



Today's Farm

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Help the environment; boost farm profits.

A journey from dairy to beef and conventional to organic.

Major dairy and sheep open days.

Ten questions farmers ask about hiring.

Tackling parasites in weanlings.

Breeding strategies for FutureBeef.

Machair sites key to lapwing revival.

Timing is all in disease control.

Forestry, botanics, and much more...

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Events season approaches

In this edition we feature a Tipperary farmer, Pat Maher who has moved into organic beef after a lifetime in dairying. We also feature Carlow farmer Victor Graham who switched from beef to dairying about five years ago. What both have in common is that they intend to adopt the latest research to farm profitably in a way that helps the environment. Over the next couple of months Teagasc events: Moorepark '25, Sheep 2025 at Athenry, and Crops and Technology at Oak Park will deliver the latest research on how to do just that. We hope to see you there.

Séasúr na n-imeachtaí ag druidim linn

As seo go ceann na gcéad cúpla mí eile réachtálfar dhá imeacht mhóra dhébhlíantúla de chuid Teagasc, lá oscailt na Cloiche Léithe, 2025 an 2 Iúil, agus Caoirigh 2025 ag Baile Átha an Rí an 21 Meitheamh. Anuas air sin beidh Lá Oscailte na mBarr agus na Teicneolaíochta ar siúl ag Teagasc na Páirce Darach an 25 Meitheamh. Cé go bhfuil praghsanna maithe le fáil faoi láthair, tá droch-chomharthaí na héiginnteachta ar an trádáil dhomhanda.

Níl neart ag feirmeoirí ach ar a bhfuil ar bun acu féin. Ciallaíonn sé sin teicneolaíocht a ghlacadh chugat féin agus costais a choinneáil faoi smacht. Feicfear roinnt mhór smaointe faoin dá ghné sin ag na trí imeacht uile. Tá súil againn tú a fheiceáil ag an oiread de na laethanta oscailte agus is féidir leat freastal orthu.



Farmers on Machair land along the west coast are helping revive the lapwing and other waders. See pages 22-23. Photo: Andrew Kelly

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Cover: Victor Graham participates in the Teagasc Signpost Programme. His plan includes efficiency measures which will reduce his farm's greenhouse gas emissions and planting of native hedgerows which are good for biodiversity and carbon capture.

Mark Moore

Editor, Today's Farm



The courses will give participants the skills and knowledge to comply with EU and Irish legislation.

Organic Farming Principles courses

Meeting market requirements and approved organic standards in compliance with European Union (EU) and Irish legislation

A 25 hour QQI Level 5 'Organic Farming Principles' course must be completed before acceptance into the Organic Farming Scheme.

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knowledge, skill and competence to apply organic farming principles to the production of organic produce, to meet market requirements and approved organic standards in compliance with European Union (EU) and Irish legislation.

The course is held over five days and will be delivered at venues across the country (venues for day one are listed) starting on May 20. Please check the Teagasc website or contact your local Teagasc office about the full programme.

Roscommon

Teagasc, St. Patrick's Street Castlerea Co. Roscommon. F45 NW99 and online.

Start time: 10am

Leitrim

Teagasc, Sligo Road, Manorhamilton, Co. Leitrim, F91 DXE1 and online.

Start time 10am

Cork

Teagasc, Codrum, Macroom, Co. Cork P12 TX32 and online.

Start time 10am

Laois

Teagasc, 1 Park Villas, Portlaoise, Co. Laois R32 CF21 and online.

Start time 10am

Galway

Teagasc, Upper Dublin Road, Tuam, Co. Galway H54 VE86

Start time 10am

Farm Walks

Visit the Award Winning Walsh Family Dairy Farm – Overall winners of the Teagasc/FBD Environmental Sustainability Award 2024

Location: Ballylooby, Co Tipperary, E21T938

Date: Tuesday, 10 June, 6:30 PM

This is a family-friendly event including an insight in what this family is doing to maintain output while looking after the environment, fun and games for the kids and complementary refreshments. For more details, visit: www.teagasc.ie

Visit the Award Winning Crowe Dairy Farm – Winners of the Improving water quality category of the Teagasc/FBD Environmental Sustainability Award 2024

Location: Carrigmore, Doon, Co. Limerick, V94HV56

Date: Tuesday, 24 June, 11am

Join us to learn more about how Martin Crowe has changed his management practices to reduce the risk to water quality on his farm in recent years.

For more details, please visit: www.teagasc.ie

THURSDAY 12 JUNE

Teagasc College of Amenity Horticulture Open Day

Venue: Teagasc College of Amenity Horticulture, National Botanic Gardens, Glasnevin, Dublin 9. Eircode: D09 VY63

Event time: 12 noon to 3pm | Tours on-going

SATURDAY 21 JUNE

Sheep 2025 Open Day



Venue: Teagasc, Animal & Grassland Research and Innovation Centre, Athenry, Co. Galway

Event time: 9am-5pm

WEDNESDAY 25 JUNE

Crops and Technology Open Day

Venue: Teagasc Oak Park, Carlow. Eircode: R93 XE12

WEDNESDAY, 02 JULY 2025

Teagasc Moorepark Open Day



Venue: Teagasc, Animal & Grassland Research Centre, Moorepark, Fermoy, Co. Cork P61 C996



Teagasc/UCD Michael Smurfit course in business strategy for farmers

The ten year anniversary of this highly regarded, accredited, course was celebrated just before Christmas in 2024. The course will run again in autumn 2025 and will focus on areas such as strategy formulation, investment/accounts, negotiation, management of self and others etc. For 2025 we will add content on corporate governance. If you would like to register your interest please email: Mark.moore@teagasc.ie

ADVERTORIAL



Moving to stage 2 of calf rearing

Maeve Regan,
Head of Ruminant Nutrition, Agritech

The most labour-intensive stage of rearing calves has, in most instances, ended after approximately 70 days on milk (February-born replacement heifers). However, for many herds, the first season at grass can be the most difficult stage to manage from a performance point of view.

The success of this – nutritionally – will hinge around developing the calf as best as possible prior to the introduction of grazed grass. Rumen development will have begun at the first exposure and introduction to solid feed, i.e. concentrates, straw and water. Weaning should only have been considered when calves are intaking a minimum of 1.5kg concentrate/day in grouped pens, signalling that the calves' dry matter intakes can cope with the transition to a 100% solid diet. Thereafter, when we eventually get calves out, the introduction to grass needs to be managed correctly to avoid setbacks.

Year-on-year, cases of calves suffering from poor thrive – once first turned out to grass – crop up on farm. Animal health issues can also prove a huge influencing factor here, and best practice plans for parasite control and dosing protocols should be discussed on a farm-by-farm basis with your veterinary practitioner. Nutritionally, lush, low dry matter spring grass is often high in oils like conjugated linoleic acid, sugars and potentially nitrogen, which young, underdeveloped rumens can find it hard to adjust to. Low covers of grass also have very little fibre – a key substrate for good rumen health.

Alongside weaning management, practices to be considered during the transition to grass include:

- Offering concentrates post-turnout to help reach dry matter intake potential and over-gorging on lush grass;
- Grazing slightly heavier covers until calves have adapted well to grazing;
- Offering a fibre source at first to ease the transition and/or strip grazing calves to ensure that stem content is also being grazed as opposed to allowing access to large areas for selective grazing.

Typically, sudden issues around acidosis at grass with young calves coincides with a burst in grass growth rates, and/or aftergrass regrowths and therefore we should be mindful of this during these periods.

It is, as always, important to remember that calves are not yet fully functioning ruminants and therefore shouldn't be treated as such.

For further advice, contact your local Agritech Sales Advisor or visit www.agritech.ie



www.agritech.ie



From dairy to beef and conventional to organic

In an era when many beef farmers have converted to dairying, Pat Maher has bucked the trend

Orla Walsh
Teagasc Organic
Farming Advisor

Elaine Leavy
Teagasc Organic
Farming Specialist

Austin Flavin
Teagasc Advisor



“You could say I’m repurposing my dairy cows as sucklers,” says Tipperary farmer Pat Maher who farms 59 acres of good free-draining soil within sight of the Rock of Cashel. Until recently Pat was a progressive and successful conventional dairy farmer, milking a herd of British Friesian cows.

Some of these animals are enjoying new ‘careers’ as sucklers, “but they will be replaced over time,” says Pat. “My goal is to establish an organic beef herd through selective breeding. I recently purchased some organic Aubrac heifers and an organic Angus bull, to produce beef for the organic market.”

As a sixth generation dairy farmer, by 2003 Pat had been dairy farming for over fifty years. He had been in derogation and farming quite inten-

sively prior to starting conversion to organic in January 2024. He felt it was time for a change:

“I don’t want to milk the cows anymore but that doesn’t mean I don’t want to farm, nor does it say that I want to let the place go wild. I see organic farming as using modern practices in a more sustainable way.”

So, Pat will maintain grass productivity and quality. He has retained his paddock system and continues to make weekly grass measurements. He has incorporated more white clover over recent years, reducing his reliance on chemical fertiliser, and aims to establish multispecies swards.

Making the decision. Pat’s decision to convert to organic farming didn’t happen overnight.

“I wasn’t happy with the trajectory I was on. I felt I was working 24/7.

Once milk prices went up everything followed, but they didn't go back down. The margins got squeezed. I made good money in dairying, but it became too volatile, you'd make it one year, you'd lose it the next, I'm getting too old for that inconsistency."

Quality of life is important: "No matter where I was, I'd always be thinking I need to get back to the farm by 4:30pm to milk the cows. It required almost a military operation when we went on holidays. I had to have an operator who knew what they were doing, I had to pay them double what I'd pay myself and I thought there has to be a better way."

At his wife's suggestion Pat enrolled in the 12-month Leader Biodiversity course in 2023. During the course Pat met fellow organic farmer, the late Michael Hickey, who told him "You'd be perfect for organic farming." Pat did extensive research. "The more information I got, the more I realised organic farming would suit me."

Extra housing

Pat has been busy over the last year, getting the farm up to standard for organic conversion. A key point is the extra housing required (see page 19).

"I frontloaded the work, I did all the shed renovations myself. I could have applied for grant aid, but I felt a grant is a double edged sword, you must spend the money first, and then you wait for it."

Pat removed his cubicles for ease of management, as they have to be bedded and a certain width, which Pat's wouldn't have been. He has turned this area into two calving boxes, "Straw and slats don't mix, if you're bedding and cleaning out, the automatic scrappers would be getting stuck continuously."

To comply with the organic housing requirements, Pat had to ensure the cattle had at least 50% solid area for lying space. This has increased his straw requirement. "In the past I used 40 bales of straw, now I need 100."

The straw for bedding doesn't have to be organic and Pat is able to source it from another local farmer who is partially organic. "Straw is expensive but you benefit in the FYM, which is a valuable resource."

Exercise area

In line with the Organic Food and Farming standards, breeding bulls, if housed, must have access to pasture or an open-air exercise area of a minimum of 30m².

The required open-air area may include open yards or situations where the bull is running with cows (e.g. for breeding purposes) in housing facilities which include at least one open side (this can include housing with



Pat Maher says he's 'fallen back in love again with farming' since converting to organic.

an A shaped roof which has an open passage).

When housed alone, bulls should be in sight of other animals. Safety precautions when handling such animals must be observed.

Reflecting on his decision to convert to organic farming, Pat concludes:



The margins got squeezed. I made good money in dairying, but it became too volatile, you'd make it one year, you'd lose it the next

"Now I'm still farming and I'm busy but I'm not tied to time as much. I put my whole heart into the organic to try and get it right and set myself up, and there's a learning curve in it.

"I still want to actively farm, the organic farming scheme makes the transition viable. I feel like I've fallen back in love again with farming, the constant slog is over, it's at my own pace now."

*Pat also joined the Teagasc Growing Organics monitor farm programme last year.

This will document his transition to an organic suckler herd. For more information on the Growing Organics programme visit [Teagasc Organic Farming](https://www.teagasc.ie/organic-farming).



Continued on page 8

Looking after the 'three S's'

Organic farming systems require more generous space allowances in winter housing than conventional systems.

