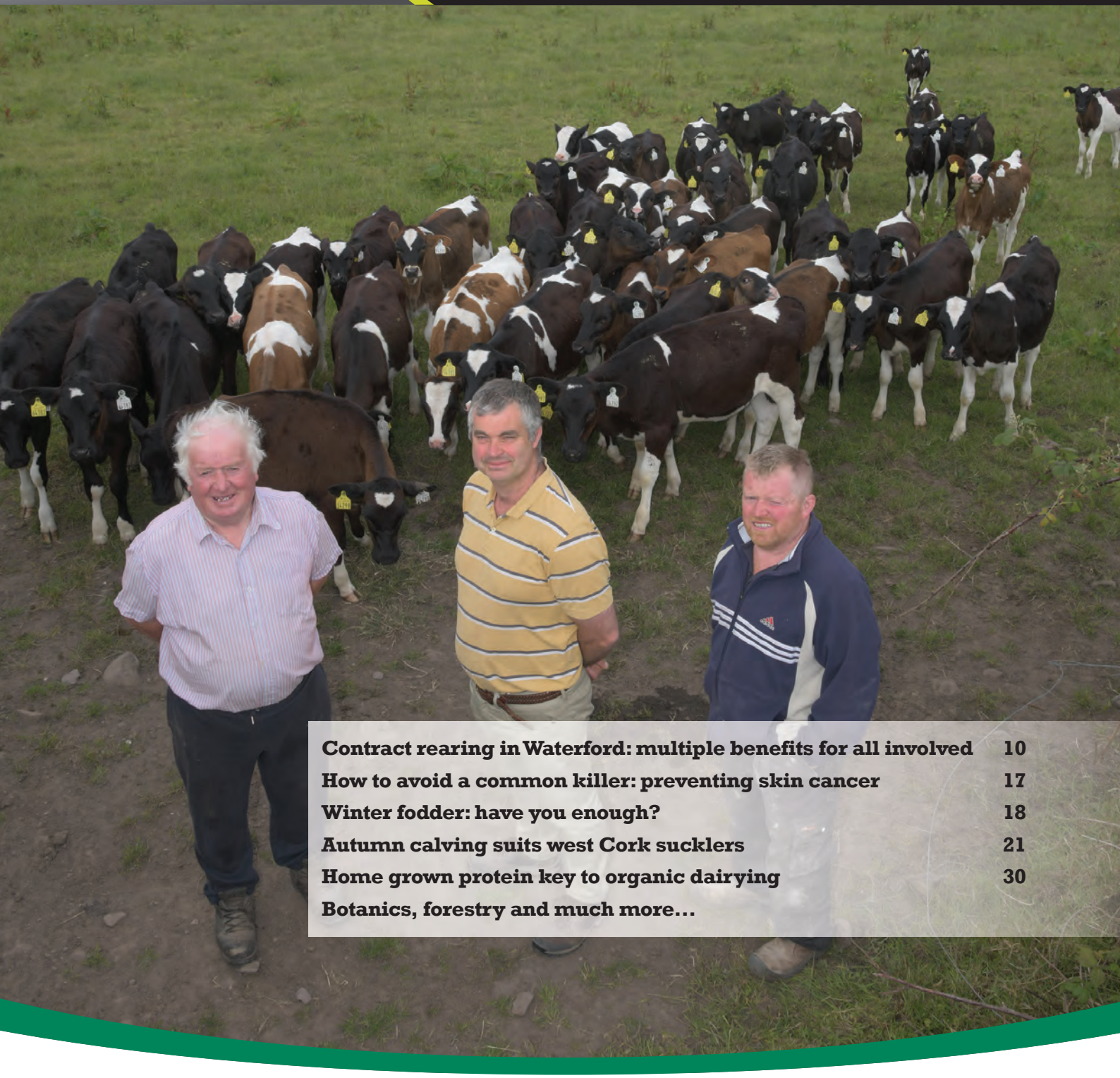
TEAGASC

July-August 2024 | Volume 35 | Number 4

Today's Farm

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



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Today's farm is a bi-monthly publication produced in a joint venture between Teagasc and the Agricultural Trust, publishers of the *Irish Farmers Journal* and *The Irish Field*.

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Cover design: Design at DBA
Imaging: Philip Doyle and Jerome Dunne
Printing: Boylan Print Group, Drogheda, Co Louth

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Cover: Waterford farmers Jimmy Kearney, Adrian Casey (middle) and Michael Kearney have a highly successful contract rearing agreement whereby the Kearneys rear Adrian's dairy heifer replacements. \ Picture: Mark Moore

COMMENT

Mark Moore
Editor,
Today's Farm

Farmers are increasingly urged to help mitigate the risks to biodiversity, water quality and the climate generally. Reducing or eliminating these risks to the environment is now a core part of farming. One great example is featured in our story on P36-37 whereby farmers are using solar powered pumps to remove the need for cattle to drink from streams.

A more immediate risk to farmers themselves is that from cancer triggered by exposure to UV light. It's unlikely that climate change will kill you, but skin cancer certainly can. Please read the advice from Francis Bligh on protecting yourself and your family.

Má dhéanann tú rud amháin...

San eagrán seo dírímid ar Lá Oscailte Teagasc sa Ghráinseach, a bheidh ar siúl ar an 26 Meitheamh. Deis is ea an lá oscailte do chuairteoirí an clár fairsing taighde atá againn ag Teagasc na Gráinsí a fheiceáil, agus bualadh leis na heolaithe atá i mbun oibre chomh maith. Lena léiriú cé chomh tairbheach is a d'fhéadfadh sé a bheith, thugamar taighdeoirí atá bunaithe sa Ghráinseach agus comhairleoirí áitiúla de chuid Teagasc le chéile le bualadh le feirmeoirí atá ag feidhmiú córas a bhaineann lena gcuid taighde. Tá sraith alt againn maidir leis na cruinnithe sin. B'fhéidir nach mbeidh taighdeoirí in ann cuairt a thabhairt ar d'fheirm, ach is féidir leatsa cuairt a thabhairt orthu ag an nGráinseach ar an 26 Meitheamh. Tá súil againn go bhfeicfimid ann thú.

Events

Major Teagasc Open Day at Johnstown Castle

Pictured discussing the details of the 'Farming for a Better Future 2024' Open Day with the Minister for Agriculture, Food and the Marine Charlie McConalogue T.D. were: John Spink, Karen Daly, Professor Frank O'Mara, Teagasc Director, and David Wall.

FARMING FOR A BETTER FUTURE 2024

Tuesday 16 July
Venue: Teagasc Environment Research Centre, Johnstown Castle, Co Wexford.
Eircode: Y35 Y521.

This open day will demonstrate technologies and practices for efficient, environmentally sustainable and more resilient farming systems.

"There is an exciting range of technologies, ready and available for implementation by farmers, to help build resilience and improve the economic and environmental sustainability of farming systems," says David Wall, enterprise leader at Teagasc Johnstown Castle. "At the open day farmers and the wider agricultural industry will get insights into what new things are coming down the research pipeline. The open day aims to provide support to farmers with practical solutions."

The winter and spring dairy systems, the calf-to-beef herd and the new organic beef finishing trial at the Teagasc Johnstown Castle Research Centre will be presented.

Tillage farmers can engage with the latest research on soil health, crop nutrition and cover crop establishment and management.

Karen Daly, Head of the Teagasc Environment Research Department, said: "We invite all farmers to join us to see the latest research that will help protect water quality, soil health, enhance biodiversity and reduce gaseous emissions."

Launching the 'Farming for a Better Future Open Day', Teagasc Director Professor Frank O'Mara said: "Farmers are being asked to change and adapt their farming practices and farm management to reduce impacts on the natural environment. The science underpinning some of these requested changes arises from the research undertaken by Teagasc in the Environment Research Centre, Johnstown Castle, and in its other research centres.

This open day will bring together all of this available knowledge, with simple practical advice and messages for farmers to consider."

Exhibits on the day will include:
- Management of red and white clover and multispecies swards.
- Fertiliser and Manure Technologies.
- Better Farming for Water: 8 Actions for Change.
- Biodiversity.
- Dairy and dairy-beef system.
- The Signpost Programme.

TIPPERARY DAIRY BEEF DEMONSTRATION FARM OPEN DAY

Wednesday 10 July
Venue: Ballyvadin, Fethard, Co Tipperary. Eircode: E91 E0X3.
Event time: 11am.

CELEBRATING 60 YEARS OF AGRICULTURAL INNOVATION AT OAKPARK

Saturday 13 July
Venue: Teagasc, Oak Park, Carlow. Eircode: R93 XE12.
Event time: 11am to 4pm.

This event will showcase the evolution of crop production over the last 60 years, and how Oak Park has contributed to those changes. Witness first-hand how crop science has advanced and explore our extensive exhibit of farm machinery, which will be on display featuring tractors, implements and combine harvesters spanning six decades. Take a tour of Oak Park House, visit the museum and learn about the history of the estate.

ENERGY AND FARM DIVERSIFICATION SHOW 2024

Cultivating Green Futures: Opportunities for Tomorrow's Farms

Thursday 18 July
Venue: Gurteen College, Ballingarry, Roscrea, Co Tipperary. Eircode: E53 TP93.

TIPPERARY DAIRY BEEF DEMONSTRATION FARM OPEN DAY

Wednesday 10 July
Venue: Ballyvadin, Fethard, Co Tipperary. Eircode: E91 E0X3.
Event time: 11am.

FARM WALKS

FUTURE BEEF FARM WALK

Profitable organic suckler beef farming

Friday 12 July
Venue: Ken Gill's farm, Clonbullogue, Edenderry, Co Offaly. Eircode: R45 HT67.
Event time: 6.30pm.

TEAGASC/ DAIRYGOLD JOINT PROGRAMME FARM WALK

Wednesday 17 July
Venue: Farm of Tom O'Connell, Gurteen, Inniscarra, Co Cork. Eircode: P31 KX93.
Event time: 7.30pm to 8.30pm.

GROWING ORGANICS FARM WALK

Wednesday 17 July
Joe Nolan, Kilconnor, Fenagh, Co Carlow. Eircode: R21 CK66.
Event time: 11am.

BETTER SHEEP HILL FARM WALK

Thursday 25 July 2024
Venue: Farm of Francis Gonley, Ballinorley, Colga, Co Sligo. Eircode: F91 T6X8.
Event time: 7pm.

FUTURE BEEF FARM WALK

Friday 26 July
Venue: Farm of Eamonn & Donnchadh McCarthy, Carrigeen, Glendine, Youghal, Co Waterford. Eircode: P36 DT18.
Event time: 3pm.

BETTER SHEEP LOWLAND FARM WALK

Thursday 8 August
Venue: Farm of Tomas O'Toole, Maumfin, Moyard, Clifden, Co Galway. Eircode: H91 PXN2.
Event time: 7pm.

SIGNPOST FARM WALK

Tuesday 20 August
Venue: Farm of Declan and Matthew Mullen's, Kilmainham, Kells, Co Meath. Eircode: A82 V296. Event time: 11am.

GRASSLAND FARMER OF THE YEAR FARM WALK - DRYSTOCK CATEGORY WINNER

Tuesday 27 August
Venue: Farm of Billy Gilmore, Cortoon, Tuam, Co Galway. Eircode: H54 AP28.
Event time: 6.30pm.

Ballyhaise College dairy research

Teagasc Ballyhaise College Dairy Unit has been conducting grazing systems research since 2005, writes **Donal Patton**

The research has investigated areas such as extended grazing on heavy soils, high milking platform stocking rates, various feed supplementation strategies and altering calving pattern to suit the grass growth curve.

The focus has always been on developing highly profitable grazing systems, which can be implemented by farmers in the region.

Currently, the Ballyhaise herd consists of 140 high EBI cows, a 52ha milking platform (MP) and 5.6ha out block for silage production.

We rear all replacements and some dairy beef animals on a separate 'enterprise' within the college.

The herd are all calved compactly in spring and dried off over the winter months.

In recent years, the effects of food production systems on the environment have come more into focus, in particular the reliance on chemical Nitrogen (N) within intensive dairy grazing systems.

Current experiment

The current experiment in Ballyhaise started in 2021 and was designed to investigate the transition from perennial ryegrass (PR) swards (reliant on high levels of chemical N) to perennial ryegrass white clover (PRWC) swards receiving much lower levels of N.

