



Today's Farm

Business, production, environment and countryside issues www.teagasc.ie



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COMMENT



Mark Moore
Editor,
Today's Farm

Come and meet us at the National Ploughing Championships

Feeding the growing population while reducing our production of greenhouse gases is the challenge of our time. Farmers are clearly willing, indeed enthusiastic, to 'do their bit'.

However, the article by Joe Hand on pages 30-31 suggests that farmers feel they cannot always afford to do the right thing, applying lime for example.

Hopefully, recent improvements in commodity prices will help.

To learn more about how new technologies can benefit farmers, please visit the Teagasc stand at the National Ploughing Championships. We are at Block 3, Row 17, Stand 282.

Buail isteach chugainn ag an gComórtas Náisiúnta Treabhdóireachta

Dúshlán ár gcuid ama é daonra an domhain atá ag méadú a bheathú agus ár dtáirgeadh gás ceaptha teasa a laghdú. Is léir go bhfuil feirmeoirí toilteanach, díograiseach go deimhin, a gcuid féin a dhéanamh.

Tugann an t-alt le Joe Hand le tuiscint, áfach, go mbraitheann feirmeoirí nach mbíonn sé d'acmhainn acu an rud ceart a dhéanamh i gcónaí, mar shampla aol a leathadh.

Táthar ag súil go mbeidh feabhsúcháin le déanaí ar phraghsanna tráchtearraí ina gcúnamh.

Chun tuilleadh a fháil amach faoin gcaoi ar féidir le teicneolaíochtaí nua dul chun tairbhe feirmeoirí, tabhair cuairt ar sheastán Teagasc ag an gComórtas Náisiúnta Treabhdóireachta. Tá muid suite ar Bloc 3, Sraith 17, Seastán 282.



Organic sheep earn their keep

>> Pages 26-27

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Cover: Golden Tipperary farmer Pat Hayes says his cattle do better with significant amounts of clover in the sward.

Teagasc/UCD Michael Smurfit Business School Course in Business Strategy

Bitcoin? Stocks? Vintage wine? The best investment is always in yourself. This course, accredited by UCD at Level 8, requires your presence for a total of just six days (three modules/components) during November and December.

The course is well proven, having taken place seven times, with over 100 farmers from all farm enterprises graduated.

Just some of the areas addressed in the course include:

- Building a strategy around my farm enterprise – apply learning in a practical way to your business.
- Developing your financial forecasting skills.
- Introduction to tax management.
- Making the investment case – how do banks interpret financial information.
- Negotiation strategies and preparing for negotiations.



• Understanding ourselves as managers.
There are still places available for 2022. If you would like to know more,

or express your interest in this course, contact Mark Moore on 087-417 9131 or email Mark.moore@teagasc.ie.

Bloom

Teagasc had an exhibit at Bloom, the theme of which was 'Healthy People – Healthy Planet'.

As part of the exhibit, researchers explained potential peat alternatives. Eoghan Corbett, a Teagasc researcher working in peat research, says: "Visitors were generally not aware of just how important peat is (and has been) in glasshouse crop, nursery stock, field vegetable and mushroom production and how the professional horticultural sector depends on high-quality growth media that provides reliable and predictable yield and quality of produce."

"We spent time discussing the potential that indigenous bio-resources (e.g wood) and emerging technologies (pyrolysis) may have in peat-alternative substrate production."

"There was real interest in Ireland's move towards a more circular economy, whereby resources are better managed through their entire life cycle."



Teagasc head of horticulture Dermot Callaghan discussing alternatives to peat with An Taoiseach Micheál Martin.

Look but don't touch

The ICRAD-funded project BM-Farm involves researchers at University of Murcia in Spain, INRAE, as well as researchers at Teagasc Moorepark investigating a range of factors affecting piglet health and welfare using physiological biomarkers and gut microbiome.

Piglets are born completely dependent on the sow, but they develop very fast into independent and resilient animals. This transition is accelerated in commercial farms – it happens in just four weeks.

Having a good understanding of what takes place during these few weeks is key to improving the health and welfare of piglets, and to maximise their growth without the need for veterinary support.

Studying this development is challenging, however, because piglets suffer stress with any manipulation. Stress changes the physiology of the animal very quickly and many of the parameters change in seconds.

“That is why using samples that are not invasive – like saliva or faeces – is a more desirable alternative,” says Edgar García Manzanilla, Head of Pig Development Department at Teagasc.

“Saliva was underestimated in the past as a fluid for veterinary use, but now researchers know how much valuable information can be obtained from this fluid. All it takes to collect saliva is a piece of sponge or a rope that the piglets chew for a few minutes.”

The project team has collected saliva from pigs and sows at different stages and analysed 25 biomarkers for inflammation, specific immunity and oxidative status, among others. The group will also analyse the microbiome of saliva and faeces.

Saliva is the best type of sample to understand the effect of the environment on the microbiome of pigs.

“This is because they root all day and they sample literally every single stone in the environment. The findings from these studies are promising, and help our researchers to build a clearer picture of how a proper development during early life looks like in pigs,” concludes Edgar.

Adapted from TRResearch autumn 2022.

The Dairy Edge

Since The Dairy Edge podcast launched in January 2018, a new episode has been released each week and the podcast achieved a milestone 500,000 listens in July 2022.

Presented by Emma-Louise Coffey, The Dairy Edge covers practical advice, cutting edge research and farmer insights in an effort to incorporate best practice and achieve excellence in dairy production at farm level.

The Dairy Edge is a free resource available to farmers and industry and can be accessed on your phone, PC or tablet at a time that suits you.



ADVERTORIAL



Replacement heifers remain a priority

Maeve Regan,
Head of Ruminant Nutrition, Agritech

As the next generation of milking cows, it is important that we do not lose focus on achieving replacement heifer target weights over the autumn.

Hitting target weights at this point of the year is crucial to ensure heifers are on course to achieve the main goal of being 60% of their mature weight when bred at 15 months.

Over the next few months, optimal average daily gain may be difficult to maintain as grass growth and quality declines and grazing conditions become more challenging in late autumn.

Therefore, it is important to consider where your replacement heifers are in relation to targets (% of mature weight) currently.

Target Weights:

By weighing now, compared to weighing at the point of housing, this allows the opportunity to identify heifers that are not on target, group accordingly and make alternative plans for those heifers under target weights.

The threshold figure for 2022 spring born weaning heifers is approximately 190 kg in mid-September (approximately 33% of an assumed mature weight of 570 kg). Heifers that are lighter than this should be separated and given priority access our highest quality grass and concentrates depending on their weight relative to the herds target.

Supplementation:

Higher weight gains can be achieved from grass rather than from winter/silage diets and a good response to autumn supplementation can be achieved.

If grass is in short supply or quality/conditions are deteriorating, under-target heifers should be fed a supplement until housing time to maintain or increase growth rates. 1-2 kg of concentrate/head/day should be sufficient.

Research shows that youngstock at grass in summer can achieve a weight gain of 0.85 kg/day on grass alone. While in the autumn where 1 kg of concentrate plus high-quality grass are offered, average daily gains of 1 kg/head/day can be achieved.

For further advice on finishing cattle from grass contact your local Agritech Sales Advisor or visit www.agritech.ie



www.agritech.ie

Richard Long and Séan Cummins.



THURSDAY 8 SEPTEMBER

Swards for the Future conference and workshop

An important and informative conference for anyone involved in the grassland industry, including industry partners, farmers, co-op representatives, advisors and researchers.

An exciting two-day conference and workshop running from September 8-9 to explore 'Resilient Swards for the Future'.

- Venue: Teagasc Animal and Grassland Research and Innovation Centre, Moorepark, Fermoy, Co Cork.
- Event time: 9am.

The registration fee (€100) includes attendance at the two day event, lunch on both days, tea/coffee breaks and a proceedings booklet. Register on the Teagasc website.

Teagasc Crop Forum

- Event time: 2pm - 5pm.
- Venue: Killashee House Hotel, Naas. After being delivered virtually for the past two years, the annual Teagasc Crop Forum will return this year as a hybrid event with an option to attend in person or tune in online.

The themes of this year's Crop Forum will be:

- CAP in a tillage context.
- Reducing financial risk on tillage farms.

The forum will conclude with a

discussion between contributors from across the sector.

Richard Long – DairyBeef500 demonstration farm walk

- Venue: Farm of Richard Long, Ballymacarbry, Co Waterford. Eircode: E91 VH67.
- Event time: 3pm.

See article featuring Richard on page 14 in this edition of Today's Farm.

THURSDAY 15 SEPTEMBER

Contract heifer rearing farm walk – Cork

Should you consider contract heifer rearing?

- Venue: Farm of Lyle Buttimer, Gurrane, Fermoy, Co Cork. Eircode: P61 A256.
- Event Time: 11am.

THURSDAY 20-22 SEPTEMBER

Science Working for You – Teagasc at the National Ploughing Championships 2022

The full range of Teagasc activities will be represented at the event. Whether your interest is in beef, sheep, dairy or tillage, an expert will be present.

If you are interested in Acres, farm management, transferring your family farm, downloading an app or

podcast or furthering your education with Teagasc, there will be someone to guide you.

Young and old will have the opportunity to test their machinery safety skills. The Department of Agriculture, Food and the Marine (DAFM) is investing about €1.2m in machinery simulators for use in education settings and one will be available on our stand.

The Teagasc Food programme will showcase world-leading research and expertise in Food for Health, Food Quality, and Food Innovation. VistaMilk will present a 3D cow model accessorised with sensors demonstrating digitalisation in the dairy industry.

The outdoor area of the exhibit will demonstrate how Teagasc is using science and the latest technologies to help farmers make a profit, protect the environment and reduce the output of greenhouse gases.

Live animals will showcase how it is possible to reduce greenhouse gas emissions per calf and increase profit per cow calved.

Other outdoor exhibits will include cover crops, soil profiles, red and white clover and managing high production swards.

Managing parasite resistance and plant nutrients will be addressed.



Continued on page 8

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IFI

Palmerstown, Kilkenny



Continued from page 6

Also there will be demonstrations of opportunities in forestry, biodiversity etc. And Teagasc is hiring! So if you want to find out about the opportunities and benefits of a career with Teagasc, visit us at Block 3, Row 17, Stand 282.

THURSDAY 28 SEPTEMBER

National Organic Beef Open Day

Teagasc, Bord Bia and DAFM are jointly organising a National Organic Beef open day on the farm of John Purcell, Ross, Golden, Cashel, Co Tipperary, Eircode E25 RP20, from 10am-3pm.

The open day is aimed at providing up-to-date best practice for existing organic farmers and also aims to pro-

vide an insight into organic farming methods for those farmers contemplating converting their farms.

Topics for discussion on the day will include beef production systems (beef stock demonstrations), organic markets, financial supports, clover, soil health, farm buildings for organic beef production, economics, habitats and biodiversity and an organic food village with exhibitors.

Many stakeholders operating in the organic sector including certification, education and retail, will be in attendance and will provide a one stop shop for farmers to cover all aspects of organic farming, from technical knowledge to education to market development to financial supports and much more.

The final part of the open day will feature an open forum to discuss the future of the Irish organic beef sector. The date for this event is significant, as it will be just in advance of the opening of the next application window for the Organic Farming Scheme in October.

THURSDAY 30 SEPTEMBER – SUNDAY 6 NOVEMBER

Below Ground: Soil life in a changing climate

• Location: Johnstown Castle Museum.

Do you know what goes on below our feet? A bustling community of plant roots, tiny animals and microbes underpin our way of life – bringing us food, cleaning our water and regulating our climate.

