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DECEMBER 2023

EDITORIAL

Matt O'Keeffe, Editor

AVOIDING UNINTENDED POLICY CONSEQUENCES

Alarmism is never a positive tactic. Suggesting that various regulations and impositions on farming are damaging the viability of the industry is not helpful.

Unless there is some truth in the commentary. The Nitrates Derogation reduction is a case in point. It does impact several thousands of, mainly, milk producers. To a point, it can be managed, with some loss of income and productivity. That is not an alarmist reaction, merely a statement of fact. What we should be even more concerned about is the direction of travel, both perceived and actual, in the governance of agriculture. Farmers, researchers and advisors are running just to stand still in attempting to accommodate the regulatory changes being imposed on farming. Sudden upheavals are the most difficult to manage. Again, the nitrates changes are a prime example. Logic would suggest that changes impacting the number of cows a farm can carry should be implemented across the lifecycle of a cow, not an arbitrary calendar date of the first day of a year. If a cow becomes pregnant on May 1 and is expected to calve on February 1, there is a legitimate argument that the implementation period of a regulatory change made during her pregnancy should at least reflect that fact. Instead, we have a situation where cows, heavy in calf, would have to be culled prematurely, so that farmers can comply with lower nitrates restrictions. This is bad for farmer morale, bad for animal welfare, and bad for public perception. A lead-in that reflects the natural course of farming and livestock management must be welcomed. Premature change imposition does not stop there. Calf care is a priority for farmers. Extended age limitations on the movement and sale of calves are necessary, even if it means significant additional workload for calf breeders. Problems arise in providing additional accommodation and feeding facilities at short notice. Add in extra labour requirement and the stress on calf carers increases substantially. Include serial objectors to farm developments, resulting, in many instances, in long delays or rejection of farm-building projects, and we can all too easily see a wall of worry descending on farmers. There is every likelihood that there will be animal-welfare repercussions on some farms with all the associated fall-out, both for individual farmers as well as the reputation of the industry. We should spend less time attempting to stop the unstoppable and more time negotiating rational and reasonable timescales and support measures to deliver change with minimal farmer stress and negative consequences for all involved.

In other policy areas, the consequences of imposing unilateral actions without addressing the wider consequences are equally regrettable and confounding. We encourage more tillage while at the same time making access to land for tillage farmers more expensive and less available because of impositions on livestock farmers. We seek more forestry, yet impose further restrictions on tree species and mix, as well as the soil types deemed eligible for planting. Few, if any regulatory impositions are subjected to impact statements outlining the economic effects on those directly affected and the sector as a whole. Consideration is rarely taken of the potential for unintended consequences, even though, time and again, there are examples of more harm than good being done when the broader picture is considered. Where is the big picture? Where is the all-important holistic approach to the regulatory management of the farming sector?

As Christmas approaches, I hope we can all enjoy a little respite from the stresses of life and farming for a few days, at least! Happy Christmas, everyone, see you all in 2024.

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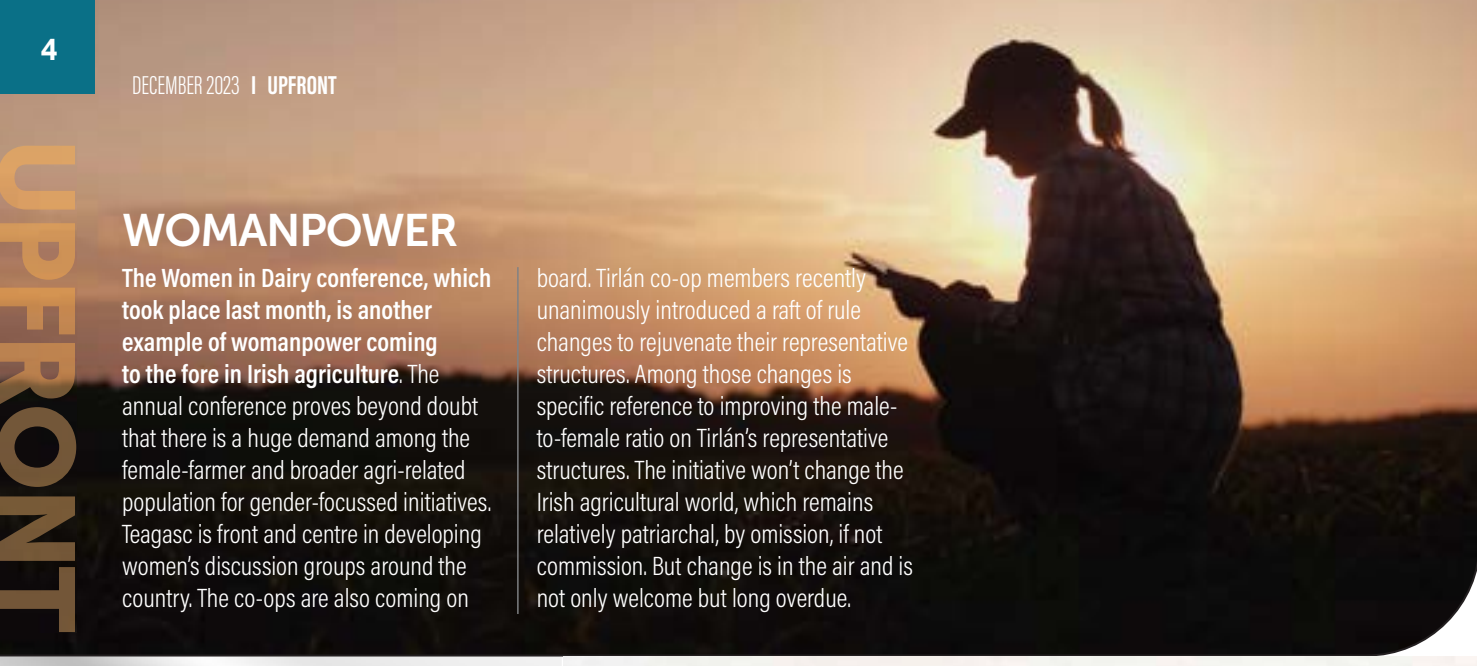


WOMANPOWER

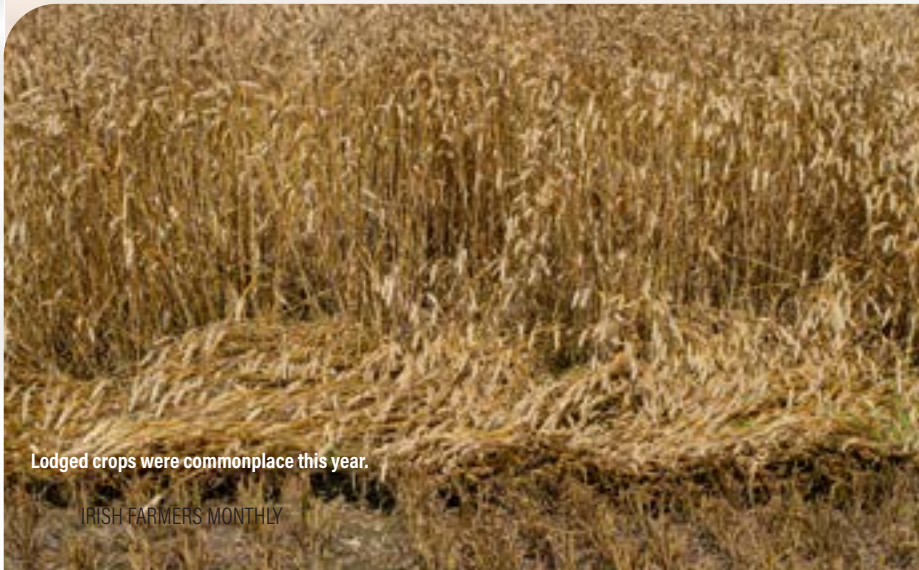
The Women in Dairy conference, which took place last month, is another example of womanpower coming to the fore in Irish agriculture. The annual conference proves beyond doubt that there is a huge demand among the female-farmer and broader agri-related population for gender-focussed initiatives. Teagasc is front and centre in developing women's discussion groups around the country. The co-ops are also coming on board. Tirlán co-op members recently unanimously introduced a raft of rule changes to rejuvenate their representative structures. Among those changes is specific reference to improving the male-to-female ratio on Tirlán's representative structures. The initiative won't change the Irish agricultural world, which remains relatively patriarchal, by omission, if not commission. But change is in the air and is not only welcome but long overdue.

FIXING MILK PRICES

Hedging milk prices got a bad reputation because of the unprecedented price volatility last year and, even after co-ops stepped in with expensive price buffering to reduce the hardship on individual milk producers, many farmers will be wary of securing a guaranteed price for a proportion of their milk output in the coming years. But the reality is that hedging is still a valuable tool to reduce price volatility. Dairygold, Lakeland, and other processors have bitten the bullet and offered fixed-price options for the coming season. Tirlán, for example, has introduced a 40c/L fixed-price scheme for 2024 with a built-in 20 per cent production ceiling to avoid over-exposure, and an option to mirror the proportion of milk in the fixed-price scheme with a fixed-price option for feed and fertiliser. Retrospective wisdom is a perfect science and at least lessons have been learned by everyone concerned. Some other forward pricing offerings may have to be revisited as confidence grows that international dairy markets are trending upwards in the coming months.

DRASTIC FALL IN GRAIN OUTPUT

If there was any doubt about the impact of weather on this year's grain harvest, *The Harvest Report* from Teagasc dispelled it. At just under two million tonnes, the 2023 harvest was down half a million tonnes on the previous year. That's a 20 per cent reduction, with all crops below the five-year average. A reduction of 6.4 per cent on the area under cereals accounted for some of the output reduction. Weather, however, was the singular impact, stretching back to autumn 2022 when wet weather reduced winter sowing acreage, followed by an equally unfavourable period in March 2023, which delayed spring planting. With spring sowing pushed out into April and even May, a drought in June severely reduced the yield potential of those late-sown crops. Then, July was the wettest recorded across the country, with prolonged wet weather flattening cereal crops, followed by widespread weed infestation, making harvesting conditions even more challenging, when it was eventually possible to get combines into crops. Straw was scarce because of the reduced cereal area, lower yields, and poor-quality straw in lodged crops. Ultimately, there were crops that could not be harvested at all, and the Department of Agriculture, Food and the Marine introduced the Unharvested Crop Support Scheme last month with a payment of €1,000 per hectare being made available for up to 20 hectares of unharvested crops on farms. One bright spot in this year's report is the surge in winter oilseeds and spring beans grown. These high-value crops increased acreages by 41 per cent and 60 per cent, respectively, in 2023. Already, the recent wet weather has impacted 2024 crop prospects with autumn sowing down by thousands of hectares compared to previous years. If ground conditions improve, there may be opportunities to sow wheat and oats in the normally dormant December and January months.



Lodged crops were commonplace this year.

President of the Guild of Agricultural Journalists of Ireland, Matt O'Keeffe, with Commissioner Mairead McGuinness at the recent Michael Dillon Memorial Lecture.

McGUINNESS WILL NOT CONTEST EURO ELECTIONS

Commissioner Mairead McGuinness has served as an MEP since 2004, becoming first vice-president before her appointment as a member of the European Commission in October 2020. She currently holds the Commission's Financial Stability, Financial Services and Capital Markets Union portfolio. Recently she announced that she will not contest the MEP elections next year. She will have served 20 years in Europe in 2024, between her parliamentary and commission roles, and has represented Ireland impressively over that period. Many pundits expected her to throw her hat in the ring to replace Ursula von der Leyen as president of the European Commission. Mairead McGuinness's recent announcement will pile more pressure on the Taoiseach, Leo Varadkar, especially as an extra seat has been added in the Midlands North-West constituency where Mairead got almost a quarter of the votes in 2019.

Last month, Commissioner McGuinness delivered the eleventh Michael Dillon Memorial Lecture, organised by the Guild of Agricultural Journalists of Ireland.