At the beginning of 2021 there was no clover in any of the swards in Ballyhaise College and half of the experimental area was assigned to a PR system and half was assigned to a PRWC system.

From the outset the plan was to transition half the farm to WC swards, within three years, and to measure the effects of doing so on sward and animal performance.

To achieve this accelerated transition, high levels of reseeding and over-sowing were used in each year from 2021-2023.

We saw large reductions in sward production in the establishment year across both sward types (Table 1). However, by year two pasture productivity recovered for both sward types. High levels of clover content in the PRWC swards allowed us to reduce nitrogen applied by150kg N/ha.

We observed that fully reseeded swards resulted in higher clover content than over-sowing, but had a bigger negative impact on sward production in the year of establishment.

Over-sowing may play a useful role in clover establishment on farms where a large proportion of swards

Teagasc Ballyhaise dairy research has focused on developing profitable grazing systems for farmers in the region.

Table 1. The effect of sward change (SC) transition from old permanent pasture (PR-old) to newly established swards (perennial ryegrass (PR-new) and perennial ryegrass white clover (WC-new)) and clover over-sown (WC-over) swards on total pasture production and chemical fertiliser application during the three-year transition period

Sward system	PR	PRWC		
Sward change	PR-old	PR-new	WC-new	WC-over
Pasture production (kg DM/ha)				
Establishment year	14,182	8,925	8,561	11,330
Year 2		14,064	14,723	12,848
Year 3		14,891	15,642	15,218
Chemical N application (kg N/ha)				
Establishment year	229	200	84	124
Year 2		245	94	103
Year 3		246	93	131

Table 2. The effect of transition of each sward system (SS; perennial ryegrass (PR) and perennial ryegrass white clover (PRWC)) on milk production performance

Sward system	PR	PRWC
Milk yield (l/cow)	5,092	5,197
Fat plus protein yield (kg/cow)	461	473
Milk composition (%)		
Fat	5.11	5.12
Protein	3.70	3.71
Lactose	4.75	4.74
Whole Farm SR (cows / ha)	2.5	2.5
Milking Platform SR (cows / ha)	2.7	2.7
Concentrate (kg DM / cow)	840	848
Silage (Kg DM / cow)	1,677	1,626
Winter Feed Self-sufficiency (%)	55	56

Teagasc Ballyhaise Open Day, 24 July

The open day will start at 11am. There will be presentations on the current trial; future of genetics in the dairy herd; building financial resilience into your dairy system; clover incorporation and more.

After lunch there will be an indoor forum looking at various routes into dairy farming and two young couples from the region will detail their own experience of getting their foot on the dairy farming ladder.

There will also be lots of free information available on a wide range of subjects including environmental, animal health, education and training and more.

are relatively newly established (on the farms of recent new entrants for example), or where high milking platform SR prohibits high levels of reseeding.

Transitioning to WC systems resulted in modest increases in both milk yield (5,197 and 5,092 kg) and milk fat plus protein yield (473 and 461 kg/cow) for PRWC swards when compared to PR only swards.

Significant differences

There were no significant differences observed for milk composition (fat, protein and lactose) between the two sward types during the transition (Table 2).

While the high levels of sward renewal accelerated transition from PR to WC swards, this had a major impact on the overall feed budget on the farm.

This was a direct result of reduced pasture production in the year of establishment across a significant proportion of the area during the three year transition phase. As mentioned previously.

Sward type had no effect on the winter feed shortage with PR systems being 55% self-sufficient and PRWC systems being 56% self-sufficient (Table 2).

It is clear this was an effect of accelerated levels of sward renewal and not as a consequence of reduced N application on WC swards.

Conclusions

This study demonstrates the successful establishment of WC under reduced chemical N fertiliser applications in the Border, Midland, Western (BMW) region.

PRWC reseeded swards under reduced rates of chemical N delivered similar quantities of pasture production compared to PR reseeds receiving high rates of chemical N application.

The study also highlighted the effect of high levels of sward renewal on the provision of sufficient winter feed for the herd. Therefore, commercial farms must proceed with caution when planning the rate and extent of transitioning to white clover swards.

Ten-year anniversary of the Teagasc/UCD Michael Smurfit course in business strategy

This course, which takes a total of just six contact days (in three modules plus some home-work) to complete, offers farmers the opportunity to bring world-class business management skills to bear on their farm business.

"I found it excellent and it really tuned me in to what I needed to do to move my business forward," is how Meath dairy farmer Peter Mongey described the experience.

The course is delivered by Smurfit Business School professors in collaboration with Teagasc and is held at Horse and Jockey in Tipperary. The course will take place again this November/December with participants staying overnight in the Horse and Jockey Hotel.

The group will consist of about 15 farmers from all over Ireland. Ger Reidy farms 200 acres near Lahinch in Co Clare and is involved in beef production, renewable energy and rural tourism. "I really enjoyed it. The camaraderie in the group and the support provided by both the Smurfit and Teagasc staff was exceptional.

"What it gives you is the confidence to look at aspects of your business, and business generally that you might not be so familiar with. Any farmer who puts their mind to it could do it."

> "I really enjoyed it. The camaraderie in the group and the support provided by both the Smurfit and Teagasc staff was exceptional

There is no need for points or Leaving Cert, etc, to join the course. The course is executive education and the entry requirement is that you have been running your business for at least five years. The teaching style is informal and requires active engagement and sharing of business experiences by participants.

There are no exams but participants are required to produce a strategy document for their business using learnings from the course. Delivering the document earns the 'students' a professional certificate in Business Strategy, which is QQI level 8.

"It made me look at our enterprise as more of a business than a family farm," said Waterford pig producer Jason McGrath.

Manage negotiations

"I particularly liked the material on how to manage negotiations."

Topics addressed during the course include: insights on managing yourself; working with others be they family or staff; investment analysis; finance; preparing for a negotiation; strategy formulation and more.

Participants are expected to complete assigned readings from texts, case-studies and articles. Participants will also work in small project teams between modules. Teagasc staff will mentor participants.

Naturally, an accredited course involving the Smurfit Business School is not cheap but the course is supported by Macra Skillnet.

If you would like more information, please contact Mark Moore.

Multispecies advantage

Understanding how plant species diversity influences the capacity of soil microbes to cycle nutrients in soils is a key knowledge gap. Teagasc researchers, in collaboration with international colleagues, have been assessing how plant species diversity influences the turnover of essential nutrients for plant growth and soil health.

German studies found that the abundance of genes involved in inorganic phosphate solubilisation and mineralisation significantly increased with increasing plant species diversity. The results led to the study of this effect under Irish agronomic conditions. This involved a large sampling campaign on farms in southern Ireland. Initial results indicate grass-clover mixtures and multispecies grasslands result in significantly higher rates of cellobiohydrolase (an enzyme in the soil carbon cycle), compared to conventional intensively managed grass monocultures.

Future work on these samples will examine the abundance of genes involved in the N and P cycle. "We still have much to learn about the interplay between plant species diversity, agricultural management and nutrient cycling potential," concludes Aaron Fox, research leader, 2025 programme, Teagasc Johnstown Castle. "These results, however, give a tantalising glimpse into this largely unexplored research avenue, and suggest the great potential in harnessing the functional potential of soil microbial communities in designing and managing nutrient-efficient, climate smart pasture systems." (TResearch)

Entrepreneurship training

Teagasc, in partnership with UCD, has secured €7m in funding to deliver a new food and agriculture innovation and entrepreneurship training programme over the next six years. The Engage@Teagasc team led the proposal to secure the competitive funding.

The programme forms part of Enterprise Ireland's Innovators' Initiative, which is co-funded by the European Regional Development Fund (ERDF) and the Department of Enterprise, Trade and Employment. The focus of the Food and Agriculture Sustainable Technology Innovation Programme (FAST-IP) is to increase innovation knowledge within the food and agriculture sector, leading to the creation of more high potential startups (HPSUs) and jobs in this sector of the economy.

FAST-IP will have five intakes of 15 participants, beginning in September 2024 and running until the end of 2029. The 12-month in-person programme, aimed at mid-career professionals, is accredited by UCD at Level 9 on the National Qualifications Framework. Participants who complete the programme will be awarded a graduate diploma in agricultural innovation and entrepreneurship.

Teagasc will play a key role in the programme enabling the participants to evaluate, select and validate compelling ideas for new products, processes and services to address the range of current challenges faced by the global agri-food sector.

Through the programme participants will have access to state-of-the-art agri-food immersive environments, including Signpost Programme farms and food processing facilities along with connections to extensive advisory and mentoring networks covering all areas from farm to fork. (TResearch)

Jimmy Kearney and his son Michael have been contract rearing replacement heifers for dairy farmer Adrian Casey (right) for the last six years. Read how it has worked out for them in our case study on pages 12-13. Pictures: Mark Moore

Making contract rearing a 'win-win' for all involved

Contracting out heifer rearing offers many benefits once both parties take time to draw up a tailor-made agreement that covers all the potential scenarios that can arise

Ruth Fennell,
Collaborative Farming Specialist

Cuts to organic nitrogen stocking rates, difficulties sourcing land to lease, high land rents and labour shortages are some of the reasons dairy farmers might consider having their replacement heifers contract reared by another farmer.

For the contract rearer the pluses include not having to buy stock, a steady income through the year and the reduced financial risk associated with a turbulent beef market.

Dairy farmers faced with reducing their stocking rate have several options including:

- Cutting cow numbers.
- Scaling back, or eliminating, the beef enterprise, if they have one.
- Contract rearing the replacement heifers.
- Investigating the possibility of cows dropping a nitrates band.
- Leasing additional land.
- Exporting slurry. (The assigned nitrogen content of slurry was reduced in 2023 from 5 to 2.4kg N/m^3. The result is that you have exported double the volume to reduce the same level N).

There are financial considerations with all of the above but, in some cases, the cost savings may considerably outweigh the outlays. A combination of the above options should also be considered.

Animal performance

For a contract-rearing arrangement to work long term, it is important that it is a "win-win" for both the dairy farmer and the contract rearer. The dairy farmer must be confident that the rearer is capable of managing his stock, achieving good animal performance, reaching the target weight-for- age milestones and returning the heifers in-calf and ready to join the dairy herd.

Payments

The contract-rearer must receive healthy calves that have received sufficient colostrum to maximise their well-being and future performance. They must receive a fair price for their labour and payments must be made on time.

There should be regular contact with the dairy farmer to update them on how the stock are performing and to discuss any possible issues promptly.

Each contract-rearing agreement should be tailor-made. There are many different arrangements operating successfully on farms and it is important that time and effort is invested into drawing up an agreement. All parties are most likely to be happy if they fully understand what is expected of them.

Making sure that as many potential scenarios as possible are covered in the agreement will result in a better understanding of each party's role. This will help to prevent possible disagreements in the future. Teagasc has developed template agreements to help in this process.

Stocking rates

Removing the replacement heifers from the dairy farm can have a significant impact on the overall farm stocking rate. A farmer with 44ha (110 acres), 100 band II cows, 20 R1s and 20 R2s would have had a whole farm stocking rate of 245kg organic N/ha.

By contracting out the rearing of those heifers from when they are calves to 21 months old, he is able to drop his overall stocking rate to 217kg organic N/ha.

This also allows for the ground used by the heifers to be allocated to the dairy cows, which should have benefits for cow performance and also save on input costs. In this example, an additional 6ha (15acres) would be required to meet the same equivalent level of organic nitrogen reduction per ha. Where leasing additional land is being considered, it is important that the financial implications are addressed. In many cases it would make more economic sense to have the heifers contract reared rather than leasing additional ground.

If you are considering contract rearing there are a number of aspects that should be considered. There are advisors in each of the Teagasc area units who have been assigned the role of supporting clients that may be interested in looking at contract rearing.

These advisors can discuss your options and help you decide if this might be an arrangement that might suit you and your farm. In addition, the Teagasc contract rearing template is a useful document for starting the conversation as to how the arrangement could work.

In addition, there is an Excel-based calculator that can be used to determine the proposed costs

This allows for the costs associated with each rearing term to be divided up into six distinct time periods, starting with calf rearing and going right through to the point of calving.

The programme can therefore be tailor made to suit all of the different rearing arrangements that are in place. It also takes into account your own labour, a land opportunity cost and your estimated rates for the associated variable costs. Depending on the term of each specific arrangement, costs will be based on your own input cost guidelines. These calculations can be done with your Teagasc advisor, who can guide you through the process. Contact your local Teagasc office for further details.