The life and wonder of soil is always with us, but rarely seen. So, we want to find out how vibrant soil communities are affected by climate change, and how this will affect us.

Enjoy this exhibition from scientists and artists who bring the secrets of soil to life, and join us on our journey “below ground.”

This event is funded by Teagasc, Science Foundation Ireland and the British Ecological Society. It is part of the Festival of Farming and Food (Science Week).

Transferring The Family Farm – Succession and Inheritance Events 2022.

Location	Date of Event
Radisson Blu Hotel, Paddy Harte Road, Letterkenny, Co Donegal, F92 FK15.	Tuesday 4 October
McWilliam Park Hotel, Kilcolman Road, Boherduff, Claremorris, Co Mayo, F12 D1W3.	Wednesday 5 October
Mullingar Park Hotel, Dublin Road, Marlinstown Bog, Mullingar, Co Westmeath, N91 A4EP.	Thursday 6 October
Abbey Court Hotel, Dublin Road, Nenagh South, Nenagh, Co Tipperary, E45 KA99.	Tuesday 11 October
Charleville Park Hotel, Limerick Road, Charleville, Co Cork P56 V268.	Wednesday 12 October
Amber Springs Hotel, Wexford St, Knockmullen, Gorey, Co Wexford, Y25 FY07.	Thursday 13 October



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References: 1. Philippe-Reversat et al. (2017) Acta Vet BRNO. 86: 325–332 2. Metcalfe et al. (2020) Vet Record Open 7: e000429
3. Ellis et al. (2018) Can Vet J. 59: 1311–1319 4. Metcalfe et al. (2019) Poster presented at EBC, Den Bosch, Sept 19

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contains inactivated bovine viral diarrhoea virus, strain BIO-25. UK: POM-V IE: POM (E). Advice should be sought from the prescriber. Further information available in the SPCs or from Boehringer Ingelheim Animal Health UK Ltd, RG12 8YS, UK. UK Tel: 01344 746957, IE Tel: 01 291 3985. Email: vetenquiries@boehringer-ingelheim.com. Bovalto® is a registered trademark of the Boehringer Ingelheim Animal Health France, used under licence. ©2021 Boehringer Ingelheim Animal Health UK Ltd. All rights reserved. Date of preparation: Oct 2021. BOV-0178-2021. Use Medicines Responsibly.

Bought-in or home-bred?

Should farmers purchase high-EBI stock this autumn in order to improve overall farm performance? A recent study and this Cavan farmer's experience shows the answer is definitely yes.

James Dunne
Teagasc dairy specialist.

James Mimmagh
Teagasc dairy advisor.

The Economic Breeding Index (EBI) summarises the expected performance of an animal's progeny for a range of characteristics into a single monetary value.

EBI in the BMW region

A recent analysis of herd performance in the border, midlands and western (BMW) region reflects the change in herd EBI between 2017 and 2021.

Herds were grouped into three categories:

- Herds that were categorised average for EBI in 2017 and remained in the average EBI category in 2021 (AVG – AVG).
- Herds that were in the top 20% for EBI in 2017 and remained in the top 20% on EBI in 2021 (TOP – TOP).
- Herds that were average for herd EBI in 2017 but moved into the top 20% for EBI in 2021 (AVG – TOP).

No differentiation was made on cow type as the EBI works across breeds. Performance metrics of the herds are depicted in Figure 1.

The average EBI of the AVG–AVG and TOP–TOP groups increased by €45 between 2017 and 2021, while that of the AVG–TOP increased by €77.

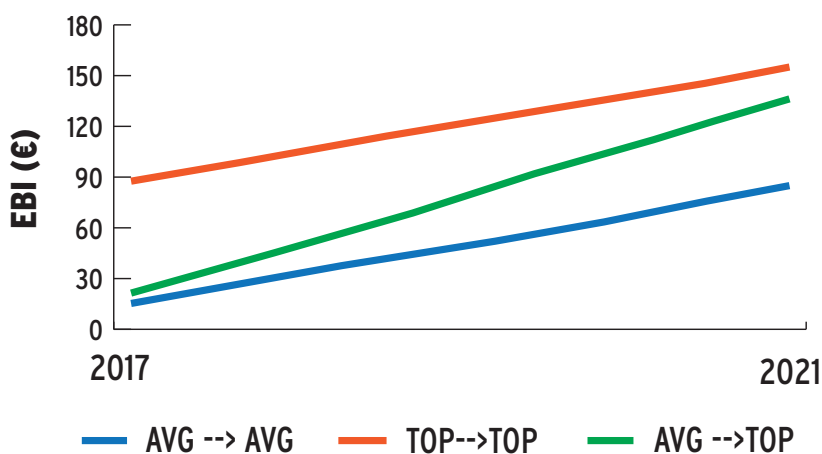
The fact that the yearly rate of gain remains similar at €9 per year between the average and top group means there is no evidence that the gap between both cohorts of herds will close over the coming years.

The average group has the same herd EBI in 2021 as the top category had in 2017. In theory, they are five years behind in terms of their breeding decisions.

We should also bear in mind that 50% of the herds in the study have an overall herd EBI of less than that of the average (€118).

In turn, milk solids per lactation increased by 9% and 10% for the AVG–AVG and TOP–TOP group, re-

Figure 1: Change in herd EBI for AVG-->AVG, TOP-->TOP and AVG-->TOP farms in the BMW region.



spectively, while that of the AVG–TOP increased by 15%.

Irrespective, the mean milk solids yield per lactation of the two TOP groups in 2021 was 7% to 11% higher than the AVG group in 2021.

A further analysis was undertaken using e-Profit Monitor data from 262 farms in the catchment from the years 2018 to 2021, relating herd EBI to profit per lactation.

Each €1 increase in herd EBI was associated with €1.79 more profit per lactation. This is similar to the response observed over many years across the country as a whole.

In other words, due to the increase in herd EBI within the AVG–TOP herds (increase of €77 over the period (2017–2021), profit per lactation is expected to have increased by €137.80.

Assuming an average herd size of 89, this difference equates to €12,264 more profit per year.

Compare this to the €45 EBI gain made with the AVG–AVG group over the same period, which equates to €80.50 additional profit per lactation or €7,164 more profit per year.

Low EBI herds – Where to next?

Typically, herds have relatively low EBI figures for a variety of reasons.

Often it comes from historic use of dairy stock bulls, or a focus on individual traits such as milk volume in isolation.

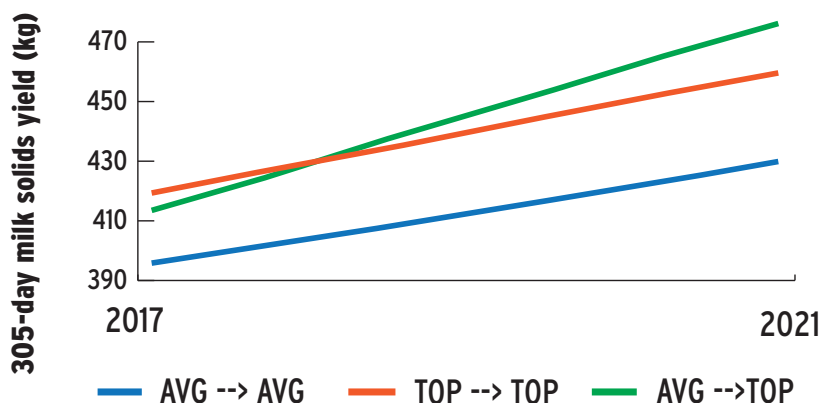
One cohort of farmers that found themselves in this position in 2017 was the AVG–TOP herds in the aforementioned analysis.

The obvious goal for these herds was to improve genetics quickly over the five years in question, whereby they would ultimately see themselves ranked in the top 20% on herd EBI.

Using teams of high-EBI bulls will improve the quality of replacements entering the herd. Unfortunately, a change in breeding strategy will take five to seven years to have any significant impact on herd performance. Too slow for farmers who find themselves with a herd EBI under €120.

When we analyse what happened within these herds individually, the common practice that dramatically improved herd performance was the purchase of high-EBI replacements and the breeding of a large cohort of

Figure 2: Change in milk solids yield for AVG-->AVG, TOP-->TOP and AVG-->TOP farms in the BMW region.



the original herd to beef AI.

These farmers identified that the replacements available to purchase from the highest genetic merit herds nationally were far superior to any replacements they could have bred themselves.

These high genetic merit animals were then used to produce the herd's replacements, further accelerating genetic progress.

Considerations when purchasing stock – quality and health status

There is always excellent high-EBI stock available to purchase each year. Typically, heifer calves and maiden heifers are available in the spring and in-calf heifers in September/October.

It is much more difficult to get in-calf heifers after October/November and it can be hard to source quality recently-calved heifers. This often

means buyers settle for lower genetic merit stock, which defeats the purpose of the exercise.

Animals being purchased should be of high genetic merit, with the focus on fertility and the potential for high percentages of fat and protein.

Ensure the animals you buy are AI-bred, calving in February (early March in the case of in-calf heifers) and hitting their target weights. They should generally be in good condition.

Purchasing any animals for your herd comes with an element of risk, be it a single beef stock bull or a group of replacement stock.

It is absolutely essential that stock is sourced from herds with a verified low disease risk and that you take all relevant precautions when bringing new animals onto your farm.

There are a number of questions you should ask;

- What is the disease status of the herd?
- Has the herd had a TB outbreak in the last number of years?
- What vaccination protocols are in place?

Speak to your local vet in advance with regard appropriate vaccination and quarantine protocols.

Use the resources you have locally through Teagasc or joint programme advisors to help plan the process.



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Farm focus – Killian Brennan, Kilcogy, Co Cavan

Albert Einstein's definition of insanity is "doing the same thing over and over and expecting different results."

This certainly wasn't the case when it comes to Co Cavan-based farmer Killian Brennan with regard his breeding decisions over the last five years.

"Historically, the herd breeding decisions were outsourced, with my only real concern being that we had cows with plenty of milk," says Killian.

With this policy in place up until 2017, the herd produced 424kg MS/cow at 3.87% butterfat and 3.37% protein on approximately 1,000kg of meal and a calving interval of 381 days.

These annual constituents delivered a milk price below base price for the months of April, May and June, something that triggered Killian's decision to make changes.

"I was leaving money behind when I looked at what other herds were achieving," he said.

In 2017, Killian – with Teagasc's input – decided that bulls would be selected through the ICBF sire advice tool based on the milk and fertility sub-index, with a focus on combined fat and protein rather than kgs of milk.

"I continued to breed from all the cows within the herd, something I would do differently with hindsight. Inevitably, your heifer calves were bred off some of your poorer cows."

In 2019, Killian developed a business plan to improve overall performance. A key element within this plan was to improve the genetic merit of the herd through improved breeding and the purchase of high-EBI stock.

Clear criteria were defined for the type of stock that was to be purchased



Killian Brennan.

with the help of the local Teagasc advisor – fertility and solids, AI-bred, calving in February and of high health status.

Ten heifer calves and 25 in-calf heifers were selected for purchase based on their EBI figures.

"We identified a number of groups of stock to look at that fitted the

criteria. I won't tell a lie, I wasn't so sure when I looked at the first group of stock.

"They were a lot different to what I was used to looking at, but after seeing the herd of cows and the performance figures they were achieving, it put my mind at rest."

Clear protocols were put in place with help from the local vet with regard to vaccination and quarantine prior to the arrival of the heifers.

