are still only €104/ ha. The main reason for the rise was reseeding of ground and extra P & K being applied to address any deficiencies shown up in the soil test results.

Veterinary costs fell by 25% in 2008 compared with the previous year and remained more or less static in 2010 at €86/ha. "We aim is to have a good animal health programme on the farm," said Pat, "while trying to maintain vet costs at a similar level over the next few years."

Contractor charges have remained fairly constant over the three years and in 2010 were €106/ha. The costs also include reseeding, which was carried out in 2009 and 2010.

Overall, gross margin only increased by 6% in 2009 over the 2008 figure. This modest increase reflected the difficult weather conditions experienced in 2009 but also the costs associated with moving extra stock off the farm in a bid to simplify the farming system.

Extra output

The extra output achieved in 2010, coupled with control of variable costs, has increased gross margin by 59% over the 2008 figure and it now stands at €668/ha.

"In real terms, gross margin has improved by €248/ha since 2008, which leaves an extra €23,800 that can go to towards fixed costs and, ultimately, net profit," said Pat. With such a high level of output on the farm, the improved beef price this year should leave the farm well positioned to further increase gross margin in 2011.

O'Reilly farm | Costs and gross margin

	2010	2009	2008	2008-2010 (%)
Total sales €/ha	1394	1228	1380	1%
Gross output €/ha	1263	1023	982	29%
Variable costs€/ha	595	579	562	6%
Gross margin €/ha	668	443	420	59%

Beautiful hills sweeter lamb

Moderate grazing on the hills benefits the landscape, the product and the profitability of the enterprise



Michael Gottstein specialist sheep adviser, Teagasc Animal & Grassland Programme

ILL farming has evolved over generations and it is traditional farming practice and the traditional breeds used that are largely responsible for shaping the appearance of the landscape that we have today.

If we look back 20 years or so, sheep numbers in the upland areas were at an all time high, driven primarily by subsidy payments. Then drastic steps were taken to reduce the numbers of sheep on the hills as overgrazing was deemed to be a big issue.

Today, we have the opposite problem. The jobs boom of the Celtic Tiger era and poor returns in the sheep sector have taken their toll on flock numbers. Hills that only a few years ago were almost completely denuded of vegetation are now turning into jungles of heather, gorse and scrub. The mountain landscape, which attracts millions of tourists every year, is changing.

Ralance

Traditional farming practices play a key role in maintaining a balanced ecosystem in the upland areas. Moderate grazing pressure has been shown to maximise the amount of flora and fauna present in this type of landscape. We need a vibrant community of farmers to actively farm hill and mountain areas if the landscape and flora and fauna that we associate with these areas are to be maintained.

Patsy Randles is the ninth generation farmer on his farm at Knockanougha, Kilgarvan, Co Kerry. He farms 330 breeding ewes plus 80 followers in addition to 25 suckler cows, selling weanlings to the export market.

The profit margins of hill sheep farms are largely dictated by the amount of green or improved grassland that is



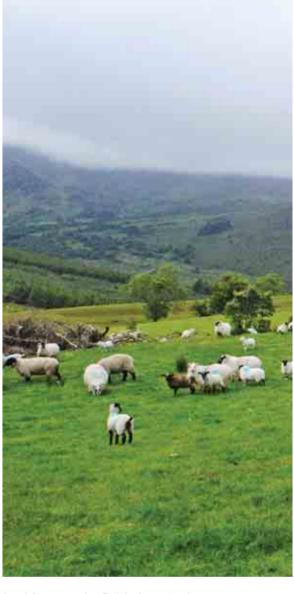
Patsy Randles is the ninth generation farmer on his farm at Knockanougha, Kilgarvan, Co Kerry.

available to the flock and the amount of crossbreeding that takes place. Hill sheep farms that have little or no green or improved grassland will find it impossible to make a positive margin from their sheep enterprise and will have to depend on subsidies to make up the shortfall.

Over the last decade Patsy Randles has invested a lot of time, effort and money to reclaim some of the lower land and reseed it with ryegrass/clover mixtures. This green land has enabled over half of the flock to be crossbred using terminal sire breeds (Suffolk), with the remaining ewes mated to Scottish Blackface and Cheviot rams to produce approximately 80 replacement females per year.

Ewes are maintained on the hill when they are not suckling lambs and for a period during early and mid-pregnancy. Ewes rearing singles are also grazed on the hill from late May until weaning in July. It is this moderate but continuous grazing pressure that has maintained the landscape in excellent condition.

Traditionally, most hill producers have sold their lambs as stores to low-

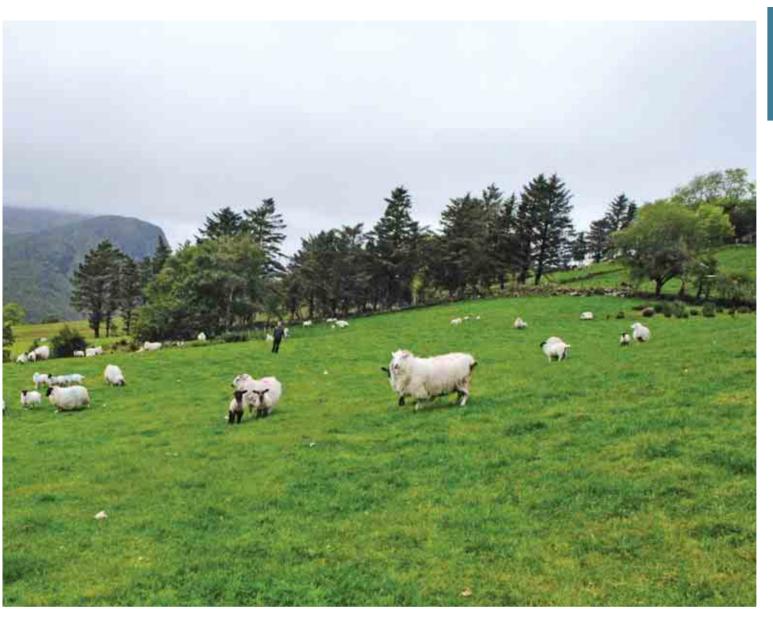


land farmers who finish them. In the past, there has been no premium for these lambs, and they have just been subsumed into the general population of lowland lambs with a small number exported as light lamb.

The question is: should the lamb from such a traditional farming system that has been fed on heathers and wild grasses not be marketed separately and at a premium price? There is lots of evidence to suggest that hill sheep farms are unviable without subsidy payments. But there may be a way that farm income could be increased by marketing hill lamb as a premium product, returning a higher price to the producer and improving the viability of the holding.

Producer group

Patsy Randles is a member of the Ring of Kerry Quality Lamb Society Ltd, which markets his lambs, both lowland and hill. For hill lambs the rules within the group stipulate that the lambs must have been grazing on hill pastures for at least one month within three months of slaughter. This is to ensure that the distinct flavour which the lambs acquire by grazing such



pastures is not lost during the lowland finishing phase. But this is only a 'guestimate'; more research is needed to determine exactly how long that period should be.

To date, experience in marketing lamb through the group has been that:

- Hill lamb is a niche product that can command a premium price.
- The quality of the product needs to be excellent and consistent.
- It must be available for a reasonable length of time six to seven months per year.
- There needs to be a story behind the product; the consumer wants to know about the producers and the region as well as the product.

A number of different groups are marketing hill lamb. What is required is research to point the industry in the correct direction. The resource that is produced on the hills of Ireland is not being marketed to its full potential. Neither the end user nor the producer is getting the full benefit of this wonderful product that offers much more than taste but also hope that there is a future for our hills, mountains and rural communities.



 $The \, resource \, that \, is \, produced \, on \, the \, hills \, of \, Ireland \, is \, not \, being \, marketed \, to \, its \, full \, potential.$

Lamb Direct from the West

Producer groups such as the Mayo Mountain Blackface group and the South Mayo Producers are taking more control of their lamb price by marketing direct



John Noonan Teagasc B&Tadviser, Westport

N late 2008, eight Mayo farmers, four from Tourmakeady and four from Westport, set up Lamb Direct, selling both lowland and hill lamb direct to the consumer.

The farmers wanted to offer the customer a superior product, born and reared on their own farms on speciesrich pastures on the lowland along with upland and heather-covered grazing from the mountain.

With such a small group, they were confident of assuring excellent eating quality in the meat. They do all the cutting and packaging themselves (two members are qualified butchers), thereby controlling all aspects of the production cycle.

All ram lambs are castrated, ensuring no taint on the meat.

According to group member Tom Staunton, they have learned a lot. Initially, the group offered boxed lamb to families, as well as targeting hotels and shops/retailers with the various cuts. "The biggest problem with hotels was that most were not interested in quality; price was the main issue," said Tom.

"In shops, the lamb was competing with chicken and pork, and once shops had added their 30% margin, the lamb





I heard about Lamb Direct from friends. I have bought four boxes so far and the meat is absolutely beautiful. No complaints and the service is great too. A few of my friends have bought since and they are very pleased

Mary Anne Mulkerrins, Aran Islands

LambDirect

Lamb Direct have a website www.lambdirect.ie where you can order your lamb online and it will be delivered between 10 days to two weeks nationwide.

was expensive. Also, with no full-time employee, the logistics were difficult to manage and getting paid was sometimes a problem."