Continued on p12

Continued from p11

Following the breeding season, Adrian Casey will pick 50 to 55 of the early-calving heifers and the remainder are then the Kearneys to sell when they choose.

'The arrangement has taken huge pressure off the system at calving – it's saving both time and labour'

Contract rearing in action: James & Michael Kearney and Adrian Casey, Co Waterford

James (Jimmy) Kearney and his son Michael farm 45ha (plus commonage) in Ballysaggart, County Waterford. They have been rearing replacement heifers for dairy farmer, Adrian Casey for the last six years.

"Prior to this, we were running a Friesian calf-to-beef system on the farm, purchasing bull calves from Adrian," says Jimmy.

Adrian says that "Back then I lost a parcel of leased ground that I was using to rear my replacement heifers. That spurred me to think about contracting out the rearing of my replacements. Naturally, Jimmy and Michael came to mind."

The Kearneys were an obvious choice as Adrian knew their set-up and was confident that the stock would be well managed. "We used the Teagasc contract rearing template agreement during the initial discussions," says Jimmy.

The agreement was drawn up for an initial three years and covered all aspects of the arrangement including transport, dosing, vaccination, breeding, weight targets, conception rate targets and also what costs were to be borne by each party.

They also agreed a maximum mortality rate and infertility rate and if levels were above this, a penalty system would apply. The contract covered all aspects of the agreement in case any issues arose. Thankfully, in this case, there haven't been any.

"There is give and take and there must be trust on both sides," says Jimmy.

Once they had agreed the terms of the contract, the price was the last topic to be discussed. The fee is discussed at the beginning of

the year and the Kearneys are paid the agreed fee by monthly standing order.

Each spring, the Kearneys collect approximately 80 calves in batches from Adrian. Calves are transferred from 14 days old. "I only need approximately 50 replacements per year for the 250-cow dairy herd, and we have agreed that there should be no other bovine stock on the Kearneys' farm," says Adrian. "So I have to provide sufficient numbers to fully stock the farm."

Following the breeding season, Adrian will pick 50 to 55 of the early calving heifers and the remainder are then the Kearneys to sell when they choose. Adrian's in-calf heifers return home on a phased basis from October to December at 21-23 months of age.

> There is give and take and there must be trust on both sides

Adrian covers the cost of transporting the heifers home, vaccines and breeding (a combination of synchronisation, AI and stock bulls to mop up) – Jimmy and Michael cover all other costs.

Target weights

A chart of target weights is pinned to the wall above the crush where stock are weighed regularly. "The figures are available for Adrian when he visits," says Michael. The agreed weight targets are based on Teagasc guidelines and it is up to James and Michael to ensure that the heifers reach these targets.

Adrian says he feels that it is important that the feed costs are borne by the rearer. "It encourages them to ensure stock meet their weight-for-age targets as economically as possible rather than the livestock owner paying higher feed costs if stock are behind target," he says.

The agreement is working well for both parties. The Kearneys have regular, repeat customers for the in-calf heifers that they sell themselves and they appreciate that they are no longer at the mercy of a volatile beef market.

Given that Adrian doesn't have the replacements for the first winter, this has ensured that he is able to meet his slurry storage requirements for the retained stock. He says this arrangement has also taken huge pressure off the system at calving time, saving both time and labour. Long may it last!

Contract rearing agreement checklist and essentials

- Arrival and removal date of animals on the contract rearer's farm. Who pays for the transport? Will heifers be mixed with stock from other farms?
- How often will the owner visit the rearer's farm to check on stock?
- How will heifers be managed during the winter?
- How will they be managed over the grazing season?
- Will stock be weighed during the contract and if so by whom and when?
- Is reaching weight targets part of the agreement and what are the implications if targets are not met?
- What happens in the event of a regulatory disease outbreak?
- What is the agreed cost? Outline what this includes and excludes in detail. What method and interval of payments will be in place?
- The breeding programme – is it AI or a stock bull? Who does the heat detection and what costs are included/excluded from the agreement?
- How will mortality and empty heifers be addressed?

MORE INFORMATION:

Scan the QR code to view the Teagasc contract rearing agreement template

Shane Moore has made a substantial imvestment in sheep housing and handling facilities on his farm in Co Roscommon. Read more on page 16.

Investing in farmyard infrastructure will boost flock health and profits

Sheep farmers need to look at making full use of TAMS grants to develop housing and handling facilities that will pay for themselves in a short period of time

Michael Gottstein
Head of Teagasc Sheep Knowledge Transfer

If we compare the investment in farm infrastructure, in particular housing and handling facilities, on sheep farms with those on cattle farms we see vast differences. This is not news to anyone. Suboptimal facilities have been identified as a limiting factor, which is hindering animal performance and negatively influencing labour requirements on sheep farms for decades.

A reason put forward for the stark difference between sheep and cattle infrastructure facilities on farms is that farmers need a basic level of handling/housing facilities to deal with cattle due to the sheer size and power of the animals.

Sheep on the other hand are much smaller and can be restrained and treated by humans without any handling facilities and this is where the challenge lies.

The ability to treat sheep without handling infrastructure and because sheep are much lighter and can stay outdoors, potentially all year without housing, means that many farmers have for years managed sheep without any investment in handling / housing infrastructure.

What lessons have we learned from spring of 2024?

Extremes in weather conditions are becoming more frequent. This spring certainly demonstrated the importance of having facilities to keep ewes and newborn lambs indoors during periods of harsh weather.

However, the housing facilities are only one part of the equation. Prior to the spring, we identified a huge range in body condition score (BCS) in ewes at mating time. Up to 40% of the ewes in some of the flocks that we are monitoring were in suboptimal body condition for mating. By lambing time the num-

ber of ewes in suboptimal body condition had increased across virtually all flocks. In the worst cases, around half of all ewes were in less than ideal body condition at lambing.

What does poor body condition in ewes have to do with sheep facilities?

Ewes that are in ideal body condition have higher levels of fertility, produce lambs with optimal birth weight, and produce good quality colostrum and milk off their backs to ensure excellent lamb thrive and survival.

Ensuring that the majority of the ewes in the flock achieve target body condition depends not just on providing the sheep with sufficient nutrients, but also having facilities to promptly and effectively treat conditions such as lameness and parasites and housing ewes when grass runs out in the winter.

In short, on farms where there are poor handling facilities we see much higher levels of lameness which has a huge impact on animal performance. Farms that are short of housing facilities will often stagger or delay housing. Feeding ewes outside will result in poorer outcomes in terms of maintaining body condition.

Investing in sheep facilities costs lots of money?

Yes developing a labour efficient sheep handling and housing facility will require time, planning and finance. It is not something that should be designed and put up on the spur of the moment.

Farmers looking to develop these facilities should plan a year in advance so as to make full use of TAMS grants and develop a facility that will pay for itself over a relatively short period of time.

Lamb mortality levels

This year we looked at lamb mortality levels on farms participating in the Teagasc Sheep BETTER Farm Programme. We looked at the number of embryos that were scanned and compared that to the number of lambs that were presented for weighing at seven weeks of age.

The results show a huge variation in lamb mortality across the flocks. Table 1 on the next page shows the huge differences in lamb mortality. The greatest losses occurred after lambing. On farms with poor facilities these losses were primarily due to the excess number of ewes in poor body condition leading to a lack of milk/exposure.

Also, some farms had significant outbreaks of joint ill in lambs as a result of poor colostrum and insufficient hygiene due to poor housing/lambing facilities.

There is a strong correlation between lamb mortality and the quality of the housing and handling infrastructure

> On farms where there are poor handling facilities we see much higher level of lameness which has a huge impact on animal performance

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on the farms. In years where we have had a mild spring and ewes and lambs can be turned out to grass after 24 hours the differences in mortality between flocks is much lower.

However, in years like 2024 the importance of having adequate and good-quality labour-efficient facilities really comes to the fore.

Table 1: Estimated lamb mortality figures across a cohort of BETTER Sheep Programme Participants

Flock	1	2	3	4	5	6	7	8	Average
Dead born (%)	3	8	1	4	10	2	14	12	5
Died after birth (%)	5	13	3	7	20	6	22	8	11
Total (%)	8	21	13	11	31	8	36	20	16

Farmer case study: Shane Moore, Athleague, Roscommon

'I wouldn't be at sheep if I didn't have the shed and the handling facility'

Shane joined the BETTER Sheep farm programme a number of years ago. At the time he had a split lambing flock, early and mid-season, as he had limited housing for sheep.

"I wanted to increase ewe numbers while at the same time reducing my workload as I work off-farm," says Shane. In 2020, Shane started construction on a new five bay partly slatted sheep house that can accommodate 160 ewes.

It took almost 12 months to get planning permission and TAMS grant approval. The house also incorporated a batch footbath and handling facility.

"I was asked at a recent farm walk by some farmers whether I was happy that I had built the shed and handling facility," says Shane. "My answer was simple: I wouldn't be at sheep if I didn't have it!"

Shane writes notes on a white board to keep track of what animals are where.

Net cost versus true cost

The net cost of the shed after grant and vat was almost €53,000 or €330 per ewe space. However the true cost of the shed is much less when we factor in the following savings:

- The cost of the shed is tax deductible – there is a potential tax saving of €10,600 to €21,200 depending on income tax rate.
- Labour saving due to having an efficient handling and housing system ~ 300 hours per year. Approximately €4,800 (@ €16/hr).
- Reduced lamb mortality in a spring like 2024. Shane's flock recorded 8% which was half the average lamb mortality recorded across the other flocks.
- That is a potential 22 lambs saved compared to the average flock. Conservatively valuing these lambs at €100/hd the benefit in a bad year adds up to approximately €2,200.
- Taking all factors on board, it is easy to see that the net cost of approximately €53,000 will be soon recouped in terms of income tax savings, reduced labour requirement and higher levels of animal performance.

A good footbath and area to dry off eases flock management.

Summary: the essential facilities needed for efficient lowland sheep production

This year, sheep farmers should take stock of their situation. The essential infrastructure requirements for efficient lowland sheep production systems are:

- Fencing to be able to control where the sheep are grazing.
- A handling facility with at a minimum a race, drafting facility and a batch footbath.
- Housing to hold ewes for a two month period.
- One lambing pen per eight ewes due to lamb.
- A number of group pens to enable ewes and lambs to be retained indoors during periods of extreme weather.
- For more information on how to reduce labour and increase animal performance, contact your local Teagasc advisor.

SunSmart for farmers

Skin cancer is one of the most preventable forms of the disease. Yet there over 11,000 cases diagnosed annually in Ireland and that figure is rising. Here's how to protect yourself against the dangers of sun exposure.

Francis Bligh
Teagasc Health & Safety Specialist

Seek shade, especially if outdoors between 11am to 3pm, when UV rays are at their strongest.

Working outdoors is an everyday part of farming life. It makes farmers the envy of many office or factory workers. The downside is that farmers are exposed to two to three times more ultraviolet radiation (UV) from the sun compared with people who work indoors. UV radiation significantly increases your risk of skin cancer.

Simple steps will help to protect skin from the sun, reducing the risk of skin cancer. UV is a part of sunlight. People often think it is the sun's heat that causes skin cancer, but in fact it is UV rays from the sun which cannot be seen, or felt, that cause the damage.

Follow the SunSmart 5 S's to protect skin from the sun:

1 Slip on clothing that covers your skin such as long sleeves, collared T-shirts.
2 Spread sunscreen on exposed areas, using factor 30+ for adults. Apply 20 minutes before going outside. Re-apply regularly – more often if sweating.
3 Wear a wide-brimmed hat.
4 Seek shade, especially if outdoors between 11am to 3pm when UV rays are at their strongest. Plan your outdoor work for early in the morning or late afternoon to avoid the peak UV sun rays. Use trees or portable shade for break times and lunch.
5 Wear sunglasses to protect your eyes.

Wearing a wide-brimmed hat is one of the SunSmart 5 Ss to protect skin from the sun.

The earlier skin cancer is detected, the easier it is to treat. So it's important to talk to your GP without delay if you notice any changes on your skin, or a new or changing mole. It may not be skin cancer, but it is always best to get it checked to be sure.

Dr Una Kennedy, GP advisor to the HSE's National Cancer Control Programme, emphasises that checking your skin regularly for changes is really important to prevent the development of skin cancer.