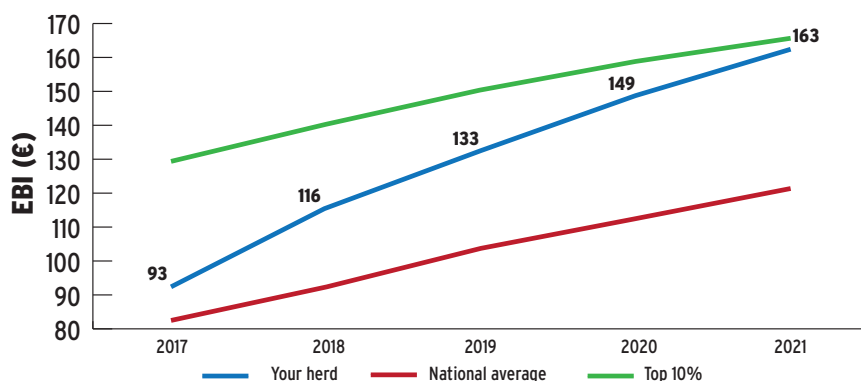
"The heifers were kept on a separate outfarm until I had all the vaccinations given. It's also easier on the stock if they remain in their own group," says Killian.

These purchases ensured the herd's EBI jumped from €133 to €149 in one year (Figure 1), which is double the national average yearly gain.

In the autumn of 2020, a further 18 in-calf heifers were purchased and along with the homebred heifers, it meant 120 cows calved down in the spring of 2021.

Of these, 75 were first and second

Figure 1: Herd EBI gains 2017-2021.





Killian Brennan with James Dunne and James Mimmagh.

calvers. The herd had a six week calving rate of 81% and a calving interval of 371 days.

“We saw a dramatic increase in the herd’s milk performance in 2021, where the cows produced 473kg MS at 4.28% butterfat and 3.53% protein on approximately 800kg of meal,” says Killian.

“This is an increase of 49kg MS/cow on 2017 levels, or an additional €249 per cow in additional milk sales based on 2021 milk prices. It’s an

additional €29,000 in milk sales when you multiply it up across the herd, while producing it on less meal. It’s also a very young herd, so herd performance should continue to improve over the coming years.”

Milk butterfat and protein increased over the same period by 0.40% and 0.16% respectively.

After successfully trialling a small amount of sexed semen in 2021, Killian decided to breed the best cows in the herd to sexed semen this year:

Therefore, the best young cows were identified using both EBI and milk recording records to get sexed semen over the first three weeks of breeding.

“When we analysed the herd to identify the best cows, we ended up with the majority of those being the purchased stock. That tells me all I need to know and my only regret is that I didn’t make the decision to buy superior animals sooner,” concludes Killian.



Ryan and Killian with Dara and Madeline (daughter Chloe was away at training).

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'An ounce of breeding' delivers for beef farmers

In the Nire Valley, Co Waterford, Richard Long has been perfecting his dairy calf-to-beef enterprise in co-operation with his dairy farming brothers.

Séan Cummins
DairyBeef 500 Programme
Advisor.



Richard Long is a participant in Teagasc's recently launched DairyBeef500 Programme. The goal of the programme is to use research results to encourage, promote and showcase profitable, efficient beef farming systems which can be readily taken up by the industry.

With 47ha available to graze, Richard Long balances farming with off-farm work commitments. The predictable and routine nature of a calf-to-beef system was a key driver in his decision to begin calf rearing in the spring of 2014.

Richard explains: "Purchasing and rearing calves and carrying them to beef is a system that works well here. My main goal is to be out of the yard by 8am, at the latest, each morning.

"I previously operated a suckler system, but with long days away from the farm, calving and breeding proved difficult. A cow could start calving at any time of the day and when you're working off-farm, it's very difficult to be in two places at once.

"Now, once the calves are fed in the morning and are healthy, the rest of the day away from the farm is my own. Even where an animal might be sick in the morning, it's only a matter of ringing the vet and arranging a time to treat the animal.

"Of course, there are labour pressure points in calf-to-beef systems, but the workload can be managed. Once the heavy lifting of calf rearing is over, the year settles down into rather routine jobs."

Grasping the low-hanging fruit

In the spring of 2019, Richard was approached to join the Teagasc Green Acres Calf-to-Beef Programme – the predecessor to the DairyBeef500 Programme – by local B&T advisor Austin Flavin.

In the meantime, substantial improvements have been made on-farm



Richard Long and Séan Cummins.

due to Richard's hard work. These changes were wide ranging and consisted of small tweaks to multiple elements of the enterprises rather than a complete system overhaul.

Lower than desired levels of animal performance were quickly identified as a key area that needed addressing and that encompassed everything from the day the calf arrived right through to finishing.

With the focus placed on maximising animal performance from day one right through to slaughter, significant improvements in slaughter performance have been realised.

Before joining the Teagasc Green Acres Programme, steers and heifers

produced on the farm generated 287kg carcasses at 26 months and 250kg carcasses at 24 months, respectively.

Meanwhile, animals slaughtered last autumn/this spring – these being 2020-born animals – produced 316kg carcasses at 23 months for the steers and 281kg carcasses at 22 months for the heifers. That's an average reduction in slaughter age of 2.5 months at a 30kg heavier carcass weight.

Touching on how this has been achieved, Richard said: "A whole host of 'fine tunings' has allowed animals to finish earlier. Not only am I now purchasing a better quality calf, the nutrition and health of the animals have also improved.



“I now put greater focus on making better-quality silage to reduce concentrate input over both the first and second winters and we weigh the animals more regularly to ensure animals are performing in line with the Teagasc targets.”

‘An ounce of breeding’

Richard has been purchasing calves off his brothers Mike and Liam, who have operated a dairy farming business across the border in Co Tipperary for the past number of years.

The close relationship between dairy and beef producer has allowed for more ‘joined up thinking’ to occur when it comes to the genetics at play. The result is production of animals with improved beef merit without negative consequences for the dairy herd’s reproductive performance.

“When we initially started looking at the genetics being used in the spring of 2019, I wanted an animal that would produce a heavier, better-conformed carcass at a younger age, with the aim of having all animals marketed by 24 months of age,” says Richard.

“Mike and Liam wanted to maintain ease of calving and the calving interval of their herd. Sires selected had to deliver on beef traits without having a negative impact on the milk production potential of the dairy herd.

“In the end, we looked at a number of sires of various breeds and our

final bull team contained a mixture of Angus, Hereford, Belgian Blue, Aubrac, Limousin and Charolais sires.

“Calves from the third year of this breeding policy have taken residency on my farm this spring and are sired by Angus, Aubrac, Belgian Blue, Charolais and Hereford bulls.

“More early-maturing genetics have been used in the dairy herd’s breeding programme this year for two reasons – I’m trying to finish about 40% of the animals before housing in October/November of the second year and the early maturing Angus and Hereford suit this production system.

“Some of the continental sires were also carrying time in terms of gestation length, even though they were bred relatively early in the season, so we decided to replace some of these longer gestation sires with Angus.”

Commercial Beef Value

The calves produced from this breeding policy rate relatively highly on

the Commercial Beef Value (CBV). The CBV is a tool for non-breeding beef farmers which provides a better insight into an animal’s genetic merit for beef production.

It comprises five traits including carcass weight, carcass conformation, carcass fat, docility and feed intake. The CBV of Richard’s calves are highlighted in the below table.

The monetary differences in CBV value represent the potential additional profit an animal can make at slaughter when compared to similar calves.

If looking at the inbreed example of Angus, the highest rated animal on the CBV has a value of €122, while the lowest has a value of €57, indicating that the difference – €65 in this instance – will be the potential difference in profit at slaughter time between the animals.

 Continued on page 16

Table 1: Commercial Beef Values of 2022-born animals on Richard Long's farm.

Breed	CBV (€)	CBV Min (€)	CBV Max (€)
Angus	90	57	122
Aubrac	162	148	175
Belgian Blue	203	172	258
Charolais	220	208	228
Hereford	74	55	112



Continued from page 15

Taking the example of the highest and lowest rated Angus calf on Richard's farm (table below), the major differences in the value of CBV stems from the carcass weight and carcass conformation metrics, with calf 2402 expected to generate a heavier and

better-conformed carcass than calf 2354.

A key aim of the DairyBeef500 Programme is to improve the genetic merit of beef calves derived from the dairy herd. Until the launch of the CBV, non-breeding beef farms were limited in the tools available when making purchasing decisions.

By placing a monetary value on an animal's potential for beef produc-

tion, purchasers are armed with more information when entering the market to source calves. Buyers are able to select more efficient and profitable animals for beef production.

Open day

As part of the DairyBeef500 Programme, Richard Long will host an open day on September 8 at 3pm in Ballymacarbry, Co Waterford (Eir-code: E91 VH67). The event will cover the improvements Richard has made over recent years, with a specific focus on genetics, animal health and grassland management.

Tag number	Sire	CBV (€)	Carcass weight	Carcass conformation	Carcass fat	Feed intake	Docility
2354	AA5280	57	-1.5	0.13	0.40	0.15	0.06
2402	AA6682	122	7.4	0.44	0.12	0.19	0.04

About the Dairy-Beef500 programme

The DairyBeef500 Programme was launched in June by the Minister for Agriculture, Charlie McConalogue.

The five-year campaign focuses on maximising the potential of beef production from the dairy herd, while also promoting and demonstrating dairy beef systems, which are socially, environmentally and financially sustainable.

Targeting a net margin of €500 per hectare (excluding farm family labour

and land costs), the programme aims to create greater integration between beef and dairy industries, improve the beef merit of calves coming from the dairy herd, increase the adoption of best practices and to reduce the environmental footprint of dairy beef production.

Learning from a crisis

Michael Fagan describes steps taken with the Newford Farm herd to deal with the huge fertiliser price increases.

Michael Fagan
Livestock systems department, Teagasc Grange.



Padraig French
Livestock systems department, Teagasc Moorepark.



One of the first things we did as a farm management team was to take soil samples to ensure we were putting the right amount of fertiliser in the right areas. It turned out that 18ha had low pH (<6.3).

We prioritised these fields because we know that by improving the pH you get a better return from nutrients applied. You also get greater natural release of nutrients from the soil itself. We applied 3.75t/ha of lime in late January. Also, the soil samples revealed which fields were low in P and K. Most of these fields were the silage ground fields, so we targeted

slurry and farmyard manure at them. Again, we were applying the nutrients available to get the most value for money.

We used low emission spreading system (LESS) of slurry across the farm. This resulted in less valuable nitrogen being lost to the atmosphere. Research has shown that LESS machinery can result in an extra 3.5kg N/10m³ (3 units N/1,000 gallons) being made available from cattle slurry.

With protected urea costing us over €1,000/t at the start of the year, this is a useful bonus over splash-plate application. We used protected urea due its ability to hold onto nitrogen longer and make it available to the growing plant.

On 4 March, we blanket spread 62kg/ha of protected urea (38% N) and a further 90kg/ha on 26 March. From then on, we spread fertiliser at six week rather than four week intervals as we had done in previous years.

Clover

During April and May 2021, we had oversown 8ha of the farm with white clover (Buddy and Aberherald) at a rate of 6.5kg/ha with a 6m Einbock Tine harrow air seeder.

Two and a half hectares were also reseeded in 2021 with Abergain and Aberchoice at a sowing rate of 37kg/ha, with Buddy clover at 4kg/ha.

These 2.5ha of clover paddocks received 210kg of protected urea/ha during March and April 2022 and were grazed five times before an additional 25kg/ha of protected urea was applied in early August

White clover has many benefits and research has shown that a pasture containing more than 20% white clover leads to an increase in animal production.