The group have found that the 'box lamb' is working out best. The group sells a whole lamb or half lamb, with very attractive top-of-the-range gas flush packaging for loin chops, shanks, etc, fully labelled and traceable.

The customer has a big input into the cuts they receive, with individual needs catered for and various weight ranges offered

From mid-July, Mayo mountain lamb

will be offered with a smaller carcase/cuts which suits many people both on price and quantities.

Regina Houlihan from Flannerys Bistro, Ballinrobe, said: "It is important to support local business who are doing something for themselves. The product is top quality and the customers love it. I buy it even though I could get it cheaper elsewhere. We are keeping the money in circulation locally."

In the years ahead, sheep farmers will see more of their income coming directly from the market, whether it is milk beef or lamb. We need to adopt the best technologies in grassland management and marketing, and to embrace better breeding through Sheep Ireland.

As our eight western farmers have demonstrated, there are opportunities to increase incomes through taking more control of your enterprise, cutting out the middle man and going direct to the customer. It takes initiative and drive; the biggest step is starting.

Passionate about dairying



Tom O'Dwyer Moorepark, Teagasc Animal & Grassland Programme

OEL and Bernadette O'Toole, who won the IDB Dairy Farmer of the Year 2010, recently hosted a farm walk on their land at Killimor, Co Galway, A large number of farmers attended and were able to see why Noel and Bernadette were judged winners of this prestigious award. To be judged the 'best in class' you must excel in a number of areas: milk production, grassland management, herd management, including heifer rearing, breeding, herd health, financial management and planning.

What summed it up for me was the description of Noel as 'a passionate farmer'. It was clear on the day that Noel and Bernadette are running a simple system, focused on producing the maximum amount of milk solids efficiently.

The following is a selection of the questions put to Noel and Bernadette during the event:

Your farm produced 14 tonnes DM/ha in 2010. What practices contributed to this?

"I walk the farm weekly to assess grass covers. This allows me to manage grass on a daily basis and, at the end of the year, I have a complete picture of the amount of grass produced by each paddock over the year.

"I have started to reseed the lowest yielding paddocks about 10% of the farm per year — and I will continue to do this. I monitor soil fertility levels for P, K and lime (pH) regularly, and correct any deficiencies. You have to get soil fertility right if you want to grow large amounts of grass.

There is a huge opportunity on existing milking platforms to increase stocking rate and it is right under the cows' feet."

What tools do you use to manage grass?

"I complete the Spring Rotation Planner in the spring, a weekly grass wedge in the summer and an Autumn Budget in August. For example, with the Spring Rotation Planner, I graze a set area per day and make up the shortfall in feed with meal and silage. These tools help me to make the necessary grassland management decisions for my farm. "I want to grow and utilise the maximum amount of grass and convert this into milk solids efficiently; without these tools, this would not be possible."

How do you manage to build up grass in the autumn with your high stocking rate at that time?

"The first thing I do is complete an Autumn Budget and then stick to it. I have to start building up grass earlier than a farm with a lower stocking rate. I move all nonmilking stock off to reduce demand.

Noel and Bernadette are running a simple system, focused on producing the maximum amount of milk solids efficiently



Noel O'Toole speaking during a farm walk on his land at Killimor, Co



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dairying

"I introduce high quality bale silage and meals, if necessary, to reduce demand. The farm will be blanket spread with N by mid-September. I find that tight grazing throughout the year stimulates growth later in the year."

What is your ideal dairy cow?

"I want a robust cow that will efficiently produce milk solids from grass. She must graze aggressively and she must also last in my herd. I have used Jersey sires since 2003, on my heifers initially. I have used Kiwi cross sires since 2009.

"My plan is to crisscross black and white and Jersey sires across my herd in the future.

What about the bull calf and cull cow resulting from the use of Jersey AI?

"I milk my cows twice per day and only sell a bull calf or cull cow once. The price of bull calves and cull cows varies. I want to focus on producing the maximum amount of milk solids from my milking platform and the Jersey cross heifer calves more than compensate. I am happy with my decision."

Who manages the money?

"It is a team effort between myself and Bernadette. I spend time, after breakfast, on the phone checking prices and placing orders. Once the goods are delivered, the price on the delivery docket is checked against the agreed price; payment is made once the invoice is received by Bernadette.

"We operate one current account, which we monitor. All invoices and statements are kept in a filing cabinet. The financial performance of the farm is assessed at the end of the year."

Why is your focus on production and profit per hectare?

"On my farm, as on many other farms in this part of the country, the milking platform is the limiting factor. I have been able to purchase milk quota over the years to allow me to maximise my milk solids production per hectare. This

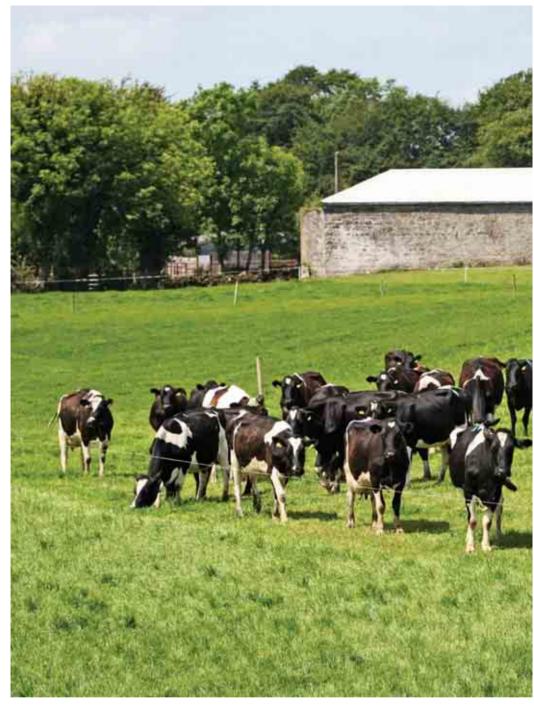


Table 1 | Summary farm details, May 2011

Milking platform	39ha (33ha owned)
Total area farmed	66ha
Milking cows	148 (plus two stock bulls)
Heifers	48 (1 to 2) 64 (0 to 1)
Stocking rate — milking platform	3.79 cows/ha
Milk quota	606,605 litres
Calving start	7 February
Six-week calving rate	85%
Labour	Noel plus relief milker
	plusfamily/student(threemonths)
Herd EBI (milk, fertility)	€114 (€35, € 70)
Milk price (2010)	32.4cpl
Total variable costs (2010)	8.8cpl
Total fixed costs (2010)	7.4cpl
Common profit (2010)	19.9cpl, €834/cow, €2,507/ha

hasn't been the case in other parts of the country but this will change on removal of milk quotas.

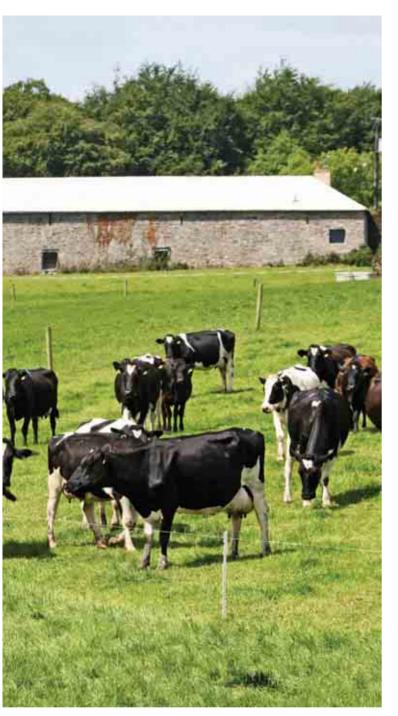
"Each hectare must produce the maximum amount of grass and you cannot afford to carry any 'passengers'."

Would you invest in farm infrastructure to reduce your tax bill?

"No, the focus on this farm is on profit and not on reducing the tax bill. Tax has to be paid by a profitable business. I don't believe in investing in buildings or machinery for the purpose of reducing my tax bill. I will invest in infrastructure that gives me a return, such as good advice, reseeding, good genetics, all of which are costs and can be claimed against tax."

What labour was on the farm in 2010?

"Myself, a student for three months in the



ABOVE: "I want a robust cow that will efficiently produce milk solids from grass. She must graze aggressively and she must also last in my herd" - Noel O'Toole

spring, family labour at weekends and a relief milker six evenings a week. Having the relief milker, a local woman, is a great help as I know that evening milking will be completed even if I am not around or delayed."

What advice do you have for new entrants to milk production?

"Keep it simple. Avoid big debt; build up your farm and herd from your own resources. Most importantly, enjoy what you are doing."

If you were starting over, what one change would you make?

"I would have joined a discussion group sooner than I did. I am farming for over 40 years and only joined my first discussion group about 15 years ago. It is very important to talk to other positive peo-

I find a challenging target extremely motivating and a great help to me to ensure that I focus on what really matters. I believe that if vou think vou are in the same position, you are going backwards. So I am always attempting to 'raise the bar'

ple on a regular basis. Membership of a discussion group allows you to do this."

You talked today about setting targets for your farm. Can you explain this?