"Contact your GP if you notice a lump or discoloured patch on the skin," she says. "Look out for new growths, or a sore that does not heal in a few weeks, a spot or sore that itches, hurts, crusts, scabs or bleeds, constant skin ulcers with no other explanation for their cause, and new or changing moles."

To find skin cancer early, it helps to know what your skin and moles normally look like. That way, you'll notice any changes more easily.

To look at areas of your skin that you can't see easily, like the skin on your back, you could try using a hand held mirror and reflect your skin onto another mirror.

> The earlier skin cancer is detected, the easier it is to treat. So it's important to talk to your GP without delay if you notice any changes on your skin

Or you could get your partner, family member or friend to look for you. It is especially important to check your skin regularly if you're often outside in the sun for work or leisure.

You can check the UV forecast for your area on Met Éireann's website or app at www.met.ie/uv-index. More information is available on the SunSmart campaign is available on www.hse.ie/sunsmart

Kevin McMenamin and Raymond Palmer. Photos: Clive Wasson

Weather-proofing your fodder supply

All the data suggests that weather patterns are changing, with wetter and longer winters forecast. The severe conditions last spring led to a severe fodder shortage in some parts of the country, but lessons can be learned from farmers in the northern and western counties who are accustomed to laying in sufficient fodder for longer winter housing periods.

Aidan Murray,
Teagasc Cattle Specialist

It's peculiar to be talking about securing feed stocks for next winter when summer hasn't even started. But it's a peculiar year. The poor weather which extended far into the spring has seriously depleted feed reserves on farms. Well stocked farms, naturally were the most seriously affected. Normal turnout dates were turned on their heads.

Below average spring growth left grass tight on lots of farms and opportunities to take out surplus grass have been few. Some farmers say that they only have a third of their normal quota of surplus bales made.

First-cut silage reports point to quite a variation in yield across farms depending on whether or not ground got slurry before closing. Although more so on dairy farms, there are even reports of silage being fed back to stock in June to offset the poor grass growth. All of this means further pressure on fodder reserves for next winter.

All the data is suggesting that weather patterns are changing and that ultimately our winters may be wetter and summers hotter. Translate this into implications for farming and we may see different animal diseases emerge, more problems with pests, and more fodder needed to carry us over prolonged winter housing or summer droughts. The experience of the last 12 months suggests that something will need to change.

The biggest problems with feed supplies in the spring were mainly in the southern half of the country where stocking rates are higher and winters generally tend to be shorter. Paying exorbitant prices for silage every spring because you have a forage deficit is not sustainable.

Many of the northern and western counties were less severely impacted by the volatile spring weather. This is partly because they are not carrying the same level of stock, but also they are much more accustomed to planning for a longer winter housing period.

> Cattle were essentially fed indoors for almost six months. Despite this, we ended the winter with about 160 surplus round bales in the yard – I always like to have several months silage in reserve as cover for springs like this one

One such example is the farm of Margaret and Raymond Palmer near Castlefin, Co Donegal. They run a herd of 25 spring-calving suckler cows. The cows are mainly Limousin Simmental crosses, which are then crossed back to a terminal Charolais sire.

The bull calves are kept entire and sold at 11-12 months weighing around 480-520kg for further feeding to a local finisher. Heifers are kept on for a second season and some additional heifers are purchased as yearlings to boost stocking rate on the farm.

Heifers are generally finished out of the shed at 23 months typically averaging 360kg carcase and grading U- 3=. The farm is renowned for achieving excellent weight for age as the figures have just demonstrated.

The farm is paddocked and all stock are rotationally grazed. There is a strong emphasis on grass quality with surplus bales taken out throughout the season and first cut silage taken out just after mid-May each year.

"This has, without doubt, been a challenging spring for us," says Raymond. "Turnout which would normally be in March was delayed until April.

"Cattle were essentially fed indoors for almost six months. Despite this, we ended the winter with around 160 surplus round bales in the yard. Fortunately, we didn't have to source and pay for extra silage. I always like to have several month's silage in reserve to give myself cover for springs just like this one."

Interestingly, Raymond is not interested in trading bales. He also wouldn't like to see a neighbour or close contact

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The volumne of silage in a pit can be readily measured.

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stuck: "If I let someone have bales in the winter or spring, the agreement is that they are replaced with ones of similar quality later in the year."

Grass on this well-stocked farm is currently tight with some of the second cut silage area pulled in for grazing. This will probably delay second cuts slightly but will help keep grass ahead of stock, which is important at this time of year.

Winter 2024/25 feed situation

Local Teagasc drystock advisor Kevin McMenamin has already been out on the farm with Raymond to assess the current feed stocks for this winter and together they completed a winter fodder budget.

The projection (see Table 1 below) indicates that the Palmers will carry approximately 76 head of cattle through the winter. This breaks down as: 25 cows plus a stock bull; 15 one to two-year-old heifers for finishing, and 35 weanlings – a mixture of homebred and purchased animals.

Provision will be for a 150-day winter. Weanlings will average 1.5kg of meal from housing to turnout and finishing heifers will average 4kg/day over the feeding period. This means that the farm will need 16.3 tonne of meal and almost 310t of fresh silage (20% DM) or almost 62t of silage dry matter.

Feed reserves

Currently there are 200 round bales of silage in the yard and a pit which, when measured, contains approximately 397t of fresh silage or almost 80t DM.

"Between surplus grass and a small second cut we hope to make an additional 100 bales before the end of the season," says Raymond.

This will leave the farm with 300 round bales of silage at 30% DM which equates to 63t of silage DM or 210t of fresh silage.

In essence, at current stock numbers and over a five month winter the Palmer's farm has sufficient round bales to meet the demand for the coming winter. The pit silage will be held as a reserve.

Knowing your exact position in terms of feed at this stage of the year gives great peace of mind. Equally it highlights what needs to be done to build stocks for the remainder of the year on farms where there is a deficit. Either way, sitting down and working out a fodder budget is a very worthwhile exercise.

Table 1: Winter 2024/25 feed situation

Animal Type		No of Animals (a)	Winter feeding days (b)	Dry Matter Required/ Head Day Kg (c)	Planned Meal Feeding Kg/ Head/ Day (d)	Meal required (tonnes fresh wt.)	Net Roughage Intake per Day 9Kg DM) (e=c-d*0.86)	Total Roughage required kg DM (f=axbxe)
Cows		25	150	9	0	0.0	9.0	33,750
Incalf Heifers						0.0	0.0	0
Weanlings		35	150	4.7	1.5	7.9	3.4	17,903
Cattle	1½ Males					0.0	0.0	0
	1½ Heifers	15	110	8.3	4	8.4	1.9	10,206
	Other	1	150		0	0.0		0
Total		**76**				**16.3**		**61,859**

Taking action: If you are in a fodder deficit, you have a number of options

- If weather permits, you can close a sufficient second cut area or take out grazing surpluses to cover your winter demand.
- Sowing fodder crops can be an option later in the month or into August. Growing as much fodder as you can will obviously leave you less exposed to the market.
- You can consider stretching out fodder supplies with extra concentrate, which is fine, but it will put extra demand on cash flow.
- Consider a 'no passengers' strategy going into the winter whereby stock such as empty cows or problem cows will be identified early and targeted for sale before the housing or early in the winter to reduce feed demand. If cattle prices remain strong this may be an attractive option on some farms and it will provide some extra cash flow.
- Look at stock destined for finishing over the winter and identify animals that, with some strategic meal feeding for six to eight weeks at grass, could be finished before housing.
- There is no doubt there will be more turns and twists in weather and grass growth over the next few months, so continually upgrading your fodder budget is a must.
- You may not be able to fully achieve it this winter but even in the south of the country you should be gearing up to have enough fodder to cover you for a five- to six-month winter. You may not need your reserve every year, but it is a worthwhile insurance policy.
- One huge learning from the last major fodder crisis was that well-made, carefully stored, pit silage has an extremely long 'shelf-life'. In extreme cases, silage made 20 years earlier was still palatable and nutritious. So well-made silage is not just worth having, it's money in the bank.

Raymond Palmer and Teagasc advisor Kevin McMenamin created a winter fodder budget.

Autumn calving reaping results on a west Cork suckler farm

(l-r) Aisling Molloy (Teagasc), William Kingston, Mark Kingston, Diana Kingston and Anna Sexton (Teagasc) on the Kingston farm in Drimoleague. Pictures: Mark Moore

The Kingston family switched from a spring to mainly autumn calving system seven years ago and say they haven't looked back since

Aisling Molloy
Future Beef
Programme Advisor

William Kingston farms with his wife Diana and their family Mark, Chloe and Aisling in Drimoleague, Co Cork. Both William and Diana are from farming backgrounds and have always had a strong grá for it

They operate a 42 cow suckler to beef, mainly autumn calving system. The bulls are finished at 15.5 months and the heifers are finished at 19.8 months."We started out by renting 49.6 acres in 1990," says William. "In 2002, 22.4 acres came up for sale four miles away and we built our family home there and developed some pre-existing cattle sheds."

They continued to rent the original land and when the opportunity arose to buy it in 2018, they took it. Due to the land purchase costs, William and Diana place strong emphasis on running a profitable system.

They changed from a spring calving system selling weanlings to a predominately autumn calving system finishing all cattle seven years ago and haven't looked back since. There are a number of benefits.

Reasons for autumn calving

"The system saves a lot of labour with cows calving outside from July onwards," says William. "We find that there are fewer health issues such as scours and pneumonia than occur with the spring born calves."

The system also suited the housing on the farm. This has taken time to develop over the years, and meant that the calves required less space than weanlings over the first winter.

William says that he also finds that he can get the most from grass as the autumn calves have access to, and graze, the silage ground over the winter. The bulls stay at grass until housing in August at approximately

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12-13 months of age and over 500kg.

"They can be finished out of the shed by November/December, which is a much shorter housing period than is the case with a spring born bull," adds Mark Kingston. "The non-breeding heifers are housed in November and are finished out of the shed in February/March."

Performance

Breeding is one of the main cornerstones to the Kingstons' system. William has held a DIY AI licence since 1990 and has been using 100% AI on the farm since 2016.

"I will match a replacement or terminal bull to each cow, and pick them to complement her traits based on calving difficulty, carcass conformation, carcass weight, daughter milk and daughter calving interval," says William.

The success of this is clearly indicated in the finishing performance which is outlined in Table 1.

Nationally the average age at finish for suckler bred heifers is 26.1 months at 340kg carcass weight, grading R=3+. William is exceeding this by finishing the heifers at 19.8 months of age at 330 kg carcass weight, and grading R+4- on average.

Similarly, the national age at finish for young bulls is 18 months at 399kg carcass weight and U-3-. William is achieving a 394 kg carcass weight at 15.5 months and a similar grade.

The breeding KPIs also reflect the success of William's breeding decisions in Table 2. The calving interval is on target at 369 days. Mortality is low on the farm at 2.2% at 28 days, which is closely linked to the calving difficulty (<8.5%) of bulls used on the farm. The calves per cow per year is 1.04 and all breeding heifers calve down at 24 months of age.

Table 1: Finishing performance

Animal Type	Age at finish	Carcass weight	Grade
Heifers (11)	19.8	330	R+4-
Young bulls (21)	15.5	394	U-3=

Table 2: Breeding performance

KPIs	William	Target
Calving interval (days)	369	365
Mortality at 28 days	2.2%	<5%
Calves per cow per year	1.04	0.95
% heifers calved at 22-26 months of age	100%	100%

There are also strong milk figures in the herd at +6.5kg and the docility is 0.09, which is a key breeding priority for safety on the farm.

Challenges

Autumn calving brings its own challenges. Autumn 2023 was wet and cold and William says he encountered more scours in calves than usual outdoors.

Silage quality is one of the biggest challenges in the system. "If the silage is not over 72% DMD for finishing cattle and suckling cows, more ration has to be fed to meet performance targets," says William.

Due to weather and cutting dates, silage quality has varied from 60% DMD to 74% DMD over the last three years. "Ration is one of our highest costs," says William. "My priority is to improve silage quality by cutting it before it heads out, ideally before the end of May."

William fertilises silage ground with 80 units of nitrogen, 16 units of phosphorus and 100 units of potassium for the first cut, and ensures that it is grazed off in the spring.

The poorer quality silage fed over winter has had a knock-on effect on cow fertility. The 2023 calving period started on 18th July and finished on 29th December which amounted to 23 weeks. "I prefer to have cows calving in July/August and to be finished by October so that the majority are bred again before housing," says William.