What type of sheds are required? At least half of the minimum surface of the indoor area laid down in the table below for bovine, ovine, caprine and equine animals must be of solid construction, i.e. not of a slatted or grid construction.

Cubicles must be of optimum size for the animals' welfare. Animals must have free access to cubicles and must have an adequate lounging area. Cubicles must be clean, dry and bedded at all times.

Enough space? To evaluate your requirements you must know the amount of floor space available to animals and the number of animals to be housed over the winter.

How do I measure the shed space? Measure each shed separately (a 30m tape is preferable). Firstly measure the entire length and width of the shed to find the total space available in the shed.

Secondly, measure the solid floor lying area that can be bedded. Exclude any slatted areas or solid area that cannot be bedded (eg; concrete strips in front of feed barriers).

How many animals can a cubicle house accommodate? Measure the total area of all cubicle beds combined in the shed.

For cows, there must be 3m² of lying space available to each cow within the shed and each cubicle must not be less than 2.62m². Smaller animals may be accommodated in cubicles less than 2.62m² e.g. weanlings. There must be a total space of 6m² per cow available in total within the shed.

What bedding material can I use? Straw, rushes, miscanthus, sawdust and woodchips (the timber cannot have been treated). Peat is not allowed for bedding.

Do I have to use organic straw? Straw used for bedding does not have to be organic. If livestock are fed straw as part of their ration, then it must be organic.

Table 1: Livestock housing considerations for Organic Farming		
Livestock	Live weight (kg)	Indoor m ² per head
Cattle	>100	1.5
Cattle	>200	2.5
Cattle	>350	4.0
Cattle	Over 350	5 with a minimum of 1m ² /100kg
Dairy cows		6
Breeding bulls		10
Sheep		1.5
Lambs		0.35
Goats		1.5
Kids		0.35



Organic farming requires greater space per head than conventional systems.

CASE STUDY:

Eddie Connors, Cloncoskaine, Dungarvan, Co. Waterford

Bedding with miscanthus



Orla Walsh; miscanthus grower Eddie Connors and his Teagasc advisor Austin Flavin.

Converting to organic farming in 2023 was a natural progression for Eddie, as he has a keen interest in maintaining and enhancing his farm's sustainability, both financially and environmentally.

With the rising cost of straw and concerns over availability, alternative bedding materials such as miscanthus should be considered this winter. It was originally grown on Irish farms as an energy crop, with farmers initially receiving grants to plant it for biomass production, which is how Eddie started growing miscanthus in 2007.

Absorbent bedding

"Miscanthus is as absorbent, if not more so than sawdust/woodchips," says Eddie. "The bedding is firm like woodchips under the animals but doesn't get sloppy like straw. It is important to put a good firm foundation of miscanthus in under the animals when bedding them".

Eddie uses miscanthus under cows and calves. He says he had calves in a section of the shed one year and the miscanthus lasted for two months before it needed to be cleaned out, whereas new straw would have had to be put in every few days.

He spreads the miscanthus FYM on the farm usually in October, before the closing date for spreading: "There is a bit of nitrogen being used in the rotting and it's taking from the grass, but I haven't found any issues with breaking down or rotting, we're not left with residue on the field."

Depending on the region, the availability and cost of miscanthus can vary. It's essential to evaluate whether it's economically viable compared to traditional bedding options, but it's certainly worth considering.

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Where to from here for the Irish dairy industry?



The Moorepark 2025 Open Day will offer a blueprint for the dairy sector's future, with the emphasis on protecting and enhancing the fundamental advantages of our grass-based production system

Laurence Shalloo
Head of Teagasc
Animal & Grassland
Innovation and
Research Programme



Dairy farms can become more resilient by minimising reliance on external inputs, with grazed pasture as the system's foundation due to its low cost and impact on profitability and overall sustainability. In 2023/2024, home-grown forage made up 78% of cow diets; the target is to exceed 90%.

PastureBase Ireland data shows that even in challenging years like 2023 and 2024 individual farms can grow up to 15t DM/ha with the average at 12.4 t DM/ha, compared to the national average of 10.4 t DM/ha, back calculated from NFS data. This highlights the potential for increased pasture growth to raise carrying capacity while reducing external feeds.

Embracing the EBI, with a cow suited to grazing systems, and embracing technology will reduce labour demand and increase work/life balance. A well-optimised system, where feed supply and demand are balanced, improves profitability, lowers emissions, and enhances nutrient balance and biodiversity while providing an increasingly rewarding and satisfying work

environment.

Environment

Ireland's agricultural sector faces increasing environmental pressures, particularly around greenhouse gas (GHG) emissions. Agriculture must reduce emissions by 25% by 2030 relative to 2018.

Methane dominates emissions from dairy systems in Ireland and recent developments show Ireland's pasture-based dairy and beef systems have among the lowest carbon footprints globally, with recent figures showing Irish dairy at 0.88 kg CO₂e/kg FPCM.

Research and updated emission targets set for the best farmers are 0.63 kg CO₂e/kg FPCM by 2030 and potentially close to 0.50 kg CO₂e/kg FPCM with sequestration included. Technology adoption and farm-level changes are key to emissions reduction, as is continued investment in research to develop new solutions.

Nitrate concentrations in water are showing signs of improvement. The EPA's most recent 'Early Insights Indicator report' is showing declines in nitrate levels, albeit the south and south east are still too high.

These changes are driven by policy changes under the Nitrates Directive, increased fertiliser N costs in 2022 and 2023, and greater focus on nutrient efficiency and management at farm level. This improvement, while welcome, needs to be sustained and will be underpinned by Teagasc's Better Farming for Water campaign.

Food security

Debate is increasing around the use of human-edible food in livestock feed and its implications for global food security. Metrics such as the Edible Protein Conversion Ratio (EPCR) and Land-Use Ratio (LUR) indicate that Irish dairy systems

contribute positively to human digestible protein supply.

Animal-sourced proteins offer superior digestibility and nutrient bioavailability compared to plant-based alternatives.

However, there is a need for increased focus on the diet of the dairy cow. The reality is that as the industry increases supplementary feeds in a dairy cow's diet, food security reduces, emissions increase, profitability reduces (depending on milk price and feed price ratios), while increasing the surplus nitrogen available for loss.

Technology at farm level

Dairy family farm income has significantly outperformed other enterprises since 2012, driven by increased cow numbers, land area, and grass utilisation. While productivity has improved, rising concentrate use and static pasture production and utilisation since 2022 raise concerns.

Profitability in pasture-based systems relies on maximising grass use and maintaining dairy cow fertility. Improved six-week calving rates (now 68%) reflect progress, though they are still below the 90% target.

Calls to increase milk yield per cow overlook the fact that profitability is more related to grass utilisation, input costs and the proportion of home-grown forage in the diet, rather than output. This fact applies in pasture-based settings around the world.

Dairy-beef

There is significant opportunity in our dairy beef sector, driven by increased use of sexed semen and high-value beef genetics. Sexed semen usage has risen from under 50,000 straws pre-2020 to over 350,000 in 2025, reducing male dairy calf numbers by up to 150,000.



The Dairy-Beef Index (DBI) guides the selection of bulls with traits suitable for both dairy cows to produce calves for beef production systems.

The National Genotyping Programme and Commercial Beef Value (CBV) help identify economically efficient calves early in order to provide the beef farmer with confidence around the quality of the calves being bought.

Transformation

It's 10 years since milk quotas were abolished. The industry since then has been transformed. It has dealt with a pandemic, a war on the continent of Europe and now is dealing with the advent of tariffs and trade wars.

The industry is dealing with the challenge around generational renewal, requirements to reduce GHG emissions, uncertainty around the nitrates derogation and cost increases at farm level.

The reality is that the dairy industry has a track record of embracing technologies while dealing with and meeting challenges head on. Who would bet against the industry doing the same over the next 10 years?



Emer Kennedy says "profitability in pasture-based systems relies on maximising grass use and maintaining dairy cow fertility."



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The bottom line is that we have to grow more grass

It is core to the dairy sector's competitiveness but, on average, grass output is lagging behind demand.

Michael O'Donovan
Teagasc Research Officer



Michael Egan
Teagasc Grassland Research Officer



Irish dairy farms have experienced major changes in relation to grassland over the past decade. Stocking rates have increased; nitrogen (N) fertiliser allowances and levels used have reduced; milk yields per cow have increased significantly. Also, wetter springs, and drier summers are reducing pasture production.

The consequence is increased levels of concentrate and forage supplementation while cows are at grazing. However, grazed grass/clover swards continue to be the cheapest feed source available on farms. They deliver nutrients 2.7 times cheaper than grass silage and 3.8 times cheaper than concentrate.

Data from PastureBase Ireland (PBI) shows that dry matter (DM) production on farms has not advanced in line with increased grass demand. Grass DM production has averaged 13.2t DM/ha/yr from 2014 – 2024.

There needs to be a refocus on increasing grass DM production on farms. There are many factors that influence pasture DM production, the main factors are: soil fertility, grazing management, using grass clover swards and nitrogen input.

Soil Fertility

To achieve high levels of grass growth – adequate soil fertility is essential. Phosphorus (P) and potassium (K) are very important nutrients and should be at Index 3 or 4.

However if soil pH is not optimal, the plant cannot make efficient use of applied or soil P and K. Soil pH should be higher than 6.3 and preferably closer to 6.5 (for clover establishment and fixation).

The most recent report suggests that in 2024, soils on dairy farms were significantly below the levels required for optimum pasture growth and nutrient use efficiency.

- Only 24% (about a quarter) of soils are at optimum pH, P and K
- Only 60% of soils have soil pH >6.3
- More than half (53%) of soils are only at Index 1 and 2 for P
- Just under half (47%) of soils at K levels at Index 1 and 2

Clover is widely considered as a replacement for chemical N in grassland systems; however clover will not establish, or persist, in soils with a pH below 6.3.

Grazing management targets

There are a number of key grazing management targets which must be achieved to maximise herbage production during the grazing season:

- Early February (Opening Farm Cover) >1000 kg DM/ha
- Early April (start second rotation) 600 - 650 kg DM/ha
- April to August 150 - 180 kg DM/LU
- Mid-September (Peak farm cover) 1,100 kg DM/ha
- December 1st (Closing farm cover) >750 kg DM/ha

Target Margins

These targets are not achieved on many farms. Opening farm covers

Table 1: Target blueprint to grow 15.0 t DM/ha

Growth Period	Target grass production	Current PBI Farms Performance (2013-24)	Top 100 Farms in PBI
Spring	2,000	1,810	2090
Summer	7,100	6,157	7083
Autumn	5,900	5,264	6112
Total	15,000	13,232	15286

Table 2: N strategy based on paddock sward clover content

April Clover content (%)	Mid-Feb	Mid-Mar	Mid-April	Mid-May (2 rot)	Mid-June (2 rot)	Mid-July (2 rot)	Mid-Aug	Mid-Sept	Total
Chemical Fertiliser (kg N/ha)									
Grass sward	24	36	20	32	28	28	21	23	212*
5%	20	35	20	20	20	20	20	20	175
10%	20	35	20	15	15	10	15	20	150
15%	20	35	20	15	10	SW	10	20	130
20%	20	35	20	15	SW	SW	SW	15	105

*Chemical N fertiliser can be increased to 230 kg N/ha, in paddocks with no clover, as long as whole farm N does not exceed 212 kg N/ha. Soiled water used whenever zero chemical N application. +25kg organic N applied

were < 850 kg DM/ha on average over the past three years. This has a major influence on the level of grass growth and supplementation needed in early spring. Peak farm cover (mid-September) on farms has also been behind target at 850 kg DM/ha compared with the target of 1,100 kg DM/ha.

If farmers are to increase overall DM production (>14.5 - 15.0 t DM/ha), the above targets need to be achieved in combination with seasonal grass growth targets (See table 1).

The top 100 farms on PastureBase Ireland are reaching these goals and as a result the DM production on this cohort of farms is averaging 15.2 t DM/ha.

Nitrogen input

It is important that chemical N fertiliser input and paddock clover content are aligned. Individual paddock sward clover content is a key factor when implementing a strategic fertiliser program.

White clover can fix up to 100kg N/ha, but only if sufficient levels of clover in the sward (>20% - average across the year) are present.