"A number of years ago, I set a target of achieving 1,500kg MS/ha from the milking platform. At the time, I was told that I was dreaming. But we are almost there now, having achieved 1,439kg MS/ha in 2010. So you have to always set targets that appear almost out of reach and keep on improving performance each year towards the target.

"I find a challenging target extremely motivating and a great help to me to ensure that I focus on what really matters. I believe that if you think you are in the same position, you are going backwards. So I am always attempting to 'raise the

Where to from here for Noel and Bernadette O'Toole?

"We took on six hectares of additional land in 2011 and this has allowed us to increase herd size to 148 cows. Any further increase in herd size will require an investment in the milking parlour and winter accommodation. If that is to happen, it will really have to be a family decision."



Milking - Feeding - Slurry Equipment

Cash is king!



John Maher, Moorepark, Teagasc Animal & Grassland Programme

N a climate of poor access to credit, cash is and will be king. Without it, your farm business will sink. So it must be every farmer's goal to try to have a cash surplus and avoid long periods in the red as much as possible.

Profitability is linked to cashflow in your farm business, and vice-versa but profit won't pay the bills. You can go broke while making a profit. Profit takes account of stock valuation and depreciation but doesn't account for financial items such as principle repayment on loans, tax, drawings, etc.

Cashflow is the best measure of whether or not you are doing a successful day-to-day job of running your farm business. The current climate dictates that we have to be more cash conscious than before.

Paperwork and financial management is a turn-off for most farmers but it's where the money is. It is easier to bury your head in the sand than tackle this issue. You know this medicine is good for you but you don't like the taste. It is often too late before the issue is tackled. A clear head is needed and time should be made in the early part of the working day for it. Try to avoid tackling this type of work at night as you are not at your freshest and everyone requires some down time after the day's work.

Cashflow

Cashflow is simply the movement of money in and out of your business. Your aim is to have a positive net cashflow, i.e. more money coming in (i.e. receipts) and less money going out (i.e. payments). Preferably, you should have as many months as possible with a positive net cash flow (i.e. you are in the black).

The best way to track this is to use a cashflow management tool. This will provide you with a financial map of your farm business. This can be done on paper but many agri-support companies/organisations supply this in either written or computer format. The Cost Control Planner is the Teagasc version and is available free to any client.

This simple tool tracks the movement of money in and out of your farm business on a monthly basis. It then establishes your cashflow position. At certain times during the dairying year, cash will be in surplus. This is the time to try to target

some of the larger bills, rather than during the winter and early spring when cash is in shorter supply. When cashflow is in poor supply or in the red, try to avoid any unnecessary spending and wait for a sunnier day.

Every business needs a business plan; farming is no different. For many, it is a simple matter of a certain number of cows, size of quota, acres of land and number of cattle, etc. A cashflow budget is simply a measure of this plan in the form of money.

The Teagasc Cost Control Planner provides you with the opportunity to plan out your expected cash ins/outs for your business. Having completed a cashflow budget you will be more in tune with what might happen to your farm cash. You will know when and how much cash may come in and leaves your business at different times during the year. It will help you plan ahead for times when cash will be tight and when extra cash will be available. It is always better to be proactive rather than reactive.

Preparing a cashflow budget is not an exact science. Farm prices (inputs or outputs) will vary. Like all budgets, it may not all go clearly to plan but you will now be more aware of the storms or sunny days ahead. So don't get bogged down in the detail and establish the big picture

Nobody will need reminding that 2009 was one hell of a cash challenge. Poor prices combined with poor weather brought about the perfect storm. The 2009 hangover carried over into 2010 for most dairy farmers. 2011 has started out much brighter. Good weather, no superlevy, etc, has got the year off to a good start.

Hopefully, 'rainy days' are far away from our dairy industry but it is important to have a rainy day fund just in case there is a storm around the corner. There will always be risks in dairy farming, such as poor weather, superlevy, animal disease, poor milk prices, etc.

When money is plentiful, farmers tend to spend it or reinvest it in the farm. Perhaps in the current climate it might be wise to put some of this sunny day money away for a rainy day. If financial trouble arises in times ahead, banks may not be as sympathetic in a crisis as the past.

Cash is the most desirable bail-out option for the rainy day, but it has tax implications. However, the rainy day fund can also come in other forms, such as silage, stock, etc, that are all either usable or saleable.



Richard Hinchion (above) and his wife, Helen, farm in Crookstown near Macroom, Co Cork, where they milk 80 cows supplying Dairygold Co-op. See page 18.

CASHFLOW | key points

- Cash is king in the current era.
- Cashflow is the best measure of how your farm business is doing from day to day.
- Many cash flow management tools exist. Pick one.
- Have a cashflow budget to help predict your future cashflow.
- All businesses face risks. Have a rainyday fund just in case.

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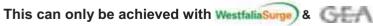


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dairying

CASESTUDY

RICHARD AND HELEN HINCHION, CROOKSTOWN, MACROOM, CO CORK

A practical view on how to manage your cash



Seamus Lordan, Teagasc B&T Dairy Adviser, Macroom

ICHARD and Helen Hinchion farm in Crookstown near Macroom, Co Cork, where they milk 80 cows and supply Dairygold Co-op. They have three children; Sarah, attending college, and Gearoid and Padraig in secondary school

With to the removal of EU supports, the possibility of a superlevy over the next few years and increased milk price volatility, they believe cashflow management has never been more relevant.

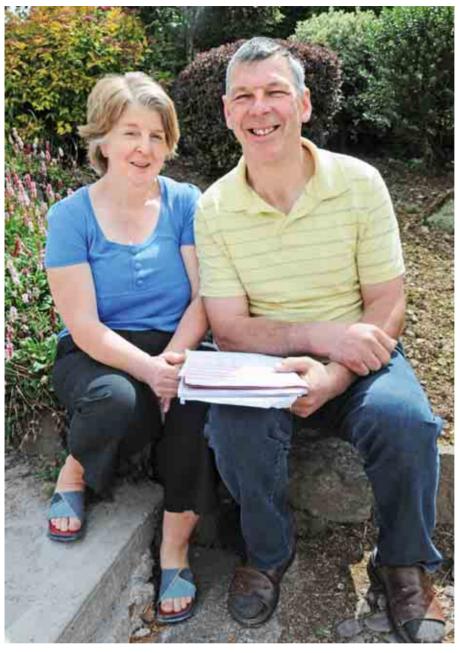
Richard and Helen take a 12-month approach to cashflow management. They set aside time for monthly meetings specifically to track income and expenditure and review the cashflow position for that month and the future.

Routine

"We try to stick to a routine," said Richard. "We always tackle it during the working day in the last week of each month after the milk cheque arrives."

Helen added: "We have separated the household and farm by developing a household budget for everyday living expenses and a farm budget for the farm business. Like most dairy farms there are months when cash is in surplus and in deficit. We have identified these periods and put a plan in place to manage both."

The couple emphasise the importance of keeping a close eye on expenditure during the winter when cashflow is in deficit. They avoid any unnecessary spending and make best use of both their



Helen and Richard Hinchion believe cashflow management has never been more relevant.

Cash is normally in surplus during the summer as the peak milk supply milk cheques arrive. This is the time to pay the major farm bills

bank overdraft facility and co-op credit. Also, they view online banking as an important tool in cashflow management as they have instant access to their accounts at any time. "The co-op allows fertilizer to be purchased at the start of the year with payment deferred until

Richard & Helen Hinchion | Key points

Richard and Helen have a simple, threestep programme that works for them:

- Monthly meeting on cashflow management.
- Plan of action drawn up.
- Implement the plan.

their peak milk supply months," said Helen. "This is a major benefit to cashflow as fertilizer is one of the biggest expenses on the farm."

Richard added: "Cash is normally in surplus during the summer as the peak milk supply milk cheques arrive. This is the time to pay the major farm bills, such as insurance, contractor, etc, along with clearing the overdraft."

Check the nutrient need before you reseed



Mark Plunkett, Soil/Plant Nutrition Specialist. Johnstown Castle. Teagasc Crops, Environment & Land Use Programme

Protect your investment in reseeding by ensuring that soil fertility levels are adequate. Soil sampling, followed by any necessary applications, will give swards the best possible start

There are many benefits to reseeding old (10 years+) grassland:

- 25% increased production from new grass species
- Increased animal performance 5%+ boost in liveweight gain
- More milk production 8% increase in milk solids output per hectare
- Extra 1,500kg Dry Matter/ha grass production up to mid-May
- Opportunity to effectively control competitive weeds likes docks
- New high performance grass varieties can be introduced
- Clover can be added for additional protein and savings on N inputs.

Perhaps the most compelling argument is that grazed grass is by far the cheapest feed available to livestock at a cost of 6c/kgDM.

Reseeding gives you the chance to remove problems that are currently present in the existing grass sward. Weeds, such as docks, can be controlled by a suitable herbicide before reseeding.

However, any soil problems should be identified before reseeding; for example, poor soil structure/compaction which can then be removed by cultivations such as ploughing/subsoiling as appropriate.

Soil fertility will have a huge influence on the productivity of any grass sward. Correct soil pH, P&K levels are required for the persistent production of ryegrasses.