Future plans

William plans to improve the silage quality on the farm over the coming years by cutting it earlier and reseeding silage fields to have more perennial ryegrass/clover swards than RVP.

"I would like to tighten the calving spread of the autumn herd and will

Above and below right: the Sustainable Beef KT group met recently on the Kingston farm and viewed the suckler herd.

set cut off dates for breeding, where any cow not in calf can be culled," says William. This will help to simplify work load and labour over time.

There has been a significant improvement in soil fertility on the farm over the last four years and William says he plans to continue this by spreading lime and compounds in the form of 18-6-12.

The addition of a new slatted unit in 2023 on the out farm will act as a store for good quality slurry instead of the outdoor slurry pit that was in place previously.

Discussion Group

"We've been members of the group since January 2024 and prior to that we were in the Carbery Beef Discussion Group in the previous KT programme facilitated by our local advisor, Anna Sexton," says William. "You'll always learn from others in a group."

Future Beef Programme and Sustainable Beef KT Group

William is also a member of the Future Beef programme.

The local Sustainable Beef KT group recently joined the new KT programme and met recently on William's farm to discuss breeding, finishing performance and the new slatted shed.

Sire choice: strong maternal traits a breeding priority for the herd

The maternal traits are very strong in William's herd, partially due to his use of AI straws from the Gene Ireland Beef Programme. He purchases straws from the best maternal and terminal bulls on the panel and matches them to cows in the herd.

"I have no particular preference for breed and have used Angus, Aubrac, Belgian Blue, Charolais, Limousin, Parthenaise, Shorthorn and Simmental straws in the past," says William.

The cows are due to start calving from 18th July to some of the following bulls:

AA8640 (Rawburn Poncho X478)
Most of the heifers are bred to this bull. While he has a heifer calving difficulty of 7.1% with only 59% reliability, William is confident that the heifers he has selected will calve to him without any major issues at two years of age.

He is strong on the replacement index at €159 with 18.4kg daughter milk and 16.9kg carcass weight so William could keep any heifers as future replacements.

BA4661 (Glacon)
This bull was matched to more terminal cows that were less than €98 on the replacement index and had daughter milk figures of less than 4kg. He is €117 on the terminal index and has a carcass weight of 22.7kg and a carcass conformation of 2.57. He is very low for daughter milk at -7.9kg so all male and female progeny will be finished.

AU6286 (Johnstown Nelson 1039) Was bred to maternal cows to produce replacements. He has a replacement index of €183 with a daughter milk figure of +5.7kg, daughter calving interval of -2.58 days, carcass weight of 16.5kg and carcass conformation of 1.9.

Age at finish

Age at finish is a new trait in the Eurostar indexes which was not available when William was selecting bulls. Interestingly, AA8640 has an age at finish of -22.27 days, BA4661 is +8.95 days and AU6286 is -8.88 days.

According to these figures there is just over 31 days in the average days to finish between progeny from AA8640 and BA4661!

This will be valuable information to have when choosing bulls this autumn as it could save William in terms of feed costs and help reduce his carbon footprint further by finishing stock earlier.

Earlier finishing the goal

Tommy Cox
DairyBeef 500
Programme

Agriculture is obliged to reduce greenhouse gas (GHG) emissions by 25% by 2030 under the targets set out the Government's Climate Action Plan. Reducing the age at slaughter by three months – moving from an average of 27 to 24 months – will help achieve this target.

From an environmental and economic sustainability perspective, it is crucial that the reduction in slaughter age is achieved without compromising carcase weight and quality.

Approximately 2,000 cattle are slaughtered across the DairyBeef 500 Programme farms annually. Performance is monitored to identify progress and trends. Friesian bull calves seem to be the preference among the majority of the DairyBeef 500 farms. These are seen as less risky due to the lower purchase price and their carcase weight potential.

The average carcase weight in this category declined by 9.6kg between 2022 and 2023. The poor weather experienced last year was a factor.

On a positive note, the slaughter age was reduced by 15 days to 24 months in 2023. The reduction in weight didn't result in lower income for farmers. Beef prices in 2023 averaged 21c/kg higher than the previous year, and the average price of dairy-bred steers increased by €16 (see Table 1).

Beef-sired steers

Fewer beef-sired steers were slaughtered across the DairyBeef 500 Programme in recent years. If improved beef genetics are used on dairy farms alongside the new Commercial Beef Value (CBV) to identify higher merit beef calves, DairyBeef 500 would be open to increasing the numbers of these animals if prices are appropriate.

A similar trend to dairy cross steers was seen for beef-sired steers over the past two years. Average carcase weights decreased by 12.1kg with the slaughter age reduced by just shy of two weeks.

As with the dairy steers, carcase conformation remained the same for beef-sired steers across 2022 and 2023 with an O= grade carcase being obtained on average both years. Again, prices for both years remained the same with the higher beef price in 2023 making up for the reduced average carcase weight (see Table 2).

There are fewer heifer systems on the Programme's farms. The lower carcase potential of these animals has been the main reason for farmers deciding against them.

However, with the advances being made in genetics some farms are now looking at these systems. The heifers' early slaughter age potential is a huge advantage in terms of reduced winter housing requirement. These animals also produce less nitrogen.

Summary

- There were slight reductions in carcase weight across all categories of animals in 2023.
- Steer carcase weights fell on average close to 10kg but at a younger slaughter age.
- The drop in carcase weight and increase in age of slaughter reported in bulls and heifers was most likely due to the poor weather in 2023.

As with the steers, carcase weights for heifers slaughtered across the DairyBeef 500 farms were back slightly and were 5.3kg lighter on average in 2023 than in 2022.

Unlike the trend seen with steers, this reduction in weight did not come at a younger age. Heifers were slaughtered, on average, one month older in 2023 and the average carcase value increased by €65.

Bull carcase performance saw the biggest drop in weights, which were 24.5kg lighter on average in 2023 than the previous year. This resulted in the average carcase value dropping by €84.

As with the heifers, this reduction in weight did not come at a younger age. The average slaughter age increased by 20 days with the weather a significant factor as turnout was delayed substantially on most farms in the spring of 2023.

Carcase conformation remained the same with an average grade of O= both years (see Table 4).

on DairyBeef 500 farms

One of the DairyBeef 500 Programme's objectives is to reduce slaughter age without compromising on carcase weight and quality.

Table 1: Dairy x dairy steer performance

Year	Carcase weight	Number	Conformation	Age of finish (months)	€/kg	€ value
2023	298	863	O-	24	4.84	1441
2022	307.6	764	O-	24.5	4.63	1425
Difference	-9.6	+99	N/A	-0.5	+0.21	+16

Table 2: Beef x dairy steer performance

Year	Carcase weight	Number	Conformation	Age of finish (months)	€/kg	€ value
2023	299.3	243	O=	22.71	5.05	1510.7
2022	311.4	248	O=	23.1	4.84	1507
Difference	-12.1	-5	N/A	-0.4	+0.21	+3.7

Table 3: Heifer performance

Heifers	Carcase weight	Number	Conformation	Age of finish (months)	€/kg	€ value
2023	252.4	107.0	O=	21.5	5.2	1312
2022	257.7	205.00	O+	20.5	4.84	1247
Difference	-5.3	-98	-1	+1	+0.36	+65

Table 4: Bull performance

Bulls	Carcase weight	Number	Conformation	Age of finish (months)	€/kg	€ value
2023	289.4	308.0	O=	21.5	4.70	1359.45
2022	313.9	267	O=	20.8	4.60	1443
Difference	-24.5	+41	N/A	+0.7	+0.1	-84

Table 5: Martin Connolly four-year carcase performance

Year	Carcase weight	Conformation	Age of finish (months)
2023	328	O-	22.3
2022	335	O=	21.4
2021	321	O-	22.2
2020	317	O-	23

How one Roscommon farmer has achieved consistent gains in carcase performance

Martin Connolly farms part-time just outside the village of Castleplunket in Co Roscommon. He operates a calf-to-bull beef system. The farm consists of 60ha of grassland, which is divided into four main blocks within a three-mile radius of the farmyard.

The land is a heavy-type soil, typical of the area. Approximately 140 Holstein-Friesian male calves, purchased at three weeks of age, are reared annually on the farm and they are slaughtered as bulls at under 24 months of age.

The feeding programme during the finishing phase is grass silage ad lib supplemented with 6kg concentrates per head daily for a maximum of 100 days.

"In recent years my main aim has been to improve animal performance without increasing the level of concentrate input," says Martin.

Improvements in grassland management and grass silage quality has paid dividends through increased animal growth rates. Significant improvement have been made on the farm in recent years with carcase weights consistently increasing at reduced age of slaughter (see Table 5).

Less work, better welfare: the benefits of upgrading your calf rearing facilities

James Dunne
Teagasc Dairy Specialist

Anthony Mulligan
Teagasc Ballyhaise

Now is the time to review your calf rearing facilities. There is still time to plan and carry out any works that may be needed. Some farms will build a purpose-built calf shed. For others, changes to existing housing may be enough to create additional space.

A recent Teagasc Moorepark study investigated peak workload of a seasonal milk production system. It showed that 19.2 hours/cow was required between the months of February and June on dairy farms with an average herd size of 137 cows.

In February and March, calf care accounted for a substantial proportion (21%) of work time. Reductions in labour input for this task in February and March would help reduce the seasonal work peak.

Investing in facilities and/or technology that improves the efficiency of the calf rearing process will reduce labour demand. Seventeen farms within the study were identified as having made substantial calf care changes.

These farms had 26 more cows in 2021 than in 2019, but calf care labour input reduced by 5% (12 hours) and calf care efficiency improved by 16%.

Of the 40 farms that made no substantial calf care changes, their herd size increased by 11 cows, calf care labour input increased by 11% (27 hours). Their calf care labour efficiency declined by 2% between 2019 and 2021.

Calf housing checklist

Whether building a new calf shed from scratch or adapting an existing one, there are a number of factors to consider:

- Recommended space allowance of 1.8m^2/calf.
- The house should be well ventilated, but draught free.
- One in 20 slope on floors to allow good drainage.
- No sharing of airspace with older animals; i.e. keep calves in a separate house.
- Solid divisions between pens – minimise disease spread.
- Mechanical access for both bedding with straw, and cleaning out.

> The farms that invested in substantial calf changes increased their cow numbers, but calf labour input was reduced by 5% and calf care efficiency improved by 16%

Space

Provide 1.8m^2 per calf. Therefore, 180m^2 of calf space is required per 100 cows. For example, a standard pen of 4.8m X 4.8m = 23m^2 is adequate for 12 calves. Farmers who have sufficient space for calves (both space allowance and cubic air capacity), are more likely to have healthier calves, reducing the need for veterinary intervention and time spent treating sick calves.

Ventilation

For a building to ventilate well, it must efficiently exchange stale air from inside for fresh air from the outside. Fresh air comes in through the sidewalls (inlet), with spaces divided evenly along both sidewalls of the long axis of the shed and moves outwards through roof openings (inlet area should be double the outlet area).

There should be a minimum 7m^3 air space per calf, which is often one of the main challenges with older existing spaces on the farm. In existing houses not designed for natural ventilation, mechanical ventilation may be the only option.

The sidewalls of calf sheds should be solid up to a height of 1.5m i.e. above calf level to avoid draughts. A draught is excessive air movement (air speed >0.5m/s) at calf level.

Use Yorkshire boarding which has two staggered lines of vertical timber, this will reduce air speed, water entry and the likelihood of draughts.

The Yorkshire boarding should be a minimum length of 1.5 metres, laths 25mm thick, and a maximum width of 75mm with gaps of at least 25mm. The two lines of laths are 25-50mm apart.

Calf houses should be standalone so that airspace is not shared with older animals who tend to carry and transfer, particularly respiratory, pathogens to young stock.

Drainage

Floor slopes of 5% or 1:20 are necessary to carry moisture away from the beds and out to proper drainage channels. Wet and dirty beds are an enormous issue for calves. Keep the bed dry so it is not having a cooling effect. Getting the moisture away is critical.

FARMER FOCUS:

Andrew, Philip & Aodhagon Smith, Farnadolly, Crossdoney, Co Cavan

Andrew Smith farms with his father Philip and his brother Aodhagon in Farnadolly, Crossdoney, Co Cavan. The farm has seen significant development since Andrew returned home to farm full-time in 2020. "I knew when returning home that there were a number of development projects required, so together we developed a six-year plan," he said.