The Michael Dillon Memorial Lecture was attended by agri-industry leaders and journalists from across the island and is named in honour of the late Michael Dillon, who was a founding member of the Guild in 1961. Michael's breadth of experience in the field of agricultural journalism was almost peerless, spanning several decades as he worked in radio, television and print journalism as well as balancing a career in farming. Previous speakers have included former president Mary Robinson, former European Commissioners Phil Hogan, Ray McSharry and the late Peter Sutherland.

Time to plan ahead

Maeve Regan,
Head of Ruminant Nutrition, Agritech

With many cows dried off this month, the focus in most yards is on correct dry cow management. However, it's important that we take nutrition plans into consideration for cows calving down for the coming Spring.

Several key factors directly correlate to the success of the calving season, including:

1. A planned and well executed dry cow mineral programme.
2. Calving down the cow in the correct body condition score.
3. Excellent animal husbandry in the week pre- and post-calving (no additional stressors) and
4. Careful transition diet planning.

Fast forward to late January/February, especially given how silage quality was hampered by weather this year: do we have sufficient high-quality forage available for when cows calve down? And if not, what is the plan of action?

Negative Energy Balance

In the weeks post-calving, cows will always produce more milk than their feed intake can provide for, resulting in Body Condition loss due to Negative Energy Balance. For example, a cow will typically reach peak milk output 6-8 weeks post-calving but will only reach peak dry matter intake 10-12 weeks after calving. The freshly calved cow's diet must be sufficient to keep body weight loss to less than 0.5 Body Condition Scoring (BCS) between calving and breeding.

Dry matter intake typically increases by 0.75 – 1.0 kg/week post-calving - highlighting the need for an energy-dense transition diet. This can be difficult to control where silage quality is compromised. Where a deficit occurs, we must be prepared to fill the gap, or issues such as poor fertility will come into effect in May. Adequate concentrate supplement will be paramount (dependent on milk output), along with the inclusion of high energy grazed grass in the diet.

Monitoring NEB on Farm

1. Falling/low milk protein % (signalling energy restriction in the diet – caused by poor quality silage, delayed turnout and/or insufficient supplementation levels relative to cow output).
2. Body condition loss across the herd (>25% of cows with a >0.5 unit of BCS loss in early lactation).
3. A bulk tank milk fat:protein ratio $\geq$ 1.4 (calculated by dividing the milk fat % by milk protein %) signals poor energy balance in the herd's diet.

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THE RESPONSE TO CHANGE IN IRISH AGRICULTURE

Last month the Agricultural Science Association (ASA) launched a new webinar series, Future Farming: How is Irish Agriculture Responding? The series started in November, however, if you missed it, there will be opportunities to catch up in the coming months on the ASA website. This series follows on from the ASA's previous podcasts entitled Experts in their Field, highlighting the careers, advice and thoughts of many of the foremost agricultural scientists in Ireland including Frank Crosby, Mark Lyons, Tom Tynan, Dermot Ruane and Con Lucey. The first of the current webinars was introduced by Dr Siobhan Walsh, who was joined by Dr Helen Sheridan, UCD and Dr Ewen Mullins, Teagasc, to explore the research work underway to change how forage and tillage crops are bred and managed to adapt to a changing climate

PLOUGHING RETURNS TO RATHENISKA

Despite rumours of a venue relocation by the National Ploughing Association (NPA) for next year's National Ploughing Championships (the Ploughing), the NPA has announced a return to Laois for 2024. The Ploughing will again be at Ratheniska from September 17-19, 2024. Even as the event continues to change and develop, its phenomenal success in attracting hundreds of thousands of visitors from rural and urban Ireland, and further afield, bears witness to the efforts of a voluntary organisation working for the betterment of Irish agriculture.

MACRA ANNIVERSARY

Macra will celebrate its 80th anniversary next year. This is an incredible achievement by an organisation that has a network of clubs all over the country and a membership of 8,000 young people aged between 17 and 35. The first Macra headquarters was located at the Town Hall in Athy, and it was opened by the then president of Ireland, Sean T O'Kelly in September 1944.

Originally known as Macra Na Feirme, meaning 'stalwarts of the land', it was founded by 12 agricultural advisors, spearheaded by Stephen Cullinane, who went on to be the organisation's first general secretary and founding editor of the *Irish Farmers Journal.* Over 250,000 young people are estimated to have passed through Macra over the years, many going on to contribute to Irish agriculture in various ways in the eight decades since 1944. We wish Macra continued success.

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WINTER TRENDS

Cathal Bohane,
Head of InTouch Nutrition

All farms are now in winter mode. Unfortunately, it arrived a little earlier this year than we would have liked due to excessive rainfall making ground conditions unworkable. We now look forward to the possibility of an early spring but there are certainly no guarantees of this. While visiting customers, there are a number of similarities that I am noticing and that need attention over the coming months.

1. Cow condition is very variable. While some are close to where they should be, others are short in condition. Low milk yield and low condition are reflective of the lower level of feeding that is evident on some farms. This is not solely related to the kilogrammes of concentrate but also the overall dry matter intake (DMI) in the absence of grass intake. Cows are more efficient at putting on condition while milking but time for this is coming to an end and will depend on dry-off date. This leads on to point number-two and a popular question on farm.
2. Does it pay to milk cows producing around 10-11L? Looking at it simply, it will cost you about €3.50/day in feed for about €4.50 in milk value, which doesn't leave a lot for other costs and returns. What we forget is that once dry, it will cost €2/day for zero return. So, there will be a return for about €4.50 of milk for an extra feed input of €1.50 of feed. Continuing to milk on cows will not alone allow a return, it will also allow condition gain and avoid issues moving forward. Those issues arrive if we dry cows now and calve closer to April, which will mean cows putting on too much condition over an extended dry period. This will predispose cows to metabolic issues, calving difficulties, and further problems post calving like lower intake.
3. Straw and silage quality. Straw quality has been poor and weather beaten this year and if it is mouldy in quality, it should not be fed. We also need to be cautious of weather-beaten straw and the quantity fed should be limited. Weather and subsequent management has also resulted in not just variable silage quality, it has also led to increased levels of mycotoxins being identified in the silage, which would have originated in the field or in the pit. The majority of these mycotoxins are invisible and hard to identify. The effect of mycotoxins can be minor like the loss of a few litres of milk to the extreme like abortions with them being linked with negative effect on every function and part of the animals body. The use of a mycotoxin binder should be used where there is a suspicion or risk of mycotoxin while addressing the issue longer term.
4. Finally, you must continue to monitor silage stocks. A lot of silage has already been used and varying dry matters of the silage has meant large pits of silage have been used faster than anticipated.

Damien O'Reilly
EU Affairs and Communications Manager, ICOS

LETTER FROM BRUSSELS

As I stop to catch breath after the fastest year of my life in new surroundings, I am happy to look back on 2023 with a great degree of satisfaction. Brussels is buzzing. And, what has pleased me most has been hosting visiting farmers from Ireland.

In 2023, the ICOS board, Drinagh and Barryroe Co-ops visited Brussels to find out more about how the EU works. They met with Commissioner Mairead McGuinness, Irish MEPs, and other officials working in the agri-bubble here in Brussels. It is my impression that they all went home with a completely new understanding of the various roles of the EU institutions. Those visits have also included field trips to farms where farmers have been able to compare notes with their Belgian counterparts.

Belgium is divided in two, Flanders and Wallonia. Members of the boards of Barryroe and Drinagh visited farms in Wallonia in October. There are 2,544 dairy farms in the region of which 338 are organic. But the number of farms has more than halved since 1990. And succession planning, just like in Ireland, is a huge challenge with 68 per cent of farmers over the age of 50. The average herd size is 82 cows on 72 hectares. Cows are out grazing during the day but housed at night. Milk yield is also much greater than in Irish herds.

The Irish visitors also discovered that their Belgian counterparts are concerned about the image of farming among the public. But while farmers think that they are being scapegoated for the climate crises, just like in Ireland, this is not borne out in surveys on consumer attitudes towards farmers. We were told that over 70 per cent of Walloon consumers think it is necessary to preserve local dairy farming while 66 per cent have a positive image of dairy farming in general.

Meanwhile, succession planning and the challenges facing young farmers made up the theme of a conference organised by Cogeca (the umbrella body for co-ops) held in Tarragona in Spain last month. ICOS president, Edward Carr and CEO, TJ Flanagan were among the 500 delegates in attendance.

Opening the event, Cogeca vice-president, Christian Høegh-Andersen, noted: "In the face of the daunting challenge of generational renewal, we must acknowledge that the future of European agriculture is intertwined with the future of our young farmers. By embracing our cooperatives and harnessing their potential, we can secure generational renewal and ensure a sustainable future for agriculture."

In his closing remarks, Cogeca president, Ramón Armengol expressed his gratitude and optimism for the future of European agriculture, stating: "The future of European agriculture is intricately intertwined with the future of our young farmers." He highlighted the importance of co-operatives already supporting young farmers, emphasising the need to further empower them as future leaders of agriculture.

The challenges facing Irish farmers is mirrored across Europe. It may not come as any comfort to Irish farmers to realise this, but succession planning and protecting the image of farming is something that is top of the agenda across all farm and co-operative organisations representing Europe's 22 million farmers and 22,000 agricultural co-ops. Next year promises to be another challenging year for all and I look forward to welcoming more Irish farmers to Brussels.

PGI STATUS SOUGHT FOR CERTIFIED IRISH ANGUS BEEF

The Department of Agriculture, Food and the Marine (DAFM) is seeking Protected Geographical Indication (PGI) status for Certified Irish Angus Beef. The DAFM said that it recently launched a national opposition procedure, a stage in the application process for a PGI that must be undertaken before the application can be formally submitted to the European Commission.

PGI identifies a product originating in a specific place, region or country and whose given quality, reputation or other characteristic is essentially attributable to its defined area of origin. The applicant for this PGI is the Certified Irish Angus Beef producer group and the geographical area included in the application is the island of Ireland.

Certified Irish Angus Beef is the name given to meat derived from certified Angus/Angus-cross cattle.

This application is separate to the PGI for Irish Grass Fed Beef PGI application, the registration process for which is almost complete by the European Commission.

Minister for Agriculture, Food and the Marine, Charlie McConologue commended the Certified Irish Angus Producer Group for its work in bringing forward the application.

"I am delighted that the application has progressed to this stage, and I am aware of the significant amount of work that has been undertaken to date."

The application for a national opposition procedure follows scrutiny by the DAFM and the Department for Environment, Food and Rural Affairs in the UK, in accordance with the EU requirements. The opposition procedure provides the opportunity for any natural or legal person, having a legitimate interest and established or resident in Ireland, to lodge an opposition to the applications.

Minister McConalogue added that he is particularly pleased about the all-island basis of this application. "It follows the all-island application for the Irish Grass-Fed Beef PGI. This joint application demonstrates the strong ongoing cooperation between my department and its counterparts in Northern Ireland on agricultural matters."

TWENTY20 BEEF CLUB UPDATES PRICING STRUCTURE

The Twenty20 Beef Club calf-to-beef programme run by Kepak and Tirlán, recently made some updates to its pricing structure, namely increasing its club premium and breed bonus payments for members, as well as widening the weight bands for eligible cattle.

With over 30,000 cattle already processed within the initiative, this expansion enables more farmers to participate and benefit from the club, a spokesperson said. The change means that cattle weighing between 260-400kg are now included, and breed bonuses are given for Hereford, Aberdeen Angus, and continental breeds. These enhancements earn members an average of €100 to €200 above the market price.

"The club aims to promote sustainability and support farmers who invest in improving genetics and producing high-quality beef by adhering to specific production protocols. The circular economy of the initiative ensures enhanced environmental and economic sustainability of the dairy-beef supply chain through leading genetics, shorter supply chain, market-leading pricing, and technical support," said a spokesperson.

Also included in the bonus payments is a Tirlán input bonus of 10c/kg for purchasing inputs as part of the fully traceable supply chain system," said the spokesperson. The programme is open for new members and is also open to farmers producing young bulls. Club members continue to deliver a reduction in their carbon footprint from best farming practice and it remains a valuable market outlet for its co-op members' dairy and beef calves.