Correcting soil nutrient status

• Soil sampling

In advance of reseeding, take fresh soil samples and establish the soil's pH, phosphorus (P), potassium (K) and Magnesium (Mg). Where grass seeds are



Soil analysis is a small annual cost and will increase the productivity from grass through efficient use of fertilizers and help to improve farm profitability.

Nutrients | key points

- High fertilizer costs now make it essential to maximise the return from applied nutrients either as manures or fertilizers.
- New leys and permanent pastures (less than 65% ryegrass) have the potential to maximise the return from each kilo of applied nutrient (N. P & K).
- Soil sample and address any nutrient problems early, based on soil analysis results at time of establishment; e.g. correct soil pH by lime application.
- Soil analysis is a small annual cost and will increase the productivity from grass through efficient use of fertilizers and help to improve farm profitability.

being established by ploughing, the samples should be taken from the ploughed soil. This will help to ensure that the correct fertilizers/lime types are applied to meet the nutrient requirements of the new grass sward.

For example, soils with a high level of soil Mg and a lime requirement should receive calcium limestone rather than magnesium limestone.

• Lime status and soil pH

Grass growth is optimised at a soil pH 6.3 to 6.5. Check the soil pH and apply ground limestone at the recommended rate to the ploughed soil and cultivate into the seedbed. This will correct the soil pH for up to five years. Optimum soil pH is an essential component of nutrient availability; low pH will reduce nitrogen utilisation efficiency, decreasing the return from applied fertilizer.

Incorrect soil pH will also reduce the availability and uptake of P, K and other nutrients. Optimum soil pH will improve N recycling, and when low soil pH is addressed, an increase of 60kg to 80kg N/ ha can be mineralised from soil reserves annually.

Samples tested at Johnstown Castle have shown that 38% of soil samples were below a target soil pH for grass samples. Low soil pH will reduce the uptake and utilisation of applied fertilizers, especially phosphorus.

• Phosphorus (P) & Potassium (K) Soil P and K status have a major role in the establishment of new swards as phosphorus in particular is important in root production. UK research is currently investigating grass seeds coated with N and P to aid and improve establishment of new leys.

Aim to build soil P&K levels to soil target index 3 (P = 5 - 8ppm, K = 101 -150ppm). Apply fertilizer as per soil test report and incorporate into the seedbed at sowing time. Where soil fertility is low (index 1), the application of manure (cattle/pig slurry/spent mushroom compost, etc) can be applied to build soil fertility status, as required, cost effectively.

P&K have a major role in sward development from the establishment to the productivity of ryegrasses and clover. Where there are insufficient soil P&K, rvegrasses and clovers will not survive and the benefits of reseeding will be lost. • Clover benefits

Clovers can replace bagged nitrogen and a well established grass/clover sward can generate 100 to 150kg N/ha/year of utilisable nitrogen. Aim to establish 25% to 35% of the sward as clover. Clovers are sensitive to soil pH and grow best at soil pH 6.5 and prefer soil P&K levels at a soil index 3. Including clover in grazing swards will also improve sward feeding value, nutritional value, mineral content, animal growth rates and ley palatability. Include 2.5kg/ha in grass seed mixes and sow between April and August for best establishment.

dairying

Beware the protein pothole



Siobhán Kavanagh, Nutrition specialist, Kildalton, Teagasc Crops, Environment & Land Use Programme

Milk protein levels can drop in summer. Here's how to minimise the fall-off

N our grass-based systems, milk protein content increases gradually from March to May but in June, July and August, protein level remains static or declines somewhat.

Generally, the protein level is lower than would be expected, given the lactation stage of the majority of the cows at the time

A typical annual profile of milk protein concentration is outlined in *Figure 1*. It shows the characteristic lower-than-expected protein content for the mid-season (June to August).

Many dietary factors, such as energy and fat intake, starch and sugar in the diet, amino acid supply and forage type have been shown to affect milk protein content but the potential to control these factors in a grass-based system of milk production is limited.

In a grass-based system, milk protein in the mid-season is affected by three main factors:

- The genetic potential of the herd for milk protein content
- The feeding value of the grass offered, i.e. grass digestibility
- The mean calving date of the herd. The importance of these factors is

Consider using the ICBF EBI Herd Report in choosing bulls for your future breeding programme. From this, you can establish the PD for protein % for the overall herd

Figure 1: Typical profile for milk protein percentage by month of year for manufacturing milk





Target pre-grazing yields of 1,400 to 1,600kg DM/ha with high green leaf content to maximise animal performance.

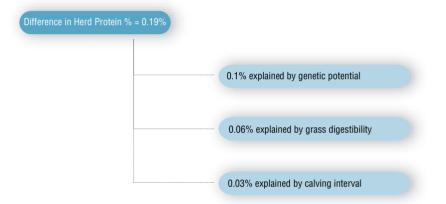


Table 1 | Factors afecting milk protein

	Mean calving date	PD Protein (%)	Grass OMD (%)	Milk Protein Concentration
		. ,	. ,	(%)
Herd 1	28 February	+0.06	84	3.39
Herd 2	10 March	+0.01	77	3.20

emphasised in *Table 1*. The difference in terms of milk protein between the two herds is almost 0.2%, i.e. 3.39% versus 3.2%. Genetic potential accounts for over half of the difference between the two herds. Digestibility of the grass offered accounts for over 33% of the difference in protein content and the remainder is explained by calving date.

Ensuring good proteins in 2011 Maintain sward quality during the mid-

Maintain sward quality during the mic season to maximise milk protein concentration.

- Monitoring farm grass covers once per week will assist management through early identification of surpluses and deficits.
- Rotation length should be 17 to 20 days during the mid-season.
- Target pre-grazing yields of 1,400 to 1,600kg DM/ha with high green leaf content to maximise animal perfor-

mance. Excessively high pre-grazing yields (over 2,000kg DM/cow/day) should not be grazed, but instead conserved as silage.

- Taking surplus grass as baled silage and topping should be used to correct pasture quality
- Graze to a post-grazing height of 4cm to 4.5cm.
- Choose a late heading variety when reseeding.

While the breeding season is virtually complete, consider using the ICBF EBI Herd Report in choosing bulls for your future breeding programme. From this report, you can establish the PD for protein % for the overall herd and ensure that the team of bulls is well above this figure.

To ensure early calving, choose a team of bulls that are strong in calving interval and are significantly below the overall PD of the herd for calving interval.

Ten questions for potential grain storers



Siobhán Kavanagh, Nutrition specialist, Kildalton, Teagasc Crops, Land Use & Environment Programme

N-FARM storage of grain has become increasingly popular in recent years as a means of insulating against the volatility in the international grain market. It is important to consider all factors before opting for on-farm storage.

• What costs must be considered?

These include processing, additive treatment, working capital, storage losses, storage and handling facilities and balancing the grain for protein, fibre and minerals

• Adequate scale?

Is the scale of the farming operation sufficiently large to justify the additional complications to the feeding system?

• Have you done a risk analysis?

What is the forecast for grain prices? This is a difficult question to answer but farmers must consider the fact that if grain prices decline after harvest 2011, then storing grain on-farm will result in a loss. And vice versa, if grain prices continue to increase after harvest 2011 then there is a potential feed cost saving from storing grain.

Is vermin likely to be a problem? Losses in storage can vary from 2% for dried grain to 20% for a pit of crimped grain which is badly managed.

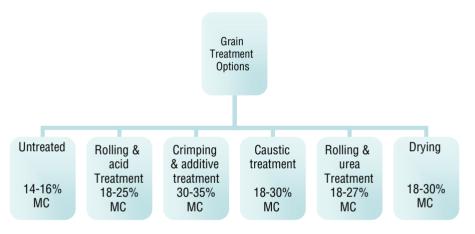
• What existing storage facilities are available?

Is there an unused shed or silage pit that could easily be converted into a feed store? What capital investment is needed in storage facilities? The cost of storage alone can vary from $\in 10$ /tonne to $\in 40$ /tonne per annum.

Consider that other jobs on the farm could suffer if you spend time on managing the grain store. It's always best to concentrate on the jobs that generate the most value for the business



It is important to consider all factors before opting for on-farm grain storage.



*MC = Moisture content

• What is the labour requirement?

Labour is a scarce commodity on many farms. Is there a significant labour input required?

• Have you done a cost:benefit analysis? A commonly heard comment from farmers is: 'Green grain is making €160/t at 20% moisture, which is great value relative to a concentrate mix at €250/t'. This is not telling the full story.

Costs that must be attached to the green grain include the cost of processing, additive treatment and storage, as well as balancing the grain for protein, fibre and minerals. Only then can the two be properly compared.

• What is the moisture content (MC) of the grain?

The MC of the grain will have implications for the grain conservation strategy chosen, as individual conservation systems have preferred moisture contents at which they are operated.

The window for harvesting grain for some of the treatment options is short.

Will you have access to harvesting and processing equipment at short notice?

• Do you have the treatment facilities needed?

Do you have access to a diet feeder, if ammoniating or caustic treating grain? Do you have the equipment to ventilate grain? Is there a crimping machine in the area to roll the grain as needed? Do you need to invest in additional machinery for feeding out the grain?

• Do you have the management skills? Home mixing requires a high level of management.