If chemical N fertiliser is removed in the absence of adequate clover content, overall herbage production declines. Table 2 illustrates a N strategy developed based on paddock



Mike Egan says white clover can fix up to 110kgN/ha but only if clover in the sward exceeds 20% throughout the year.

sward clover content. Nitrogen input is based on the April paddock clover content.

Paddocks which have an adequate sward clover content have their N input reduced from mid-April; chemical N is replaced by targeted soiled water usage.

To conclude, farm dry matter

production needs to be refocused and increased on dairy farms. Grazing management, ensuring seasonal grazing targets are achieved; using a precision N fertiliser programme; and clover incorporation, and maintaining optimum soil fertility will help to increase overall grass/clover production.



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- ✓ **Save on purchased ration**
-1kg/ha/day
- ✓ **Retain more silage in the pit**
6.1 tonnes extra silage retained in every 100 tonnes ensiled





Find out more www.agritech.ie





Sex sorted semen allows dairy farmers to predetermine the sex of calves with 90% accuracy.

Breeding and reproduction

EBI is a well-established and proven strategy that leverages accumulated genetic improvements over generations, ensuring lasting benefits within the population.

Donagh Berry
Teagasc Principal
Dairy & Beef
Research Geneticist



Stephen Butler
Teagasc Research
Officer



The economic breeding index (EBI) is for the selection of dairy parents of the next generation while the dairy-beef index (DBI) is for the selection of beef bulls for mating to dairy females.

The EBI has been validated to be robust to different production systems as well as recent and expected changes to policy (e.g., nitrate banding). In order to future proof the index, the relative weights on different traits within the

EBI, like all indexes globally, are routinely reassessed as input and output prices change or as the inherent policy driving the system changes.

It is also typical to regularly update the base population of individuals; these are individuals with a mean genetic merit of zero against which all animals are compared. Two changes to the EBI will likely occur in 2025:

- the relative weights on most traits will be updated to reflect future prices and costs of production
- the base population for some traits will be updated

A change in emphasis on traits can cause some re-ranking of individual animals. A base change on the other hand will reduce the EBI of all animals by exactly the same amount; therefore, while the EBI of individual animals will change, no re-ranking will occur meaning the best animals will be exactly the same. These updates are in-line with good practice and are routine in most breeding programs.

The increased use of sex-sorted semen has facilitated greater usage of beef bulls in dairy herds. The dairy-beef index marries the desires of dairy farmers (i.e., short gestation and easy calving) with that of beef producers (i.e., efficiently produced, high value carcasses).

Ireland is unique globally in that the genetic values for calving difficulty of all beef bulls, irrespective of breed, are directly comparable with each other as well as being comparable with all dairy breed bulls.

Most dairy farmers have a threshold value for the calving difficulty genetic proof for the dairy bulls they plan to use. Exactly the same threshold can be used for beef bulls. The same principles hold for all other traits like gestation length, carcass weight and conformation. It is important if purchasing beef stock bulls to only purchase bulls with clearly presented figures and stars.

The ICBF sire advice system is a useful tool to match dairy and beef sires

to all cows; the farmer must first select the bulls to use. The dairy sire advice works on the principle of avoiding the mating of close relatives while simultaneously minimising the risk of generating progeny that are extreme in milk or fertility sub-index. A recent addition is to avoid mating of parents carrying the same lethal recessive mutations.

The overriding focus of the dairy-beef sire advice system is to minimise the likelihood of difficult calvings; secondary to this is maximising the likelihood that the resulting dairy-beef progeny will achieve the carcass specifications. However, choosing the correct beef bulls is crucial.

The role of sex-sorted semen

In seasonal calving systems, large numbers of male dairy calves are born within a short time frame, leading to market saturation and questions around the potential for beef production systems.

Sex-sorted semen allows dairy farmers to predetermine the sex of calves with approximately 90% accuracy. By targeting the best genetic merit cows with sex-sorted semen, dairy farmers can focus on producing high-value dairy female replacements, while using beef semen on the rest of the herd to improve beef traits and hence calf marketability.

The use of sex-sorted semen is not without challenges, however. Each sex-sorted semen straw contains fewer sperm cells (usually four million) compared with conventional semen straws (usually ~15 million), and the sperm cells in sex-sorted straws have been exposed to damaging steps during the sorting process. Using the findings from several research studies, advisory messages for dairy farmers to maximise success when using sex-sorted semen are summarized in Figure 1.

Field fertility performance of sexed semen in dairy herds during the 2022 breeding season was examined by the Irish Cattle Breeding Federation. The analysis compared pregnancy per AI (P/AI) with conventional semen (304,335 insemination events) versus sex-sorted semen (35,701 insemination events).

The mean P/AI was approximately similar for conventional and sex-sorted semen (63.1% vs 60.2%, respectively; relative P/AI = 95.4%; adjusted for parity, EBI and days in milk).

This indicates that acceptable fertility performance is now being achieved with sex-sorted semen on commercial dairy farms in Ireland.

An updated analysis of the 2023 breeding season performance will be reported at the Moorepark '25 Open Day.



Teagasc Moorepark farm manager JohnPaul Murphy says acceptable fertility performance is now being achieved with sex sorted semen on commercial dairy farms.

Figure 1. Extension messages for dairy farmers outlining the key strategies to maximise pregnancy success when using sex-sorted semen.

<p>Sire and dam choice</p> <ul style="list-style-type: none"> • Bulls <ul style="list-style-type: none"> ◦ Pick highest EBI bulls available ◦ Use a large team of bulls <p>Dams</p> <ul style="list-style-type: none"> • Top 50% of herd based on EBI <ul style="list-style-type: none"> ◦ Heifers • Target live-weight and BCS 23-25 • Cycling regularly <ul style="list-style-type: none"> ◦ Cows • Parity 1 to 4 • >50 days in milk on day of AI • BCS 23.00 • Cycling regularly • No postpartum disorders or uterine disease 	<p>When to use?</p> <ul style="list-style-type: none"> • First 3 weeks of the breeding season • Within first 10 days if possible <p>Timing of AI</p> <ul style="list-style-type: none"> • 14 to 20 h after heat onset <p>Fixed time AI</p> <ul style="list-style-type: none"> • Costly but mitigates risk • Facilitates targeted usage of sexed semen on MSD <p>Straw handling on on day of AI</p> <ul style="list-style-type: none"> • Organise sexed straws into one goblet • Thaw 2 sexed semen straws at a time MAX • Thaw straws 35 to 37°C for 45 seconds • Load straws into pre-warmed AI guns, keep warm • Deposit semen in uterine body • Complete inseminations within 5 mins
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Future-proofing incomes for the next generation

There are key opportunities within the farm gate which will sustain progress over the next decade

Padraig French
Teagasc Livestock
Systems & Dairy
Enterprise Leader



Conor Hogan
Teagasc Research
Officer



Brendan Horan
Teagasc Research
Officer



With a total estimated value of €7.4 billion in 2024, the recent performance of the sector has been achieved through a combination of increased average herd size per farm (from 75 to 96 cows per farm between 2017 and 2024) and increased productivity from improved animal breeding, grassland management and animal husbandry. Remarkably, the increase in total sector value has been achieved while reducing reliance on chemical nitrogen (N).

At the core of this success story are over 16,000 family-owned dairy farms, producing over 8.5 billion litres of milk each year and supporting over 60,000 jobs across the rural economy.

While dairy family farm income volatility is now a significant feature, the average dairy farm income has increased by 240% since the pre-

expansion period (2008-2010; €39,689 to 2022-2024; €95,689).

This is indicative of strong economic return from investment in key technology developments over this period.

While the dairy industry faces significant challenges in terms of regulation, increasing international trade uncertainties and generational renewal, the current profitability of the sector has created the opportunity for family farms to continue to innovate and develop more sustainable farming systems while future-proofing the financial livelihoods for the next generation. There are key opportunities within the farm gate which will sustain progress over the next decade.

Individual dairy farms vary considerably in terms of characteristics such as family circumstances, enter

prise mix, stage of development, soil types and farm system components. Nonetheless, all farms must plan to further develop and strengthen their farm businesses using available research innovations and technology.

Reduce feed costs and increasing feed self-sufficiency on the farm

The financial landscape for dairy production has been substantially altered during the past five years with unprecedented increases in costs.

In addition to the ongoing requirement to improve efficiency to meet climate action commitments, dairy farmers must also refocus on cost reduction to maintain margins during 2025.

To that end, high productivity pastures are the cornerstone of efficient grazing systems contributing to more than 80% of the feed requirements on dairy farms.

The medium term priority must be to increase profitability by increasing grazed pasture utilisation with high EBI cows, improving swards and matching stocking rate to grass growth potential.

Such systems can be further improved by reducing reliance on increasingly expensive supplementary feed imports, incorporating clovers within grazing swards, and further refining day-to-day operations to reduce nutrient losses.

It is hugely challenging to maintain farm productivity and profitability while reducing chemical nitrogen (N) use. It requires the successful incorporation of a substantial legume component within grazed pastures.

Further investment in productive areas

On farms where cost control is well managed and above average profitability levels are being achieved, the priority should be to invest in facilities and technology that are proven to reduce workload and further improve the efficiency of the farm operation.

Foremost among these investments should be improvements in soil fertility and pasture quality which deliver rapid and substantial returns. The next priority should be to improve roadway infrastructure and acquire highly effective labour saving technologies which reduce workload and free up time.

As dairy farming consistently provides the highest return of any farming enterprise, the long term focus should be to ensure that the farm will be attractive to successors and continue to operate as a pasture based milk production unit for future generations.



Conor Hogan emphasises the need to manage input cost volatility to protect farm viability.

Taking advantage of additional growth opportunities

Farmers who aim to continue to grow a profitable business, should evaluate dairy expansion opportunities. This could be either by adding land to the existing milking platform or, where feasible, through the acquisition of an additional second grazing platform which can replicate the high levels of operational efficiency being achieved on the home farm. ,

As a group, Irish farmers are getting older. As farmers choose to exit the industry, lease and partnership agreements represent attractive opportunities for them to maintain income levels, while young entrants replacing them establish new dairy operations and grow their own dairy businesses.

Securing the farm's future

With consistently high relative returns, milk production remains the most viable use of land for the majority of dairy farmers. For farmers thinking about stepping back, early planning is critical. Pathways to family partnerships should be explored first.

If such options are not available, collaborative models, such as share farming, can enable a gradual transition; maintaining income and involvement while creating a viable

entry route for a young farmer.

These arrangements can help maintain investment and productivity within the farm, and support continued involvement by the current farmer. Succession should be viewed not as an endpoint but as part of a longer-term strategy that allows the business to evolve and grow under new leadership.

The skills that will shape future success

To realise these opportunities, the next phase of development must be underpinned by key skills and robust planning. Financial benchmarking and sound business planning will be essential to guide smart investments and navigate through volatility.

Equally, people management and leadership, including how work is organised and how people are supported, will determine the attractiveness of farms as workplaces. Finally, developing strong networks through active participation in discussion groups will play a central role in knowledge-sharing and furthering growth. It is these core skills that will underpin the next phase of growth and innovation within the sector; allowing farmers to get continued value from their efforts, investments, and growth to-date.



The top 10 questions farmers ask about hiring farm employees

Starting off on the right foot is very important in terms of attracting and retaining employees. The first place to start is knowing your legal requirements as an employer and then ensuring you fulfill them.

Martina Gormley
Teagasc Dairy
Specialist



1 Do I need to provide a contract?

No, you do not need to provide a contract but you do need to have a 'terms of employment agreement'. An employer must notify each new employee, in writing, within five days of commencement of employment, of the core terms of employment;

An employer must also provide each new employee with a written statement of the terms of employment within one month of commencement of employment. Sample terms and conditions are available on www.workplacereactions.ie

2 How many hours per week can employees work?

The maximum number of hours that an employee should work in an average working week is 48 hours. This working week average can be calculated over a six-month period for agriculture. This works well with higher workloads in spring.

If an employee was happy to work an additional 10 hours per week in February and March and over the next few weeks took the 80 or so hours 'off' there is no issue. The hours would average out to 48 over a six-month period. Ideally, employees would take the additional leave that they have built up straight away.