TEAGASC CELEBRATES 60 YEARS OF ACADEMIC PUBLISHING

Pictured at the launch of the *Irish Journal of Agricultural and Food Research* 60th anniversary issue are members of the editorial board and Teagasc senior staff and authority members: Triona O'Brien, food editor; Owen Fenton, environment editor; Frank O'Mara, director of Teagasc; Liam Herlihy, chair of the Teagasc Authority; Deirdre Hennessy, senior editor; Pat Dillon, director of Research, Teagasc; Cathal Buckley, economics editor, Catriona Boyle, editorial consultant.

Teagasc recently celebrated 60 years of academic publishing with the launch of a special anniversary issue of the *Irish Journal of Agricultural and Food Research.* This special issue consists of 12 papers, compiled in 2021 — the journal's anniversary year — and highlights scientific advancements made over the last 60 years, as well as looking to the future to see how current knowledge, methods and tools can help us to meet the grand challenges facing the sector and wider society, as well as identifying gaps in knowledge that need to be filled by new research. The issue contains scientific papers on topics including forestry, potato breeding and production, pig production, milk quality and processing, meat processing, ruminant nutrition, ruminant breeding, the Agricultural Catchments Programme, grassland, animal health and welfare, and the role of social science in agri-food research.

Speaking at the launch of a special edition print version to commemorate the 60th anniversary issue, Professor Frank O'Mara, director of Teagasc, said: "Irish agriculture is in an ever-changing environment. Farmers and food processors are faced with a range of challenges on an on-going basis. Research that provides farmers and food processors with technical solutions to meet these challenges in a sustainable manner is as important as it ever was. This issue of the *Irish Journal of Agricultural and Food Research* reviews research over 60 years and highlights how current knowledge can be used to address current and future challenges".

Dr Deirdre Hennessy, senior editor of the *Irish Journal of Agricultural and Food Research* and lecturer in Sustainable Agriculture at University College Cork, added: "This special issue brings together a wealth of research knowledge from the last 60 years, and provides a great reference resource of Irish agriculture, which will be of benefit to researchers, students, farmers and the wider agricultural industry".

The *Irish Journal of Agricultural and Food Research* is a peer-reviewed open-access journal and was first published in October 1961 as the *Irish Journal of Agricultural Research*, evolving over the years to the current title *Irish Journal of Agricultural and Food Research*, in 1992, which is an amalgamation of the *Irish Journal of Agricultural Research*, *Irish Journal of Agricultural Economics and Rural Sociology* and the *Irish Journal of Food Science and Technology.*

RESEARCH SHOWS POSITIVE IMPACT OF ANIMAL HEALTH ON CLIMATE CHANGE

Lance Woods from MSD Animal Health was among the Nuffield Ireland scholars to present the findings of their research at the recent Nuffield Ireland conference. Lance investigated how animal health can positively impact climate change. And the Nuffield Scholar, and recipient of the inaugural Padraig Walshe Award, had three important updates for conference attendees.

Healthier animals, he explained, have a lower carbon footprint: "A study from *Health for Animals* states that a 40 per cent global vaccination rate for cattle, in a given year, is associated with a 5.2 per cent reduction in land required for livestock production, reducing the environmental footprint of livestock systems. Food and Agriculture Organisation of the United Nations have completed extensive work in impact of disease on production and the FAO suggests 20 per cent of global animal protein is lost due to disease."

Secondly, animal health agricultural technology can improve efficiencies at farm level. Lance explained that SenseHub dairy monitoring technology, for example, can reduce emissions by providing the farmer with herd insights on fertility and health. "SenseHub has been proven to reduce emissions on farm by 8 per cent per litre of energy corrected milk produced. With this kind of technology, dairy farmers can make data-driven decisions for maximised productivity."

Finally, Lance's third finding related to the concept of reduction at source. The Kiwis, he said, are very focussed on finding a solution to methane reduction, given the importance of agriculture in their country. "Therefore, a vaccine is under development that reduces methane emissions from ruminant livestock. A successful methane vaccine would trigger an animal's immune system to generate antibodies in saliva that suppress the growth and function of methane-producing microbes (methanogens) in the rumen," he explained.

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ACRES REMAINS OPEN FOR APPLICATIONS

Applications remain open for Tranche 2 of the Agri-Climate Rural Environment Scheme (ACRES) until December 13. ACRES advisors can, on behalf of their clients, formally submit applications for ACRES General and ACRES Co-operation. Total funding of €1.5bn has been earmarked for ACRES over the duration of the scheme to facilitate the participation of 50,000 farmers.

Terms and conditions for Tranche 2, along with the specifications for ACRES General, are published on the Department of Agriculture, Food and the Marine's (DAFM) website, but farmers may get further information on the scheme from their advisors, from the DAFM, and, in the case of lands in the ACRES Co-operation areas, from the relevant ACRES Co-operation Project Team.

The DAFM has confirmed that all three steps in the application process for Tranche 2 have to be completed by the deadline of 5.30pm on December 13, 2023. The three steps are: submission of an Expression of Interest; the preparation of a Farm Sustainability Plan (FSP); and the submission of the FSP and the actual application.

IGA CONFERENCE TO TAKE PLACE IN CORK

The annual Irish Grassland Association (IGA) Dairy Conference takes place on Wednesday, January 10 in the Charleville Park Hotel, in Cork. The title for this year's conference is 'Focusing on our strengths.' The three conference sessions will include managing low milk prices, cow lameness, milk quality, calf rearing and there will be a panel discussion with three young dairy farmers outlining their views on sustainability, managing labour and career progression in dairying.

Tadhg Buckley, director of policy/chief economist with the Irish Farmers Association (IFA) will delve into international milk markets.

GD Young is milking 400 cows in Westmeath and will discuss establishing a dairy business in Ireland. Waterford vet, Ger Cusack, will focus on cow lameness, while Meath dairy farmer, Laura Hannon will outline her farm's approach to herd health and particularly calf health and rearing. Don Crowley milk quality specialist in Teagasc will also participate. One of the highlights of the IGA conference will be a discussion hosted by Mike Egan with three young farmers, David Dolan, Owen Ashton and Mark Collins, about their future plans, equity dairy partnerships and work/life balance among a range of topical issues. The IGA Dairy Conference social night will precede the conference on Tuesday, January 9 with Dr Patrick Wall as the guest speaker. Tickets for the events are available on the IGA website.

FARMERS FEEDING €19BN EXPORTS

The Department of Agriculture, Food and the Marine recently published its annual review and outlook report, highlighting the 'critical importance of the agri-food sector.' The *Annual Review and Outlook for Agriculture, Food and the Marine 2023* provides up-to-date information and statistical analysis from a variety of sources, to give a detailed overview of Ireland's agri-food sector and an outlook for the future. Its main headlines include:

- €19bn in agri-food exports in 2022 accounted for 9 per cent of total goods exported;
- 164,900 employed in the agri-food sector, 6.5 per cent of total employment;
- Dairy: €6.9bn in exports, with both butter and cheese exceeding €1bn;
- Beef: €3.1bn in exports, an increase of €620m on 2021;
- Tillage: An additional 90,000 tonnes of cereals produced in 2022;
- Beverages: Exports of €2.bn, with Irish whiskey exceeding €1bn;
- Seafood: Exports of €642 million, a 5 per cent increase in value;
- Forestry is at 808,848ha, or 11.6 per cent of total land area.

Commenting on the review, Minister for Agriculture, Food and the Marine, Charlie McConalogue said: "Once again, we see the critical importance of the agri-food sector, which is our largest and most important indigenous exporting sector. Despite the many challenges faced in the last number of years by our farmers and fishers, food producers, processors, and the food distribution chain, the sector has demonstrated its adaptability and resilience to continue to deliver safe and nutritious food for Irish and international markets. This is evidenced by the rise in value of agri-food exports last year, to a record €19bn, which represents an increase of 76 per cent over the past decade, largely driven by value rather than volume."

The Food, Drink & Primary Production sector accounted for 40 per cent of all export sales by Irish-owned companies, directly supporting 165,000 jobs, or 6.5 per cent of total employment, predominantly in rural and coastal communities. "This significant domestic economic footprint, including its export profile, reflects the natural comparative advantages of Irish production and a long agricultural tradition," the minister said.

He added: "The Irish agri-food sector continues to adapt and evolve, operating more efficiently and sustainably year on year. We have huge ambition to be a world leader in sustainable food systems and there is proven demand for food produced to our high standards. I believe that as global demand for food increases there are vast opportunities for the sector on its value driven production trajectory."

MUST BE RECOGNISED BY POLICYMAKERS

The Irish Farmers' Association (IFA) president, Tim Cullinan said the record level of food and drink exports is testament to the work and investment of farmers.

"Last year was a turbulent one for the sector, with some significant external shocks driving input costs to record levels. This export performance shows the resilience of producers in the face of unprecedented challenges. Their efforts in delivering this increase in exports should not be underestimated," he said.

He said the value of the agri-food sector, particularly to the rural economy, has to be recognised by policymakers, both here and in Brussels.

"As the next Common Agricultural Policy begins to take shape, the focus has to come back to the farmer. Without farmers, we wouldn't have an export profile that delivers €19bn to the Irish economy and supports tens of thousands of jobs in rural Ireland," he said.

"We have seen a drift away from support for food production. If these figures show us anything, it's that policy measures that recognise and reward the work of farmers do deliver a dividend," he said.

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MAIREAD McGUINNESS, EUROPEAN COMMISSIONER FOR FINANCIAL STABILITY, FINANCIAL SERVICES AND CAPITAL MARKETS UNION, WAS A KEYNOTE SPEAKER AT A RECENT TEAGASC EVENT TO MARK 50 YEARS OF IRELAND'S MEMBERSHIP OF THE EUROPEAN UNION (EU) AND ITS IMPACT ON AGRICULTURE. MATT O'KEEFFE WAS PRESENT AND REPORTS ON THE HIGHLIGHTS OF THE COMMISSIONER'S PRESENTATION

'I CAN SEE LIFE FROM BOTH SIDES'

Mairead prefaced her keynote address by remarking that much of those 50 years mirror the duration of her own education and career: "I went to University College Dublin (UCD) in 1974 to study agricultural science and I reported on agricultural issues and the influence of the EU from the early 1980s, right up to 2004." She then stood, successfully, for the European Parliament and, as a member of the Parliament's agriculture committee, she put her training and journalistic reporting to good use as she advocated on behalf of Irish agriculture: "It was a time of change in Europe, with the Parliament taking on equal status with the Commission in developing and adopting policies," she explained.

UNDERSTANDING FARMING REALITIES

Mairead, who is now the only native English speaker at the European Commission table, believes her current role as Commissioner for Financial Stability, Financial Services and the Capital Markets Union is equally important to farmers as it is to other citizens: "Finance matters to farmers and I keep a close eye on what is happening in European and Irish agriculture." As the only Commissioner who lives on a farm, she has first-hand experience of the challenges facing the sector: "I can see life from both sides and realise that the initial euphoria of joining the community a half century ago, has changed to a more pragmatic understanding of the impact of the EU on farmers' lives and livelihoods. "The Common Agricultural Policy (CAP) has had a huge and positive impact with extraordinary modernisation of farming practices since we joined the EU. For many years, we were net beneficiaries of the EU budget. Today, we are net contributors, a sign that we are among the wealthier members of the union. The CAP was the catalyst for improvements in farm structures, for increased volumes, value and quality of farm produce. Guaranteed prices were replaced by decoupled payments, linked to livestock and then to land. Today, the policy has evolved to provide environmental delivery as well as farm income support. Every reform has brought further complexities and there is a need for simplification," she said.