Will the feed storage unit meet the Department of Agriculture requirements for on-farm storage and management of feeds?

• Do you have time?

Consider that other jobs on the farm could suffer if you spend time on managing the grain store. It's always best to concentrate on the jobs you do best and which generate the most value for the business.

WOSR

Good crop establishment is half the battle



Tim O'Donovan,Tillage Specialist,
Kildalton,
Teagasc Crops,
Environment & Land
Use Programme

HE area of winter oilseed rape (WOSR) is likely to increase in 2012 given favourable forward prices and the many benefits it delivers as a break crop. In the 1970s and 1980s, when rape was grown more extensively in Ireland, the main concerns were pigeon grazing over the winter, pod shatter close to harvest and slugs in the following cereal crop.

Recent research into canopy management suggested that pigeons could be seen as beneficial!

Modern varieties with improved pod characteristics and field experience have greatly improved the profile of oilseed rape among growers.

Indeed, our largely 'virgin' arable area and climate are well suited to win-

WOSR | establishment pointers

- Remove soil compaction by effective sub-soiling if needed and conditions permit.
- Include around 30kgN/ha in the seedbed either as bag or organic fertilizer.
- Sow in the last two weeks of August or first week of September, wherever possible, remembering that good seedbeds are always more important than sowing
- Use only the most vigorous and fastest developing varieties if sowing after the first week of September.
- Set sowing rates by seed number to achieve target populations.
- Place seeds between 10mm and 25mm deep into a fine, firm seedbed and roll to help seed-to-soil contact, retain moisture and reduce slug problems.
- Monitor closely for slug activity in the first few weeks after drilling.



ter oilseed rape and Irish growers are consistently achieving high yields.

In *Table 1*, provisional Teagasc costs and returns for 2012 show expected margins at various yields and prices. The Teagasc harvest reports (2006 to 2010) show that the WOSR yield nationally was 4.1t/ha at 12% MC. This is a realistic target to use when budgeting.

Comparable figures for winter wheat and winter barley are 9.2t/ha and 8.2 t/ha. Ensure you are familiar with bonus/malus (deduction) terms in any forward contract for rape, especially moisture and admixture.

Extra benefits of oilseed rape

Rape leaves behind soil nitrogen and improved soil structure for following crops. Winter wheat, in particular, loves to follow a rape crop.

Research at Oak Park, Carlow, and field experience shows that wheat in rotation outyields continuous wheat by up to 1.5t/ha.

Grass weeds, such as Sterile Brome, that are difficult and costly to control in cereals, can be controlled conveniently in WOSR.

Rape spreads the harvest and spring workload though it increases work pressures at drilling time. Rape is the best winter sown crop to utilise organic manures, especially the nitrogen in the manures. You can reliably measure this nitrogen and reduce your fertilizer bill in the spring.

Cereals are not good at utilising the nitrogen in autumn applied organic manures.

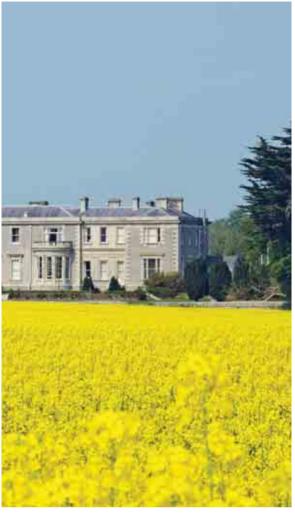
Establishment

The key to growing high yielding WOSR is getting it established correctly and on time. Recent wet harvests have played havoc with getting rape drilled into good conditions and crops were mainly drilled in September.

Modern hybrid varieties are very vigorous and well able to cope with Sep-

 Table 1
 Winter Oilseed Rape (WOSR) provisional margins 2012

Price @ 9% mc (€/t)	350	400	450
Yield t/ha (t/ac)			
3.5 (1.4)	38	213	388
4.0 (1.6)	213	413	613
4.5 (1.8)	388	613	838
5.0 (2.0)	563	813	1063



tember sowing. There have been many sowing date trials in the UK which have rarely showed a yield penalty from September sowing, but seedbed conditions are critical. Trials carried out at Oak Park have shown little difference between establishment systems.

The key thing to remember is that the rape seed is small but fast to grow, provided it has good seed-to-soil contact from the start. It then needs a relatively loose soil structure as its roots will not penetrate compacted layers.

A new development in establishing WOSR is a combination of a seed unit on top of a deep tine cultivator. This type of sowing system sows the rape in bands over a deep tine that acts to break open the ground where the rape roots will grow.

Seeding rate and variety selection Sow 60 to 80 seeds/m^2 to ensure 30 to 40 plants/m^2 in the spring.

Varietal differences in vigour, thousand grain weight, seed bed conditions and sowing date must be taken into account. You will also need to adjust for poor seed beds and later sowing dates. The Department of Agriculture recommended WOSR list is the best source for information on the main varieties. Details on Monsanto varieties, e.g. Cabernet, Expower, etc, can be found on the HGCA list.

Grower **experience**

Ger Leahy from Cahir, CoTipperary, is planning to switch some cereal ground back into WOSR this autumn. Ger grew WOSR in 2009 (yield 4.6t/ha) and spring rape in 2010 (yield 3.5t/ha). "Rape is a convenient break crop for me as I have winter barley ground available. This increases my chances of getting the seedbed ready on time," said Ger. "The rape crop gives me an early sown first-wheat crop which yields exceptionally well," he added.

Ger will be on the look-out for slug damage in the newly drilled rape crop. "In 2009, I had to redrill some rape due to severe slug damage, most of which was done even before the crop emerged. I will probably apply some slug pellets at sowing in likely problem fields, especially along the headlands, and bait the fields with slug traps," said Ger.

He plans to plough and drill rape using his normal system. He believes rolling after sowing is critical. Rolling twice is popular in dry conditions in the UK. "I'm still undecided on variety but, locally, Flash and Excalibur are performing well and I might try some of the newer Monsanto varieties, depending on how they perform in the trials," he said.



Ger Leahy from Cahir, CoTipperary, is planning to switch some cereal ground back into WOSR.

Ger has already completed his fertilizer plan for the autumn crops which allows him to identify the fields that require seedbed fertilizer and order the ideal compounds in time. "We'll apply 30kgs of nitrogen in the seedbed before drilling and vary the P&K according to soil analysis," he said. "That's got the crop off to a good start in previous years."

46

There have been many sowing date trials in the UK which have rarely showed a yield penalty from September sowing, but seedbed conditions are critical

RESEEDING IN 2011

When **RESEEDING** this year **make sure**you include the two exceptional
Grass Varieties for
early spring growth and quality grass

DRUMBO

- Exceptional spring growth (108%) with very late heading
- Highest digestibility in its class with excellent palatability

Source: DAFF 2010

TYRELLA

- Highest Spring Growth29% more than late control varieties in Irish RL trial.
- 2nd Highest Digestibility in its class.

Source: DAFF 2010

Both **DRUMBO** and **TYRELLA** are available in **EXTEND** Grass Seed Mixtures nationwide.

For further information on the above varieties or any aspects of reseeding or for your local stockist please contact: Tel: 0504 41100 Fax: 0504 41109

E mail: info@germinalseeds.com Web:germinalseeds.com



Tools & Resources

Mark Moore, Catriona Boyle, & Rowena Minchin, Teagasc HQ

ACK in the 1980s when BT first used the slogan, 'It doesn't cost much to keep in touch', they were talking about telephone landlines; mobile phones were rare and usually as heavy as a Butterly brick.

Today, the phenomenon of 'Social Media' is all about keeping in touch or forming links with people or organisations via computer or mobile phone.

Unlike the mainstream media — such as newspapers or television — social media allows a wide number of people to contribute their 'tuppence worth' by sharing thoughts, opinions, etc, with all of those who are connected to a network.

Social Media are particularly useful for people who want to build and maintain relationships, whether related to professions, special interests, family/friends, etc.

Most companies and service providers are interested in Social Media as a way to interact more closely with their customers and clients — gaining feedback and providing more up-to-the-minute or focused information.

Teagasc is also using Social Media. Follow Teagasc for all the latest news in agriculture and food in the following:



Social Networking



Twitter

• @TeagascPR Sign up for news and events from Teagasc's PR Department, cov-

PR Department, covering research, advice and education.

• @Kildalton

Kildalton is the biggest agricultural college in the country. It is a leading provider of training in equine studies, machinery, agriculture and horticulture.

• @teagascforestry

The Forestry Development Department provides advice, training and research on farm forestry and related matters.

• @cbteagasc

Teagasc's science writer/editor on the latest news and events in agri-food research.

Twitter (www.twitter.com) now ranks as the third biggest social networking site. Twitter is known as a micro-blogging site. It describes itself as 'a real-time information network that connects you with the latest information about what you find interesting'.

Each post or 'tweet' is 140 characters long and connected to a rich details panel that allows users to add in photos, videos, etc.

Users 'follow' others in order to view their tweets.

Twitter's timeline lists the tweets for those users that you are following.



Facebook

• Teagasc PR
Become a fan of Teagasc on Facebook

 Teagasc Kildalton College

Kildalton is the biggest agricultural college in the country. It is a leading provider of training in equine studies, machinery, agriculture and horticulture.