You cannot agree with the employee to take extra leave in December, for example, as there could be an issue with averaging the hours out over any six month period. Nor can you give the employee additional pay for working over the 48hrs, it must be taken as leave.

3 What are the new regulations around payment and the minimum wage?

The National Minimum Wage applies to full-time, part-time, temporary, casual employees and seasonal employees. The table shows the pay rates as of 1st January 2025. Some farmers provide accommodation to employees and ask can this be included to make up the national minimum wage?

The answer is yes. If board and/or

lodgings, i.e. meals and/ or a place to live, is to make up part of the minimum wage then the following amounts can be included in the calculation: Meals, €1.21 per hour worked; €31.89 for 'accommodation-only' per week or €4.55 per day.

4 Do I need proof of payment?

Employers are obliged to arrange that a written statement of wages (payslip) be given to an employee with every payment of wages. If wages are paid by credit transfer, the statement of wages should be given to the employee as soon as possible after the credit transfer has taken place. In every other case, the statement of wages must accompany the wage payment.

5 How many days do I have to give for annual and bank holiday leave?

All employees, whether they are full-time, part-time, temporary or casual, earn annual leave entitlements from the time they start work. Depending on time worked, employees' holiday entitlements should be calculated by one of the following methods:

- Four working weeks in a leave year in which the employee works at least 1,365 hours (unless it is a leave year in which he or she changes employment)
- One-third of a working week per calendar month that the employee works at least 117 hours
- 8% of the hours an employee works in a leave year (but subject to a maximum of four working weeks).

Full-time employees have immediate entitlement to benefit for public holidays and part-time employees have entitlement to benefit when they have worked a total of 40 hours in the previous five weeks.

In respect of a public holiday, the employee is entitled to whichever of the following his/her employer determines:

- A paid day off on that day
- A paid day off within a month of that day
- An additional day of annual leave
- An additional day of pay



Different conditions and payment terms apply to employees depending on their age group.

6 Do I have to pay sick leave?

From 1 January 2024 the entitlement is five days paid sick leave. Employees are entitled to a rate of 70% of their usual daily earnings up to a maximum of €110 a day for certified leave only.

7 Can I hire someone who is under 16?

Yes, but there are more requirements and conditions. Children of 14 years of age cannot work during term-time. They may be permitted to work a maximum of 35 hours a week during school holidays and a maximum of 40 hours a week on work experience.

Children aged 15 years can work a maximum of eight hours a week during term-time, a maximum of 35 hours during school holidays, and up to 40 hours on work experience.

From January 1 2025, the following minimum wage rates apply

Age	Amount	%NMW
Under 18	€9.45	70%
18 years old	€10.80	80%
19 years old	€12.15	90%
National Minimum Wage (20+)	€13.50	100%

When employing under 18s, which is quite common in dairy farming, you must display these conditions in your dairy.

Part-time employees fit really well for the average herd size of 90 cows where the farmer does not need full time help, but absolutely needs extra help in spring and part-time help thereafter.

8 What breaks do I have to give?

Employees are entitled to:

- A daily rest period of 11 consecutive hours per 24 hour period
- A weekly rest period of 24 consecutive hours per seven days, following a daily rest period
- A 15-minute break where more than 4½ hours have been worked
- A 30-minute break where more than six hours have been worked, which may include the first break

Payment for breaks is not a statutory entitlement.

9 Can I use a probation period?

Yes. Probation periods give you the time to see whether the person is a good fit for your business. Some employers say that they know within five minutes.

Others say it is not as simple to determine with some employees because the person may be very reliable and a good timekeeper but not good at certain tasks. Here the employer must decide whether they can work around

this or not. That can take some time.

Since 1 August 2022, where an employee is subject to a probationary period at the commencement of employment, that period shall not exceed six months, except in limited circumstances.

10 What do I do if I have problems with an employee?

Problems can arise even though you did your homework by checking references and have invested in your farm and how you work with people.

The worst thing you can do is ignore an issue. It is unfair on you to be paying someone who you are not happy with and it can create a bad atmosphere for everyone. There is a lot at stake and sometimes health and safety can be affected, which is extremely dangerous to all working on the farm.

Where the probation period is over, you should seek advice from a Human Resource (HR) company. There are procedures that you will have to follow. The Work Relations Commission (WRC) also have a mediation service which is free to employers and employees.

More information

Visit the website for [work place relations](#) to find out more about [employer obligations](#).





The Teagasc Signpost Programme is a key part of the strategy to cut greenhouse gas emissions in Irish farming.

Help the environment – and boost farm profits

Over 17,000 farmers are working with Teagasc's Signpost Advisory Programme to reduce greenhouse gas emissions

Tom O'Dwyer
Head of Teagasc Signpost Programme



George Ramsbottom
Teagasc Signpost Advisory Programme Manager



The Teagasc Signpost Programme has three parts. Firstly, a network of 125 'Signpost Farms', which adopt research-based climate mitigation strategies and share their knowledge through farmer-to-farmer learning.

The second component is the Signpost Advisory Programme. Advisors visit farms on request and work with farmers to calculate the farm's GHG emissions. They do this using the AgNav computer program, which combines data from Teagasc, the Irish Cattle Breeding Federation, and Bord Bia. They then help the farmer to create a plan of actions to reduce those emissions. The twenty advisors

are targeting a total of 50,000 farmer participants.

The third component is the National Agricultural Soil Carbon Observatory (NASCO), an on-farm research initiative focused on understanding soil carbon sequestration (capture and storage). The Signpost Farms play a vital role in NASCO, contributing to the research that will shape future climate action strategies.

AgNav

Teagasc's Signpost climate advisors use AgNav to estimate the impact of actions taken on GHG emissions reduction. Examples are listed in Table 1.

Table 1: The impact of actions taken on example dairy and dry stock farms.		
Farm type	Action	Change in farm GHG emissions
Intensive dairy farm	Switching fertiliser N type ¹	8.4% reduction
	Reducing fertiliser Nitrogen by approx. 1/3 ²	4.4% reduction
Intensive suckler to finishing farm	Switching fertiliser N type	2.6% reduction
	Reduce slaughter age by one month	1.6% reduction
	Reduce cow age at first calving ³	5.5% reduction
¹ From CAN to protected urea.		
² Reducing fertiliser N by 80 kg N/ha to 138 kg N/ha – farm will need to grow clover to fix N instead of fertiliser N.		
³ Reducing age at first calving from 36 months to 24 months of age.		

The reduction in GHG emissions is higher on a dairy farm because of the greater reliance on fertiliser N to support forage production. Reducing age at first calving was the single most impactful action on the suckler farm. All actions examined will reduce production costs potentially increasing profit. Sadly, there is no magic solution and multiple actions are necessary on individual farms to significantly reduce GHG emissions.

Greenhouse gas emissions trends

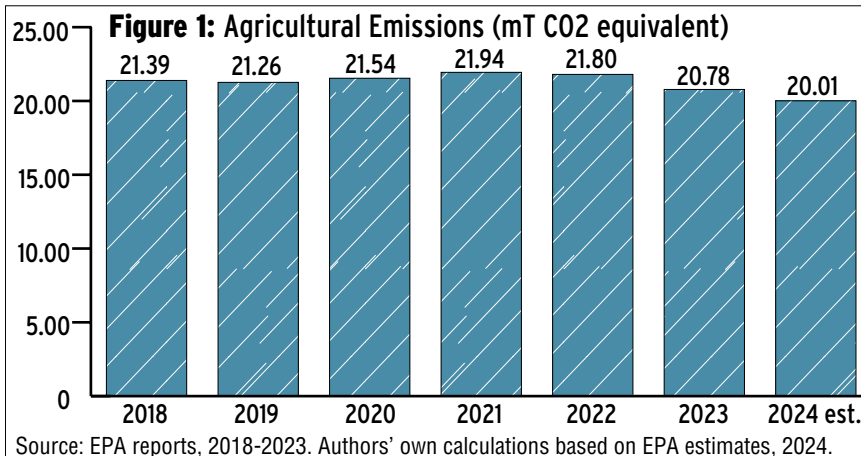
Compared to the base year 2018, national greenhouse gas emissions from agriculture rose between 2020 and 2022 but declined in 2023 and are estimated to have declined further in 2024 as illustrated in Figure 1. A reduction in fertiliser N use was responsible for much of the recent decline in GHG emissions. The challenging goal for the agriculture sector is to reduce 2018 Greenhouse Gas emission levels 25% by 2030.

Three of the most widely selected actions by farmers in Signpost are:

- **Greater use of NBPT protected Urea** Between 2018 and 2024, protected urea application increased from 1% to 18% of fertiliser N used nationally. The goal is to increase protected urea use to 90%.

- **Lime application** Lime application increased from 1m tonnes in 2018 to 1.6m tonnes in 2022 but declined to 1m tonnes used in 2023 and 2024 possibly because of adverse weather in both years. Teagasc aims to increase the quantity of lime spread to 2.5m tonnes nationally.

- **Clover** Over 20% of farmer participants in the Signpost Advisory Programme plan to incorporate more clover into their swards. This will



allow them to reduce fertiliser N. Of the three most frequently selected actions, this is potentially the most challenging. It requires excellent grassland management and optimal soil fertility.

Industry partnership

Over 1,000 one-to-one consultations have been held as part of the Dairygold-Teagasc Environmental Partnership through the Grassroots Sustainability Programme.

The programme helps Dairygold suppliers improve their environmental footprint by updating farmers on nutrient balance and greenhouse gas emissions using the AgNav system. Advisors also discuss water quality risks present on farms and create action plans to reduce nutrient loss, emissions, and improve biodiversity.

Nearly 95% of Dairygold's dairy suppliers are participating in the Programme. Similar collaborations are being finalised with other milk processors.

The GHG emissions coming from

Irish agriculture are heading in the right direction.

We encourage all farmers to attend the events that will take place throughout 2025 on Signpost Farms and to join the Signpost Advisory Programme to establish a plan for their farm to cut costs and reduce emissions. If you are interested contact your local Teagasc office which will put you in contact with a Signpost advisor.

More information

The Teagasc Signpost programme was launched in 2021, and has over 60 partners including milk and meat processors, farm organizations, the Department of Agriculture, Food and the Marine, and Bord Bia. For more information on the programme visit [Teagasc's Signpost Programme](#).



CASE STUDY: Victor Graham, Augharue Bilboa, Co Carlow

Victor Graham who farms near Augharue Bilboa in Co Carlow, has worked with his Teagasc Signpost advisor Eoin Woulfe to create a Farm Plan which will help reduce Greenhouse Gas emissions on his 120 cow dairy unit

"Using protected urea, lime where needed, and greater use of clover, are in my plan," says Victor. "We have had no problem with the quality or performance of protected urea.

There was always some clover in the seed mix but I want to increase that in the future which should eventually allow us to reduce our nitrogen.

Milk solids and selective breeding Working with his local Teagasc advisor, Emily Gowing, Victor is increasing milk solids per cow by using selective breeding to raise herd EBI.

"That's something we would be doing anyway, but it's part of the plan," says Victor. "Signpost also encourages steps which help the environment more broadly so I have begun planting more native hedges to enhance biodiversity as part of the plan.

Pollinators

"Flowering hedgerows are vital to the survival of pollinators providing food, shelter and transport corridors," says

Eoin Woulfe, Victor's Signpost advisor. Victor adds: "Hedgerows and trees on the farm also increase the amount of carbon stored in the soil. These are all things we want to be doing. The



Victor Graham with his wife Marion and daughters Ella, Leanne and Dawn.



A lapwing in breeding plumage: the bird species' numbers in Ireland have declined by over 90% since 1980.

PHOTO: Andrew Kelly

Machair sites key to lapwing revival

Farmers on rare coastal soils along the west coast are collaborating with ecologists on a national/EU project to boost the numbers of an iconic bird species

Joanne Devaney
Teagasc Machair
Specialist



Did you know that the lapwing is Ireland's national bird? It was designated so as recently as 1990 by the Irish Wildlife Conservancy. From a distance it appears black and white but a closer view reveals iridescent dark green and a bronze colour which could at a pinch be described as orange.