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White clover itself is very digestible and a high-quality plant which is very suited to Newford Farm requirements. A major benefit is the reduced need for nitrogen during the summer months. This proved a huge advantage for us in 2022. The benefit of clover is that it takes nitrogen from the air and makes it available to the growing pasture. Reducing artificial nitrogen fertiliser actually helps to increase the clover content in the swards.

During the summer months, we spread 25kg/ha of protected urea on paddocks when they need it. The key point was to turn animals into those paddocks at pre-grazing covers of 1,000kg/ha. This ensured the clover did not get suffocated in high covers and we walked each paddock once and sometimes twice a week.

While paddocks were rich with clover, we kept a close eye on grazing

animals, though we never had any issues with bloat.

Up to the end of July 2022, we had spread 110kg of protected urea per acre (38% N and 7% S) compared to 167kg of protected urea per acre for 2021 for the same period. We had reduced our application by 57kg per acre of protected urea up to end of July 2022, so what did that really mean for the farm?

Financially, it meant a difference of 9.6t less fertiliser, or roughly a saving of €9,600 for the farm. This saving is directly connected to two things – clover and lime.

Over the last five years, the average amount of grass grown was 6.9t to mid-August for each year and this year's average tonnage to mid-August was 6.45t DM per ha.

This 0.45t decrease in growth was accepted as the consequence of the lower amount of nitrogen spread.

Stocking rate

One key issue for us on the Newford Farm in 2022 was to draft as many

beef animals as possible off grass.

In early August, we drafted 20 in-spec beef heifers at 17 and a half months of age, with a further draft to take place at the end of August. By slaughtering these heifers at 18 months of age off grass, we reduced the need for additional fertiliser in the autumn.

Also, this early drafting of heifers shows that it is possible to finish heifers off grass without any meal feeding, while simultaneously reducing the farm's GHG emissions.

Having these heifers gone off grass will release more grazing ground and help to build up grass covers for the Newford weanlings as we enter into the autumn.

It will also reduce the farm's stocking numbers for the year and lower our fertiliser requirement.

In previous years, we would have sold these heifers at an average age of 20 months after supplementing them with concentrates for a period pre-slaughter.

In 2023, we will continue this practice of drafting in-spec heifers at 16-18 months, along with drafting the Newford steers at an early age off grass.

Table 1: Total amount of N, P, K and S spread per ha to mid-August for each year.

Year	Total N kg/ha	Total P kg/ha	Total K kg/ha	Total S kg/ha
2022	103	1	2	12
2021	138	6	15	17
2020	127	5	19	15
2019	142	12	25	7
2018	126	5	10	4

Silage ground

We closed the first-cut pit silage ground on 16 April and it was cut at the end of May. It had received 35 m³/ha (3,000 gallons/ac) of cattle slurry and a top up of 75kg/ha protected urea (38%N). We were fortunate that



we only needed one cut of pit silage as there was a full pit of silage left over from last winter.

To date, 240 round bales have been taken out as surplus bales from paddocks and a further 110 round

bales were taken out for first-cut and second-cut silage.

Future planning

Roughly 42% of the Newford Farm paddocks have clover in them and

our plan is to over-sow a further 6ha with clover next year. These 6ha were treated for docks in June and if these paddocks need to be treated again, they will get a further spray in September, so that when April 2023 comes these paddocks will be ready for over-sowing.

Table 2: Annual tonnage of grass grown per year up to mid-August.

Year	Grazing (kg DM/ha)	Silage (kg DM/ha)	Total (kg DM/ha)
2022	3,787	2,666	6,453
2021	4,508	2,345	6,853
2020	4,338	2,583	6,921
2019	4,985	1,997	6,982
2018	5,719	1,374	7,093

Additional information

Newford Farm was planning to hold an Open Day on 13 September, but unfortunately this has been postponed due to an outbreak of TB on the farm. Once the herd is clear, it will be rescheduled in 2023.

The Newford Farm is a suckler-to-beef demonstration farm consisting of 175ac in four blocks at Teagasc Athenry, Co Galway. The farm was established in 2015 by Teagasc and Dawn Meats with the support of the *Irish Farmers Journal* and McDonalds.

The Newford herd consists of first – cross Aberdeen Angus and Hereford cows bred from the dairy herd. The

95-cow herd is supervised by Michael Fagan.

The aim of the demonstration farm is to generate a high profit from a grass-based suckler-to-steer and heifer-beef production system using five-star terminal AI sires. This can only be achieved by grazing high-quality grass over a long growing season.

It became apparent in spring 2022

with the high fertiliser price that it was not economically sustainable to achieve these high grass yields using high levels of artificial nitrogen.

Newford Farm is part of the Future Beef programme and the Signpost programme and there is a clear focus on reducing environmental footprint while increasing profitability.



Weaning management is key to suckler calf health

Catherine Egan
Beef specialist, Teagasc
Animal and Grassland
Research and Innovation
Programme



Shane Devaney
B&T advisor, Teagasc
Longford



Suckler calves born this spring are now aged between six to nine months old. They don't know it yet, but a rude shock is coming – weaning. Minimising the impact of this potentially stressful event and preventing additional stress will help animals reach their growth potential.

Additional stress could include changing animals' diet (grass and milk to conserved feed with or without concentrates), changing their environment (outdoors to indoors), general transport or being at a mart.

Research at Teagasc Grange has shown that reducing the cumulative effect of multiple stressors around weaning time results in a reduced stress response in the calf.

Health

A good herd health programme will focus primarily on disease prevention. Consult your veterinary practitioner prior to weaning to discuss any diseases and associated risks specific to your farm. Internal parasites (stomach worms, hoose and fluke) and respiratory diseases are the main health concerns in weanlings.

Parasite control

You should plan your control programme for stomach worms, lungworm and fluke in consultation with your local vet.

Take into account your soil type, grazing system, stocking rates, previous history of problems, faecal testing and clinical assessment when deciding when to dose and what product to use.

Weanlings should be dosed with an anthelmintic effective against stomach worms (*Ostertagia* type II) and lungworm (*Dictyocaulus*). Lungworm (hoose) infection is a major cause of disease and clinical signs include persistent coughing and severe



John O'Hanlon and Shane Devaney.

pneumonia. A control programme should include a flukicide treatment if necessary. Liver fluke (*Fasciolosis*) is a common parasitic disease caused by *Fasciola hepatica*.

Prevent pneumonia

To ensure a healthy weaning, the aim is to minimise their exposure to disease and maximise their defences. The primary cause of pneumonia (respiratory disease) is usually a virus such as bovine herpes virus-1 (BoHV-1/infectious bovine rhinotracheitis (IBR)), bovine respiratory syncytial virus (BRSV), bovine parainfluenza-3 virus (BPI-3 virus), and bovine virus diarrhoea/mucosal disease virus (BVD/MD). In many cases, it is followed by secondary bacterial infections, usually caused by *Mannheimia (Pasteurella) haemolytica* and *Mycoplasma bovis*.

Outbreaks of pneumonia in weanlings are most common where the immune system is weakened. Nutrient deficiency can significantly suppress the immune system.

The result is a poor response to vaccination and calves that are unable

to fight off infections. Adequate nutrition minimises the long-term negative effects of disease and permits a more rapid recovery.

Any disease prevention programme for pneumonia will include vaccination. Viral specific vaccines are available, but their effectiveness depends on management procedures and the timing of their administration.

Depending on the disease causing agent (virus) and product, the vaccine may need to be administered prior to weaning. Also, bear in mind that some products require a booster dose. It is vital that vaccines are stored and administered as per the manufacturer's instructions.

This includes being given at the right time, at the right dose and route of administration, and following the correct interval between primary and booster vaccine (if required).

It is also very important that vaccines are not given to sick calves. Sick or stressed calves will not respond appropriately to the vaccine.

Castration should not take place within four weeks prior to or following weaning.

John O'Hanlon

One farmer putting this into practice is John O'Hanlon from Co Longford. John farms alongside his wife Stephanie and their family of three children. John operates a suckler-to-store system just outside the town. The farm consists of 33ha of grassland and 6ha of forestry. The farm, in one block, is a mixture of heavy type soil and mainly free-draining land.

"Our herd consists of 29 suckler cows with mainly Limousin cross and Simmental cross cows," says John.

"We use a Charolais stock bull on the main herd, with a focus on improving the weight and quality of weanlings each year." All sires are used to breed replacements.

Sires such as LM2014, EBY and CWI, which have low calving difficulty, are used on replacement heifers. John's farm is typical for the region in terms of scale and land type.

"Weighing as part of the BEEP-S scheme has allowed us to focus on which cows are performing best and producing the heavier calves," adds John.

"In 2021, bull weanlings achieved 1.24kg/day and the heifers achieved 1.14kg/day before meal was introduced."

Maximising weight gain on the bull weanlings is important in order to increase output on the farm. Achieving weight targets on the heifers allows them to calve at 24 months, which John has achieved in recent years.

"Calving at 24 months is also essential for maximising the lifetime performance of the weanlings being kept to be sold as stores," says John.

"Weighing cow and calf provides us with vital information in this regard."

John is very aware that from his farm sustainability perspective, he will need a herd of suckler cows that are fertile, milky and capable of producing a quality cattle that will fetch a strong price each autumn.

Around housing time, concentrate supplementation is provided to the weanlings. They are built up to 1kg/head/day over three to four weeks. Concentrates are supplemented for one month prior to weaning and they continue to get meal over the winter. This is something John had been doing consistently over a number of years prior to BEEP-S.

The weanlings are weaned from early October, with four or five cows and calves housed every week. When in the shed, a creep gate is used to break the cow-calf bond.

"I find that this system of weaning greatly reduces the stress on the calves and cows," says John. Some of the weanlings that are weaned first are prioritised at grass up until housing, which is usually in early November.

Herd health on the farm plays a key role. The calves are treated for worms in June, August, October and again when housed. All stock are treated for fluke and lice after housing.

This year, John plans to castrate all of the bull calves in good time before weaning. He vaccinates for the clostridial diseases and all newborn calves are vaccinated in the spring for IBR and RSV and PI3.

They then get a booster shot in the autumn, just a couple of weeks before housing. This is one of the actions he picked for the BEEP-S scheme. The suckler cows are also vaccinated for IBR. "Weanling health is crucially important," says John. "It means animals are less stressed and sets them up to be highly productive in the future."

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Organic beef finishers making a healthy profit

The Organic Farming Scheme (OFS) is due to re-open for new applications in October, with significantly increased payment rates.

Joe Kelleher
Organic Farming
Specialist, Teagasc.



Under the new Organic Farming Scheme (OFS), the average suckler farmer with 34ha will earn €12,200 per annum in conversion and €9,900 per annum once the two year conversion period is complete. The good news doesn't stop there. Many organic producers are already making healthy profits from their farming. We will profile three beef finishers who are each operating very profitable, but markedly different, systems. The common denominator is that they are all operating a forage-only system with zero purchased concentrates.

Stuart Kingston, Farnanes, Co Cork
Stuart Kingston has been farming his 54ha organically since 1998. "At the time, I felt the costs of conventional beef farming were too high and margins too low," says Stuart.

"Having looked at many alternatives, I concluded that organic farming offered me the best opportunity to achieve a full-time living from my farm."

Stuart operates a predominantly beef finishing system. He grows 10ha of combination crops (oats, wheat and peas) which he sells to other organic livestock farmers.

The crop is combined when ripe and treated with propionic acid, before being sold in 1t bags which are collected by the buyer. He also grows 1ac of organic potatoes, which he sells to shops, mainly in Cork City.