NATURE'S CHALLENGES

This year, in particular, the challenges posed by bad weather to livestock and tillage farmers have been immense. The impact of climate change is a constant reminder of why farmers are integral to providing solutions, she said. "The fortunes of farmers are closely linked to the natural world, and we cannot ignore the impact of climate change on farming. That's why farmers are part of the EU push to reduce the causes of climate change. Reform can be necessary. That is what it took to eliminate butter and beef mountains and wine lakes. Food scares, over the decades, were minimised by EU reforms. The protection of the European food chain has come about through the introduction of sophisticated, rapid-alert systems coordinated by the European Food Safety Authority. Ultimately, those measures protect farm and food prices."

CONVERGENCE ANTAGONISMS

Recalling the CAP reform of 2013, Mairead said: "I was a member of the Parliament's agriculture committee, and I predicted the proposed changes to redistribute funding would lead to much antagonism among farmers. It was an inevitable policy shift and did cause division. It is difficult to formulate policies that have broad acceptance because there are so many different implications for different farmers.

"The abolition of quotas was a huge development. The constraints of the quota had added to production costs and there was a desire to break free. Irish dairy expansion has been significant with opportunities for new entrants as well as expansion among existing milk producers. Investment in processing infrastructure facilitated that growth."

Commissioner Mairead McGuinness.

WHAT WAS ASKED OF FARMERS 40 YEARS AGO IS ENTIRELY DIFFERENT TO WHAT IS WANTED TODAY

But the focus now, she pointed out, is on all parts of agriculture to make it more sustainable, to address environmental challenges and animal welfare issues. "The latest CAP, incorporating convergence as well as environmental protection, continues to change, with increasing influence from the Green Deal and Farm to Fork policies," she said. "These will have big impacts on Irish food production and processing in the coming decades as we move towards a net zero carbon target by 2050. We are at an inflection point and there is an understandable anxiety on the part of farmers as to what these changes will mean for them. It is in all our interests, given the impact of climate change on everyone, that farmers are helped to adapt and adopt new approaches to food production.

"Farm to Fork has implications for the entire food supply chain, from soil health through to food waste. There is an increasing focus on reducing inputs and trying to maintain production at the same time. Through research and advice, led in Ireland by Teagasc, we are seeing the evolution of new practices and technologies. The focus cannot only be on production without account being taken of environmental and climate consequences. Previous policy mistakes in terms of penalising farmers for unproductive areas on their farms are being rectified. Mindsets are changing among farmers as well as policymakers. What was asked of farmers 40 years ago is entirely different to what is wanted today."

A COLLECTIVE APPROACH

Mairead pointed to recent remarks by European Commission president, Ursula von der Leyen, proposing a structured dialogue around the future of agriculture within the EU: "We need to realise that farmers are a core part of this dialogue, not to be talked about but rather to be listened to, and to have a conversation with, so that everyone is involved in making the changes required. President von der Leyen also pointed to the polarisation of views where we cannot find a middle ground, something that the EU was always able to do in finding necessary compromise when needed."

Mairead highlighted the need for generational renewal among the farming community, asking how many of those young people undertaking the Green Cert will farm in the future: "Fewer and fewer, I believe, partly because of the uncertainties around farming and because there are abundant alternative employment opportunities. There is a valid question as to how many existing full-time farmers will be replaced by full-time farmers. Looking at the age structure, many farmers keep going when they should stop and many stop only because they can't keep going. We are going to have significant change, not only in land ownership, but also in the use of land because of that age structure."

EVERY REFORM HAS BROUGHT FURTHER COMPLEXITIES AND THERE IS A NEED FOR SIMPLIFICATION

BIG QUESTIONS FOR THE EU

And looking forward, she said: "Environmental issues will remain to the fore, and a more broad-based approach to dairy and other food production will be needed, rather than a solely production-driven model. The marketplace is demanding increased visibility of production methods and standards. Farmers are doing a lot already to address the challenges facing them and that needs to be acknowledged. Who pays the price for the changes required? Where are food prices going? Who pays for the public goods embedded in food? What does food security mean and how important is it in the EU? These are the questions that must be answered urgently."

THE RIGHT INGREDIENTS

DAIRY INGREDIENTS, FLAVOURS, AND CHEESE MANUFACTURER, CARBERY, RECENTLY PRESENTED ITS LATEST IN INNOVATIVE PROTEINS AT FOOD INGREDIENTS EUROPE (FIE), THE WORLD'S LARGEST GATHERING OF FOOD AND BEVERAGE INGREDIENT BUYERS AND SUPPLIERS. *IRISH FARMERS MONTHLY CAUGHT UP WITH EIMEAR BLACKWELL, BUSINESS DEVELOPMENT AND TECHNICAL SPECIALIST, CARBERY FOOD INGREDIENTS, ABOUT THE YEAR THAT'S BEEN AND THE OPPORTUNITIES AHEAD**

In the face of a challenging year, overall business has been strong for Carbery: "The year, so far, has been good," Eimear says. "Global dairy markets have been poor and recovery very slow so this, along with many climate pressures, is impacting our farmer shareholders but we are supporting them through it."

The co-operative's 2022 annual report, published earlier this year, showed that the company experienced record market performance with revenue growth of 31 per cent compared to 2021, or from €535m in 2021 to €700.8m in 2022. It introduced a sustainability initiative, FutureProof, for its farmer suppliers, which saw €3m paid to farmers in 2022 (and a 95 per cent uptake) and reaching a potential €6m (equivalent to 1c/L) for participating farmers in 2023.

It set aside €10m in a stability fund to support farmer shareholders through future challenges, and continued to invest across the group, including developing a visitor centre as part of its Farm Zero C climate-neutral farm project, and a new savoury innovation centre in the US, to support the acquisition of a savoury flavour company in 2021. All this set the company up for the challenges of 2023, of which Eimear cites FutureProof and Farm Zero C as being just some of the year's highlights. "Our digital transformation continues as well as investments in people and facilities. Next year, 2024, priorities will focus on innovation and the launch of our new three-year strategy. We were also lucky enough to win 2023 Irish Exporter of the Year recently," says Eimear.

This top honour, bestowed by the Irish Exporters Association (IEA) came in addition to Carbery being announced as this year's winner of the Sustainable Trade Exporter of the Year award. The 'co-operative's approach

to research and development at every level of the business, sourcing input from their scientists, manufacturers, and stakeholders alike impressed the IEA judging panel.
"Carbery has created an exemplary model, incorporating innovation and sustainability to the benefit of their industry and supply chain," commented Simon McKeever, chief executive of the IEA, at the awards ceremony.

INNOVATE AND CREATE

Innovation is a key word in Carbery's lexicon. Since its establishment by four west-Cork creameries and the UK's Express Dairies back in 1965, the co-operative has always tried to think outside the box and find new markets for the milk supplied by its farmer owners, which now stands at 1,220.
Its longstanding dairy heritage has seen it become a renowned cheese producer – 63,000 tonnes in 2022, the same year that it won six golds at the International Cheese Awards, and that Dubliner Cheese won two bronze awards at the World Cheese Awards.
Its taste and flavours division, Synergy, enjoyed a strong performance in 2022, in a global food-flavours market that is projected to reach $19.2bn by 2030, according to Carbery.
The nutrition side of the business sees its whey-based ingredients used in infant formula, clinical nutrition, and sports nutrition products, with customers located across the US, Europe, Asia, Africa, Oceania and the Middle East. The sports nutrition market, in particular, is lucrative, worth about $14.6bn in North America, $3.4bn in western Europe, $1.55bn in Japan, and $811m in China. Carbery's slicing of that pie is inevitable.

THE SCIENCE BIT

The recent FiE trade show, which took place in Frankfurt, Germany, saw Carbery showcase its market-leading Optipep whey protein hydrolysate range. This range, according to Eimear, delivers scientifically supported nutritional and performance benefits and is suitable in a wide variety of applications from bars, snacks, ready-to-drink and powdered beverages. Carbery's nutrition business, explains Eimear, provides a comprehensive range of advanced whey proteins for infant, sport, clinical nutrition, and mainstream food and beverage markets. Informed by its expertise in infant and performance nutrition, the co-operative has developed new heat-stable Optipep RTD (ready to drink) whey protein ingredients for clinical nutrition and high-performance protein shots. "One of the key benefits of Optipep RTD is its excellent heat stability, delivering great tasting whey protein that can withstand UHT treatment and has a 12-month shelf life in pack," says Eimear. "Optipep RTD 9026, for example, can deliver up to 15 per cent protein in neutral pH oral nutrition supplements (ONS) to provide optimal nutritional support. The Optipep RTD range is rapidly absorbed and easily digested, made from milk of grass-fed cows and is suitable for vegetarians," she says.

THE FUNCTIONAL-FOODS SECTOR

The demand for healthier products has seen the global functional-food market valued at $305.4bn in 2022 and it is predicted to hit around $597.1bn by 2032. "The functional-food sector continues to grow, addressing consumers' demand for ingredients and foods that support overall health and wellness. In general, busier lifestyles drive the demand for more nutrient-dense, convenient delivery formats like protein bars, gummies, electrolyte gels and ready to drink [products] that are backed by scientifically validated ingredients. We see an increase in the demand for pro-, pre- and post-biotics, supporting immune health and adaptogens and nootropics to enhance cognitive function are on the rise," says Eimear.
"As consumers are also more educated about the role their diet has in helping combat illness and injury, they seek out products that are more protein and antioxidant rich, and interest in fermented ingredients that can support microbiome diversity is steadily increasing. Ongoing scientific research around the additional health-promoting benefits of dairy proteins and the development of bioactive-based whey proteins will create growth and added value in this sector," says Eimear.
And there are opportunities for Irish manufacturers in this sector, she says. "Consumers' priorities and purchasing behaviour have changed over the years with an increased focus on optimising physical health and supporting immune and gut health. More importance is placed on food

and beverage choices, increasing the demand for ingredients with health promoting benefits like bioactive dairy proteins, wholefoods, mushrooms, seaweed and antioxidants. There is an opportunity for Irish manufacturers to develop more advanced, functional ingredient solutions and expand product formats."

GLOBAL GROWTH

Earlier this year, the company opened the new Carbery Group Asia Business and Innovation Centre in Singapore. This event coincided with Carbery celebrating the tenth anniversary of the opening of its Synergy flavours manufacturing site in Thailand. "The objective of opening in Singapore is to fully take advantage of the strong, established and available ecosystems and networks to enable growth across the wider region. This, in turn, will allow Carbery Group to foster stronger collaboration with industry partners, start-ups, universities, and research institutes, and with strategic key customers. The Centre is just getting off the ground but the team there, led by Gordon Eng, is growing, and the presence of our Innovation Centre there cements the importance of this region for us – Singapore is a key hub for opportunities across Southeast Asia," says Eimear.

*Reporting by Bernie Commins and Tara Corristine.

SUSTAINABILITY– A TEAM EFFORT

WHAT PROCESSES HAVE BEEN INTRODUCED ACROSS THE CARBERY GROUP TO IMPROVE SUSTAINABILITY?

Eimear comments: "Our sustainability programme is extensive and covers many areas of our business including production, operations, procurement, people and supply chain. We have several initiatives in place, but some recent ones would include the formation of Green Teams across our sites, which are employee-driven action teams. We have had a very successful energy reduction and recovery campaign in 2023 with great results and our teams across the world continue to be very involved in their communities carrying out a range of environmental and charity initiatives.

"On the facilities side, we have been innovating in environmental sustainability terms for many years now, Carbery has always prioritised operating efficiently and responsibly. We have exciting projects ongoing in the area of recycled packaging. In recent years our focus has shifted to supporting our farmer shareholders to make the same transition, and the initiatives mentioned above like FutureProof, like Farm Zero C and many more are aimed at helping them to farm more sustainably and secure the future of family dairy farming."

Photographed at the official opening of the Carbery Group Innovation and Business Centre in Singapore: Carbery chair, Cormac O'Keeffe; Carbery head of business development and strategy in Asia, Gordon Eng; Patrick Lim, Bord Bia; her excellency, Sarah McGrath, Irish Ambassador to Singapore; Sebastiano Pagano, CEO of Synergy Europe & Asia; Carbery CEO, Jason Hawkins; and Ciarán Gallagher, Bord Bia.