• Teagasc Forestry Development Department

The Forestry Development Department provides advice, training and research on farm forestry and related matters.



LinkedIn

• Teagasc
Follow Teagasc on
LinkedIn
LinkedIn is a business-oriented social
networking site

launched in 2003. It is mainly used for professional networking.

As of 1 January 2011, LinkedIn had more than 90 million registered users, spanning more than 200 countries and territories worldwide.

The purpose of the site is to allow registered users to maintain a list of contact details of people they know and trust in business.

The people in the list are called Connections.

Users can invite anyone (whether a site user or not) to become a connection. One hundred Connections links you to over one million people.

LinkedIn's Irish user base has reached over 353,000 with an increasing number of professionals realising its value as a B2B networking tool.



Streaming Media



Vimeo

• www.vimeo.com/ teagascmedia/ Watch videos from major Teagasc conferences on our Vimeo channel



YouTube

• www.YouTube.com/ user/TeagascMedia Watch videos from major Teagasc conferences on our YouTube channel

Posting to video sharing websites: YouTube (www.youtube.com) is the most popular video-sharing site on the web, although there are others, such as Vimeo (www.vimeo.com).

Organisations post video content to the site and send people a link to the content. A video can be embedded into your website, blog or news release.

Smart phones & apps



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visit mobile.jstor.org

Refer to the Teagasc website for easy access to all our Social Media tools and resources as we provide direct links to the relevant websites.

SOCIAL MEDIA

- If you intend to set up a Social Media account, it is a good idea to review the privacy policy of the Social Media site. Pay particular attention to how it will handle your information and who it can disclose it
- If you choose to set up an account, disclose as little detail as necessary. Privacy policies on Social Media sites can change frequently and if the site is ever compromised, it will limit the loss of information.
- Review the privacy settings for your account. Access to your information may not be as restricted as you may think initially, so check and adjust accordingly.
- Be careful of people you don't know wanting to 'friend' or link to you. Accepting such requests typically gives that person more access to your profile and contacts. This can result in increased spam or malware being sent to you and/or the people you are connected with.
- If you are comfortable with Facebook holding your mobile phone number, you can increase the security for your account by opting-in to one time passwords being sent via text message to your mobile phone whenever you login from a new or unrecognised computer.



Money down the drain

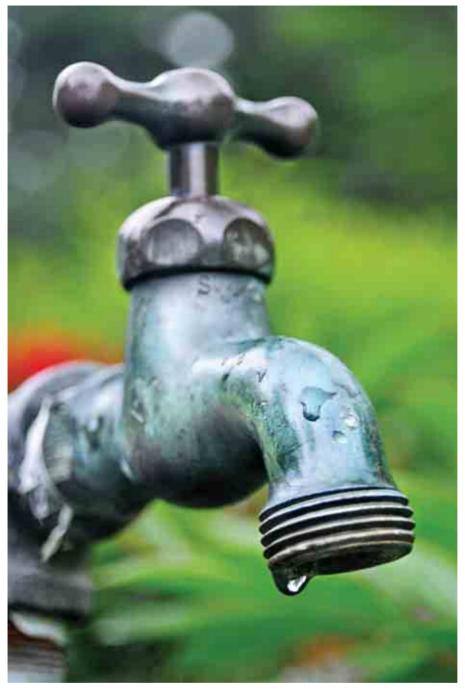
Even small leaks can cost you a fortune



Mark Gibson, Environment Specialist, Athenry, Teagasc Crops, Environment & Land Use Programme

NE of the major fall-outs from the 'big freeze' last Christmas was the cascade of water leaks that resulted. Frost penetrated the ground to unprecedented depths which resulted in many pipes and joints being disturbed or even cracked and widespread leaks. This highlighted how poorly prepared we are to cope with deep sub-zero temperatures. To make matters worse, many burst and leaking pipes remained undetected for months. Nationally, this has cost millions of euro.

Over the last number of months I have met many farmers who have received enormous water bills from their local authorities. They told me that their first reaction when they saw their bill was: 'There must be some mistake!' However, after making contact with their local authority, and checking their meter, the gravity of the situation hit home — water was being lost from their system at alarming rates.



Now is the time to plan your water requirements for the winter months. Don't get caught again.

Conserving water on the farm

Most farms source their water from a public water supply, group water scheme, private well or rainwater system.

There is cost associated with all of these so increasing the efficiency with which we use water not only makes good business sense, but it will also help to protect a vital natural resource.

Stens

There are a number of simple steps that can be taken that will prevent nasty surprises when it comes to the cost of supplying water to your farm.

Identify all your sources of water on

the farm. Possible water sources include:
• Mains water supplied by your local

- authority.Water abstracted from rivers, streams,
- springs or wells.

 On-farm ponds or other winter-stored
- On-farm ponds or other winter-stored water.
- Re-used water, such as plate cooling water or harvested rainwater.

Monitor meters

Set up a routine for monitoring water use.

If your water is metered, you should read and record every water meter on

the farm regularly, ideally at least once a month.

This will alert you to any fluctuations in water use and indicate a problem such as a leaking pipe or a faulty ballcock in a water trough.

It may also alert you to problems with your pipes, such as blockages.

Consider recording your meter reading during the night time period.

Has more water passed through the meter than would be expected overnight? If so, this indicates that you have a leak in your network that will need to be located.

Tips on reducing water consumption

- During field walking/stock checking. check all taps and water troughs in the farmyard and in outlying fields.
- Consider using dry cleaning techniques, such as scrapers, squeegees and brushes to remove solid waste from yards and pens before they are cleaned with water. This will reduce the amount of water used, as well as the quantity of dirty water requiring treatment, storage and spreading.
- Fit self-closing trigger nozzles to hosepipes which will help you to eliminate wastage when the hose is unattended.
- Consider pre-soaking before milking. It can take a lot of water and effort to clean your parlour after milking. However, if you use a small amount of water to lightly wet the parlour first, the dung will stick less, reducing the amount of water that you will need to use to clean after milk-
- Only use high quality water where required. Animals should always be provided with a quality clean water supply. However, rain water and used water should be targeted for washing down yards.
- Rain collected from the roofs of farm buildings can be re-used for a variety of activities, including washing down yards and stock watering.
- Sections of pipework or troughs that are not in use over the winter should be isolated and drained to prevent frost damage that could result in a leak when they are refilled. If an above-ground pipe is in constant use, it should be insulated.
- When burying pipes, ensure that they are at a sufficient depth. Consider insulating pipes when burying them.
- A leaking ball-valve in a water trough can waste up to 150 cubic metres of water (33,000 gallons) per year. A fractured ball-valve can waste up to 2,000 cubic metres (440,000 gallons), which is enough water to meet the drinking requirements of 80 cows in milk for a whole year.

A leaking ball-valve in a water trough can waste up to 150 cubic metres of water (33,000 gallons) per year. A fractured ballvalve can waste up to 2,000 cubic metres (440,000 gallons), which is enough to meet the drinking needs of 80 cows in milk for a whole year



Based on a price of €1.10 per cubic metre of water

What are the classic signs of a water leak?



If your meter is showing unusually high readings, or your water pump is running excessively, it is likely that you have a leak. A leaking pipe or ballcock valve doesn't just mean you are losing water. It can mean:

- A water pump running excessively, incurring large electricity bills and additional service intervals.
- On-farm filter systems having to be serviced more regularly.
- Excess pressure on water schemes,

Check the ground above your pipes to look for visible signs of a leak. Such signs can include:

- Unusually damp ground.
- Lusher than expected vegetation (for a recent leak).

• Reduced vegetation (for a long-term leak, because of reduced soil quality).

It can be difficult to pinpoint leaks, particularly where pipes are buried or under concrete. You may require specialist leak detection equipment to solve the problem.

There are a number of different types of technology that can be used

These include listening sticks, remote listening devices, pressure fluctuation sensors and 'intelligent' meters that 'know' your expected water use patterns and then alert you to any unexpected flows.

Now is the time to plan your water requirements for the winter months. Don't get caught again.

Groomed for equine success

Equine courses at Kildalton College can take you to the very top

Rosemary Gaffney,

Equine Course Director, Kildalton College, Teagasc education programme

N 2008, Captain Geoffrey Curran was part of the Irish equestrian team which competed in Hong Kong, a sub-venue of the Beijing Olympics. Captain Curran, who won the World Cup qualifier for three-day eventing in the same year, is a native of Waterford. He is a former student of Teagasc Kildalton College in equine studies

The first Teagasc equine course at Kildalton was established in 1998 with the expressed aim of training students to make an impact on the horse industry. This has progressed from a one-year course with 13 students to a two-year course with 60 students.

Students planning their careers will be aiming for enrolment in 2012. As there is likely be strong competition — there were over 100 applications for places this year — it pays to think and plan ahead.

Entry requirements

There is no minimum educational entry requirements but students who have completed the Leaving Certificate are likely to benefit most from the course. Applicants must be over 17 years on 1

Kildalton also operates a working yard which gives students the opportunity to see top class management of horses and commercial management of a big yard



January 2012 and must have riding experience if they want to take part in the riding option. Applications should be made directly to Kildalton College.