"I buy 100 weanlings or store cattle every year and take them to finish," says Stuart. "My preference is to purchase weanlings, but as I sell cattle to the meat processor across the 12 months of the year, purchasing stores enables me to have a consistent supply of cattle.

"Weanlings are typically between 280-300kg liveweight when we buy them and store cattle are between 300-350kg." Aberdeen Angus, Hereford



Stuart Kingston.

and Shorthorn are Stuart's preferred breeds, but he will also purchase crossbred Limousin and Charlaois.

However, he says he will not purchase purebred or extremely muscled continentals, as they are "totally unsuitable for my system."

That system involves finishing cattle to a 320-370kg carcass at 24-30 months of age on a grazing diet of white clover-dominated pastures and an indoor diet of red clover and straw.

No purchased concentrates are fed and Stuart doesn't feed any of the



Stuart Kingston's animals.

home-grown combination crop.

"If I can get a price of €400-€450 per tonne of combi crop and I can finish cattle easily off red clover silage, why would I feed it to my cattle?"

The purchased heifer weanlings are finished between 24-25 months (at 320-350kg) and the bullocks at 27-28 months (at 330-370kg). However, when

these are purchased as stores, Stuart finds that the finishing age increases to 30 months for both heifers and bullocks.

"I put the large difference down to the high performance of the weanlings on the red clover silage over the first winter. I believe the store cattle have had a period (on their farm

of birth) of very low growth rates post-weaning, which takes them a few months to recover from, leading to an extended finishing period."

Stuart says he can more than double the purchase value of the weanlings over the 12-18 month finishing period. With no fertiliser and no feed bill, this is a highly profitable system.

Jim Hogan, Rathoe, Co Carlow

Jim Hogan's family have farmed for over 200 years in Rathoe, Co Carlow. He is the seventh generation and will complete his two year organic conversion period on October 1 2022.

When asked why he converted to organics, Jim says: "We were nearly organic anyway; I wasn't spreading a lot of fertiliser and all our sheds were straw-bedded, so it was easy to convert to organics. I also saw it as a challenge".

"In 2019, I sowed 6ha of spring oats, and farmed it organically to try it out – it yielded 2t/ac. This also had me questioning the inputs I was putting on my conventional crops."

The 159ha that Jim now farms organically includes 115ha of grass, 7.7ha of red clover, 34ha of tillage crops and 2.5ha of forestry.

The tillage crops include 16ha of spring oats, 15ha of arable silage (Triticale and Pea mix) and 3ha of winter wheat.

The suckler herd consists of home-bred Hereford and Simmental cross cows.

All cattle are finished on the farm, which has been operating as a closed herd for many years now. There are also 50 breeding ewes which are "great to tidy up a few areas on the farm," according to Jim.



Jim Hogan in his field of arable silage mix.



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Jim Hogan with his Hereford and Simmental cross cattle.



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As he is still in conversion, Jim can't sell any of his crops this year as fully organic.

"I'm hoping to sell some of this year's crops as in-conversion feed to other livestock farmers," he says.

"I find the arable silage mix to be an excellent crop on which to finish cattle. It's also a great way of getting nitrogen into the ground for a subsequent grain crop and fits very well into my crop rotation."

Prior to converting to organics, Jim was calving 79 sucklers. "In the first year of conversion, I reduced this to 63 cows, to give the clover on this farm a chance to get fixing nitrogen," he says.

When farming conventionally, Jim was finishing cattle off grass silage, home-grown beet and rolled barley and soyabean meal.

In 2020, the year before converting to organics, he was finishing bullocks at 374kg at 28 months of age and heifers at 28 months and 318kg.

"Growing arable silage was one of the key changes I made after converting to organics," says Jim,

"And I now finish bullocks at 26 months at 399kg and heifers at 25 months at 324kg. This means that we are finishing cattle more than two months earlier and achieving heavier

carcass weights."

From October, Jim will be able to sell these cattle into organic markets, availing of higher organic beef prices.

"I keep many of the stronger heifers for breeding and sell some to other farmers as breeding heifers, so it is the lighter heifers that are finished," he adds.

When you factor in the increased efficiency, reduced input costs, higher beef price and the OFS payment, it easy to see why Jim Hogan is not regretting his decision to convert to organics.

	Bullocks		Heifers	
	Age (months)	Carcass weight (kg)	Age (months)	Carcass weight (kg)
2020	28	374	28	318
2022	26	399	25	324



Clive Bright, Ballymote, Co Sligo

One of Clive Bright’s ultimate goals is “to farm for free” with little or no cheques to be written for inputs or contractors. He started farming in 2003 when his mother Joyce retired.

“Having farmed conventionally for 10 years, I felt that that synthetic fertiliser wasn’t doing the soil any good. Also, the farm was struggling to return a profit.”

Clive is an accomplished artist and

Table 1: Clive Bright’s financial performance for 2021.

Income	€
Beef sales	33,486
Direct payments	24,160
Organic Farming Scheme (OFS)	9,860
Total Income	67,506
Vet	550
Accountant	900
Contractor	3,500
Insurance	1,200
Abattoir	4,585
ESB	1,100
Phone	405
Fencing	1,500
Machinery	1,130
Motor	2,300
Total costs	17,170
Profit	50,336

from 2003-2010, he had solo exhibitions of his paintings in galleries nationwide and internationally. This was Clive’s primary source of income until the crash in the late noughties.

Although still a practicing artist, Clive has shifted his focus to the farm to earn a full-time income and in 2013, he made the decision to convert the farm to organics and embark on the journey of direct selling beef to the consumer.

He now keeps 15 suckler cows on his 58ha farm. All cattle are kept to finishing and sold directly to consumers under Clive’s own brand ‘Rare Ruminare’. The suckler herd comes from a background of Shorthorn and is a mixture of mostly Aberdeen Angus and Irish Moiled.

“I used to have a lot of Herefords, but found the genetics I had to be large framed and hard to finish on pasture,” says Clive.

Clive now focuses on selecting a smaller cow (550kg) that can nonetheless produce offspring that will come into a 300kg carcass. He runs a Belted Galloway bull with the herd.

“I find them to be an easy-care animal that finishes well off a pasture-only diet. Most of the calving takes place in May, with the aim of finishing cattle from 24-33 months, depending on the breed.”

To allow Clive to have a steady supply of finished animals across the calendar year, he uses a mixture of early and late maturing breeds.

“I find I can finish Aberdeen Angus at 24 months of age off grass and breeds like the Irish Moiled and Belted Galloway tend to be closer to 30+ months. I prefer the eating quality of the slower maturing breeds.”

Clive sells all of his beef in a 20kg ‘beef box’ of mixed cuts for €300 plus delivery. This translates into €3,000 per finished animal. Clive has a great working relationship with his butcher, who slaughters, cuts, packs and labels the beef.

“I collect the meat from the abattoir and put it into Woolcool, biodegradable cool boxes, along with ice packs. It is delivered to the customer either by courier or directly by myself (for local deliveries).”

In 2021, Clive received €33,486 for his beef sales with almost 50% of it profit. With direct payments, he is earning an impressive income of €50,336 from his 15 organic suckler cow enterprise.

With plans to outwinter cattle in the future, reducing his costs further, coupled with increased OFS payments, this figure looks like it will increase significantly into the future.

Organic sheep earn their keep

This Galway flock generates several income streams.

Damien Costello

Sheep specialist, Teagasc Animal and Grassland Research and Innovation Programme, Mellows Centre, Athenry.

Glenn Corbett

Drystock advisor, Teagasc, Tuam.

It's just over seven years since Michael Burke began converting his 64ha holding into an organic farm. He achieved full organic status in 2017. Located near the town of Dunmore in north Galway, the farm now carries organic sheep, beef and tillage enterprises.

"Our home, Dunblaney House, was built in 1787 for the then Archbishop of Tuam, who resided here until 1798," says Michael.

"I see our organic farming system as being more in tune with the way the land would have been worked back then."

"The fact that at least some of the land is suitable for tillage crops as well as the livestock enterprises is a big advantage for an organic farm," adds Michael. A flock of 120 ewes are co-grazed with a 23-cow suckler herd, with most of the progeny taken to beef.

An Aubrac bull was chosen for

ease of calving and finishing. "We have a link with Good Herdsman to slaughter our cattle, who are largely finished on a grass-based diet. This means a lot of the grain from our 23ha of spring oats is sold direct to Flahavans."

In 2021, the crop yielded a respectable 4.5/ha with a price per tonne of €392. Michael says he foots the bill for transporting the grain. "Straw yield from organic crops is typically low, as the presence of grass weeds means we have a higher cutting height. So we availed of the straw incorporation measure in 2021.

"On top of the payment incentive, I felt I was getting better value from a soil fertility viewpoint, to incorporate the straw back into the ground and buy in my own straw needs," he adds.

Grassland management

From the outset, Michael placed a big emphasis on soil analysis, and where necessary, correcting soil pH with lime. The slurry and farmyard manure (FYM) produced is targeted at areas that are sub-optimal for P and K. The main grazing block is divided into paddocks through a combination of picture perfect stone walls and sheep fencing.

The combination of traditional and state-of-the-art infrastructure lends itself well to rotational grazing. White



clover and other companion forages are stitched into the most suitable grazing fields.

"As some of the tillage ground begins to come back into grass, we are considering putting in red clover reseed with the aim of getting a number of cuts of high-quality red clover silage," says Michael.

Producing organic lamb

The majority of the ewe flock are mules or mule crosses and are mainly mated with terminal sire breeds such as Charolais. The flock also includes a small number of Galway ewes.

"Replacements are purchased under derogation, which allows us to replace 20% of the flock from non-organic sources," says Michael. "This year, just over 1.5 lambs were weaned per ewe mated."

Ewes are outwintered on forage rape, a catch crop that is stitched in after the oats have been harvested. This reduces the amount of expensive concentrates fed pre-lambing and ewes are only housed for a short period around lambing time.



Michael Burke with Damien Costello.



Michael Burke and Glenn Corbett.

“Our goal is to finish the majority of lambs off grass with a relatively low stocking rate on our dry limestone ground, so we lamb in February,” says Michael. He acknowledges the challenge of getting an outlet for finished organic lamb, but so far this season, 50 lambs have been sent to ICM Camolin where he achieves a premium of 80-90c/kg over conventional lamb.

Adding value to wool

Michael also runs a successful alternative enterprise from the farm under the trade name ‘Woolow’. The company manufactures and sells pillows made from sheeps’ wool wrapped in a cotton casing.

This year, Michael has purchased some of his wool supply from the Galway Wool Co-op, as the traditional Galway sheep breed are renowned for the quality of their wool.

“Online sales, in particular, have been going well,” says Michael. Browsing through the website woolow.com, there are lots of positive feedback from customers. Pillows fit for an archbishop, you might say.

New Organic Farming Scheme (OFS) – What’s involved?

A new tranche of the OFS has been announced and is due to open soon – this will be the second tranche of OFS in 2022. This demonstrates how eager the Department of Agriculture, Food and the Marine is to increase the levels of participation in organic farming.

Organic farming in Ireland is at a low level (when compared to other countries in the EU), but there is potential to improve and increase participation. We have approximately 2% of our utilisable farm area farmed organically at present. The target is to increase that to 7%.

The payment rates, announced in August, have been increased for this tranche in an effort to incentivise new farmers into organics. For example, for a typical drystock farmer, the payment rates have increase from €220/ha to €300/ha for the first two years when in conversion, and then up from €170 to €250 when converted in years three to five.