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PREPARING THE DRY COW FOR CALVING

THE DRY PERIOD SERVES AS A WELL-DESERVED BREAK FOR THE DAIRY COW AND CORRECT MANAGEMENT OF THE COW DURING THIS PERIOD IS VITAL FOR SMOOTH CALVING AND TOP PERFORMANCE IN THE FORTHCOMING LACTATION, WRITES ELEANOR BRADY, RUMINANT VETERINARY MANAGER, MSD ANIMAL HEALTH

Nutrition is of paramount importance during the dry period. The ideal body condition score (BCS) for dairy cows pre-calving is 3-3.25. Cows that are over-conditioned in the pre-calving period are more likely to succumb to metabolic diseases such as fatty liver disease and ketosis in early lactation. Fatty liver disease and ketosis increase the likelihood of developing a displaced abomasum, otherwise known as a twisted stomach; mastitis; and metritis, otherwise known as a uterine infection.

Conversely, cows that are too thin post-calving may struggle to go back in calf and may have reduced milk yields. Ensure that all dry cows have adequate feed space, watch out for bullying and avoid any sudden changes in diet during the dry period. Assess rumen fill scores regularly to quickly identify any cows that may be off-feed or under consuming. Lame cows may consume less than their comrades. Hoof care is worth spending time on before the dry period for this reason.

Your veterinary practitioner can assess the nutritional suitability of your current dry-cow diet, with any known weak points from previous years in mind. If milk fever has historically been an issue on farm at calving, for example, examination of the mineral content of the dry cow diet is warranted. Paradoxically, an oversupply of calcium during the dry period can exacerbate milk fever at, and shortly after, calving time. The goal is to keep the cow's calcium mechanisms sharp by restricting calcium supply in the dry period. This is then followed by a correctly increased supply after calving to match the sudden demand lactation brings. Milk fever can also give rise to other metabolic conditions.

COWS THAT ARE OVER-CONDITIONED IN THE PRE-CALVING PERIOD ARE MORE LIKELY TO SUCCUMB TO METABOLIC DISEASES SUCH AS FATTY LIVER DISEASE AND KETOSIS IN EARLY LACTATION

DRY-PERIOD INFECTIONS

Many new intramammary infections – mastitis cases – are established in the dry period but only manifest as clinical disease after calving. The first phase of the dry period is known as the involution phase. During the involution phase, the udder attempts to form keratin plugs to seal the teats and protect the udder from infection setting in. Unfortunately, many cows do not form effective natural seals, meaning that the udder is left vulnerable to infection. Using a dependable teat sealant at the point of dry-off provides the teat with a more resilient barrier to infection, lessening the likelihood of clinical mastitis, post-calving. Dry-cow antibiotic therapy should always be planned in detail with your veterinary practitioner.

COLOSTRUM

After involution, there is a steady state followed by colostrogenesis (colostrum formation). Colostrum (beastings) is well-known to be an invaluable source of nutrition and immunity for the newborn calf. The quality of colostrum, unsurprisingly, can be affected by dry-period factors such as nutrition, stress, dry-period length, and subclinical mastitis. With the calf being the future of the herd, colostrum quality should be closely monitored. Colostrum quality can be quickly assessed on farm using a Brix refractometer, with a target of above 22 per cent being optimal.

SCOUR

Calf scour is the most frequent cause of death in calves under one month of age. Common causes of calf scour include rotavirus, coronavirus and Escherichia coli. Colostrum quality can be improved through cow vaccination with a calf-scour vaccine.

PRODUCTS

Bovilis Rotavec Corona is a suitable vaccine for this. By vaccinating cows once in the three-month to three-week period prior to calving with this product, for example, antibodies are produced against rotavirus, coronavirus, and E. coli. These antibodies are passed from cow to calf through colostrum feeding, protecting the newborn calf against its greatest threat. If calf scour has historically been an issue on farm, it is particularly worth considering a single vaccination of this product during the dry period as a calving season preparation strategy. Your vet can provide expert guidance on the scour agents present on your farm and recommend the most appropriate prevention plan going forward.

Infectious bovine rhinotracheitis (IBR) is a virus known to strike during periods of stress such as at calving time. Once cattle are infected with IBR, the virus can remain latent (hidden) in the animal for the rest of its life. IBR then re-emerges during periods of stress and is spread to other animals in the herd. In advance of calving, cattle can be vaccinated with Bovilis IBR Marker Live, which can aid in reducing nasal secretion of the virus later at calving. IBR booster frequency should be discussed with your vet, as each herd will have different requirements when protecting against the disease.

A well-managed dry period is a cow's best chance to excel in her next lactation. Careful consideration of the points of discussion in this article may ultimately reduce stress and strain for both farmer and animal – a welcome prospect on any farm.

AGNAV

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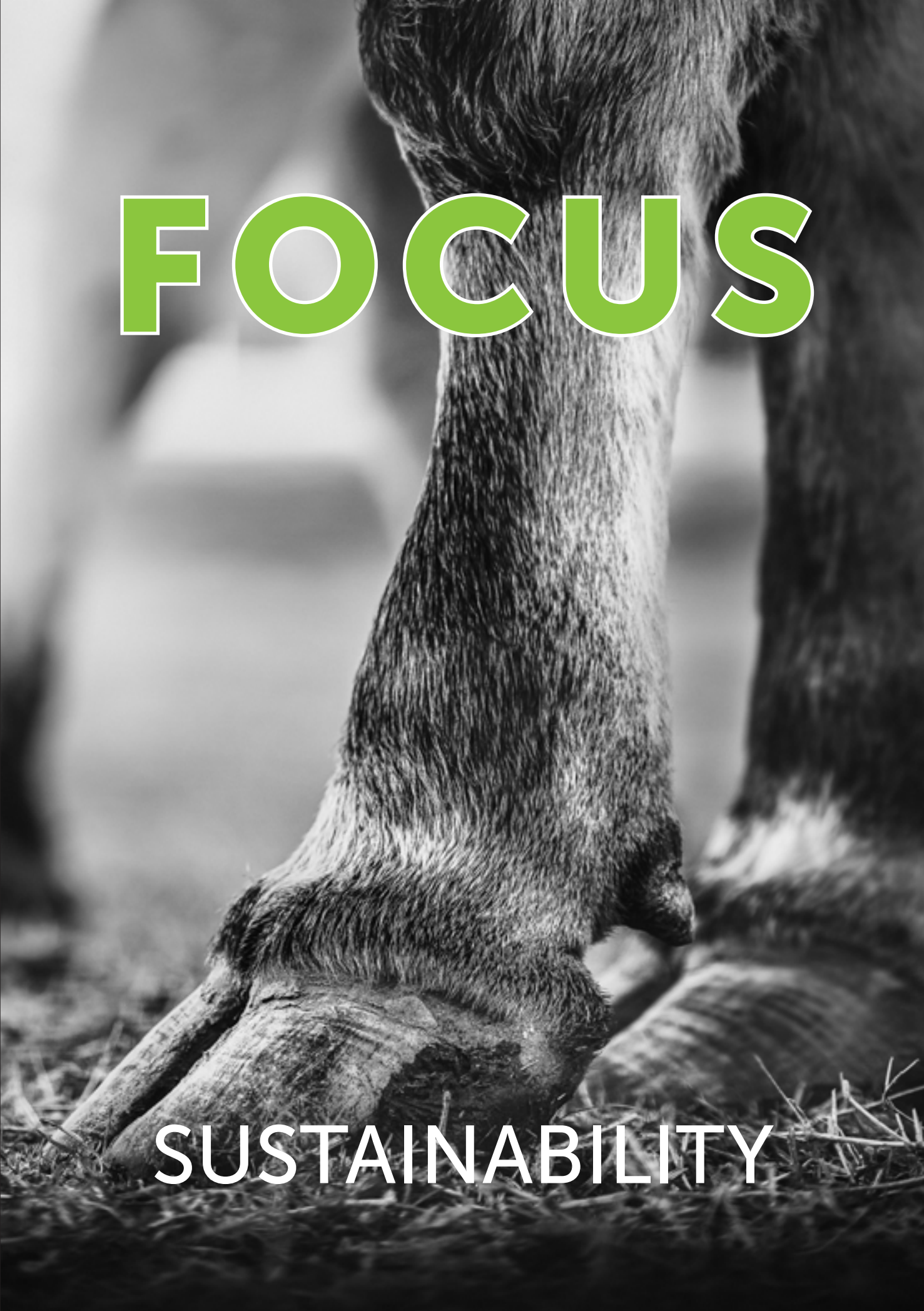
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SUSTAINABILITY

THE POWER OF GENETICS

ONE OF THE MOST POWERFUL TOOLS FOR IMPROVING ANIMAL PERFORMANCE IS GENETICS. PROFESSOR DONAGH BERRY, DIRECTOR OF VISTAMILK SFI RESEARCH CENTRE, AND ANIMAL GENETICIST AT TEAGASC, ADDRESSED A RECENT CONFERENCE ON THE TOPIC AND HIS MESSAGE WAS CLEAR: GENETICS DELIVERS ACROSS A WHOLE RANGE OF IMPROVEMENT TRAITS

Addressing a captive audience of several hundred at the Department of Agriculture, Food and the Marine's (DAFM's) conference, Agriculture and Climate Change – Science into Action, Donagh outlined how animal breeding is being brought to bear on the issue of carbon reduction in the Irish livestock herd:

"Breeding is cumulative and permanent, very much mirroring what Albert Einstein said about compound interest being the eighth wonder of the world; the benefits build over time."

Today's herd is the result of genetic improvement over decades and longer, he said. "The beauty of genetic improvement is that there is no need to change farm-management practices. With artificial insemination for instance, the practice is the same, whether you use a mediocre straw or one that can enhance future genetics in the herd. There are no or negligible additional costs involved. The farmer is already breeding year on year and the results from improving genetics are sustainable."

THE CARBON INDEX

The geneticist concentrated his main theme around the impacts on carbon and methane reduction from targeted breeding. He allied

his breeding theme with the associated benefits of reducing the age of slaughter in beef animals: "We are the first country to include carbon in our beef and dairy breeding indexes. Currently we don't directly account for the variability in methane production by our animals. All our breeding improvements have been positive in improving profitability. Dairy improvements are further along as the EBI started earlier. We have shifted the mean of the dairy population by three standard deviations." Using a comparison with human IQ, Donagh compared the dairy improvements to lifting the human average intelligence figures so that half of the population would be regarded as gifted. "It's a phenomenal improvement over a relatively short timeframe."

He pointed out that, with advanced breeding practices, it has been possible to deliver improvements across a range of traits, without compromising fertility, for instance, in favour of yield. "With beef breeding there is a similarly positive outcome from breeding

Professor Donagh Berry.

selectively for various traits. The targets must be important, they must be measurable, and they must demonstrate genetic variability."

GENETIC VARIABILITY FOR METHANE PRODUCTION?

A central question answered by Donagh in his address at the climate conference was whether there is genetic variability for methane production. Using a graph to illustrate his point, Donagh showed that the average daily methane production by an animal is 240g. The distribution is large with some producing almost 400g and at the lower end some producing 100g per day. His research asked how much of that spread is genetic and found that about 40 per cent in beef is attributable to breeding while in sheep the figure is 30 per cent. Data is still being collected and analysed to determine the percentage of dairy methane production related to genetics, he said. The research into methane emission genetic disposition provided clear results: "Under similar management practices, around 40 per cent of the variability on methane production in beef cattle is due to their genetic differences. Those differences come without any compromise in their performance in critical factors such as slaughter age, weights or conformation. This data allowed us to develop the first national genetic evaluation for methane in cattle in the world. We have also developed genetic evaluations for sheep in respect of methane production. With widely adopted genetic breeding for methane reduction, the cumulative effects over the cattle population can be very significant."

FROM CONCEPTS TO CONCLUSIONS

Validation is, of course, necessary to provide objective proof of the practical application of the concepts Donagh outlined. This is happening, as he explained: "In breeding, we are trying to predict the future outcomes based on current data and knowledge. The outcomes of our validation exercises show that those animals predicted to be low methane emitters, turned out to be, in practice, low emitters. This is where science and theory are shown to be true in the physical outcomes. The reason is straightforward. Forty per cent of the emission differences is due to variations in genetics."