One of those developments was the addition of a new purpose-built calf rearing facility. Andrew explains: "We are milking just over 200 cows in a block spring calving system. As well rearing all our own replacement heifers, we keep approximately 50 of our beef calves on to sell as forward stores due to the fragmented nature of the farm."

There was an existing calf shed on the farm, which remains in use, but as on many dairy farms the herd had outgrown the existing facilities. "We decided to invest in a new calf shed to improve the calf rearing process and reduce labour in spring."

Calf comfort and feeding

The new shed is 24m long by 14m wide and made up of four 6m bays. "We built a shed ensuring all the key criteria were met for calf comfort, but it also needed to be easy to mechanically bed and clean out. It was designed to suit automatic calf feeding with a station in each pen." The bedded area is 6m wide, the calf feeding area is 3m wide with the feed passage 5m wide.

The floor in the shed has a 1:20 slope outwards toward the calf feeding to ensure calf beds remain dry. A concrete drainage channel was placed in the centre of the calf feeding area and finished with a calf slat; this ensures a wide channel so it wouldn't become blocked and allows easy cleaning.

The shed was finished with Yorkshire boarding on the sides for good ventilation with windbreaker roller screens on both gable ends of the sheds, which can be easily raised up and down.

A noticeable feature is the amount of natural light that is provided using heatguard polycarbonate roof sheeting. A mechanical ventilation system comes on when the temperature goes over 14 degrees. "It's a significant investment with the full project costing €75,000 plus vat," says Andrew. "But it's an investment for the long term. The quality of the calves we rear has improved while saving us a significant amount of time. We can now rear all our calves comfortably on-farm. Not having to worry about having to sell calves to free up space gives us great peace of mind."

Anthony Mulligan and Andrew Smith – the mechanical ventilation system is operating; (below) the Smiths have set up a self-service retail milk outlet.

> The quality of the calves we rear has improved and saved us a significant amount of time – we can now rear all our calves on farm. Not having to worry about having to sell calves to free up space gives us great piece of mind

Researcher Hazel Costigan during a recent feed additive trial.

Food for thought on reducing dairy cows' methane emissions

Teagasc research has shown that the Bovaer feed additive can reduce dairy cows' methane emissions depending on the season and feeding system utilised, writes **Hazel Costigan and Ben Lahart**

Enteric methane, i.e. methane produced within the cow's digestive system, is currently responsible for the majority of Irish agricultural Greenhouse Gas emissions,

Reducing it will be key to meeting the agriculture sector's target of cutting Greenhouse Gas emissions by 25% by 2030, compared to 2018 levels.

The methane reducing feed additive, Bovaer (active ingredient 3-nitrooxypropanol; 3-NOP) is, at present, the most promising feed additive to reduce enteric methane. It is proven to consistently reduce enteric methane by ~30% internationally when fed in a Total Mixed Ration (TMR).

The additive works by stopping the last step of methanogenesis (methane production). However, the essence of Bovaer is that, in order to be effective, it must be present in the rumen throughout the day.

TMR feeding systems

This is why it is best suited to TMR feeding systems where it is mixed throughout the feed and therefore present in every mouthful consumed by the animal.

In pasture-based dairy systems, such as Ireland's, the main opportunities for additive supplementation are at morning and evening milking time, during the grazing season.

Research at Teagasc Moorepark showed that grazing dairy cows supplemented with Bovaer twice daily during morning and evening milking produced 28.5% less methane for two and

a half hours after consumption of the additive. After this, methane production reverts back to similar levels to the control animals.

The results showed that feeding Bovaer to grazing lactating dairy cows after milking twice daily reduced enteric methane by 6%, when averaged over the full 24 hrs.

Slightly greater reductions (circa 11%) were noted indoors in non-lactating dairy cows top-dressed onto grass silage twice daily.

Further research is required to extend the efficacy of Bovaer in grazing systems, i.e. using slow-release technology.

Winter housing period

In the meantime, feeding additives during the winter housing period may offer the solution to reducing enteric methane for a portion of the year.

Over the winter of 2022/2023, two studies were undertaken in Teagasc Moorepark and Teagasc Johnstown Castle to evaluate the effect of feeding Bovaer to non-lactating and winter milk cows in early lactation respectively, during the housing period.

Bovaer was mixed throughout the feed offered using a diet feeder and daily methane was measured using GreenFeed machines.

Results showed that reductions in enteric methane of 22% and 26% are achievable for the eight-week feeding period in non-lactating and winter milk cows in early lactation, respectively, and there was no significant effect on animal performance.

On-Farm Pilot Project

A pilot study was undertaken during winter 2023/2024 in which Bovaer was fed to non-lactating cows on some of the Signpost dairy farms. Eighteen Signpost dairy farms who fed their over-winter diet using a diet feeder were enlisted to feed Bovaer to their cows (3,500) during the eight-week dry period.

The feed additive was fed through the diet feeder alongside the dry cow minerals. Although methane emissions were not measured on the signpost farms, a reduction in enteric methane of 22% was assumed based on the results of the study undertaken in Moorepark, this equates to a 3.3% reduction in emissions when expressed across the entire year.

Close contact was kept with the participating farmers to get feedback from them on the practicalities of feeding the additive.

This is the first time that the additive has been fed at farm level and it's an exciting development to be able to observe its effect on commercial farms. The pilot study demonstrates that the dairy industry is willing to embrace new technologies to reduce enteric methane emissions.

It will also help to crystallise the business model requirements for some technologies in order for farmers to be in a financial position to embrace them.

Ultimately, this research can be used to guide policy on the mitigation potential of Bovaer across different scenarios in the Irish dairy industry.

Hazel Costigan and Ben Lahart are researchers in enteric methane emissions in Teagasc Moorepark, and their research is carried out in collaboration with VistaMilk and the FarmZeroC project

Farmer experience: John Sheridan, Borrisoleigh, Co Tipperary

The biggest concern for me is who is going to pay for the additive?

John Sheridan farms in Killoskehane near Borrisoleigh, Thurles, and is a Centenary Thurles Co-op Supplier.

"I fed the Bovaer additive to my dry cows for eight weeks during the winter of 2023/2024," he says. "It was fed through the diet feeder with the silage. I found it easy to use and there was not extra work associated with it.

"The additive had no impact on intake or anything else that I could see. It would be hard to see an effect anyway as it was dry cows not milking cows but my understanding is that the research is saying it doesn't affect intake or output.

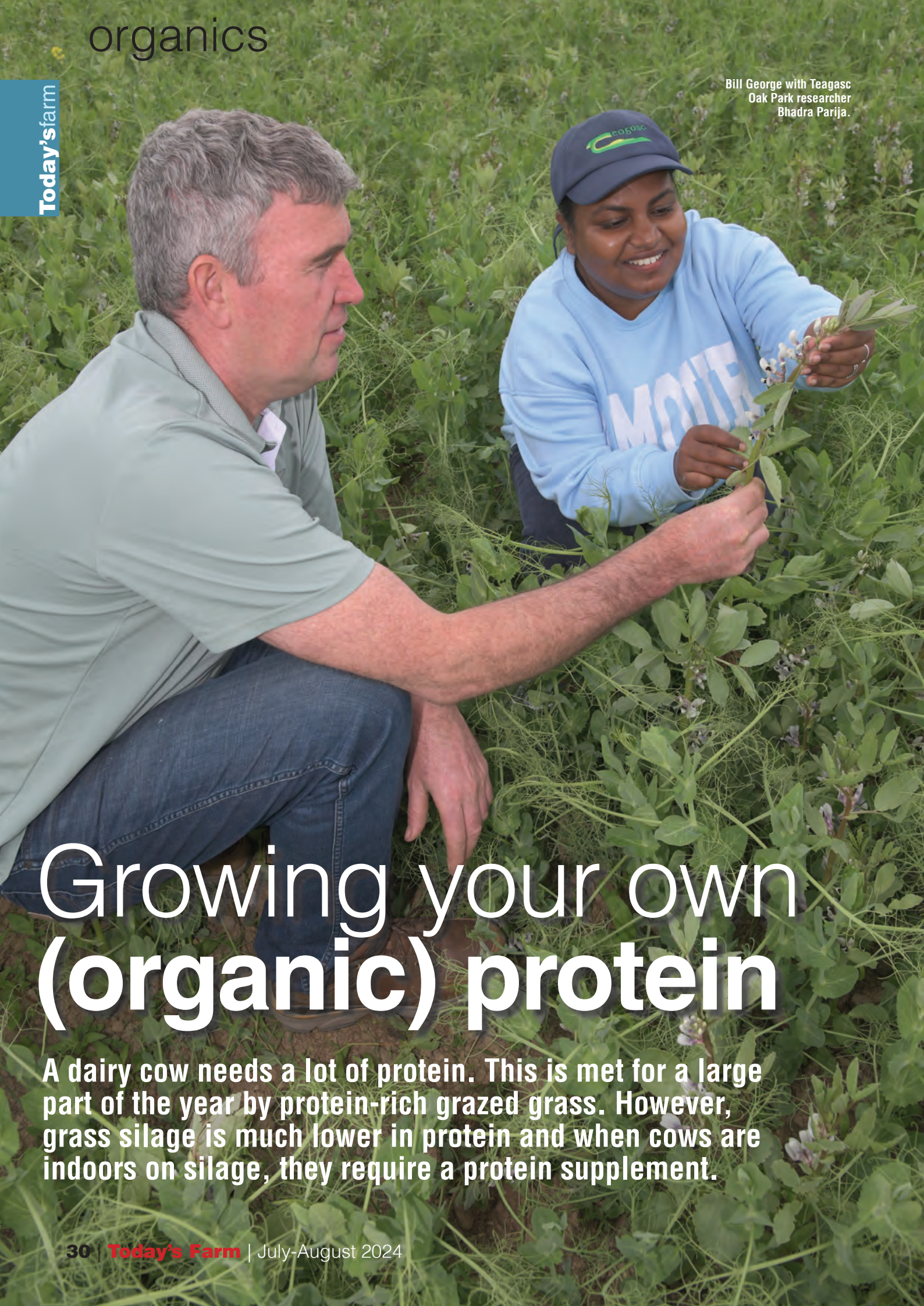
Flexibility

"I would prefer to feed the additive separate to the dry cow minerals as all my minerals are fed through the water. And it would give me more flexibility to perhaps feed the additive to the milking cows when they still have some silage in the diet.

"I suppose the biggest concern for me is: Who is going to pay for the additive? There is a significant cost associated with it but there is no improvement in performance. I would be happy to use it as it will significantly help to reduce my farms emissions but the cost issue needs to be figured out."

John Sheridan fed the Bovaer additive to his dry cows last winter.

From Centenary Thurles Co-op: "Centenary Thurles Co-op was happy to support John Sheridan our signpost farmer with the financial cost of the additive for this pilot study last winter. Trials have shown that Bovaer does reduce farm emissions with output unchanged. The biggest challenge is to find a way of increasing its usage at farm level.



Bill George with Teagasc Oak Park researcher Bhadra Parija.

Growing your own **(organic) protein**

A dairy cow needs a lot of protein. This is met for a large part of the year by protein-rich grazed grass. However, grass silage is much lower in protein and when cows are indoors on silage, they require a protein supplement.

Joe Kelleher
Teagasc Organic
Farming Specialist

This is especially true for farmers who milk cows through the winter months. So is it possible for Irish farmers to feed their cows entirely on Irish grown protein?

Bill George is an organic dairy farmer milking 150 cows at Coolanowle Organic Farm in Arles, Co Laois. Bill's father in-law, Jimmy Mulhall, began conversion to organic farming in 2001 and it has had full organic status since 2003.

"The farm comprises of 140 ha including the 64 ha milking platform, 23 ha of tillage crops and 28 ha of red clover silage," says Bill. "The remainder consists of out blocks for replacements and grass silage. The stocking rate on the grazing platform is typically 2.5 LU's/ha with the overall farm stocking rate on the farm at 1.7 LU's/ha."

Bill operates a split calving herd with 40% calving in the autumn and 60% calving in the spring. Milk is supplied to The Village Dairy, Killeshin, Co Laois. "They are a local milk processor who are bottling milk for retail and also supply Gino's Gelato for gelato ice cream," adds Bill. "We also supply The Little Milk Company, which make a range of organic cheeses."