With its signature crest extending upwards from its head the wader will be familiar to anyone who grew up in the countryside of the 1950, 60s or even the 70s.

Lapwing like to nest in damp, well-grazed fields with a moderately short grass cover, particularly close to open water where chicks can feed. While the squeaky peewit call of the lapwing was once a familiar sound across the Irish countryside, today it is rarely heard.

The lapwing is red-listed on the Birds of Conservation Concern in Ireland, alongside other once-familiar breeding waders like the dunlin and redshank.

These birds nest on the ground in relatively short grass fields—leaving them wide open to predation from ground and avian predators, and disturbance from human activity.

According to Ireland's 2019 Article 12 Birds Directive report, the populations of lapwing, dunlin and redshank have each declined by over 90% since around 1980. These declines are due to a number of factors including changes in agricultural practices,

predation, and recreation.

Machair and coastal systems now support a significant proportion of the remaining breeding wader populations in the country.

Machair is a rare coastal habitat only found in Ireland and Scotland. It's made up of low-lying grassy plains near the coast, usually backed by wetland or peatland on one side and sandy dunes or beaches on the other.

Low intensity farming

These unique soils and landscapes evolved under generations of traditional, low-intensity farming practices – seasonal grazing, mixed livestock, and minimal inputs. Farming on machair sites has changed considerably, with a general shift from cattle to sheep in many areas and an increase in stocking rates.

The timing and duration of grazing has also changed, affecting the habitat quality and ability to support breeding waders. Increased recreational activity and tourism use have also caused deterioration and loss of habitat.



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Six-year LIFE project aiming to restore Ireland's machair systems

LIFE on Machair (LOM) is a six-year EU funded project running from 2022 to 2028 which works with farmers, landowners and local communities to help protect and restore Ireland's machair systems

There are over 3,000 hectares of machair within the project area across nine sites. Most of the sites support a small population of less than 20 pairs of breeding waders.

Working with local landowners and farmers, LOM has installed temporary electric fences at five sites. Four fenced areas are 2-2.75ha in size, and the fifth is a large 8ha temporary fence area being trialled in Achill, county Mayo. The fences remain up during the breeding season for lapwing and other waders in Ireland, which migrate from France and Iberia to breed and fledge chicks between February and July.

The fences are designed to deter ground predators such as foxes and badgers, but can also help to keep people, dogs and vehicles from disturbing nests during this critical time. Success for lapwing and other waders is when at least one egg from each nest of four survives. The vulnerable period includes four weeks of incubation, two weeks as a chick, and 3-4 more weeks growing and learning to fly.

Jackie Hunt, ecologist with the LOM project, says that: "Indications are that numbers of fledged lapwing are improving slightly at most project sites." This should mean more birds will join the breeding population. For example, at 'The Valley' on Achill Island, just one lapwing chick fledged in both 2022 and 2023. But in 2024, after a series of changes, 15 chicks successfully fledged, which is a huge turnaround.

Even better, dunlin—a species with fewer than 20 breeding pairs left in all of Ireland—bred at the site for the first time since 1996 and successfully fledged two young. One major factor in Achill was the installation of temporary electric fencing around key breeding areas.

The success of these temporary predator fences is only possible thanks to the cooperation and knowledge of local farmers. As Jackie puts it: "We're not just fencing for birds—we're talking, listening, and walking the ground with farmers. They are the ones who know the land, how animals move, and how grazing works."



Farming on Machair

Farmers have been a critical component in the success of the LOM project so far, and they want to be part of the conversation on future agri-environmental policy going forward for their machair grasslands. Some of these areas are commonage, and some are privately owned.

For some farmers, only a corner of their holding is machair, and for others it's their entire farm. The implications of practice change for different farming systems can differ significantly.

The project has set up 5m x 5m grazing exclosures to demonstrate the effects of different grazing regimes on plant structure and habitat. It is providing valuable insights for farmers and advisors on the effects of winter grazing, summer grazing, and lack of grazing.

Michael McGreal, a hill sheep farmer involved in the LOM project at Dooaghtry

near Louisburgh, Co. Mayo, says: "The machair site is an important part of my farm, and I would like to see the wader bird populations succeed and continue returning to the site. More needs to be done to protect these birds, as they are quite vulnerable to a wide range of predators."

The LIFE on Machair project will continue supporting local engagement, habitat restoration, knowledge exchange, and education. And while the project brings new tools and science, the heart of it is local knowledge and shared stewardship.

Farmers along the west coast aren't just caretakers of livestock—they're caretakers of some of Ireland's famous landscapes and the wildlife that depend on them. With the right support and understanding, we can bring back the lapwing—and the spring chorus that once defined rural Ireland.



Sheep 2025: celebrating tradition and innovation

The Sheep 2025 event at the Teagasc campus in Athenry will showcase the latest technology and research driving progress in the sector

Michael Gottstein
Head of Teagasc
Sheep Knowledge
Transfer Programme



Philip Creighton
Teagasc Research
Officer and Sheep
Enterprise Leader



Ireland's sheep farming community will come together next month for Sheep 2025, the largest dedicated sheep-focused open day on the calendar. This exciting gathering will take place at the Teagasc Mellows Campus in Athenry, County Galway on Saturday 21 June from 10am to 5pm.

A joint industry collaboration between Teagasc, Bord Bia, the Department of Agriculture, Food and the Marine, *Irish Farmers Journal*, and Sheep Ireland, the event is more than just an open day—it's a showcase of the latest technology and research driving progress in the sheep industry.

Whether you're a seasoned farmer, a new entrant to agriculture, or simply someone curious about where your food comes from, the event will supply valuable insights across a wide range of topics.

The technical programme will cover everything from grassland management and breeding techniques to nutrition, flock health, and organic farming.

With growing awareness around sustainability, attendees can also expect detailed sessions on environmental practices, water quality, and the Signpost Programme, which is helping farmers reduce greenhouse gas emissions while maintaining productivity.

The event also offers tailored content on hill sheep production, forestry integration, and agricultural advisory services. There will be information on the wider market landscape, the meat industry, market trends, and opportunities for agricultural education and career pathways.

Consumer expectations

This year's event is particularly timely, as Irish agriculture continues to adapt to new consumer expectations, regulatory demands, and environmental goals. Sheep 2025 offers a platform for farmers to connect, learn, and share best practices that will help future-proof their flocks and livelihoods. The following is a selection of projects being undertaken by Teagasc researchers which will be presented on the day.



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Flock Health: Lameness Survey

Walsh Scholar Jake Delaney will present learnings from the National Lameness Survey, conducted between February 2023 and June 2024. Major findings include the inconsistency in participants' ability to identify lameness-causing lesions. Over 20% of sheep farmers surveyed were unable to correctly identify scald and foot rot.

To address this, a dedicated section will display key symptoms using photos and visual aids. Another section will present key survey insights including the apparent rise of Contagious Ovine Digital Dermatitis (CODD) cases which the results of this work indicate is present on approximately 50% of the sheep farms surveyed.

The display will also feature a walk through/visual of correct foot-bathing techniques, displaying proper active ingredient concentrations and mixing.

Store Lamb Finishing Trials

In recent years Teagasc Athenry studies have investigated outdoor finishing options for store lambs using forage brassica crops. Researcher Frank Campion will present findings showing that hill bred lambs have achieved average growth rates of 130g/day during the autumn/winter months on these crops.

There will be a display of the different forages used and the key factors affecting lamb performance when grazing brassica crops post weaning. There will also be information about recent studies investigating the options for finishing lambs in an organic system both indoors and outdoors.

A key component of these systems is the requirement for more forage based diets and some of the options within the study being investigated will be displayed and initial findings presented.

Hill Sheep Grazing Study

Anecdotal evidence suggests that the earlier sheep are re-introduced to hill grazing post-lambing, the higher they rise up the hill, potentially improving grazing management on hills. PhD Student Michael Dever will be providing an update on a new sustainable hill grazing study which has commenced this year.

This stand will display the GPS technology being used to track ewe grazing location and behaviour alongside examples of the GIS maps and data being examined to identify the locations of the sheep while grazing the hill so that performance of sheep relative to where they graze can be evaluated.

Pasture-based Sheep Production Systems

Researcher Sarah Woodmartin will present a summary of the results of a recently completed study which investigated the addition of a companion forage, namely legumes (white clover or red clover) or herbs (chicory or plantain) into perennial ryegrass swards.

The objective was to assess the role of more diverse sward types within an intensive lowland sheep production system. Key drivers included improving lamb growth rates directly from pasture and reducing enteric methane emissions thereby enhancing production efficiency and supporting the development of more sustainable lamb-finishing systems.

The results demonstrated improved sward quality and dry matter intake among animals consuming a more diverse sward, compared to those grazing a perennial ryegrass monoculture. This led to higher average daily gain, particularly in the post-weaning period, ultimately reducing age at slaughter.

Adding legumes directly reduced methane output, while the inclusion of any companion forage indirectly contributed to lower methane and total farm-gate emissions, through the reduced age at slaughter and a decreased reliance on concentrate feed in the lamb finishing system.

Overall, the project aimed to identify the most appropriate plant species to include in sheep grazed swards in order to enhance the sustainability and

production efficiency of pasture-based sheep production systems.

A day out for all the family

While Sheep 2025 has a strong technical and industry focus, it's also designed as a fun, engaging day out for families. From the moment you arrive at the Athenry campus, you'll find a mix of lively demonstrations, interactive exhibits, and plenty of good food and entertainment.

Also taking place will be various sheep breed competitions and breed displays in addition to commercial trade stands featuring all things sheep. Workshops on health and safety, quad safety sessions and sheep shearing exhibits will be run throughout the day. A dedicated wool village will showcase what initiatives are currently underway in this area.

Plan your visit

Sheep 2025 will take place at Teagasc's Mellows Campus in Athenry, a site with a long-standing reputation for agricultural excellence.

The event is open from 10am to 5pm, and admission is free. So mark your calendar for Saturday 21 June.

For more information and updates, follow the event organisers – Teagasc, Bord Bia, the Department of Agriculture, the Irish Farmers Journal, and Sheep Ireland – on their social media channels or visit the website to discover what's coming up for the [largest sheep open day](#) for Ireland 2025.



A new study on sustainable hill sheep grazing is using GPS technology to evaluate the performance of sheep relative to where they are grazing.



Colin Callanan and
Tommy Cox

Tackling parasites in a calf to beef system

Monitoring worm burden and rotating products ensures young calves thrive at grass.

Tommy Cox
Teagasc DairyBeef 500
Programme Advisor

Spring has been especially busy for DairyBeef 500 participant Colin Callanan, who farms near Kilconieron, Co Galway. Since the start of the year, he has reared over 100 calves for his calf-to-beef system, plus more than 200 beef calves on contract.

“Ensuring the smooth transition of calves to outdoor grazing is just as crucial as their initial rearing,” says Colin. “I put a lot of emphasis on managing that change to ensure the calves thrive.”

Calf rearing

Calves arrive on the farm at around three weeks old and are fed on an automatic milk feeder until they reach a weaning weight of 85-90kg. They typically reach this goal at 55 to 60 days old.

On arrival, calves are introduced to a highly palatable calf ration. Calves can be slow to consume significant amounts of concentrates, but intake

increases rapidly once milk volume begins to decrease.

“Keeping the troughs clean and providing fresh feed consistently are key factors in encouraging the calves to start consuming reasonable amounts of concentrate,” says Colin. “By the time they are weaned, calves are usually consuming over 2kg of concentrates daily, which they continue to eat until turnout.”

Straw is provided as a fibre source, and clean, fresh water is always available. This strategy plays a crucial role in the calf’s rumen development, setting the stage for their continued growth.

Turnout strategy

“If calves are not consuming at least 2kg/day of concentrates, an extra week indoors is justified,” he says. “The last thing you want is for a calf to have a setback at grass.”

A well-sheltered paddock beside the yard is the first destination for the

calves at turn out. "It's well fenced and sheltered which is important to acclimatise calves to the outdoors," says Colin.

He doesn't apply nitrogen on the turn-out paddock preferring to allow covers to go slightly stronger and stemmy. These covers provide both fibre and protection from sudden dietary shifts.