Donagh explained the compromises necessary to safeguard economic sustainability at the same time as genetic progress is made in environmental sustainability: "We select within an index taking all the critical traits, including methane suppression as well as performance criteria into account. An extreme improvement in methane reduction accompanied by a reduction in economic performance would not be a successful outcome. By balancing the traits, we still have a significant outcome for methane reduction. In practice the animals must be low emitters per day as well as providing heavier carcasses."

AROUND 40 PER CENT OF THE VARIABILITY ON METHANE PRODUCTION IN BEEF CATTLE IS DUE TO THEIR GENETIC DIFFERENCES

THE KILLING POINT

Age of slaughter was another key aspect of Donagh's presentation: "Thirty per cent of the difference in age of slaughter can be attributed to genetics. We are the only country in the world that is actively selecting for reduced age of slaughter. We must think long term. While MACC and other known technologies may be fully adopted by 2030, the benefits of breeding have longer-term application and benefits, running all the way to 2050 in terms of the methane reduction targets set for the longer term.

"In animal breeding, we tend to see a one per cent improvement per year. That's the norm in well-developed breeding programmes. Just to be conservative, we will halve that figure. If we were to model a one per cent annual improvement per year, in reducing age of slaughter or reduced methane emissions, we would achieve around an 11 per cent reduction, equivalent to a three-month improvement in age of slaughter. The broader benefits include the fact that we not only improve methane emission percentages or carcass weight. We improve methane per day and age of slaughter, both of which will improve at a rate of 0.5 per cent per year, at those conservative estimates. In practical terms, that will deliver a reduction to a little above 90g of methane per day from the cumulative effects of breeding for methane reduction as well as reduced slaughter age."

A DEFINITIVE BREEDING PATHWAY

The Teagasc genetic scientist was adamant of the benefits of breeding: "I don't use the words 'could' or 'might'. 'Will' and 'can' are the appropriate outcome descriptions from selective breeding based on genetic traits. It has been proven over centuries across a range of positive traits and we have now shown its applicability in delivering methane emission reductions. A primary benefit from genetic improvements is that it is capable of mass adoption. There are no huge changes necessary in farm practice or management to achieve positive outcomes."

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David McKay
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Professor Sinead Waters.

FEED ADDITIVE SOLUTIONS TO METHANE PROBLEMS

BERNIE COMMINS REPORTS ON SOME OF THE FASCINATING FEED-ADDITIVE SOLUTIONS TO OUR AGRI-EMISSIONS PROBLEMS THAT WERE HIGHLIGHTED AT THE RECENT CLIMATE CONFERENCE, ORGANISED BY THE DEPARTMENT OF AGRICULTURE, FOOD AND THE MARINE (DAFM)

Agriculture, as we all aware, is a significant cause of our climate and environmental woes. The statistics confirm that the sector is responsible for 38 per cent of Ireland's greenhouse gas (GHG) emissions, which are made up of carbon dioxide, nitrous oxide, and the main culprit, methane. Methane accounts for 72 per cent of all agricultural emissions here, produced as a result of enteric fermentation of food or feed in the rumen of cattle and sheep, and also by stored manures and slurries.

It is a big problem for the farming community, but the solutions are coming through.

Professor Sinead Waters, principal research scientist, Animal and Bioscience Department, Teagasc addressed the Department of Agriculture, Food and the Marine's recent conference, Agriculture and Climate Change – Science into Action. There, she gave attendees an update on just some of these solutions.

Specifically, she focussed on the role of feed additives in the reduction of enteric methane production in ruminants.

REDUCING OUR EMISSIONS

Under the Climate Action and Low Carbon Development Bill, the agri-sector is committed to reducing emissions by 25 per cent by 2030. To get to that, we must reduce methane emissions by 10 per cent, particularly enteric methane from ruminants, said Prof Waters.

Before delving into the specific role of feed additives in this, she touched on the other ways that farmers can help reduce emissions.

"We can improve management practices, reduce age of slaughter, reduce age of calving, and ensure that all animals on the farm are healthy and productive. We also need to ensure that our grassland is managed properly.

"We have very good opportunities in Ireland, we are a pasture-based production system and we can produce animals very efficiently on pasture, and we know that significantly lower methane is derived from pasture-based settings."

RESEARCH – FEED ADDITIVES

The use of feed additives, said Prof Waters, is one part of a multi-pronged approach, and based on Teagasc's Marginal Abatement Cost Curve (MACC), they can play an important part. "Feed additives can reduce methane emissions by as much as 788 kt CO_2 equivalent by 2030," said Prof Waters.

So, these additives have great potential, but like everything, some are better than others.

In developing a feed additive for ruminants, what are the key priorities? Prof Waters explained: "There needs to be consistent methane reduction, we need to be able to count that reduction, and know exactly how much the feed additives will reduce methane by." Additionally, there needs to be

good mechanism of delivery to the animal, preferably in pellet form, so that it is easy for the farmer to get the feed additive into the animal, she said.

"We need to be able to count it in the national inventory and it is critically important that any studies are published, and peer reviewed. There is no point in us doing all this research if it can't be counted in a mitigation strategy. Also, there needs to be no food safety or residue implications for consumer acceptability, and no negative performance affects, or palatability issues for the animals."

She continued: "What would be really desirable is a feed additive that is low cost, and that gives increased performance benefits. It would be ideal if it was natural in origin so we wouldn't have to go through the regulatory process, and it would be ideal if we could combine it with other strategies."

METH-ABATE

Prof Waters updated the conference on the 2019 DAFM-funded Meth-Abate project, involving collaborators from University of Galway, Teagasc, Queens University, the Agri-Food and Biosciences Institute (AFBI) and industry partners. She explained: "In this project, we set out to evaluate the mitigation potential of a range of feed additives across Irish production systems including [the product] Bovaer, seaweeds and seaweed extracts, lipids, lipid extracts and novel oxidising methane inhibitors. We also monitored their effects on animal performance.

"We also tried to generate slow-release options at pasture and this work is ongoing. We are also examining the nutritional and toxicological composition of the meat and milk to make sure there are no residues, and we do a lifecycle analysis which is critically important, specifically relating to seaweeds," she explained.

Using the Rusitec system, which is a rumen simulation technique, Prof Waters explained, the project has been able to put a lot of feed additives to the test. And, using a GreenFeed system, the researchers were able to measure methane in real time. Prof Waters explained how this is possible: "The animal is enticed into the GreenFeed system by a feed bait. It sticks its head under for at least two minutes and methane and carbon dioxide sensors – and more recently we have hydrogen and oxygen sensors as well – measure these visits throughout the day."

3-NOP

The first feed additive under research was 3-Nitrooxypropanol – also known as 3-NOP, which is the active ingredient in Bovaer. According to research literature, the reduction in methane is around 30 per cent. Its mode of action involves it binding to the methane-producing enzyme, called methyl-coenzyme M reductase (MCR). This results in inhibiting the formation of methane without a negative influence on the animal. The effects of 3-NOP are immediate, explained Prof Waters: "It acts like a switch. When the 3-NOP is fed, the emissions are reduced by 30 per cent in an indoor system with a TMR diet." However, when 3-NOP feeding stops, the emissions increase again, so this creates challenges

to incorporating 3-NOP into a pasture-based diet. The feed additive is European Food Safety Authority (EFSA)-approved for dairy, and it is hoped that it will be beef approved in the coming year.

Prof Waters explained that Meth-Abate conducted one of the first studies in Ireland on Bovaer at Teagasc Grange, in collaboration with DSM, the company that manufactures it. "We looked at the efficacy of 3-NOP in growing beef cattle from around six months of age. We looked at dry matter intake (DMI), daily methane, and daily live weight gain. We got very exciting results.

"There was a clear 30 per cent reduction in methane emissions in these animals on a TMR diet over a 12-week period. We saw no impact on DMI, average daily gain, and feed efficiency. Bovaer was also assessed at Teagasc Moorepark by Dr Laurence Shalloo's group, in grazing dairy cows. This was carried out only on animals that were coming into the parlour for miking and as they left the parlour, they were given 3-NOP in a ration.

"Then, the methane emissions were measured at GreenFeed systems outside. There was an immediate and dramatic reduction in emissions as they left the parlour and there was still a 30 per cent reduction two hours post-feeding the additive. However, after three hours that had decreased to nearly back up to control levels.

"Across a 24-hour period, administered this way twice a day at 8am and 7pm, the 3-NOP supplementation leads to a 7 per cent reduction in methane. This is while a slow-release bolus technology is being developed," she explained. Bovaer was then tested during the dry period, and fed through silage: "The 3-NOP was fed through a diet feeder and there was a 22 per cent reduction in methane emissions, with no significant effects on performance."

LIPIDS AND OILS

Fats and oils are capable of reducing methane emissions, and Meth-Abate tested linseed and rapeseed oil at Teagasc Grange.

THE 3-NOP WAS FED THROUGH A DIET FEEDER AND THERE WAS A 22 PER CENT REDUCTION IN METHANE EMISSIONS, WITH NO SIGNIFICANT EFFECTS ON PERFORMANCE

"They found that 4 per cent linseed oil reduced methane emissions in beef bulls by 18 per cent over a 12-week period. But we did see reductions in dry matter intake of about 5 per cent, which was a problem," said Prof Waters.

"We saw an 8 per cent reduction when we fed 2.5 per cent of rapeseed oil – or rapeseed cake [when oil is extracted] – to Charolais heifers, with no negative effects on performance. However, oils and fats are costly to add to the diet, but rapeseed oil is significantly cheaper than linseed oil."

SEAWEEDS

Using the Rusitec system, Metha-Abate looked at *Asparagopsus taxiformis,* the red seaweed which, according to the literature, can reduce methane emissions by up to 80 per cent in vitro in beef and in sheep. However, there are issues with red seaweed, explained Prof Waters: "It is a tropical species, is not native to Ireland, so it would have to be imported, and there is a lack of consistency [in results] depending on the batch received, and it is very high cost."

Of greater concern, it has also potential human- and animal-health impacts. "The active ingredient in *Asparagopsus taxiformis* is bromoform, which is a known human carcinogen, so this would cause real issues for us to use as a feed additive. Also, studies carried out in Wageningen University showed that when fed for a long period of time, it resulted in lesions on the rumen wall [of the animal], so it would even cause animal health issues," Prof Waters explained.

Native brown seaweeds, which are plentiful around the coast of Ireland, were also studied. "It is indigenous, is inexpensive. The main bioactive is phlorotannin and it is high in protein," explained Prof Waters. Research literature indicated 'very inconsistent' results. "We found that the best of the candidates was the *Ascophyllum nodosum*, which we fed at a 2 per cent level, which had no effect on sheep, but had a four per cent reduction in cattle, which was quite small.

"We then worked with our colleague, Dr Maria Hayes, in Ashtown, as part of the Seasolutions project. She generated an extract for us that we fed to the animals and we found a nine per cent reduction in sheep methane and a seven per cent reduction in beef which was much better."

OXIDISING METHANE INHIBITORS

Oxidising methane inhibitors are proving to be effective methane-reducing substances, explained Prof Waters: "These are peroxide-based compounds, which are routinely used in human food and so, are regarded as being safe. We used calcium peroxide in our trials – this came out as the best from a range of in vitro studies." This is now known commercially as RumenGlas, made by Galway company, GlasPort Bio. The product targets methane-producing microbes and is composed of safe ingredients which leave no harmful residues following usage, according to the company.

"We did a trial on Rumenglas in Meth-Abate, where we were able to pellet the product into a nut, and we found that there was a reduction in methane emissions by 17 per cent with a low dose, and by 28 per cent in a high dose." The beauty of this product, according to Prof Waters, is its ease of delivery in pellet form.

CHALLENGES

The feed additive space is certainly delivering some effective solutions, but challenges still remain in relation to our grazing system, and work is ongoing to develop slow-release and bolus technology. Meanwhile EFSA approval is necessary for some commercial products that are coming on stream.