The two-year course aims to provide knowledge and skills relating to the sport horse industry and, in particular, to train students to add value to young horses. There are employment opportunities in the industry including stud farms, training yards and equestrian centres. The course is provided at Kildalton Agricultural College, Piltown, Co Kilkenny.

Kildalton is not just a college; it operates a working yard with 40 or more horses present at any one time. This gives students the opportunity to see top class management of horses and commercial management of a big yard.

Unique to Kildalton

Very few equine colleges worldwide offer their students the opportunity to work with and train horses which have had little or no handling.

"Many educational institutes teach equine handling with adult animals, which is useful but not anything as instructional as dealing with an unbroken horse," said Teagasc equine specialist and lecturer Norman Storey. "Offering this opportunity to students, together with the opportunity of a placement at a world class stud, are some of the great strengths of Kildalton."

Each year horses are brought into the

college to be broken and trained by students in teams of two. The animals might be warmblood, Irish Sport Horses or Connemara ponies. "We deliberately take in a number of breeds," said lecturer Crea Warner. "Students must work with the animal they get and have the ability to work and cope with unfamiliar breeds."

Over 10 weeks, simply by handling, taking time and bonding with the horse, the students take it to a stage where it can be ridden indoors and outdoors. These horses learn to showjump and start their cross country career. "The students must develop great patience and handling skills and learn how to 'read' a horse," said Crea Warner.

Teamwork

Students also learn great team working skills. Many will have some knowledge of horses and students often share their knowledge and help each other out. Regular 'demos' at Kildalton to share knowledge or new thinking with the equine industry or leisure riders in pony clubs are partly managed by students, providing additional experience which they can use in future careers.

Career prospects

Kildalton students have gained employment in diverse equine areas such as farriery, equine dentistry, teaching, grooms, stud management, veterinary nursing and special needs trainers. But



with the Irish horse industry affected by the recession, what are prospects in the industry generally?

"The horse industry is increasingly global and has become highly sophisticated," said Norman Storey. "Some students might choose to go abroad for a period and return to Ireland and set up a business. Good quality experience abroad will always be valued."

In some ways the basics were neglected in Ireland during the boom. Buyers in the UK, the US and on the continent want, and will pay for, really well trained horses. Graduates of Kildalton have the skills and training to produce animals that can potentially command upwards of €20,000. This means they will be adequately rewarded for the skills and expertise they have accumulated.



Rosemary Gaffney at Teagasc Kildalton.

Teagasc Level 5 Certificate in Breeding and Training

The Horsemanship Course — first year: 32 weeks course work at Kildalton College.

Stud Management Course — first year: four days at Kildalton College doing course work and work experience for one day a week at excellent local stud farms.

During this time, students on both courses develop knowledge and skills in:

• Stud management

- Riding on horsemanship course only
- Breeding foals of high genetic merit
- Managing mares and young horses
- Business management
- Equine nutrition
- Horse health and welfare
- Grassland management
- Young horse evaluation
- Marketing horses for sale.
 On successful completion of the Teagasc Level 5 Certificate in Horse Breed-

ing and Training programme, students receive a FETAC Certificate (this does not meet the training requirements as a Young Trained Farmer).

Students with this Level 5 award may apply, via the Higher Education Links Scheme, for the National Certificate in Equine Studies (AL025).

>> Next page

equine

Teagasc Advanced Certificates in

Horsemanship and Stud Management

— Level 6

These are two follow-on courses from Level 5. They are one-year programmes designed to equip people to find employment in responsible positions in the sport horse industry or to start their own business. Students opt for one of the two specialisms — Stud Management or Horsemanship

Stud Management — stud students spend nine months on paid work experience on approved stud farms to develop proficiency in stud management skills.

Students see for themselves how major stud farms work and learn from being moved around the stud to different areas, i.e. foaling down mares, stallion yards, barren mares, walk in mares, foal and yearling sales preparation.

In specialist yards, students can get the opportunity to see pin hooking and breeze ups. This gives them a broad view of the industry and teaches them a variety of different skills.

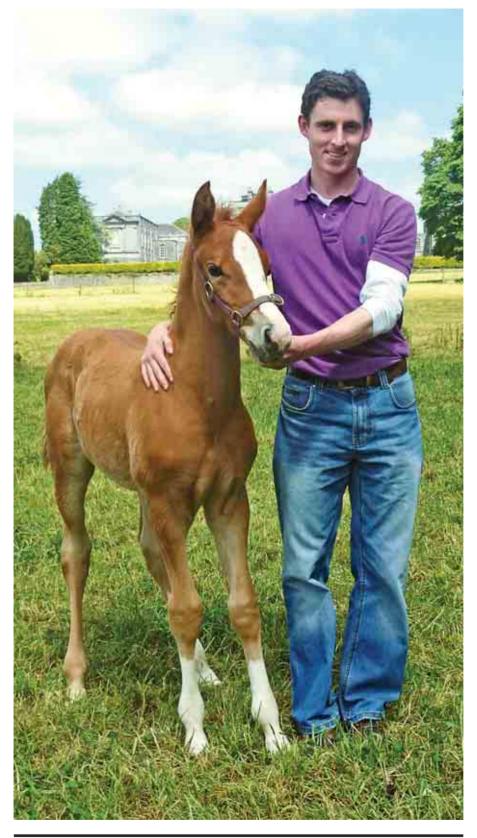
Students may also get the experience of going to sales and being involved in buying, showing and selling of stock at sales. Students return to Kildalton College for eight weeks of course work, which includes proficiency tests, horse nutrition, horse breeding and business management.

Horsemanship — students spend 28 weeks at Kildalton developing their riding and horse management skills, breaking three and four year olds and training young horses for sales and competitions.

They learn how to run a team, being 'in charge' of a group of students/horses and learn how a commercial yard works.

Students use the teaching/coaching part of the course as training towards their British Horse Society (BHS) qualifications, as Kildalton is both a 'Where to Train Yard' and also an 'Exam Centre'. It is the only centre in the world outside England that is allowed to run the prestigious British Horse Society Instructor Exam.

On successful completion of the year two programme, students are awarded the Teagasc Level 6 Advanced Certificate in Horse Breeding and Training (this meets the training requirements as a Young Trained Farmer).



GUYO'CALLAGHAN

Guy O'Callaghan was a student from 2009 to 2011.

He started college in the riding stream and in second year he opted to join the stud course.

Guy is from the famous commercial Yeomanstown Stud which specialises in thoroughbred stallions, pin hooking young stock and doing breeze ups.

Guy enjoyed his time at Kildalton. He said: "I gained great insights into riding young horses in a balanced way and felt that the grassland, farming and environment and horse health modules taught me about things that I will encounter daily."





Karen D'Arcy (above) from Wexford is another former student of Kildalton College. She left Kildalton as a qualified instructor and found work in Ballyellen, where Luke Dray (left) was renting. After a time, Luke and Karen joined forces and the business partnership grew. They took over Ballyellen with its wonderful facilities which they now lease, running a successful training yard and riding school.

LUKE DRAY

Luke Dray (left) from Wicklow left Kildalton with the ambition of being a professional event rider — a difficult challenge for a young person without access to land or facilities. He rented five stables in Ballyellen Equestrian Centre, Co Wicklow, and started up a new business venture, producing event horses and breaking and training young horses.

Ambition — what you can achieve at Kildalton

- Get recognised qualifications within the horse industry
- Join the most recognised college/yard in Ireland for BHS training
- Improve your riding on specialised horses
- Learn about breeding
- Break and train horses
- Gain teaching qualifications
- Green Cert making you eligible for grants and schemes as a Young Trained Farmer
- Meet people with the same interests

FIRE FOLLY

Millions of euro lost to forest fires



Steven Meyen,
Forestry
Development
Officer,
Teagasc, Crops,
Environment & Land
Use Programme

VER the last 20 years, 250 to 300 hectares of forest have been destroyed by fire annually. This spring alone,
Coillte lost approximately 1,000ha, while 600ha of private forests were destroyed.
Donegal accounted for about 60% of the total.

The cost of damage so far this year is estimated at over €7.5 million; this includes lost timber value, re-establishing forests and the cost of fighting the fires. IBEC has estimated that as a result of the fires, one million cubic metres of timber will have to be imported, representing four months of production in Irish sawmills. This is putting jobs at risk.

The spring fires occurred in the middle of the bird nesting season, destroying tens of thousands of chicks and eggs. The birds that escaped will find it difficult to survive because their food sources, such as insects, have also been destroyed. Members of Birdwatch in Donegal are concerned about the plight of the cuckoo.

Even if mammals such as deer managed to escape the fires, they will find it hard to find food and shelter. Flora suffers greatly in fires too; valuable and rare plants are killed while weed species take over. Although no human lives were lost, houses were destroyed, with local communities and tourism also suffering greatly.

Forest fires don't tend to start naturally in Ireland and are nearly always lit. As one fire fighter in Donegal put it: "You don't have over 400 different fire incidents in the one weekend".

The main causes include the inappropriate and/or illegal burning of scrub (illegal under the Wildlife Act from 1 March to 31 August), malicious intent and carelessness.