"We don't want them going straight onto lush, leafy swards," he says. "If the grass is too rich it can cause digestive issues like summer scour." To support the transition further, straw is offered ad lib during the first few weeks at grass, especially when pasture is high in moisture or nitrogen.

Concentrates post-turnout

Concentrate feeding continues for five to six weeks post turnout, with calves receiving 1.5–2kg per day, depending on weather and grass quality. This buffer helps them maintain growth during the adaptation period. "We try not to cut corners," says Colin. "Providing concentrates post-turnout might feel like an extra cost, but it pays for itself when you see the calves driving on."

Once calves become acclimatised to the outdoor grass, pre-grazing covers of <1,000kg DM/ha are targeted to encourage intake. Generally calves are kept in small paddocks and are moved every two days.

"Keeping fresh grass in front of calves is important but I believe it is just as important to get calves to graze paddocks out tight to ensure quality regrowth. Grazing down to the base of the grass plant also means they are eating the stem and fibrous material which is important to preventing any digestive upsets."

Calves are batched by weight. Colin says it is important to keep calves of similar size together. "This helps to prevent the smaller calves from being bullied at the feed trough and falling back in performance."

Concentrates are removed from the stronger calves' diet from July onwards depending on the weather and grass availability. Generally, smaller calves get at least 1kg of meal right throughout the summer to maintain performance.



Straw is offered ad lib during the first weeks at grass, especially when pasture is high in moisture or nitrogen

How to keep parasites at bay

Alongside proper nutrition and a smooth transition to grass, effective parasite control is essential during the first grazing season. Parasites, especially worms, are a particular issue in dairy calf to beef systems. This is because the majority of the animals on the farm have very little immunity to worms due to their age profile. Stomach and lung worms are the main offenders.

After their first grazing season cattle have generally developed sufficient immunity to prevent clinical disease. However there have been numerous cases where older animals have had high levels of worm burden. Older groups, as well as younger animals, need regular monitoring to ensure no issues arise.

Symptoms of stomach worms can include diarrhoea, decreased appetite and weight loss. Stomach worms can cause severe damage to the stomach and small intestine which will cause parasitic gastroenteritis. Careful monitoring is essential to prevent this from happening.

Colin operates a proactive parasite control programme based on dung sampling and observation. "From late May on, we start taking faecal samples every two to three weeks. If the egg count is over 200 eggs per gram, we know it's time to treat."

Dosing for stomach worms

Control of stomach worms on dairy calf to beef farms is achieved with anthelmintic doses. There are currently three classes of anthelmintic licensed for the control of stomach worms in cattle: benzimidazole (white) levamisole (yellow) and, macrocyclic lactone (Clear).

These products have been highly effective in controlling stomach worm infection in cattle. However recent studies carried out by Teagasc showed resistance to all three classes of product. When implementing a dosing strategy it is good practice to alternate between the different classes of drug to minimise the risk of a potential resistance build up on farm.

Taking a dung sampling a few weeks after treatment is good practice to ensure the product used gave effective treatment. "For stomach and gut worms, I rotate between yellow, white, and clear drenches to help prevent resistance building on the farm," says Colin. "Correct technique when dosing is just as important as choosing the right product."

"We always calibrate the dosing gun and weigh a few sample calves to avoid under- or overdosing. Guessing weights doesn't cut it."



Colin Callanan operates a proactive parasite control programme based on dung sampling.



Better silage pays off for the Dodgers

A Monaghan drystock Knowledge Transfer (KT) discussion group focused on making quality silage in 2024 and reaped the benefits

Eimear Tobin
Teagasc Business & Technology Advisor - Drystock



Last year it cost €42.12, on average, to make a bale of silage. Two-thirds, €26.77, was for harvesting and there's no charge for land included. Silage is clearly a major cost on drystock farms.

The Dodgers drystock Knowledge Transfer (KT) discussion group met recently on Fred McKeever's farm near Donaghmoyne to review their experience making silage in 2024 and plan their silage strategy for this year.

A feature of any KT group is a one-to-one advisory session. Most of the group used their session to focus on soil fertility management, which is

fundamental to growing grass.

"Talking about fertility and getting soil tests done meant we knew where we were starting from," says Michael Agnew who farms near Castleblayney. "We targeted fields that needed lime, P or K and avoided wasting money on fields that were already at Index three or four."

Fertiliser plan

Michael created a fertiliser plan for the year based on his soil test results. It's worth noting that all farms stocked at over 130kg N per hectare must take soil samples if they wish to spread chemical Phosphorus



Teagasc advisors Eimear Tobin and Ciallin McLoughlin with the Dodgers

or import slurry.

Another group member, Mickey McCague, is a big advocate of raising soil pH. "Applying lime is not exactly a new idea but we saw a big response in grass growth from it."

Closing for silage The group discussed that paddocks that were closed off on time and received the correct nutrients will be ready to cut by the middle/end of May. Aiming for bulk will reduce the quality of the first cut and the yield of the second cut.

Cutting dates

In 2024 the group members had a range of cutting dates. Some members of the group were still making their first cut in late June/July. One group member had cut his silage in the middle of June in 2023, and in 2024, made the first cut a few weeks earlier on the June bank holiday weekend.

When asked about the quality of the silage, he said he has better looking cattle, and was able to reduce the total concentrates bought for the year, acknowledging that weather might have also played a role. Next year, he

says he will aim to take his first cut in mid-May.

Cut at the right growth stage: The harvest date is the most important factor that affects silage DMD. One issue the group discussed was whether or not they should graze the silage ground in the spring.

Research shows that if you have grazed once in early February or March that will reduce 1st cut silage yield by 0.5 to 1.2 tonnes of DM Per ha, but it will increase total forage yield per hectare per year.

Testing for nitrogen and sugars: High nitrogen levels in the crop will make it harder for the pH to drop in the bale or pit, reducing the quality of the silage. As a general rule grass uses two units of nitrogen per day.

So if, for example, 100 units of Nitrogen was applied per acre, the nitrogen will be used up in 50 days.

However, there are a number of factors that affect this, such as the weather, the age of the sward, or the soil health in general.

Sugars in the grass are extremely important for fermentation, and have a direct impact on crop preservation. To ensure sugars are at their highest, mow the crop in the evening, where possible.

Nitrogen

If there is dry weather approaching, and you are unsure of the nitrogen and sugar content in the grass, you can get the grass tested in your local Teagasc office.

If the nitrate level is slightly high, wilting the grass for 1-2 days will usually resolve the problem.

If the sugar levels are below 3%, additives such as the traditional molasses will help. Adding 10-15 litres per tonne of grass will improve preservation.

Group member, Jason Hughes who farms just outside Castleblayney got his grass tested at his Teagasc office for the first time this year. "I was anxious about the nitrogen level as weather conditions had delayed us getting fertiliser out."

The nitrogen levels were slightly high, but he was able to wilt the grass for 24 hours. "I was able to cut a few weeks earlier than I would have if I didn't get the grass tested, and it made all the difference for the 2nd cut."

Host farmer Fred McKeever is convinced of the savings coming from quality silage particularly for his fattening cattle. "With higher quality silage they'll finish sooner and even if it's only a couple of weeks that's a saving on concentrates."

"As a group we are definitely making silage earlier than we did in the past and we are seeing the benefits," Fred concludes.

The impact of quality silage

Grass silage accounts for up to 30% of total feed on beef farms. A higher quality silage will reduce the amount of concentrates needed.

For example, in terms of weanlings, with a target daily weight gain of 0.6kg/head/day, being fed silage of 66% dry matter digestibility (DMD), they would need to be supplemented with 3kg of meal per day.

However, if they were being fed 70% DMD silage, they would need just 2kg of meal.

And if the weanlings were on excellent quality silage, for example 74% DMD, they only require 1kg of meal per day to achieve the target.

Silage targets

The target DMD required varies from farm to farm, and depends on the stock on the farm.

A dry suckler cow will get by on 66% DMD silage; a suckler cow with a calf at foot requires a higher DMD silage of 70%, as she uses more energy to produce milk. Growing cattle need a silage DMD of 72%, and finishing cattle require silage with a DMD of 74%.

How much silage do you need?

This is an approximate pit silage requirement* per animal per month:

- Dairy cows: 1.6 tonnes
- Suckler cows: 1.4 tonnes
- 0-1 year old: 0.7 tonnes
- 1-2 year old: 1.3 tonnes
- 2+ year old: 1.3 tonnes
- Ewes: 0.15 tonnes

*If you are using bales, multiply the tonnage required by 1.1

It is good practice to include a minimum of four weeks extra in your calculations as a reserve to allow for unexpected circumstances, such as poor weather.

A winter fodder budget is an effective tool used to assessing the silage requirements on your farm. Contact your local Teagasc advisor for more information



FutureBeef farmer
Aonghusa Fahy

Breeding performance targets for beef farmers

Breeding, a key focus of the Future Beef Programme, is the cornerstone of an efficient, profitable and sustainable suckler beef system. Effective breeding strategies yield improved genetic potential, reduced costs, and increased output per cow.

Aisling Molloy
Teagasc Future Beef
Programme Advisor



Calving interval & calves per cow per year

Calving interval is the average number of days between successive calvings. The target is 365 days. The aim is for each cow to produce a calf every year, maximising output per cow. A longer interval leads to fewer calves over the cow's lifetime, reducing overall herd productivity. The national average figure is 397 days and the Future Beef farmers are 25 days less at 372 days.

Calves per cow per year is the number of calves expressed as a proportion of all eligible females in the herd. It is calculated as follows: $(365 / \text{your calving interval figure}) \times (\text{No. of calves alive at 28 days} / \text{No. of eligible females})$.

The target is 0.95 which allows for 5% mortality. While the Future Beef farms are on target at 0.95, the national average figure is 0.84 meaning that 16 cows out of every 100 in the national herd do not calve every year. Both of these metrics can be improved through:

- Minimising calving difficulty for the cow by using easier calving bulls
- Having cows in a good body condition score at calving (2.5 to 3.0)
- Turning cows out to grass as soon as possible after calving to help meet their energy demands
- Good cow and bull fertility
- Good heat detection & records (e.g. tail painting, scratch cards, vasectomised bull, automated system)
- Having a tight breeding season of less than 12 weeks
- Culling infertile cows that don't go back in calf
- Having a herd health & vaccination plan in place to control diseases like leptospirosis and BVD

Mortality at 28 days

This figure refers to the number of calves born dead or dead within 28 days, as a proportion of all births recorded during the period. The target is to be below 5% and the national average figure stands at 2.37%. The Future Beef farmers are slightly higher at 4.3% but are still below the target.

This can be reduced by:

- Vaccinating cows against rotavirus, coronavirus, e.coli and/or cryptosporidium pre-calving to reduce the incidence of scour in calves
- Minimising calving difficulty through good bull selection
- Feeding suckler calves two litres of good quality (>22%) colostrum within two hours of birth
- Disinfecting a calf's naval with iodine (7-10%) or chlorhexidine within 15 minutes of birth to help reduce the incidence of naval infections
- Good hygiene to prevent disease in housing
- Protecting young calves from harsh weather, draughts, and overcrowding
- Monitoring for any early signs of illness and acting quickly to treat them under veterinary advice

Percentage of heifers calved at 22-26 months of age

If a heifer calves at two years she will produce more calves over her lifetime, improving herd productivity. Delaying first calving beyond 24 months increases rearing costs without adding value.

Early calving means heifers begin contributing to herd profitability sooner and helps maintain a 365-day calving interval. Well-managed heifers that calve at two years also tend to have better fertility and longevity in the herd.