NDC & Kerrygold

Quality Milk Awards

Congratulations

to all our 2023 finalists and overall winners

The Macnamara family, Hospital, Co. Limerick

Kerry Agribusiness

THE FARMERS' FRIEND?

THERE WAS NO SHORTAGE OF COMMITMENT TO THE FARMING COMMUNITY AMONG THE GUEST SPEAKERS AT THE IRISH CREAMERY MILK SUPPLIERS' ASSOCIATION'S (ICMSA) AGM LAST MONTH. BUT IT WAS THE ATTENDANCE OF MINISTER FOR THE ENVIRONMENT, CLIMATE, COMMUNICATIONS AND TRANSPORT, EAMON RYAN, THAT WAS POSSIBLY THE MOST ANTICIPATED. MATT O'KEEFFE REPORTS ON THE GREEN PARTY MINISTER'S PERFORMANCE

The Limerick-based organisation had a stellar cast of political attendees, including Taoiseach Leo Varadkar, Minister for Agriculture, Food and the Marine, Charlie McConalogue, and Minister for the Environment, Eamon Ryan. While the Taoiseach and agriculture minister both – unsurprisingly – promised attendees they would safeguard the viability of farming during a time of change, it was the anticipation of how Minister Ryan would be received that created most interest. In the end, Minister Ryan gave little cause for criticism and insisted that neither he nor members of his Green Party have any anti-farming agenda.

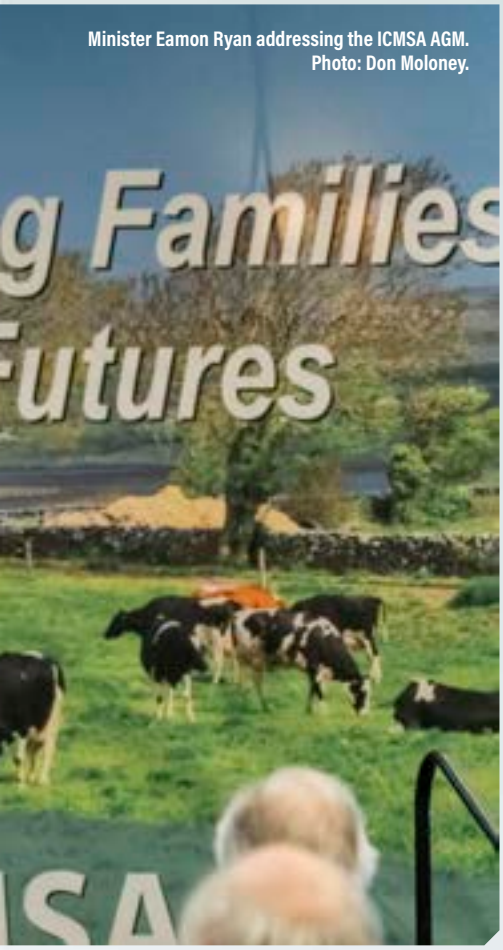
BOOSTING FARMERS' IMPORTANCE

If a little overblown, Minister Ryan's eulogy on the importance of farmers and agriculture was certainly emphatic: "I'm convinced the future is one in which farmers will be the frontline heroes in the environmental change we need to make. You have the best knowledge of our land, and you see climate change happening more than anyone else, and we need to pay farmers for what you can deliver for us," he said. He continued: "That includes good food, as well as helping us improve our water quality, flood protection and the restoration of nature. We must get a new generation into farming and forestry to do this job we have ahead in protecting the natural systems and, in doing that, protecting farming in the future."

ADOPTING THE GREEN AGENDA

Addressing a question around farmer frustration at ongoing criticism that is directed at the sector and at farmers, Minister Ryan expressed understanding: "Particularly because costs have gone up in fertiliser and energy and all the other inputs," he said. "We need to help the farming community; I don't see farmers changing their core business. We want and need really good quality food coming from our farming sector. That's not going to change and while we can make money from energy and a range of other initiatives on our farms, the core business is still the same.

"What I see and hear is that those co-operatives that work with farmers realise that to get the best price for farm produce, you must be green. Eighty per cent of our food produce is exported and customers in those markets will buy our produce because we have an advantage. We do a form of farming here that is family based, is more sustainable, and that is respectful of the natural systems we are working with. So, I don't want that to change. But we have to do it in a way that is green. I believe that will actually be lower



Minister Eamon Ryan addressing the ICMSA AGM. Photo: Don Moloney.

cost, including reductions in fertiliser costs. Some of the new practices, including mixed sward, are better for farming."

NO SPLIT

The Green minister was having nothing to do with the so-called urban/rural divide: "Some people love this urban versus rural division or the environment versus rural Ireland. I don't buy it. I don't believe it's true. The Environmental Protection Agency (EPA) did a major survey showing that the vast majority of Irish people want us all to play our part. There was no difference in attitude between urban or rural, between young or old. We cannot divide on this because we all need to work together to devise clever solutions that are good for farming and good for the environment."

THE GREEN PRIORITY

Minister Ryan was definitive on the thorny nitrates-reduction issue: "The priority is water-quality improvement. That's the foundation of this reputation we need to restore and protect, of having a system of farming and of land management that protects our water. Everyone agrees on that. It is not a divisive issue. That is something the European Commission also demands. It isn't all down to farming. We need to improve our sewage management systems, our forestry, and a range of other areas. It ill-serves farming if we think this can be easily ignored. In the end, I think we can adapt and farm in a way that is good for our natural systems. In fact, I think we have an advantage.

"The designation of Irish grass-fed beef is an example. We have a unique cattle-production system, and we should build on that strength, on that advantage. We can do that in ways that protect our water systems, including the use of smart technologies such as low emission slurry spreading, protected urea, all these technological advances that make it possible for us to make the switch towards protecting our waters. That's farming skill and knowledge and expertise. I see that working with nature in this way is going to be good for farming."

When asked about the purpose of his attendance at the ICMSA AGM, the minister had this to say: "I'm here to listen. We have a lot of engagement to do around land use, for instance; how emissions from land use work are very complex. How do our grasslands or peat systems or forestry work? Science changes and we need to be flexible and be willing to listen, and engage and work with each other."

IT ISN'T ALL DOWN TO FARMING. WE NEED TO IMPROVE OUR SEWAGE MANAGEMENT SYSTEMS, OUR FORESTRY, AND A RANGE OF OTHER AREAS

LULUCF

There is, as was pointed out to Minister Ryan, no plan in place for Land Use, Land Use Change and Forestry (LULUCF). His answer was nuanced: "The land use sectoral target is difficult. The science around forestry alone is now different than previously thought. That baseline of land use emissions keeps changing. We will, subject to government approval, treat land use in a slightly different way, recognising that the baseline keeps moving. That's why we need to be flexible and engage with each other in an open and honest way. This is complicated and we need to get it right. Land use will play its part as will every sector but not in a manner that is any worse than any other sector. The Climate Action Plan will be published before the end of the year and there will be a period of engagement to see what it involves, not only for agriculture but across transport, energy and other sectors."

SOME PEOPLE LOVE THIS URBAN VERSUS RURAL DIVISION OR THE ENVIRONMENT VERSUS RURAL IRELAND. I DON'T BUY IT

INCOME OPTIONS

Minister Ryan highlighted what he saw as alternative income options on top of mainstream farming: "We are witnessing a global revolution in solar power and that should provide complementary income for farmers. We will introduce a system before the end of the year whereby up to 5MW of renewable power could be developed without recourse to an auction system. That will give a guaranteed price. Anaerobic digestion will be another income diversity option, with farmers producing grass as a feed input. Riparian areas up to two hectares should also be considered by farmers. We need to create financial incentives so that it is possible to raise a family while engaging in alternative as well as mainstream farming activities."

DAVID DOLAN WAS AMONG THE 2022 NUFFIELD SCHOLARS TO DELIVER THEIR RESEARCH FINDINGS AT THIS YEAR'S NUFFIELD IRELAND CONFERENCE. THE DAIRY FARMER FROM CLAREMORRIS IN MAYO LOOKED INTO THE CHALLENGES AND OPPORTUNITIES FOR FARMERS AND CO-OPS IN ACHIEVING NET ZERO CARBON EMISSIONS, AND MATT O'KEEFFE GIVES AN OVERVIEW OF WHAT DAVID DISCOVERED

THE ROAD TO NET ZERO

Nuffield Ireland scholar, David Dolan, presenting his research findings at the recent Nuffield Ireland conference.

David had a breadth of experience before he undertook his Nuffield studies. He has worked on farms in Ireland and New Zealand, has been involved in discussion groups, and achieved a Bachelor of Science at the University of Limerick.
Currently producing milk on the family's dairy farm near Claremorris, he is well placed to conduct this important research.
Achieving net zero carbon emissions by 2050 includes an intermediate target of achieving a 25 per cent reduction within the next seven years. This puts farmers and food processors under enormous pressure to achieve reductions while remaining financially viable, David said.

Zero emissions and net zero emissions are two distinctly different references, David explained. The latter refers to striking a balance between greenhouse gas emissions produced and those removed, by sequestration, for example. And in his presentation, David insisted that the agricultural industry is uniquely placed to achieve this balance because soils are some of the best available means of securely sequestering carbon into the ground and locking it away in a stable form.

A PRACTICAL TARGET?

"My aim was to evaluate the extent to which net zero emissions is practically achievable on a commercial farm," said Donal. "To that end, I wanted to identify the key challenges and opportunities that net zero represents for farmers and to consider if and how the farmer-owned co-operative structure of our dairy industry can be utilised in achieving net zero."
David made a key differentiation in comparing what is achievable in today's policy environment and carbon-accounting mechanism versus what could be possible in an ideal world. He carried out his study through an extensive interview process, with farm visits, attendance at conferences, use of remote media such as Zoom, meetings as well as essential travel, afforded by the Nuffield Scholarship bursary, across Ireland, the UK, Costa Rica, Italy, New Zealand, Brazil, the US, Canada and Belgium. That list of countries alone, gives some indication of the time, effort and commitment involved in completing David's thesis.

FULL CARBON ACCOUNTING REQUIRED

There are vested interests using the term net zero carbon as a marketing tool, and there is an element of greenwashing going on, said David. This is highlighted, he said, by the fact that there is any number of examples of organisations claiming net zero certification. He does concede, based on his investigations, that many of these organisations are on the road to net zero, insofar as they are reducing emissions, but he found little evidence to support a contention that there is a viable plan to achieve the end goal fully. He added: "An organisation can be purchasing carbon credits through an accreditation scheme to achieve net zero, with limited oversight on the organisation issuing the credits. That's why there is a need for caution among consumers in making informed choices when assessing claims of net zero," he advised.
Such claims, he said, must be backed up by transparency, accountability, and credible certifications. In an Irish farming context, these claims must be backed up by robust frameworks that include life cycle analysis of all farm inputs.
David insisted that detailed studies of changes in soil organic matter at depth are among the research still to be completed. He commented that Irish agriculture needs to settle on a direction of travel. In addition, there is increased investment required in our national inventory data, with a national carbon baselining programme to be put in

Nuffield scholars Pat Collins, Lance Woods, Aoife Feeney and David Dolan with Minister of State for Land Use and Biodiversity in the Department of Agriculture, Food and the Marine, Pippa Hackett (centre) at the 2022 Nuffield Ireland annual conference.

MIN-TILL

One particularly insightful comment came from former Nuffield scholar and international food producer, Jim McCarthy, who attended the conference. Jim questioned the continuing practice of ploughing as part of arable farming, stating that it is one of the most obvious sources of carbon release from soils. He has long been a firm advocate of min-till and other minimal tillage practices to establish crops, not only in Ireland but across the globe, in the various countries in which he has farmed.

place. Finally, the Nuffield scholar pointed to the need for a 'carbon in-setting' bank to be established.