Other useful changes have been to increase the area paid at the top rate to 70ha and also reducing the stocking rate required from 0.5LU/ha to 0.15LU/ha.

What you need to do:

- Background information/homework

There are a number of steps involved when considering the move to organic farming. The first is to contact an established organic operator in your own area (such as Michael Burke, the farmer in this article).

If you can’t do this, then perhaps get along to one of the many organic farm walks organised by Teagasc or the organic farm bodies in locations around the country. This will help you see what other farmers went through during their conversion processes and whether you could do something similar.

- Complete an approved training course

Teagasc and other agencies such as NOTS (National Organic Training Skillnet) run 25-hour QQI courses entitled ‘Introduction to Organic Farming’. Normally available at locations around the country, the courses delivered by Teagasc are currently a blend of online learning and a visit to an organic host farm.

These are worthwhile to obtain a fundamental knowledge of the organic farming principles. These principles include animal health and welfare, crop husbandry, soil nutrition, biodiversity and sustainability, all within the remit of Irish and EU organic standards.

- Organic farm body – application and certification.

The private inspection bodies, or organic farm bodies, in Ireland are the Organic Trust and the Irish Organic Association (IOA). A potential entrant to Organic farming will need to contact either of these bodies soon if considering the upcoming tranche of OFS.

You, with the help of your advisor, will draw up a conversion plan, laying out what steps you will need to complete on your farm to move from conventional to organic farming. The organic farm body will inspect you at that stage and then be willing to certify your produce as organic in the future.

- Join the OFS

If you have a minimum of 3ha, you or your advisor can apply online for the OFS, once the scheme opens officially. There will be what’s called a ranking and selection, where your application is marked against those of other applicants. With such a big budget (€256m), it is possible most applicants will be successful.

One thing to watch out for concerns those people entering the new environmental scheme, ACRES. The issue of a double payment has deterred new applicants in the past. This could happen in the case of a farmer joining ACRES and having land-based payments/actions such as Low Input Grassland (LIG), for example.

These land-based area payments cannot draw both ACRES and OFS payments – it’s one or the other. It would be advisable to discuss this with your agricultural advisor.

–Glenn Corbett

Want better value from your fertiliser? Soil sampling is key

Mark Plunkett
Johnstown Castle Research Centre.



Phosphorus (P) and potassium (K) fertilisers have doubled in price and nitrogen (N) is four times more expensive than recent years. Indications are that prices may remain high, with supply issues due to the Russia and Ukraine conflict.

Using fertiliser efficiently is central to maintaining profitable production levels while reducing their impact on the environment. Efficiency includes identifying the correct requirements, choosing the most effective products and applying them accurately.

It's vital to know where you are starting from. The coming weeks are the ideal time to assess soil fertility and create your fertiliser and farm lime strategy.

Fertiliser use statistics for the first two quarters of 2022 show that fertiliser N applications have increased by around 13%, while P and K applications have reduced by around 7% and 13%, respectively.

While this approach may curtail farm fertiliser input costs in the short-term, over time it will reduce the productivity of our soils.

Most importantly, inadequate P and K levels or low pH can reduce the efficiency with which plants use expensive fertiliser N.

Soil fertility and N efficiency

Maintaining optimum soil fertility increases the efficiency of applied N from 35% on low fertility fields to 63% on fields with optimum pH, P and K – see Figure 1.

Correcting soil pH alone will result in an improvement in N efficiency from 35% to 53% where soil P and K is sub-optimal (see Figure 1).

Maintaining optimum levels of soil P and K increases N efficiency from 53% to 63%. With record fertiliser N prices and possible limits on supplies, maintaining the correct soil



pH, P and K will ensure the efficient use and maximum return from each kilo of N applied.

For example, for every 100kg N/ha of applied fertiliser N to soils with sub-optimal pH, P and K, 35kg N/ha will be available to grow grass. At optimum soil fertility, 63kg N/ha will be available to grow grass. Optimising soil fertility gives you the opportunity to reduce fertiliser N rates and costs.

Time for soil sampling

Now is the ideal time to identify the areas of your farm that require up-to-date soil analysis and aim to have soil samples taken over the coming

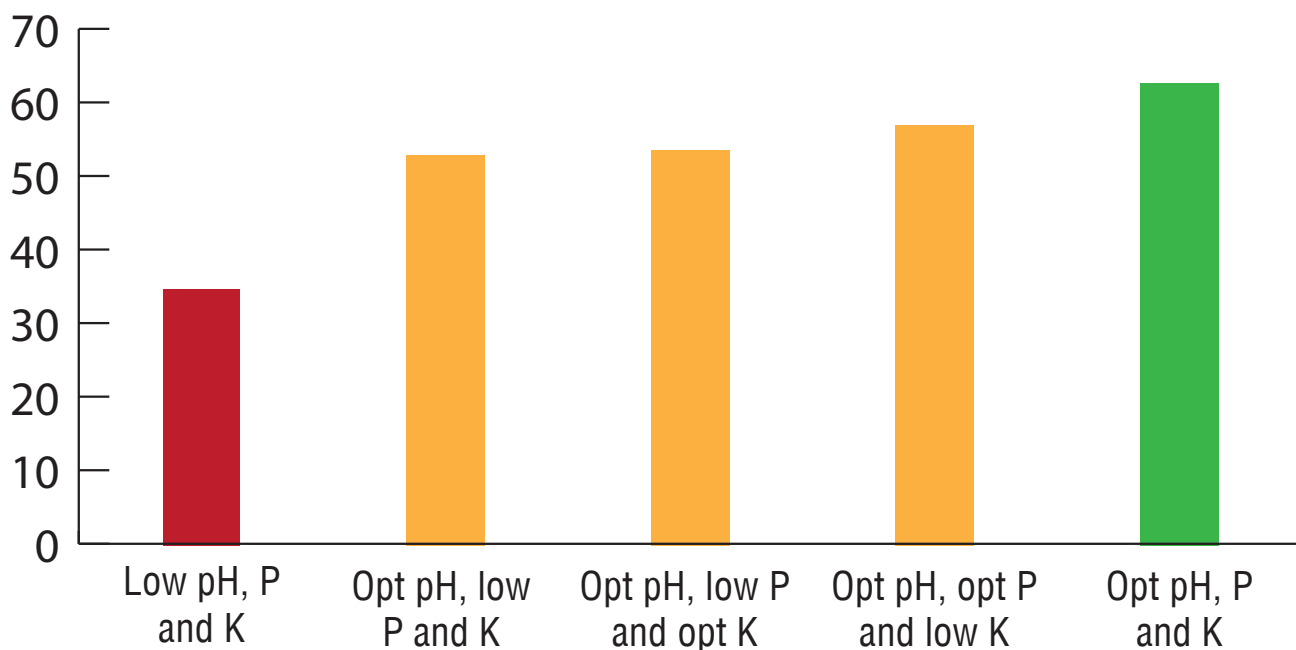
weeks/months. This is vital information needed to manage fertiliser costs for 2023.

Taking soil samples will provide a good foundation for planning the application of lime, slurry/farm-yard manure (FYM) and fertilisers. A standard (pH, LR, P and K) soil sample costs €1.25/ha/year, while the cost of a single kg of P is currently around €4.50/kg.

Take a good soil sample

It is essential that soils are sampled correctly. Samples should be taken with a suitable soil corer to the correct sampling depth of 10cm. Care is

Figure 1: Soil fertility and optimum N use efficiency.



needed as soil results taken today will be the basis for nutrient applications over the next four to five years on your farm.

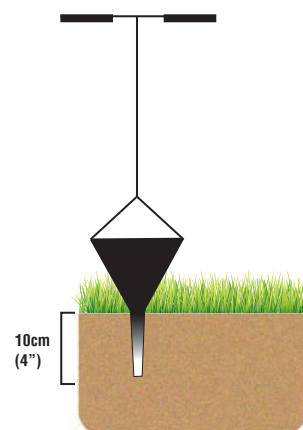
Soil P accumulates in the top few centimetres of soil in grassland. Therefore, incorrect sampling depth will result in an inaccurate soil P reading, especially when sampling is too shallow.

For soil test results to be comparable over time, they must be sampled to the correct depth on each sampling occasion. Therefore, ensure that soils are sampled to the correct depth, only take samples under suitable soil conditions that allow for full depth coring.

Guidelines for taking a soil sample

- Take at least one sample for an area of 2-4ha.
- Take representative soil samples (by following a 'W' soil sampling pattern). Avoid following lines of regular machinery traffic or tramlines.
- Avoid unusual spots such as where there are old field boundaries etc.
- Sample the top 10cm of soil with a suitable soil corer.
- Leave three to six months between sampling and P and K applications.
- Leave two years between sampling and lime application.
- Take approximately 20 cores to make up the soil sample.
- Prepare a soil sampling map and label your samples.

Figure 2: Ensure correct soil sampling depth for accurate soil P reading.



Soil fertility trends

A recent review of soil sample results from 2021 indicate that in the last two years, soils with optimum soil fertility (pH over 6.2 and soil P and K index 3 or 4) on grassland farms has slipped from 20% to 15%.

In the previous three years (2016-2019), soils with optimum soil fertility increased from 8% to 20%. The decline in soil fertility in the last two years is due to an increase in the percentage of soils at P and K index 1 and 2.

Soil pH levels have also declined, with the percentage of soils at a pH less than 6.2 has increased from 41 to 49%.

On tillage farms a similar trend has occurred in the last year with the percentage of soils with optimum soil fertility (pH >6.5 and soil P and K index 3 or 4) dropping from 24% to 18%.

In the previous six years (2014 to 2020) soils with optimum soil fertility

increased from 12% to 24%.

The recent decline in soil fertility is due to a slight increase in soils testing at P index 1 and 2, while soil K levels have continued to improve. Soil pH levels show that the percentage of soils pH <6.5 has increased from 27% to 39%.

The above trend may be due to a new soil sampling cycle in the last two years on grassland farms and last year on tillage farms, but highlights that a large proportion of our soils are deficient in major nutrients such as lime, P and K.

Lime applications were the highest (1.33m) in 2021 since the 1980s and optimum soil pH is key to efficient use of fertilisers. Maintaining a balanced nutrient supply (pH, P and K) during the growing season will be vital.

Test your soils over the coming weeks and months to plan your farm nutrients requirements for 2023.

National soil fertility trends

In 2021, Teagasc analysed a total of 33,876 soil samples from dairy, dry-stock and tillage enterprises. Overall, soil sample numbers increased by 13% in 2021. There were 30,082 grassland soil samples taken. Of the total, 21,049 were taken on dairy farms, which represents an increase of 11% compared to 2020.

Only 16% (about one in six) dairy farm soils tested were optimum for pH, P and K. The following is a summary of the main changes for soil pH, phosphorus P and K in 2021 on dairy farms.

Dairy

- 6% of soils have optimum pH, P and K (3% decrease).
- 53% of soils with a soil pH >6.2 (10% decrease).
- 55% of soils at P index 1 and 2 (4% increase).
- 48% of soils at K index 1 and 2 (no change).

Sustainable beef farming in Tipperary

Climate change and the influence farming has on it is uppermost in the minds of a Tipperary store-to-beef discussion group, facilitated by Joe Hand.

Joe Hand
Teagasc beef advisor,
Thurles.



At a recent discussion group meeting, the group members outlined the actions they are taking on their farms to reduce the impact of farming on the environment. They also discussed their plans to reduce greenhouse gas emissions, protect water quality in adjoining streams and enhance biodiversity.

Measures adopted in the recent past

1 Spreading cattle slurry in spring when weather and soil conditions are best suited for grass to use the nutrients most effectively. Most, but not all, farms in the group have adopted this practice.