Over the past five years, Bill has significantly reduced the quantity of bought-in concentrate by focusing on growing more crops on his own farm. He has also entered into share farm agreements and contract cropping agreements with other organic tillage farmers.

Costs

"We now purchase approximately 10% of our feed requirements from feed merchants," says Bill. This has resulted in organic concentrate costing him approximately €500/tonne versus the almost €800/tonne price he would be paying if he was purchasing all of this concentrate all through an organic feed merchant.

It's worth noting that Bill is well set up in term of facilities to allow him store and crimp the purchased grain.

"The predominant crops that we grow, or purchase, are combination crops of a legume (peas or beans) grown alongside a grain (barley or wheat)," says Bill. "The legume crop provides nitrogen to the cereal crop while also helping to smother out competing weeds. The grain crop can act as a scaffold for the legumes."

The resulting crop typically delivers a 14 – 16% protein feed. When you consider that the vast majority of Bill's silage is in the form of red clover silage, which will also have a similar protein content, you begin to realise that he is very close to meeting all his protein requirements without having to depend on any imported sources.

Bill George with his organic dairy herd.

But Bill is not satisfied to sit on his laurels and is now looking at novel ways of growing specialised protein crops on his farm in 2024, which is why he is participating in the VALPRO project.

VALPRO Path is a four-year Horizon Europe project involving 22 partners from nine countries. The mission of the project is to "pioneer fresh possibilities, validating and showcasing ways to enhance plant protein production for food and feed in the EU."

As part of the VALPRO Path project, five Innovation Production Systems (IPS) have been set up in Germany, Ireland, Italy, Portugal and Denmark. These are looking at protein crops such as pea, lupin, chickpea, faba bean and lentils.

Farmers, in collaboration with researchers and other project partners, will use their farms as field living labs to try out various protein crops and examine protein crop production solutions relevant to their own countries.

In Ireland, Teagasc Oak Park are working with a number of farmers, including Bill George, to assess the potential of growing peas more successfully by intercropping the peas with faba beans.

The theory is that the beans will act as a 'scaffold' or support to prevent or significantly reduce lodging in the peas. Finding the most suitable pea variety to intercrop with the most suitable faba bean variety, and planting at the most suitable ratio of pea to bean will be a major focus of this IPS.

Climate

Bill is also growing a small area of lupins as part of the project to assess their suitability to the Irish climate.

In 2022, Bill's Greenhouse Gas (GHGs) emissions per hectare farmed were 5.76 tonnes CO_2 equivalent. This is approximately two thirds of the per hectare emissions of the national average dairy farmer.

Having a lower stocking rate as a result of farming organically is a significant contributor to this figure, but growing a high proportion of his feed requirements is also contributing to these impressively low GHG figures.

"Our aim for 2024 is to feed the dairy herd entirely on Irish grown organic grain," concludes Bill.

150% increase in organic farmer numbers since 2022

In 2022 there were 2,000 organic farmers in Ireland. Today that figure stands at an impressive 5,000 farmers, who are now farming organically.

The generous financial incentives now being offered under the Organic Farming Scheme (OFS) had made organic farming very attractive for a large cohort of farmers, which is underpinning this increased level of demand.

The OFS scheme offers payment rates of up to €350/Ha for livestock and tillage farmers along with an additional participation payment (ranging from €1400 - €2,000).

It is expected that the Organic Farming Scheme will re-open this autumn for additional applications. Could organics be a good fit for your farming system? Talk to your local Teagasc organic advisor to find out more.

Cover crops: a proven tool to reduce nitrate leaching

Ciaran Hickey and Jonathan Leech say cover crops help improve soil structure.

ACRES and new Water EIP scheme are helping farmers fund the costs of planting cover crops, which can deliver a significant decrease in groundwater nitrate concentrations

Ciaran Collins
Crops Specialist,
Teagasc Moorepark

Ciaran Hickey
Teagasc Business & Technology Advisor (Tillage)

Nitrate leaching is most likely to occur in intensive spring sown tillage farms where land is left fallow over the winter. This can be mitigated by planting rapidly growing cover crops after harvest. These leafy crops are hungry for any nitrate present in the soil and 'give back' the nitrogen when ploughed under in the spring.

Experiments carried out at Teagasc Oak Park on light sandy soil, found that there was a significant decrease in groundwater nitrate concentrations under a mustard cover crop, compared to no cover crop. Nitrogen uptake by mustard was significantly higher than from naturally regenerated plant cover in all three years of the experiment.

However, results from this experiment also showed that nitrogen uptake by naturally regenerated growth was almost as high as uptake rates found for some other popular cover crops.

Nitrogen surplus

Nitrogen balance, (per hectare farmed), is used in the Teagasc National Farm Survey (NFS) Sustainability Report as an indicator of the potential magnitude of nitrogen surplus on farms.

This indicates the risk of nutrient losses to water bodies, all other things being equal. It is calculated on the basis of nitrogen inputs, minus nitrogen outputs, on a per hectare basis.

Nitrogen surplus on tillage farms is low when compared to other enterprises, and it varies from year to year. Nitrogen surpluses are affected by a range of factors some of which are within, and some (such as weather) which are outside, the farmer's control.

Higher nitrogen surpluses tend to be associated with adverse annual weather/growing conditions. Large nitrogen surpluses of 62.0kg were recorded in 2018 when drought reduced crop yields. In the high yielding year of 2022, a surplus of 40.5 kg/ha was recorded in the NFS Sustainability Report.

Importance of sowing date

Sowing date of cover crops is crucial. The more crop cover there is, and the more vigorous the growth, the more nitrate will be taken up. Good establishment, helped by early sowing, is essential to achieve the large biomass production which will max-

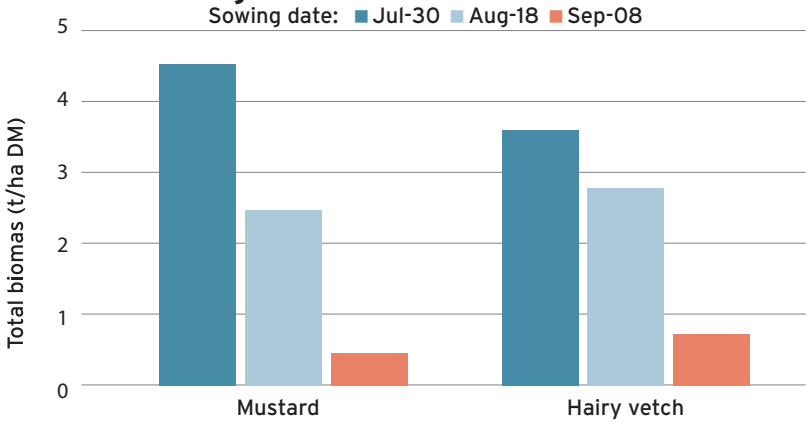
imise the benefit of the cover crop.

An experiment in Teagasc Oak Park examined biomass production from three sowing dates: Early – 30 July, Target – 18 August and Delayed – 8 September. Two cover crops were used: mustard, which is a fast growing non-legume, and hairy vetch a winter hardy legume.

The results (Figure 1) showed that there was a linear reduction in the amount of biomass produced as sowing date was delayed. The mustard lost 2tDM/ha for each three-week delay in sowing.

A key point from the experiment is that there were virtually no weeds produced on the 30 July sowing date; but between 40 and 60% of the biomass after the 8 September sowing was actually weeds. The later sowing date clearly reduced competition from the cover crop.

Figure 1: Biomass on December 12



Cover crop species

Carefully select cover crop species that suit your rotation. Growers of beans and peas should avoid legumes in their cover crop mixtures. Oilseed rape growers should avoid brassicas. Recent instances of clubroot in oilseed rape have been linked to the use of brassica cover crops.

Phacelia is a popular option as it is from a different family to other crops grown in tillage rotations.

It is important not to overestimate the nitrogen benefit of cover crops to following crops. Teagasc research has shown that the nitrogen benefit of non-leguminous winter covers is small and that only legumes have the potential to supply significant amounts of nitrogen to succeeding crops. And this can be very variable.

Cover crops also provide other benefits including improved soil structure, reduced compaction, increased water infiltration and reduced risk of soil loss in periods of heavy rainfall.

Soil compaction is very common this year following the wet conditions this spring. Deep rooting cover crops can play a role in alleviating some of these problems.

Farmer case study: Jonathan Leech Agri Ltd, Clonroche, Co Wexford

'Cover crops are a key part of the cultivation system'

Jonathan Leech of J Leech Agri Ltd., is farming in Tomfarney, Clonroche Co Wexford. He's a tillage farmer, but also a contractor and a machinery dealer,

Jonathan's rotation includes spring malting barley, winter oilseed rape, winter wheat, spring beans and oats. "I rarely grow winter barley, as the yield gap between good crops of spring barley and winter barley does not justify the extra cost on this farm," says Jonathan.

The farm is on 'Clonroche series soil' which is defined as Brown Earth. These are well drained soils, predominantly derived from the underlying shale rock. The profile contains appreciable quantities of small shale fragments which enhance the internal drainage of the soil.

These soils are particularly suitable for tillage. The challenge now is for any nutrients remaining after harvest to be captured using a catch crop.

"I have been using Non Inversion Tillage cultivation or Min Till for the last seven years and see benefits in improved soil structure and soil biology," says Jonathan. "Cover crops are also a key part of the cultivation system."

"They provide a roof over the soil in the winter. They stop the rainfall compacting the soil as well as keeping live roots in the soil and drainage pores open. This in turn helps soil drainage, which improves trafficability and makes cultivation easier."

The very important added bonus is that these living plant roots are taking up nutrients which otherwise would be available to be leached out of Jonathan's free draining Brown Earth.

"The only downside is the cost to establish and manage the cover crops and this is where schemes such as ACRES and the new Water EIP are so important," says Jonathan.

Neilus Nunan, Ciaran Hickey and Jonathan Leech examine cover crop seed.

Continued on p34

Continued from p33

With the help of Teagasc ASSAP advisor, Neilus Nunan, Jonathan is currently joining the new Water EIP which will pay €100/ac up to a max of 50ac; this payment will help to fund cover crops on the farm.

New Water EIP Q&A:

Q: What is it?
A: New €60mWater EIP (European Innovation Programme) designed to target the most vulnerable areas for water quality across the country with specific measures that will have maximum impact in improving water quality.

Q: Who is operating it?
A: LAWPRO (Local Authority Water Programme), Teagasc and Dairy Industry Ireland, in collaboration.

Q: Why is it needed?
A: Water quality needs to improve locally, regionally and nationally.

Q: What is the main objective?
A: To help farmers implement appropriate measures to address and improve water quality issues in vulnerable areas for water quality. Putting the "right measure in the right place" is a key part of the programme.

Q: How does it work?
A: Specialised Water Quality Advisors (from ASSAP/Teagasc & the Dairy Co-ops) approach farmers in the most vulnerable areas for water quality with a view to assessment and voluntary participation in the programme.

Q: Is there guaranteed access?
A: No, there is a rigorous selection process similar to many other schemes. It is not until this process is carried out, that approval and subsequent participation in the EIP can be granted.

Q: Are there payments?
A: Yes, there are 41 different measures in the EIP with varying rates of payment for each.

Q: When did the scheme start?
A: It was announced in March and has opened for applications in recent months.
Q: What is the scheme's relevance to Tillage?
A: Use of Cover/Catch Crops are a key measure in the EIP to address the high nitrates problem, in areas such as the south-east, in particular. There are also pesticide measures to deal with specific issues.

** Jonathan has put himself forward for selection in the EIP and hopes to implement the Catch/Cover Crops measure on up to 20ha of his farm, if selected.*

Cover crop benefits

- Carbon capture.
- Crop biomass production.
- Overwinter green cover retains more soil C over the winter.
- N captured over winter.
- Captures 1.3t CO_2/ha.
- Reduce N leaching.
- N uptakes 10 to 65kgN/ha.
- Reduced N losses over winter
- 20% of N available to following crop.

Scan these QR codes to watch videos on cover crop sowing in Wexford

Weed Watch 2024: Herbicide resistance testing

Vijaya Bhasker A.V.
Research Officer, Weed Science & Agronomy, Teagasc Oak Park

Teagasc has launched a 'Weed Watch-2024' campaign with the *Irish Farmers Journal* to combat the increasing threat of herbicide resistance.

Resistance tests on suspected populations of ANY grass and/or broadleaved weeds are encouraged.