This can be increased by:

- Selecting docile heifers from fertile and milky cows that produce good calves every year
- Making sure the heifers are visually correct with good feet and legs, and with a good frame
- Ensuring replacement heifers meet their target weight gain of >1.1 kg/day from birth to weaning and are over 250kg at 200 days old
- Ensuring they achieve 0.6 kg/day over the winter by feeding >74% DMD silage and balancing with ration
- Having sufficient lying space, feeding space and ventilation in sheds
- Having a herd health plan in place



Continued on page 32

Table 1: Key beef breeding performance targets			
Key Performance Indicator	Target	National Average 2024	Future Beef Farms 2024
Calving interval (days)	365	397	372
Calves per cow per year	0.95	0.84	0.95
Mortality at 28 days (%)	<5	2.37	4.3
% heifers calved between 22-26 months of age (%)	100	22	74
6 week calving rate (%)	>80%	57 (spring)	70



Knowledge grows



YaraVera™
AMIPRO™
higher yields with lower ammonia emissions


Take advantage of using **YaraVera AMIPRO:**

- NBPT inhibitor lowering ammonia volatilisation by 70 – 78.5%* relative to straight urea
- True Uniform Compound – spreads to 36m
- Contains Sulphur to enhance grass yields - by 10% on average
- Lowering ammonia emissions benefits air quality, habitats and biodiversity


*Reference: DEFRA NT2605 & FORRESTAL et al. 2016



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- to minimise parasite and disease burdens
 - Turning heifers out to grass first in spring
 - Breeding heifers at 60% of their mature weight, typically 380-420kg for sucklers
 - Breeding heifers to bulls with less than 8% heifer calving difficulty at over 90% reliability
- Good nutrition, genetics, and management are crucial to ensuring heifers reach target weight and condition for successful calving.

Six-week calving rate

This is the number of cows calved within the first six weeks, as a proportion of all cows calved during the spring.

Maintaining a tight calving pattern improves herd management, simplifies breeding schedules, and produces more uniform cattle for sale. The target is to calve over 80% of the herd within six weeks.

Nationally this figure is at 57% and 70% on the Future Beef farms. To achieve this, there must be at least one calving pen available for every seven cows on the farm. This can be improved by:

- Calving cows in a good body condition score of 2.5 to 3.0
- Calving the herd to match grass growth on your farm to match increasing energy demands after calving
- Having a robust herd health plan in place to control reproductive diseases like leptospirosis and BVD
- Good heat detection and record keeping
- Breeding the most fertile cows and heifers
- Having a strict breeding season of less than 12 weeks
- Culling infertile or later calving cows
- Using short gestation bulls with minus figures of daughter calving interval

How does your herd compare?

Farmers that are subscribed to ICBF's Herdplus service can easily access their calving reports online through the 'reports' section. The annual reports run from 1 July to 30 June.

More information

For more information on the Future Beef programme, including factsheets on calf and cow management, visit the [futurebeef website](https://futurebeef.com)



CASE STUDY: Aonghusa Fahy, Ardrahan, Co Galway



Aonghusa Fahy operates a 30-cow spring calving system

Changes that reduced mortality and delivered livelier, healthier calves

Aonghusa farms 22ha in Ardrahan in Co. Galway, along with a further 26ha on his outfarm in Tulla, Co. Clare. He operates a 30 cow spring calving suckler/store to beef system.

The cows are mainly Limousin, Hereford and Charolais crosses and he was using a Limousin stock bull up until last year when he changed to 100% AI.

Despite having a TB breakdown in 2023/2024, Aonghusa has worked hard to improve his breeding performance over the last four years. In 2021 the calving interval for the herd was good, at 367 days, but mortality was exceptionally high at 16.1% at 28 days of age.

This meant that his calves per cow per year figure was 0.86 and resulted in a 30% culling rate in the herd. Aonghusa lost four calves at birth due to hard calvings where the cow was too fat and took too long to calve. One other calf died before 28 days due to scour.

Calving interval

In 2024 the calving interval rose slightly to 370 days, mortality at 28 days dropped significantly to 4.8% and the calves per cow per year rose to 0.94. This increase from 0.86 to 0.94 is the equivalent of two extra calves to sell in a 30 cow herd which is extra money in Aonghusa's pocket for the same

amount of work.

The six week calving rate has also jumped from 59% to 86% during that time, and the percentage of heifers calving at 22-26 months of age has remained consistent at 83%.

Since 2021, Aonghusa has implemented the following changes which he believes have helped reduce mortality and resulted in more lively, healthier calves at birth.

- He body condition scores cows at housing
- Fat cows are restricted to poorer quality silage whereas thin cows are fed better quality silage
- Minerals are now dusted on the silage pre-calving and supplied through boluses throughout the year instead of feeding them through mineral buckets
- The quality of the mineral being fed has been improved
- Cows are vaccinated against rotavirus, coronavirus and e.coli to prevent scours in the calves
- He tests the colostrum quality in the cows using a refractometer
- The calves are much livelier at birth and get at least two litres of colostrum in the first two hours after birth
- Good hygiene has continued to play an important role with clean, straw bedding provided in calving pens.

Jacinta O'Neill
Teagasc Soils &
Environment Advisor



The HSA has a clear and valuable set of guidelines on how to protect children from the potential risks of farm machinery.

- Only carry children in a machinery cab if it is absolutely essential. The cab must be fitted with a properly designed and fitted passenger with seat belts.
- Children under seven should not be allowed in the cab of a tractor or other farm machinery, even with a passenger seat. This is a legal requirement.
- Discuss farm safety with visitors and agricultural contractors and make contractors aware of any possibility of children being present.
- It is important to talk to children about the dangers of machinery and set rules.
- But a child cannot be expected to keep themselves safe. This is an adult's responsibility.
- Park your tractor, or any vehicle, to ensure forward movement when you next drive off.

Visibility is always best when driving forward.

- Check blind spots for people, especially children, before moving off.
- Adults and children tend to move to the back window of a tractor to attempt to communicate with the driver but on many tragic occasions, the driver reversed without seeing them.
- Always be aware of the possible presence of children along roads, around schools, villages and towns and travel at a speed that provides time for a safe controlled stop.
- Never allow children to travel on trailers, transport boxes or machines. The risk of falling off is very high and the consequences can be devastating.

Safe driving for teenagers

Children can be very interested in tractors and self-propelled machines but they are not permitted to drive them.

The HSA states that children 14 and over may be permitted to drive a tractor or self-propelled machine on the farm if:

- They have attended a recognised training course
- They are closely supervised by a responsible adult
- They have the ability to operate the controls with ease
- All the controls are conveniently accessible for safe operation by the operator when seated in the driver's seat
- The controls which operate the



Children under seven should not be allowed in the cab of a tractor or other farm machinery, even with a passenger seat. This is a legal requirement.

Preventing tragedy – on the farm

Health and Safety Authority (HSA) figures tell us that 17 children lost their lives due to farm related accidents between 2014-2023. Over 90% of cases involved a farm vehicle or machine.

power take off (PTO) devices, hydraulic devices and engine cut-off are clearly marked to show the effect of their operation

- The tractor is well maintained
- The ground over which the tractor is to be driven is free from hazards such as steep slopes or excavations, river banks, lake or pond edges, deep ditches and similar areas.

Risk assessment

Every farmer with three or fewer employees must complete a farm safety risk assessment document. To find out more, please contact your local Teagasc office. You may also decide to register to attend a half day Farm Safety Course which will help you develop a plan focused on managing safety on your farm.

Safety information for children

A child-focused farm safety webinar will take place on July 19. This fun and interactive event will teach young children some important farm safety tips through a lively, engaging 30 minute webinar featuring our animated Farm Safety Mascot, Jessy. To register go to the Teagasc website.

Colouring competition Teagasc are inviting children to showcase their artistic talents by participating in our child safety focused art competition and win prizes.

Don't miss out – sign your child up before today and help them be a part of Jessy's Farm Safety adventure! www.teagasc.ie/farmsafetycomp/

Farm safety resources

- Health & Safety Authority www.hsa.ie
- Agrikids www.agrikids.ie/



North County Dublin tillage farmer Derek Rodgers with his Teagasc advisor Conor O'Callaghan.

Fungicides: it's all about the timing

It costs a fortune to fill your sprayer at this time of year, so it's vital that fungicides are applied when they can be most effective

Shay Phelan
Teagasc Tillage
Specialist



Disease control in May and June will determine crop yield and grain quality. The latter is crucial where you are growing high value crops for human consumption which usually have very specific quality criteria without which you won't achieve the premium.

The whole rogues' gallery of mildew, rychnosporium, net blotch, septoria and others can, if uncontrolled, have a devastating effect on crops particularly at this time of year. In most cases, we have chemical options to control them, though timing of application is extremely important.

In winter wheat we normally have

a three spray strategy at leaf 3 fully emerged, flag leaf fully emerged and mid flowering. In some high septoria, or yellow rust, pressure situations a leaf 4 application may also be needed.

In recent times we have seen quite a bit of confusion around these timings with the result that farmers and indeed many agronomists became confused about the correct time to apply the appropriate fungicide mixes. Given that you will spend about €250/ha on disease control in winter wheat this could turn out to be very expensive should the applications go on at the wrong times.

We have seen in the recent years that the efficacy of certain chemis

tries has become 'challenged', especially if there is high disease pressure. Therefore, to make the best use of the available chemistry, which are mainly preventative, their application to the crops must be timed correctly.

Greater accuracy

Teagasc is aiming to achieve greater accuracy by using a more descriptive system, based on the target leaf, e.g. leaf 4, leaf 3, flag leaf or head to identify timings rather than the old system of T0, T1, T2 and T3.

The time gap between the leaf 3 spray and the flag leaf is usually about three weeks. If the leaf 3 application has been timed correctly, when the flag leaf is fully emerged it should be free from septoria.

Each leaf takes approximately 120 degree days to emerge, so if the average day and night time temperature is 10°C, each individual leaf will take 12 days to fully emerge meaning the time taken for leaf 2 and leaf 1 to emerge will be about 24 days i.e. three weeks approximately.

More importantly, septoria generally takes about 300 degree days to cycle or almost 30 days, therefore leaf 1 or flag leaf should emerge 5-6 days before the septoria completes its cycle. As the available fungicides have limited curative activity on septoria they will perform better when they are applied before the septoria infection hits the flag leaf.

Barley

In barley, similarly, timing of the final fungicide has long been a debate among farmers and agronomists. Some are still of the opinion that, as for wheat, we must keep the barley crops as green for as long as possible into June and July.

However, unlike wheat, the upper canopy in barley does not contribute as much to final yield. Barley generally has enough energy within the crop to fill each grain site so facilitating the movement of the energy within the crop is the aim.

Ramularia is the target disease that will eventually take over in barley and it is made worse by stress on

the crop. It usually spreads from the bottom leaves up to the top of the crop as it matures and there are no curative fungicides which can kill an infection. Therefore preventative fungicides must be applied at the correct timing to delay the spread of the disease.

Teagasc has completed a number of trials over the years looking at the most effective fungicide timings on both winter and spring barley and we have seen that the final application on barley at the awns peeping stage GS 49 gives the best response when trying to control ramularia.

Final application

In the graph (below) we can see that where the final application of a fungicide is delayed to flowering i.e. GS 59 or approximately two weeks post awns peeping that there is a 0.4t/ha yield loss.

This 0.4 t/ha loss results in the delay in the control of the spread of the ramularia up through the canopy of the crop and up onto the flag leaf

and awns.

At current prices that 0.4 t decrease in yield would cost a grower in the region of €80/ha which is more than the cost of the fungicide applied.

Similarly in oats the fungicide programme is very descriptive when it comes to the correct timing of the fungicides with the early season mildew and crown rust being controlled at GS 30/31 followed by a second application at GS 32.

These applications coincide with the applications of growth regulators and help to keep the crops clean. However with the final fungicide, we try to target the crop when the head or panicle is about half emerged, this timing gives us good control of the diseases present at the time of application.

Not only that but it also gives us good persistence into the season, keeping the crop greener for longer and also helping to reduce brackling of the crops coming up to harvest and helps to achieve the key quality parameters for food grade specifications.

CASE STUDY: Derek Rodgers, Ballyboughal, Co Dublin

Derek farms alongside his father David and they grow a variety of crops including wheat, barley, oats and potatoes. Attention to detail when it comes to fungicide timings is something that Derek is keenly aware of.

This year Derek is growing varieties such as Graham, Champion, Gleam and Dawsum winter wheat; Joyou, Intergral, Molly and Orcarde winter barley; Geraldine, Hurler and Spinner spring barley, along with Isable spring oats.