2 Replacing the splashplate with the Lower Emission Slurry Spreading (LESS) equipment. This has been adopted by a number of group members who say they are satisfied with the results. One farmer said that in some cases, slurry caused blockages in the narrower pipes in the LESS equipment.

This appeared to be related to long silage getting into the slurry tank. Slurry collected from cattle on high dry matter silages is itself high in dry matter.

3 Adding white clover to the grass seed mixture when reseeding. While reseeding levels in the group and on cattle farms generally are relatively low, they present great opportunities to establish highly productive and sustainable grass-clover swards.

Some group members add white

clover seed to the swards after a cut of silage. This costs less than a full reseed and establishes highly productive white clover varieties. This is a very simple process and the returns from the cultivated white clovers are very high.

In the Teagasc research farm in Solohead, very high levels of production are achieved without the use of any chemical nitrogen fertiliser.

4 Reducing lifetime methane emissions by reducing age at slaughter. Farmers in the group say they are aware that methane produced over an animal's lifetime is directly influenced by the age when it is ready for the market.

They report having changed their store buying decisions to help reduce lifetime methane production.

5 Managing soil fertility. Spreading lime on fields that need it was only applied on half of the farms, which was surprising. This is despite the fact that a considerable number of farmers had soil sampled their farms and were aware of the need for lime.

Soil sample results also indicated various levels of phosphate (P) and potash (K) deficiencies and these fields are underperforming as a result.

6 Reducing chemical N use. In another possible cost-saving measure, farmers reported that they had reduced their N fertiliser application over the last three years. This reflects relatively weak beef prices and huge fertiliser price increases.

7 Protected urea was spread on a number of farms and the results were judged to be satisfactory when



compared to CAN, being lower in cost and easier on the environment.

8 Field margins along streams and rivers. These are strips of land a minimum of 1m wide between the watercourse and where cattle graze. Wild plants can grow in these strips, which are present on a small number of the group's farms.

While this appeared to be a low priority in the group, all the farms with watercourses present had them in place.

9 Retaining saplings in hedgerows. While the farmers appeared to be interested in this and care for hedgerows in general, only about half of the farmers have implemented this measure.

Planning ahead

Having discussed and considered the various measures that can be adopted to promote sustainability, farmers were asked to choose the top three measures they plan to implement in



Pat and Elizabeth Hayes with Joe Hand.

the next 12 months.

The top three actions identified by the group included:

1 Increased soil analysis and implementation of a fertiliser programme on the farms. Too often soil samples are taken for regulation/scheme purposes without actually using the information to make decisions on-farm.

Using the analysis will allow more precise use of fertilisers and meet the needs of the grass clover swards to feed cattle.

2 Increased use of lime, where needed, according to soil test results. It was identified by the group that there is not enough lime being applied.

Applying lime will provide the opportunity to reduce chemical N use on these farms.

3 Increase the clover in swards. White clover captures N from the air around the roots and makes it available for the grass production.

This is to produce feed for livestock with less reliance on chemical N fertiliser. Improved animal performance

on grass clover swards compared to grass only swards has been observed in the past.

Pat Hayes, Golden, Co Tipperary

Pat Hayes from Golden, Co Tipperary, runs a store-to-beef farm, buying mainly Charolais and Limousin store bullocks from Ennis Mart and having them ready for sale at 25 to 30 months weighing 740kg to 780kg liveweight.

Sustainability is a buzzword on the farm and Pat uses the Bord Bia Sustainability Report, Herd Plus from ICBF and the Teagasc Profit Monitor and Soil Reports to help him make decisions on the farm. He also contributes to his local Teagasc Beef Discussion group, farming to continuously improve his farming each year.

Environmental measures being implemented on the farm include following a

plan for the fertilisers and lime, spreading slurry in spring with LESS equipment, using protected urea instead of CAN and incorporating clover in selected paddocks every year.

Key to cattle performance is the high-quality grass-clover swards, paddock grazing and silage cut in mid-May each year.

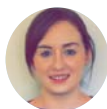
Herd health is monitored closely, with the approach of "prevention is better than cure." All these actions are contributing to improved profitability on the farm, but also reducing the impact of farming on the environment.

Hedges are allowed to grow to about 2m and produce flowers in April and May, resulting in berries for the birds in winter. Allowing trees to grow in the hedgerows results in a scenic view up to the Galtee Mountains, as well as shade in the recent heatwave.

Transferring the family farm

Planning and communication will help take the stress out of it

Klara McGriskin
Teagasc, Farm
Management Specialist.



Start planning early is one of the most important pieces of advice for any farmer who wishes to transfer a farm. A well-considered plan gives farmers, and all involved, time to figure things out and avoid family disagreements and high tax bills.

Let's look at some aspects of the succession process:

- Communication.
- Wills.
- Policy and tax.
- Fairness and equality.
- Where to get more help.

Communication

Succession can be a delicate subject. The first step is always to sit everyone together and talk it out. Family involvement and open conversation is important to avoid disagreements later on, which no one wants but unfortunately do occur within families.

It is important to have these conversations early and to avail of all the incentives, some of which are complex and may come with specific conditions.

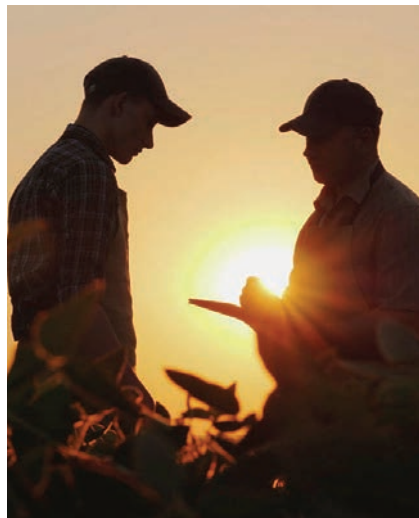
Wills

Have you made a will? The importance of making a will cannot be overstated. It is always better to have a will in place. Not having one can make things extremely difficult, particularly if there is sudden illness or death. Many people put off the job of making a will as, understandably, they do not want to think about their own death.

A will gives the farm owner a sense of relief that no matter what happens, their wishes for the farm have been noted and will be implemented. Review your will regularly, particularly if circumstances change.

If there is no will, the State will decide what happens to your estate using the Succession Act of 1965. The intestacy rule outlines both the number of shares that each person is entitled to receive in the estate of the deceased as well as their priority order.

Preferences verbally expressed by the deceased, personal feelings, past



disagreements with them, or any other similar reasons are not taken into consideration.

If the deceased leaves behind a spouse and children, the spouse will receive two-thirds of the estate, while the children will receive one-third of the estate in equal shares.

Policy and taxes

The Government sets the tax laws, and encourages the early transfer of land to the younger generation.

There are three common taxes when it comes to farm transfer. Reliefs from these taxes are available once certain conditions are met:

•Stamp duty

- Does not apply to inheritances.
- Young trained farm relief.
- 1. Must start farming before the age of 35.

2. Hold a minimum Level 6 agricultural certificate.

•Capital Acquisitions Tax (CAT)

-Agricultural relief can be claimed.

•Capital Gains Tax (CGT)

-A retiring parent can claim retirement relief, but doesn't have to retire.

There are also benefits from EU CAP payments where a young/new farmer is in place.

The new CAP will commence in 2023 with a strong emphasis on generational renewal, so it is a good time to make a plan and get the benefit of the extra payment incentives that will become available.

“What's fair may not be equal”

Farmers are often seen as wealthy; unfortunately due to the nature of the

enterprise, many are “asset rich, but cash poor”.

It is frequently expected that the farm should be divided evenly among the children in terms of money. This could mean that if one child receives the farm, the other children must get financial payments or that the farm be divided equally among them.

In the majority of cases, this is not possible due to the size or layout of the farm. This is where “what's fair may not be equal” can help solve this issue for farmers. Education, sites and other investment property are assets that other children can avail of.

If the farmer wants each child to receive a truly equal share, assets can be sold and proceeds divided.

This tends to be a last resort for farmers in Ireland. We have all heard of a farm that had to be sold because they couldn't agree or bad planning lead to a financial crisis.

This is the type of situation we all want to avoid so, again, communication is vital.

Every family has a different set of circumstances, so this is why sitting down early with everyone included is important.

Where can I go for succession help?

Teagasc will be running “Transferring the Family Farm” events across the country in six locations. These events are designed to help educate farm families about the many details involved in succession planning.

At the event, farm families can avail of one-to-one consultations with succession specialists such as Teagasc staff, accountants, solicitors, mediation experts and other relevant professionals.

These clinics are open and free to anyone in need of advice in the area of succession. See the events section of this magazine for details.

For further information, log onto the Teagasc farm succession page on www.teagasc.ie at the following link <https://www.teagasc.ie/rural-economy/farm-management/succession-inheritance/> or open the camera on your smartphone and scan the QR code.



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tillage

Avoiding the graveyard shift

A review of winter barley performance in 2022.

Shay Phelan
Teagasc tillage specialist,
Oak Park.



Discussions about the cropping plan for the coming season are underway on most farms. Crop performance, rotations, costs, markets and workload will all influence next year's crop mix.

Combined with high input costs and uncertain yields, winter barley is one crop that may suffer on the back of its relatively poor performance this year. However, the crop has many virtues and growers may regret dropping it from the rotation based on one bad year.

Although spring barley outyielded winter barley in many situations this year, winter barley has traditionally yielded 1-2t per hectare more. As well as considering the advantage of spreading the workload and the extra value in terms of straw, growers should review the long-term performance of winter barley on their farms.

So, why did winter barley perform well on some farms and not on others this year? The following are some observations which may help to avoid a poor crop in 2023.

Variety

There is good range of varieties available, including two-row, six-row and six-row hybrids. KWS Joyau performed very well on many farms, especially where Barley Yellow Dwarf Virus (BYDV) risk was high. KWS Cassia has good quality, but is prone to disease and has relatively low yield potential.

Six-row varieties have the highest yield potential, but can suffer with quality. Some growers have commented that certain varieties suit their farms or systems and vice versa, so choose a variety that you are comfortable growing.

Sowing date

Many crops were drilled in mid to late September last year, as conditions were ideal at that time.

Work from Teagasc Oak Park shows that BYDV risk increases significantly with early drilling and there was plenty of evidence in the spring this year to show that this was an issue in many of the September drilled crops.

There seems to have been BYDV infection in crops regardless of the number of insecticides applied, which could indicate a long infection period or incorrect timing of the products.

Lodging risk and disease pressure also increase with early drilling and lodging seems to have been higher in winter barley crops this year than in previous seasons. All of these lead to extra costs from early drilling, with no extra yield to show for it.

Rotation.

There has been a shift away from second and continuous wheats as their performance has declined, while the costs have increased.

With limited break crop options, winter barley has been moved into those 'second wheat' slots. The 'graveyard shift', as many growers call it, is not an ideal situation for winter barley, as it can suffer from take-all similarly to wheat.

Again, this was evident in some crops this year. Winter barley will perform best in good slots following break crops, just as wheat does.

Nutrition

With the high costs of fertiliser this year, there was a lot of talk about taking P and K 'holidays' for the season; relying on the fertility of the soil to feed the crop. Again, this may explain some of the issues that were experienced this year.

Yield in barley is formed early and comes from establishing a good crop with plenty of plants and tillers. Achieving between 1,000 and 1,100 shoots/m² will give the crop the best chance to realise its potential.

From looking at crops this year, many did not have enough shoots to maximise yield.