Controlled burning of land

Burning vegetation is extremely dan-

gerous. Controlled burning of land or vegetation requires expert skill. Ensure

- A fire is only lit within the legally permitted period for controlled burning (i.e. 1 September to 28 February) and that the fire is more than one mile from the nearest woodland or forest.
- All nearby properties will be safe and that neighbours and forest owners have been informed. Also, notify the Gardai, the local authority and the fire service regional control centre.
- Sufficient help and equipment is in place to control the fire. If the fire gets out of control, ensure that all emergency numbers are stored in charged-up mobile phones and that coverage is sufficient to call in additional help.

Fire plans and equipment

Every forest owner should have a carefully prepared and up to date fire plan in place. It should include a map showing access and assembly points for fire fighting personnel and equipment and potential sources of water.

It should also include up to date contact details for the emergency services, relevant forest management companies, forest owner groups, neighbouring

landowners and forest owners in order to summon help should the need arise.

Fire fighting tools such as beaters, buckets, knapsack sprayers and pumps are very useful. Make sure that they are ready to use. Slurry tankers can be used to transport water.

Make sure that forest and bog roads are accessible and that all fire breaks are well maintained. Review and update the fire plan prior to the fire season.

Forest insurance

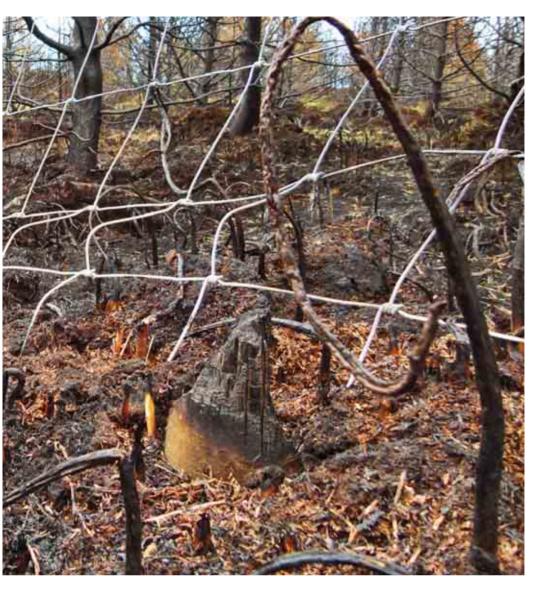
The Reconstitution of Woodland Scheme is available to assist in restoring forests following significant damage by natural causes such as frost, diseases, deer, grey squirrel and vole. However, damage caused by fire is excluded since 1 June 2009.

Therefore, it is advisable that forest owners insure their forest crops. Anecdotal evidence suggests that only a minority of forest owners have done so.

There are a number of effective insurance policies on offer. Policies may cover loss of timber value, cost of replanting, fire brigade charges, public liability and employer's liability. Shop around for the most suitable.

Re-establishment costs can vary from





€1,500 to €6,000 per hectare, depending on the age and species of tree.

Timber values increase dramatically with age: a 10-year-old Sitka spruce plantation is worth only €2,000 to €3,000/ ha. Fast forward 10 years and the value of the same plantation is heading for €6.000/ha.

At 35 years of age, timber value is now in the range of €14,000 to €16,000/ha. The annual insurance premium reflects this increase in timber value.

Fire brigade call-out charges range from €5,000 to €25,000. The cost of insuring 10 hectares of five-year-old Sitka spruce last year was around €350. This includes the cost of replanting, loss of timber value, fire brigade charges, public liability and employer's liability. The cost of similar cover for a 15-year-old plantation would be closer to €450.

Lessons learned

We have to learn from our terrible experience this year and learn how to prevent this happening again. Planning, coordination and co-operation are required if we are to avoid such fires.

This process has started already, with the Department of Agriculture, Fisheries and Food leading a sustained

media awareness campaign. Articles, adverts, posters and website notices highlight the dangers involved. A Land and Forest Fires Working Group has been set up to put forward proposals.

Forests have a lot to contribute to our rural economy. Timber is one of Ireland's very few renewable natural building materials and is the basic material for rural, timber-based, industries.

 $For ests\,contribute\,to\,the\,land scape\,in$ many positive ways. They become complex ecosystems and wildlife habitats while also providing recreational facilities. They also store large amounts of carbon, helping considerably against global warming and meeting our legal obligations under the Kyoto Protocol.

Fire weather index

Met Éireann's Fire Weather Index can now be consulted on www.teagasc.ie/ forestry. This index provides information on the fire risk in different areas throughout Ireland taking into account current and past weather conditions. It also provides a forecast index for five days ahead.

Seven steps to reduce fire risk

Follow these simple, cost effective steps to reduce the risk of fire damage to your forest:

- 1. DO NOT LIGHT FIRES IN OR NEAR WOODLAND. Take care with other potential sources of ignition.
- 2. CHECK FIRE BREAKS. Where fire breaks are required, ensure that they are inspected regularly prior to the fire season and kept vegetation free. Fire breaks should be at least six metres wide.
- 3. INSURE YOUR CROP. Insure forest crops against losses by fire.
- 4. PLAN AHEAD. Fire plans are essential management tools.
- 5. DISCUSS WITH NEIGHBOURS. Cooperation is vital to successful fire prevention. Explain your concerns regarding fire risk to your neighbours. Owners of adjoining and neighbouring plantations should develop joint fire plans.
- 6. BE VIGILANT, particularly following prolonged dry spells. Just 24 hours is sufficient to dry out dead moorland vegetation following rain, where windy conditions exist. Forest owners should be particularly vigilant during evenings and weekends, when land burning is most likely to take place.
- 7. REPORT LOSSES. If a plantation is damaged by fire, report the incident to the nearest Garda station and to the Forest Service. Your local forestry inspector can advise on reinstatement measures.



Botanic Gardens



Rolling out a different sod

Pat Suttle

Botanic Gardens, Teagasc Education Programme

OHN Cribben worked in Druids Glen Golf Club in Kilcoole, Co Wicklow, while training for his FETAC Certificate in Greenkeeping at the College of Amenity Horticulture in the National Botanic Gardens in the mid-1990s.

John is from a farming background in Agher, Summerhill, Co Meath, where the family ran a 40-cow dairy herd.

The farm location was such that there was no possibility of expanding the dairy herd.

He looked to the skills and knowledge he had acquired in greenkeeping for inspiration and came up with the idea of turfgrass sod production as an alternative enterprise that could work.

Despite the fact that friends and colleagues thought the idea was slightly mad, John persisted. He developed a business plan, made a submission to Meath Leader and was grant-aided to establish the enterprise.

With the grant he purchased a small tractor-mounted sod harvester and sowed 10 acres with amenity grass species with a view to marketing the product 18 months later.

That was in 1998. His timing could not have been better. The construction boom, together with a massive increase in interest in gardening, resulted in increased demand year on year to the point where Summerhill Instant Lawns had



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

over 200 acres of sod in production by 2005.

This expansion has necessitated the purchase of a wide range of equipment, from stone buriers to specialist harrows and a state of the art sod harvester, which cuts, rolls and palletises the sod.

This allows the company to react quickly to orders and minimises handling of what is a weighty product. They also have their own customised transport which can deliver countrywide.

In 2006 John was awarded the FBD Young Farmer Innovation Award for his courage and enterprise in establishing the business.

At present the domestic garden market comprises 40% of the business, with a similar amount being purchased by landscape companies. The grass species used in the production are Dwarf Perennial Ryegrass and Slender Creeping Red Fescue. John is always on the lookout for better quality grasses and is testing an exciting range of new cultivars on his site.

To progress the venture, John recently established Lawnman Services Ltd. This new company provides a professional lawn care service which includes fertilizer applications and weed/moss control as well as scarifying and aeration to all lawn owners from the small garden to large areas of turfgrass.

While the slowdown has inevitably led to a drop in production, the company is still in the top three turf producers on the island.

John found the USA to be the main source of information when he started his company so it is to his credit, and that of his fellow producers in Ireland, that the Turf Producers Association in the USA is coming to Ireland this year to learn how we do things here.

In 2006 John was awarded the FBD Young Farmer Innovation Award for his courage and enterprise in establishing the business

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www.fbdforfarmers.ie



$RISPOVAL^{^{\top}}$ - your choice of IBR vaccine

- IBR is caused by Bovine Herpes Virus 1 (BoHv-1) and Irish cattle of all ages are at risk
- Studies have shown that 70%¹ of Irish dairy & beef herds and 73%² of Irish beef herds show signs of infection.

The changing face of IBR

Classical acute IBR results from the infection of a naive animal. However, many Irish herds contain chronically infected animals which harbour IBR for life.

They do not usually show signs of disease but when sick or stressed e.g. at peak lactation, they may relapse and shed virus again.

Therefore two IBR scenarios need to be addressed:

Acute – recently infected, previously naive animals may become very sick and shed large amounts of virus.

Chronic – previously infected carrier animals which relapse, shedding virus and increasing the herd disease challenge.

Your vet may recommend that these two scenarios require different methods of control. There are two different forms of vaccine that can be used.



Part of the Pfizer Family of vaccines

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- 1. Ronan O'Neill, CVRL Personal Communication 2011
- 2. O'Grady et al (2008) Irish Vet. Journal vol. 61 no.
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