Some of these varieties can be at risk from various diseases throughout the season so it is crucial for his business that he applies fungicides when they are most effective. "Fungicides are expensive" says Derek, "but they are even more costly if they are not applied correctly and at the correct time. We aim to apply the fungicides at the correct time to benefit our crops when we apply them".

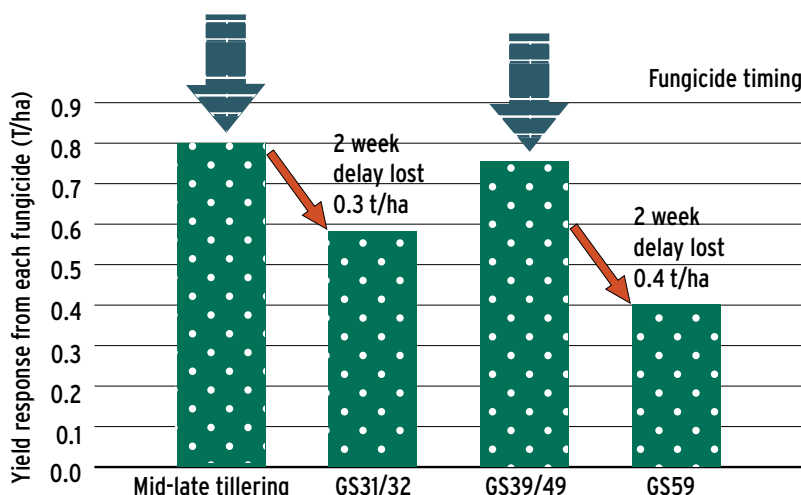
Figure 1. Spring Barley Fungicide Response

Trial locations: Carlow, Kilkenny, Wexford, Wicklow

Varieties: Snakebite, Quench Taberna, Propino

Product applied: 1.0l/ha Siltra

Years: 2012-2015



In recent times we have seen quite a bit of confusion around these timings with the result that farmers, and indeed many agronomists, became confused about the correct time to apply the appropriate fungicide mixes



Walkers enjoying a stroll in Ballyseedy Wood, Co Kerry. (read more: page 37)

NeighbourWood watch

The NeighbourWood Scheme is a chance to plant a lasting and valuable legacy in your community

John Casey
Teagasc Forestry
Development Officer



The newly launched NeighbourWood Scheme, part of Ireland's Forestry Programme 2023–2027, offers a valuable opportunity for rural communities, farmers and other forest landowners to enhance local woodlands for public enjoyment.

Whether it's improving an existing woodland or turning unused land into a shared community space, this scheme provides generous financial support to make it happen. Funding is also available under the Afforestation Programme's Forest Type 4 to create new woodland.

Designed to support recreation, education, and biodiversity, the NeighbourWood Scheme will bring woodlands into daily life—offering places for walking, nature connection, school visits, and wellbeing. It also supports landowners who want to leave a lasting legacy in their locality.

Flexible funding to support farmers and communities

There are two main funding options under the scheme:

- **Element 1: Enhancement** – Up to €6,000 per hectare (capped at €72,000) to improve existing woodlands, such as removing invasive species or replacing conifers with native trees.
- **Element 2: Facilities** – Up to €4,200 per hectare (capped at €50,400) for paths, signage, benches, parking, and other visitor infrastructure.

Private landowners—including farmers—can apply for either, or both, elements.

In addition, they may qualify for an annual Payment for Ecosystem Services (PES) of €90 per hectare for seven years, which recognises the environmental and social value of their woodland.



Continued
from
page 36

Why farmers should take a closer look

For farmers and rural communities, the NeighbourWood Scheme offers more than just financial return:

- It helps make productive use of marginal or underutilised land
- Strengthens community links by creating a shared local amenity
- Enhances biodiversity and contributes to Ireland's climate and environmental goals
- Creates legacy woodlands for future generations
- Benefits from payments and ongoing support for maintenance and public access

Whether it's a small local initiative or part of a larger community plan, the NeighbourWood Scheme provides a practical, well-supported path for farmers and rural landowners to lead the way in creating shared green spaces.

A greener future, together

From urban riverfronts in Mallow to community-led forests in Mayo and ecologically rich heritage sites like Ballyseedy, the NeighbourWood Scheme is helping to shape Ireland's green future. These local woodlands offer space for recreation, health, education, and connection to nature—while supporting biodiversity and climate action.

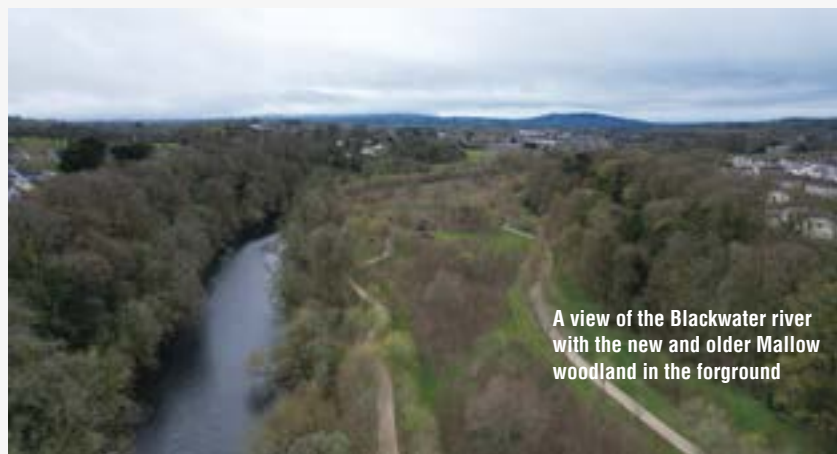
With targeted funding, practical supports, and long-term stewardship incentives, the scheme offers farmers and their communities across Ireland the opportunity to create and care for woodlands that serve both people and the planet—now and for generations to come.

For further details on the NeighbourWood Scheme and the overall Forestry Programme funding, contact your local Teagasc's forestry advisors. They are available to provide independent, objective advice to both farmers and other landowners and can be contacted through Teagasc offices nationwide.



The NeighbourWood Scheme provides a practical, well-supported path for farmers and landowners to lead the way in creating shared green spaces

NEIGHBOURWOOD SCHEMES around the country



A view of the Blackwater river with the new and older Mallow woodland in the foreground

Mallow: A woodland with a community impact

One of the best examples is the 10-hectare wooded area beside Mallow Castle in Co. Cork. This site was first proposed by the local Teagasc advisor and Mallow Development Partnership back in 2015. Subsequently supported by the Department of Agriculture, Food and the Marine's (DAFM) previous NeighbourWood Scheme and led by Cork County Council, this project has transformed old and new woodland into a local haven.

The site includes restored broadleaf woodland, new native oak planting, and family-friendly facilities like walking paths, signs, and benches. It's used daily by locals of all ages—for exercise, dog walking, picnics, and school visits and was of particular benefit to the community during Covid.

The project has helped link the town to the adjacent Blackwater river; protected a Special Area of Conservation; and created a space where nature and community thrive together. It also received the RDS Community Woodland Award in 2024.

Mayo: A grassroots woodland owned by the community

In rural Mayo, the Callacoon Woodland Project shows how a community can come together to create its own woodland from scratch. A 6.9-hectare greenfield site was purchased by local residents, who now own and manage it through a not-for-profit company.

Funded under DAFM's Afforestation Programme, the site was planted with native species like birch, oak, hazel, and Scot's pine. It's managed as a Continuous Cover Forest, with a strong focus on conservation and sustainability.

The woodland now has walking trails and even a conservation hive for native Irish black bees. It hosts open days, school visits, and has gained national attention through RTE's Nationwide. While the community raised funds to buy the land, the scheme covers annual maintenance and management costs, making it a viable model for other rural areas.

"The whole concept at Callacoon is fabulous and especially that local people are involved," said Richard Mannion, local sheep farmer and Secretary of Irish Natura and Hill Farmers Assoc. "I'd like to see this being used as a template for similar projects elsewhere."

Kerry: A woodland with rich heritage and ecological value

Ballyseedy Wood, just two kilometers outside Tralee, is a 32-hectare woodland was also supported by NeighbourWood funding and is owned by Kerry County Council. It is a prime example of how woodlands can serve both public use and environmental protection.

The site includes priority alluvial woodland and is designated a Special Area of Conservation (SAC) under EU law. A wide range of native habitats are present, from wet alder stands to dry ash and hazel woods. Ecological surveys have recorded protected species like otter and salmon, as well as regionally important plants and invertebrates.

Ballyseedy also has a strong local story. First mapped in the 16th century and



Rosa 'Gertrude Jekyll'



Rosa 'Ingrid Bergman'

A rose by any other name...

Sunlight, garden space, maintenance requirements, and personal preference all play a role in making the best choice from the thousands of rose varieties available

James Brady
Lecturer, Teagasc College
at the National Botanic
Gardens



There is a lot of terminology around rose varieties, but most fall under the following categories.

Hybrid teas – these are known for their large, elegant blooms and strong fragrance. There are thousands of colours and varieties available such as Rosa 'Peace' and Rosa 'Ingrid Bergman' best for growing on their own or in rose beds.

Floribunda roses tend to be smaller in height than hybrid teas and offer clusters of flowers, hence the Latin meaning 'many flowering'.

They are particularly hardy, making them ideal plants for your garden. Rosa

'Iceberg' and Rosa 'Trumpeter' are popular choices producing a massed colour effect.

Shrub roses are taller reaching a height of up to 5ft or 6ft. They add colour and powerful scent to borders, growing happily among mixed planting and shrubs. Usually disease-resistant, they include the popular David Austin's English Roses like Rosa 'Gertrude Jekyll' and provide continuous blooms and fragrance throughout the summer.

Climbing roses usually have larger flowers that are held in small groups or singly, with most having the ability to repeat flower. Perfect for sunny walls, pergolas, and trellises. Rosa 'Bantry Bay' and Rosa 'Dublin Bay' add colour and height to the garden.

Rambling roses tend to carry masses of small to medium sized flowers held in large bunches on long arching stems.

Flowering once a year, usually in early summer, they can withstand competition from trees and shrubs, making them perfect companions to taller plants, extending the flowering season and interest in the garden.

Planting roses

Choose the right location – a sunny, open site with good air circulation helps prevent fungal diseases.

Prepare the Soil – roses prefer rich soil with plenty of organic matter such as well rotted farmyard manure or garden compost. Ensure the manure is at least a year old or it may burn the roots. **Planting** – soak the plant well before planting and make sure the graft union is just below the soil surface. This will reduce suckering and help stabilise the rose. Back fill with soil and firm in.

Water and mulch – Water deeply after planting and apply a good layer of mulch/compost to retain moisture and suppress weeds.

Caring for roses is not as difficult or labourious as people may think. A few days' work in later winter will be rewarded with a bounty of blooms, fragrance and colour to the envy of your neighbours.

As the roses flower, remember to deadhead (prune) the old flowers from the plant. This will encourage new flowers to be produced extending the flowering season. Feeding your roses will maintain healthy plants and blossoms, apply well-rotted manure as a mulch in spring and feed a balanced rose feed in early spring and again in June or after the first flush of flowers.

Remember roses also make excellent cut flowers, so why not enjoy their splendour and infuse your home with their floral scents



Rosa 'Bantry Bay' and Rosa 'Dublin Bay' add colour and height to the garden

STAY SAFE WITH JESSY

ART COMPETITION & WEBINAR

Thursday, 19th June | 11am

Join us for an exciting Farm Safety Webinar & Art Competition designed especially for primary school children!

This fun and interactive event with Jessy and her friends will teach young kids important farm safety tips before the summer break, through a lively, engaging 40 minute webinar featuring our Farm Safety Mascot Jessy, who will be joined by Alma Jordan from Agrikids and Francis Bligh, Farm Safety Specialist from Teagasc.

We are inviting children to get creative and showcase their artistic talents by participating in our art competition beforehand, where they can illustrate what safety on the farm means to them. Jessy has Smyths Toys vouchers for the lucky winners who will be announced during the live webinar so get entering!

It's a fantastic opportunity to learn, create, and raise awareness about staying safe on the farm while having fun!

Don't miss out – sign up today and be a part of Jessy's Farm Safety adventure!

Scan the QR code for details!

Enter to win
Smyths Toys
Vouchers!



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