This may have been as a result of applying less P and K, but it may also have been a result of delaying nitro-



gen applications in the spring due to poor weather or lack of supply.

Timing the nitrogen to drive tiller production is critical. In some cases, the first application wasn't made until mid to late March, when tiller production had almost finished.

Research from Teagasc Oak Park shows that early March is roughly



Will Stokes.

the time when the first application of between 30-40kg of nitrogen is needed to feed young tillers.

As always, don't hesitate to apply lime where needed. It is still the cheapest form of fertiliser and it will make nutrients more available to the crop.

Disease control

Disease levels were quite low this year, so crops that would have normally received a three spray programme only received two.

While in some areas this worked out well, particularly in the northern half of the country, it is possible that some tillers were lost to diseases such

as net blotch and rynchsporium.

Ramularia was another disease which seemed to be very prevalent in 2022. Why this was the case is not clear. There is still a lot that we don't know about the disease.

Ramularia is a stress related disease which, at the moment, cannot be cured by any of the available fungicides and trials have consistently shown that early prevention is key to delaying the spread of the disease.

Year after year, trials show that an application of a fungicide containing a multisite product – e.g Folpet – at the awns peeping (paintbrush) stage with an azole mix like Siltra gives the best control. Delaying this application by two weeks, to let the heads come out fully, resulted in yields decreasing by 0.4t/ha.

One grower who intentionally delayed drilling winter barley crops last year was Will Stokes from Kilsheelan, Co Tipperary.

Will is one of the Teagasc Tillage Signpost farmers and he is also participating in a European project called IPMworks, which aims to promote using more Integrated Pest Management (IPM) techniques on farms. Will grows a variety of crops on the farm including winter wheat, winter barley, spring barley, spring oats, peas, beans and potatoes.

"I started drilling winter barley on 10 October last year," says Will. "That was later than most in the area, and we did so mainly to reduce the risk of BYDV, which I feel is one of the biggest threats to barley crops in the area."

Varieties drilled included LG Castings, Belfry and KWS Joyau (which is BYDV tolerant). Sowing different varieties also spreads the risk of diseases, lodging and ripening.

Normally, the winter barley fits into the rotation after winter wheat or break crops such as oats. Winter barley is dressed with Latitude seed dressing when being sown in take-all risk slots.

"This year, crops yielded well with the winter barley averaging 4.1t across 70ac, which would be on par with the previous three years, where the winter barley yields ranged from 3.75-4.25."

Will feels winter barley is an important crop in his rotation and average yields of over 4t for the past few seasons has resulted in an increased area sown.

This trend is likely to continue.

"Achieving good yields with lower fertiliser and chemical inputs, through variety selection, good rotation and organic manures is a contributing factor and the higher demand for winter barley straw is a bonus," Will concludes.

Keeping faith with forestry

Pat Murray's belief in trees is reaping handsome rewards.

Noel Kennedy
Forestry Development Officer,
Roscommon.

“In my opinion, good land should always be farmed, but if ground is going to be costly to bring into farming condition, then you need to look at other options,” says Pat, who farms near the village of Ballinaheglish in mid-Roscommon.

Pat has a Suffolk cross and Mule sheep enterprise with a 70 strong herd of Friesian bullocks for finishing. In 1993, Pat chose to put some of his marginal land into forestry and since then has grown and managed his forest for commercial timber production.

The main holding is on the drier limestone land of Ballinaheglish, with an out-farm on heavier ground close to the Galway border. It's there that Pat has his forestry enterprise, along with 70ac of grazing land.

This is where Pat's late mother Teresa hailed from and after taking over her land in 1990, he began expanding the holding with the purchase of a couple of small neighbouring farms.

“The farms were of mixed quality land and over the next couple of years, I realised that the cost of reclaiming the wetter ground would be substantial,” says Pat.

Choosing forestry

Pat looked for options. There was a lot of talk about forestry as an attractive diversification option and the land seemed ideally suitable.

“Having looked into it, I saw a lot of positives,” says Pat. “A good planting grant, a tax free annual premium, a crop of trees that, if well looked after, could yield a valuable timber crop. I also valued the opportunity to do the work myself.”

In 1993, with advice from the local forestry inspector Matt Fallon, Pat planted his first forest – 6.5ac of Sitka spruce. True to his word and with the

help of a neighbour, Pat planted the new forest. To ensure the best start, he also took responsibility for weeding the ground around the trees and replacing those that failed. Despite long days farming, Pat was determined to look after his trees.

“I had a great interest in it and got satisfaction from doing the work,” says Pat. He is quick to mention that it was due to the support of his wife Anne, who was working full-time, that he was able to commit the time to the trees.

Encouraged by his first experience of planting and already appreciating the positive income boost, Pat went again two years later, planting 12.5ac of adjoining land.

This time however, following late spring frost damage in the first plantation, he heeded advice and planted both Sitka spruce and the more frost hardy Norway spruce.

In 1996, another 12ac was planted, with Pat “really squaring it up” by buying and planting a further 6ac in 2000 to bring his total forest area to 37ac.

An impressive feature is that all four forests are planted beside each other, bisected by a public road. This didn't happen by chance, with Pat appreciating the practical and economic benefits of consolidation and good access for early management, longer-term harvesting and eventual replanting.

In 2008, a forest road was built well in advance of future thinning to

Pat Murray's forestry timeline.

1993 first forest planted	2.68ha
1995 second forest planted	5.1ha
1996 third forest planted	4.86ha
2000 fourth forest planted	2.4ha
Total area	15.04ha (37ac)
2008 forest road built	
2012 first thinning	157t timber
2016 second and first thinning	493t timber
2021 third and second thinning	1178t timber
2022 Older Sitka spruce	

650 trees per hectare; height 20m; DBH 27cm; volume/tree 0.5m³



Noel Kennedy and Pat Murray.

provide this essential piece of infrastructure.

Moving into timber production

In recent years, the forests have gradually moved into the timber production phase.

In 2012, Pat organised the first thinning of the Sitka spruce in the 1993



and 1995 forests.

In 2016, all the forests were thinned with a first and second thinning of Sitka spruce and a first thinning of Norway spruce yielding commercial pallet wood, stakes and lower value pulpwood.

“Regular thinning is good for tree growth and timber value,” says Pat. “Especially as the forest is getting older, it has to be done carefully.” This was particularly important as he planned the third thinning of his older Sitka spruce forests.

For his 2016 thinning, Pat worked with Murray Timber from Galway. The company purchased the thinnings as a standing sale and organised the harvesting operation to cut and haul the timber to their sawmill in Ballygar.

Pat says he was very happy with this experience and in 2021, felt confident to go again with Murrays for the third

thinning of the older Sitka and second thinning of the remaining areas.

It was a successful operation, carried out during the summer in good ground conditions with little soil damage. In total, there were almost 1,200t of timber harvested, of which over 800t went to higher value uses like sawlog, palletwood and stakes.

All this timber stayed in the locality, with the sawlog and palletwood going directly to Murray’s sawmill and the stakewood going to Woodfarm fencing in Ahascragh.

The remaining timber was sold as pulpwood to the Bord na Mona power station in Edenderry. The timber sale returned €45,000 to Pat, who was happy and relieved at the outcome.

The future

Not a man to rest on his laurels, Pat is looking to the future and planning a strategy for the older trees. Conscious

of the risk of windblow and in the process of applying for his next felling licence, he is wary of pushing the trees too far with another thinning and may choose the more pragmatic option of clearfell in the next five years.

“If we do clearfell, we will aim to replant as quickly as possible and go again with a crop of Sitka spruce,” says Pat. “Looking back over the years, I feel our decision to plant what and when we did has been vindicated.”

Pat says he sees the rewards from continuity of management, but also knows the importance of getting ongoing forestry advice and having an annual walk of the forest with his local Teagasc forestry advisor.

“In the longer-term, I hope our children will eventually take over the forest and get the same joy out of it as I did,” concludes Pat.

Getting the cut right

Cut quality is important when creating a healthier, greener lawn.

Paddy Smyth

Teagasc College in the National Botanic Gardens.



The importance of mowing, its frequency, timing, mowing height and direction – vertical and horizontal – is often underestimated. The old-fashioned push-along cylinder mower is rarely seen on domestic lawns today – at home, the majority of us use rotary mowers.

A cylinder mower has advantages; its cutting mechanism resembles a scissors and produces a clean wound of low surface area and the plant is able to repair relatively quickly.

A rotary mower, by contrast, delivers an impact cut. It rips and tears the leaf, inflicting a jagged wound with a large surface area, so recovery is slower. A sharp blade is much better than a blunt or dull blade in this scenario.

A dull green or yellowish brown green does not always mean the lawn is hungry. It may be struggling to recover after mowing. Your mower type and especially its blade or blades should be the first port of call when aiming for a greener, healthier lawn.

As for mowing frequency and height, this is often dictated by the weather. We can end up rutting or scalping, or both. We may over-compensate and mow lower, which exposes leaf sheaths and results in the grass canopy appearing bleached.

Turf that has been scalped is immediately under stress, as it no longer possesses the foliage needed for photosynthesis. Removing more than half of the leaf tissue at one time can stop root growth from six days to two weeks, depending on the amount of tissue removed.

With little foliage, the plants must draw down their stored carbohydrates to produce a new canopy. Closer-mown turf can be aesthetically pleasing, but it's less tolerant to environmental stress and is more disease prone.

There is a message here too for farmers mowing grass for silage – mowing excessively tight can leave the sward struggling to recover.

Normally, lawns are cut in a plane horizontal to the ground surface. As a result, the leaf cover of grass can result in the suppression of new



LEFT: Cutting in the vertical.



Using verticutting blades on a scarifier.



Accumulation of living grass leaves intermingled with decaying or partially decayed organic matter, brought to the surface for removal.

shoots (tillers), creeping stems and rhizomes.

In order to encourage the production of new shoots, professional gardeners occasionally use equipment that cuts at right angles to the soil surface.

I recommend vertical mowing twice a year. All lawns suffer from a build-up of thatch, mosses, turfgrass weeds and poor infiltration rates due to compaction. Cutting at right angles to the surface helps alleviate these issues.

Depending on the depth to which vertical-mower blades penetrate the

turf, the benefits can include;

- Horizontal grass leaf control (which allows light penetration and increased tillering).
- Thatch removal.
- Soil cultivation (aeration).
- Discouraging moss accumulation.

I recommend that mowing should be done regularly rather than spasmodically (which can leave the sward open to weed infestation).

Don't mow too tightly and occasionally use vertical mowing and your lawn will reward you with a pleasing, healthy appearance.



Transferring the Family Farm Clinics 2022

Transferring the family farm is so much more than just a simple business transaction; there are a number of complex issues to be addressed.

To help you prepare, Teagasc is hosting six clinics across the country. You can register for your closest event at www.teagasc.ie/farmtransfer.

These clinics are designed to help farm families through the process and all aspects that need to be considered when transferring the family farm.

Date	Venue
Tuesday, 4 October	Radisson Blu Hotel, Letterkenny, Co. Donegal
Wednesday, 5 October	McWilliam Park Hotel, Claremorris, Co. Mayo
Thursday, 6 October	Mullingar Park Hotel, Mullingar, Co. Westmeath
Tuesday, 11 October	Abbey Court Hotel, Nenagh, Co. Tipperary
Wednesday, 12 October	Charleville Park Hotel, Charleville, Co. Cork
Thursday, 13 October	Amber Springs Hotel, Gorey, Co. Wexford
Clinics will begin at 10.30am	
Attendance free Pre-booking is essential	



Scan the QR code to book



Register your place online at www.teagasc.ie/farmtransfer

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