If you have large uncontrolled populations or you suspect resistance with Black-grass, Italian ryegrass, Wild oats, Bromes, Meadow grass, Canary grass, Chickweed, Poppy, Speedwell or Corn marigold, it might be worth getting weed seed samples tested now.

This invaluable service from Oak Park is for free for a limited time, as a part of the DAFM-funded EVOLVE research project.

Testing protocol

To obtain comprehensive results from testing, it is important to collect and submit quality samples of your target weed(s). Follow these steps:

- For grass-weeds, collect ripe seeds when they easily fall-off the seed head when brushed, stroked, or shaken vigorously into a paper envelope.
- For broad-leaved weeds, collect ripe seed heads or capsules or seeds directly into a paper envelope.
- Sample sufficient seed quantities.
- Fill-out the herbicide resistance testing form.
- Send paper bags of dry seeds along with completed form to Vijaya Bhaskar, Teagasc Crops Research Centre, Oak Park, Carlow.
- The resistance testing form and seed collection instruction is available on the linked flyer. Your advisor will have all the details too.

Act now

The window before harvest is an opportunity for growers and industry to gain unique information on what herbicides will work on your populations by conducting resistance tests. This information is crucial for developing future rotational plans.

Table1: Confirmed herbicide-resistant grass and broadleaf weeds in Ireland

ACCase herbicides (Axial, Falcon, Stratos, Centurion)	Broad-spectrum ALS herbicides (Pacifica, Broadway)	Broad-spectrum ALS herbicides (Ally Max, Cameo Max)	Auxin mimics (2,4-D)
Wild oats Blackgrass Italian ryegrass	Blackgrass Italian ryegrass Annual meadow grass Rough-stalked meadow grass Chickweed Poppy Corn marigold Speedwell	Chickweed Poppy Corn marigold Speedwell	Poppy Chickwee

Derek McCabe receives the 2024 RDS Teagasc Farm Forestry Award from Pippa Hackett, Minister of State at the Department of Agriculture; Professor Frank O'Mara,Director of Teagasc, and John Dardis, RDS president.

A winning combination: farming and forestry in Cavan

Michael Somers,
Teagasc Forestry Advisor

Derek McCabe and his family – winners of the 2024 RDS Teagasc Forestry Competition – combine a busy beef enterprise with 70 hectares of forest in Mountnugent, Co Cavan. Derek manages the forestry himself.

The McCabes run a mixed herd of pedigree Angus and Continental cattle and are on the road to organic status. Derek is also a keen breeder of Irish Draught Horses.

Derek has used his forestry management experiences and entrepreneurial skills to add value by developing a firewood and fencing business. "I believe that forestry has made our farm holding sustainable," he says. "Each new generation in the family should be able to benefit from managing the forests."

As well as his interest in his own forests, Derek is deeply involved in the Northeast Forestry Group. He believes in sending a really positive message to the younger generation about forestry by working with schools to provide information and build knowledge.

On receiving the 2024 RDS Teagasc Farm Forestry Award, Derek commented: "We are delighted to win the Teagasc award. We've worked hard to develop our forest into something that will bring many kinds of rewards into the future and it's great now to get this independent validation!"

Runners-up

James and Martina Ham from County Westmeath received the runners up award in the 2024 RDS Teagasc Farm Forestry Award.

They started planting 20 years ago and now have an area of forest equal to their farmed land area. The combination is now attracting their kids back to the home place. "We are anxious to push the compatibility of organic farming, forest production and biodiversity and are putting plans in place to make this happen," says James.

Now in their seventh year the RDS Teagasc Farm Forestry Award recognises working farmers who are integrating forestry and farming for environmental, social and economic benefits. It acknowledges the farmer's role in actively managing the forest and promoting forest and tree planting to strengthen wider farming sustainability.

Do you have what it takes to be a RDS Teagasc Farm Forestry Award winner?

If you believe you are successfully integrating your farm and forest, why not put your name forward for the 2025 RDS Teagasc Farm Forestry Award?

The 2025 RDS Teagasc Farm Forestry Award is open for entries. The winner will receive €2,000 and an RDS Spring Awards Trophy. There is Runners-up prize of €1,000 and an RDS Certificate of Merit.

Follow this QR Code link for more information:

Everyone benefits from cleaner water

The new Farming for Water European Innovation Project (EIP) includes a €50m budget (until 2027) to fund a range of on-farm measures to improve water quality

David Webster
ASSAP advisor
Teagasc Mullingar

The main objective of the Farming for Water EIP is to reduce loading of phosphate, nitrate, sediment and pesticides entering our rivers and streams through 'diffuse' or 'point' sources associated with farming. The Dysart/Lough Ennell Priority Action Area (PAA) in county Westmeath is an important catchment as it is a spawning ground for brown trout and Lough Ennell is a bathing lake. Water quality has been an issue in Lough Ennell for a number of years.

The Dysart stream has been classed as good in the upper part of the catchment decreasing to moderate as it enters Lough Ennell. The main issues affecting water quality in the stream and lake from an agricultural point of view are cattle access points along the stream, land spreading of agricultural wastes (E coli), and nutrient runoff by 'diffuse' pollution.

The Farming for Water EIP will assist farmers to address issues in the catchment and will improve water quality when changes are implemented. David Fay from Dysart, Co Westmeath and Shane Pearson from Balrath, Co Westmeath, are taking part in this new Farming for Water EIP.

David is farming a 50 hectare owned farm in conjunction with 30 hectares leased long-term. The land has been farmed organically since 2023 and is in year two of conversion. The farming system is suckler to beef, spring calving using Angus bulls.

David has engaged with the ASSAP programme since 2020. "Before the ASSAP programme, I was not fully aware of the water quality on the farm or the factors affecting it," says David. "When it was explained to me, I wanted to know how my farming could be changed to benefit water quality, the farm and the wider community."

Over the last two years David has closed all cattle access points to Dysart stream and has installed a solar water pump to supply water to livestock from drinking troughs only. This has had many benefits for the stream. It has reduced the loading of nutrients into the river and cut sediment loss as the riverbank is now more stable.

"The solar water pump has been a 'game changer' for me as my grazing management is no longer governed by the location of the drinking point," says David. "I can now split fields and improve grazing infrastructure."

His slurry spreading is now completed by dribble bar instead of band spreader. "We no longer apply slurry in sensitive areas of the farm that are prone to runoff," he adds.

Dave Webster and Shane Pearson.

> We no longer apply slurry in sensitive areas of the farm that are prone to run off

The new Farming for Water EIP will assist David to deliver further protection measures on the farm. He is introducing additional stream fencing and increasing management of critical source areas. All drains on his farm will be fenced off from livestock thereby giving increased protection to the stream and assisting in improving water quality in the

David Fay (left) says a solar-powered pump means cattle no longer enter streams on his farm.

Lough Ennell/Dysart PAA.

David says: "We are all in the one river catchment and if all farmers change their farm practices a little, we will help deliver improved water quality in our local area.

"I would strongly encourage farmers to take part in the ASSAP programme and the Farming for Water EIP, as it promotes best farm practice and can deliver improvements on your farm with funding that you may not be in a position to take on yourself."

Shane Pearson farms 60 hectares in Churchtown, Ballinea, Mullingar in the upper part of the Dysart Lough Ennell PAA.

"As a child I used to swim in Lough Ennell and I feel that it would be a huge loss if we could no longer use this great facility," he says.

As a farmer within the catchment, he says he wants to play his part in protecting and improving water quality in the catchment. His farming system is weanling to beef. Shane has engaged with the ASSAP service since 2020.

"Some of our land is sensitive to Phosphorus(P) losses from application of nutrients. I'm now more aware of these areas, and have altered my farm practices, so we are even more careful when applying slurry/chemical fertilisers.

Minimal risk

"I only apply fertiliser when there is active growth and good ground conditions with minimal risk of losses of nutrients to water. The ASSAP programme highlighted these areas of the farm and gave me advice on how to manage these areas better."

Shane has applied to the Farming for Water EIP to fund additional measures on his farm. These include stream fencing, a solar water pump, water troughs and management of critical source areas.

When these additional measures are implemented, stock will have no access to Dysart stream or other drains on the farm along with improved management of critical source areas on-farm. These measures will have a positive impact on water quality in the Lough Ennell Dysart PAA.

Taking part in the ASSAP programme and Farming for Water EIP will benefit his farm. There will be increased protection for Dysart Stream with better grassland management.

Shane says: "As farmers, we need to act together and all do our little bit collectively. This Farming for Water EIP gives us the push we need to do the right things in the right places."

David and Shane say they encourage all farmers to get involved in the ASSAP programme. "The programme gives good advice which is specific to your farm," says David.

Shane adds: "You have the benefit of applying to the Farming for Water EIP for extra funding to help with the costs of implementing farm specific measures to improve water quality on your farm. Your ASSAP advisor will help with advice and will help apply for the funding on your behalf if necessary."

Success for Teagasc students at European HortiChallenge event

Sarah Simpson
College Technician, Teagasc College of Horticulture in the National Botanic Gardens

(l-r) Sarah Simpson, Deirdre Walsh, Chélirs Brecq and Aoife Hester.

Two students from the Teagasc College of Amenity Horticulture – Chélirs Brecq from Birr, Co Offaly, and Aoife Hester from Navan – took part in HortiChallenge 2024.

HortiChallenge is a competition which brings together students from across Europe studying within the hoticulture sector. This year's competition was held in Estonia.

Chélirs had just completed the Level 6 Landscape Design and Construction course and Aoife had just finished her Level 5 placement with the Office of Public Works in the National Botanic Gardens. The two students were accompanied by myself and Deirdre Walsh, assistant principal.

HortiChallenge competition

The competition was held in Räpina, an idyllic, rural town on Lake Pihkva in the south of Estonia, surrounded by beautiful birch and pine forests. This landscape is characteristic of Estonia, with 50% of the land area under forestry and 25% used for agriculture.

At the opening ceremony, the principal of the host college, Kalle Toom, gave a very warm welcome to Team Ireland, as it was our first time taking part in the HortiChallenge competition. We had travelled the furthest to compete.

There were 14 teams from 12 countries all keen to show off their horticultural skills. The countries represented were Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, Latvia, Luxembourg, The Netherlands, Norway and Romania, with Austria and Estonia entering two teams.

The competition consisted of 20 tasks to test the students on a range of horticultural skills.

These included grafting, sowing seed and pricking out seedlings, taking cuttings, plant identification, seed and cone identification, planting to a planting scheme, setting up an irrigation system, donning PPE, and soil pH and fertiliser calculations.

Over two days, the students moved from station to station across the college campus, completing all of the tasks as a team. They were evaluated on the quality and speed of their work, as well as their ability to work together.

> The competition consisted of 20 tasks over two days to test the students on a range of horticultural skills

On Saturday evening, the awards ceremony took place in a beautiful wooded area of the college grounds, followed by a celebratory dinner at Sillapää Castle, overlooking the lake. We were absolutely thrilled when Kalle Toom announced Team Ireland as coming in third place.

Aoife and Chélirs certainly set the standard for new entrants into the competition and wowed the judges with both their performance and character.

The students were delighted with their result and it was wonderful to see their confidence soar.

Dedication

We knew these two students would be great candidates to represent the college and country, as they had shown real dedication to their chosen programmes from the start.

They quickly became very popular among the other teams and were proud to explain some of the uniqueness of Irish culture such as the great game of hurling!

They were not only great ambassadors for Teagasc, but also brilliantly represented Irish horticultural education, and the industry as a whole.

If you would like to know more about Teagasc horticulture courses please consult the College of Horticulture link on www.teagasc.ie.

Future Beef

Profitable Suckler Beef Farming

Friday, 12th July | 6.30pm

Ken Gill's Farm, Clonbullogue, Edenderry, Co. Offaly *R45HT67*

Topics discussed will include:

- Beef profits & organic payments
- Breeding strategy
- Birth to finishing performance
- Red clover management

Plus stands on organic farming, water quality, biodiversity, forestry & more

Friday, 26th July | 3pm

Eamon & Donnchadh McCarthy's, Carrigeen, Glendine, Youghal, Co. Waterford *P36DT18*

Topics discussed will include:

- Financials
- Breeding strategy & Sensehub technology
- Development of a paddock system
- Actions to safeguard water quality
- Bull beef production

Plus stands on biodiversity, forestry, breeding & more!

For more information see www.teagasc.ie/futurebeef

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