MIXED FARMING OPTIONS

Another Nuffield scholar, Pat Collins, reported on the benefits of integrating dairy beef and crop production. His aims were to highlight a more environmentally and economically sustainable farming option, as well as better use of fixed assets and the reduction of income and price volatility. The summary of Pat's conclusions is clear: "Grassland for grazing should replace cropping on some ground, while crops can, in suitable circumstances, replace grass for forage and sale. There are benefits from crops grown after cereals being used as low-cost animal feed and the use of extra labour can be justified to help with the additional workload when it is better spread across the year."

PRIORITISING WATER QUALITY

Aoife Feeney presented her findings on identifying ways to encourage farmers to prioritise on-farm action for water quality, and she advocated for a widespread buy-in by farmers: "Ten farmers taking one action is better than one farmer taking ten actions," she said. "The expansion of existing programmes and continued public-private collaboration will be crucial to achieving action for water quality at farm level. Farmers taking ownership and leading change in their communities will drive positive outcomes for water quality."

Laying out specific requirements, Aoife said: "The Agricultural Catchments Programme and Agricultural Sustainability Support and Advisory Programme (ASSAP) must be expanded. Funding mechanisms to support extension and education services for farmers must be put in place, with an increased focus on water quality and biodiversity by knowledge transfer groups established at catchment scale. A reduction in blame culture can be brought about through joint catchment projects involving farmers and local communities, encouraging the uptake of actions on both sides."

INAUGURAL PADRAIG WALSHE AWARD

Lance Woods won the inaugural Padraig Walshe Award for his Nuffield thesis on the potential for positive impacts of animal health on meeting climate change targets. Lance's conclusions were direct and precise: "We need to embrace the tools. An increased uptake of existing animal health and husbandry technologies and practices can reduce emissions by between 18 per cent and 30 per cent. Education and awareness at farm level are critical to success."

Lance also pointed to the potential of agricultural technologies in the drive for lower emissions and highlighted the need to raise adoption rates and manage obstacles to more widespread adoption. More use of vaccines, he added, should be incentivised, alongside further research to identify further means of improving animal health through the development of additional preventative measures.

Ella Walshe, Pat Walshe and Nuffield Ireland chair, Joe Leonard (far right) present Nuffield Ireland scholar, Lance Woods, with the inaugural Nuffield Ireland Padraig Walshe award. This award will be given annually to the best presentation by a returning scholar, as voted on by the conference attendees.

PROTECTING OUR POLLINATORS

DR DARA STANLEY, SCHOOL OF AGRICULTURE AND FOOD SCIENCE, UNIVERSITY COLLEGE DUBLIN (UCD) HIGHLIGHTS LATEST RESEARCH INTO PESTICIDES AND BEES IN IRELAND

Declining bee populations, due to habitat loss and climate change, is an area of real concern for Irish agriculture and our wider rural landscape. Bees provide service to our crops and wild plants in terms of pollination, so understanding ways to ensure their health and survival is crucial.

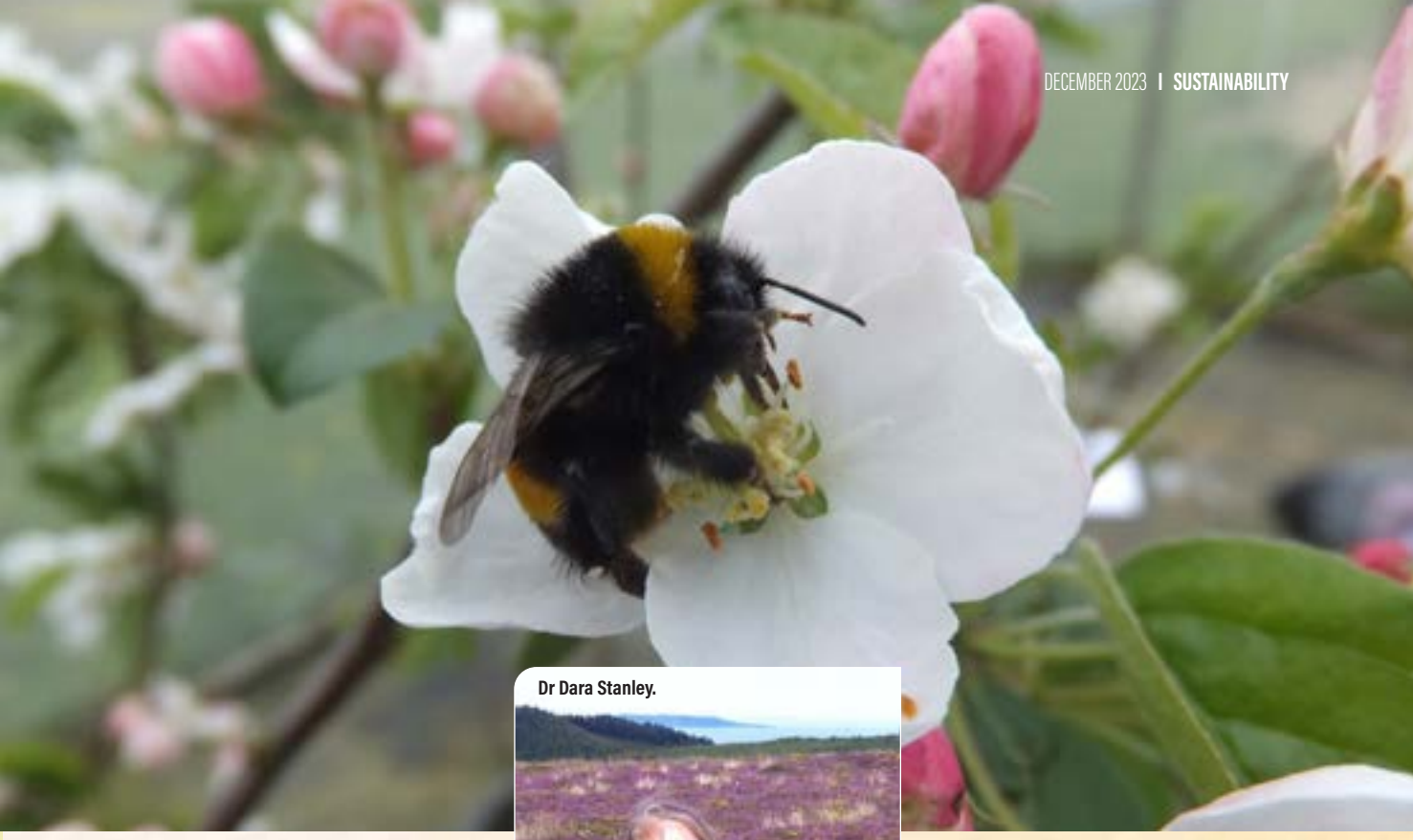
The research project SUSPOLL, which is funded by Science Foundation Ireland, examines the impacts of both climate change and pesticide use on pollination. Dr Dara Stanley at the UCD School of Agriculture and Food Science explains: "SUSPOLL looks at these threats and examines the implications for bees and specifically how well bees can pollinate crops. Pesticides are very important and integral to the way we produce food currently, but we need to use them as safely as we can. And, while our pesticides are risk assessed in terms of lethal impacts on bees, they can also affect bees in a sublethal way, which can in turn affect behaviour and reproduction and have an impact on foraging and their ability to collect pollen."

SPECIES

Traditionally, risk assessment has focussed on the honeybee; Dara says that a focus on other species such as bumblebees and solitary bees are also important. "From the climate change side, the first thing we need to do is have a better understanding of how bees are responding to weather conditions. There are nearly 100 species of bees in Ireland and there can be four seasons in one day, so this is key. Are all species responding in the same way in terms of changing climatic conditions or are there going to be winners and losers? Honeybees and bumblebees, for example, respond differently: bumblebees are more resilient and will fly in wetter conditions. Therefore, having a diversity of bee species in the landscape providing pollination is going to be helpful in relation to climate change."

PESTICIDE USAGE

Alongside the work that the SUSPOLL project has completed over the past four years, the PROTECTS project has released its findings this year in relation to pesticide usage in Ireland and how we can use pesticides more sustainably. "The project looked at how we can understand pesticide use and impacts on the environment more so that we can give the best advice and policy recommendations around sustainable pesticide use. Herbicides and fungicides are what we use most widely in Ireland, which reflects our grass-based farming model and in our damp climate fungal issues are a bigger issue for crops than elsewhere. With the reduction in available insecticides on the market at the moment, there is a move towards the use of older chemistries for insect pest control and



Dr Dara Stanley.

the most widely used insecticide in Ireland is now the pyrethroid, lamba-cyhalothrin."

CONSISTENT DATA

Dara notes that, while we are encouraged to report pesticide usage in the EU, the method of reporting differs from country to country with different formats, different timeframes and different measurements across the board. "We found that it is almost impossible to compare different countries within the EU regarding pesticide usage, or even to review usage across the EU as a whole, as the metrics were so different between countries. If we want to be able to use this data effectively and track and monitor our pesticide usage in terms of meeting reduction targets, then we need to have a standardised way of monitoring across the EU."

RESIDUE

Once the work had been done on identifying pesticide usage in Ireland, the next step was to discover what implications there were for bees and to investigate residue build-up in soils. "In terms of oilseed rape and bramble, we found residue of herbicides, fungicides and insecticides in both the nectar and the pollen of both. We also found some residues of neonicotinoid insecticides that haven't been used in several years – which have been banned for almost a decade – but they are still persisting in the environment. There was evidence of pesticides in soils from fields that have never been sprayed, as well, so there may be possible leeching or drift. Overall, it shows that residues of pesticides can linger over time and move across locations, and while the levels are below what would be toxic in terms of lethal toxicity, there could still be things to consider in terms of non-lethal toxicity for bees."

RECOMMENDATIONS FOR USE

Recommendations in terms of pesticides usage was another area of interest in the PROTECTS project. As Dara notes: "The fact is we use pesticides and will need to continue to use them in the foreseeable future. But we still need to review how we can use them in ways that will minimise any environmental effects, and understand the recommendations for usage to protect our bees. Currently, at the back of many labels for example, there are recommended guidelines about how to use pesticides in ways that will reduce risks for bees such as spraying in the morning and evening. We wanted to review the evidence for these guidelines. As it turns out, there is very little science behind some of this advice regarding mitigation measures. We just don't know how effective they are and if we are giving advice to use pesticides in a certain way we need to know if that advice is sound. So, we did a study into the time of day that is optimal for spraying to reduce contact with pollinators, looking at pollinator activity for oilseed rape from sunrise to sunset. The honeybee was less active in early morning and late evening and there was a huge increase in activity in the middle of the day. However, the bumblebees had a much longer stretch in activity across the day while hoverflies had no peak and were active throughout all hours of daylight. "So the current advice is certainly better for the honeybee but may not be quite as effective for other species. In addition, we also know that pesticide residues will still linger so how effective spraying at certain times of the day is is really unknown. Much more work needs to be done here so that we can provide effective guidance. On a positive note, we did find that people take guidelines into account and will follow instruction when it comes to pesticides. Irish farmers are very cognisant of guidelines when it comes to impacts on the environment."

Advantage
BEEF PROGRAMME

PARTNER FOR BETTER

The Advantage Beef Programme is the first integrated beef scheme in Ireland to pay a sustainability bonus to farmers. Our expert team of farm liaisons support farmers to build a secure, sustainable beef farming business for their families and for future generations.

For more information visit
abpireland.com/advantage-beef-programme

FEEDING EFFICIENCY

EMMA SWAB, INTOUCH FEEDING SPECIALIST, ALLTECH, EXPLORES PRACTICAL MITIGATION METHODS THAT CAN SHRINK YOUR FARM'S CARBON FOOTPRINT

Emma Swab, InTouch Feeding Specialist.

There is a lot of confusion around carbon foot-printing and environmental sustainability. When it comes to carbon foot-printing, what does it actually mean, from a farmer's perspective? Reducing the carbon footprint of milk and indeed meat production is carried out by driving efficiency on farm. There are a range of practical mitigations that can be used on dairy farms to help ensure that emissions from agriculture can be reduced, this includes practical nutrition and management-based practices designed to lower emissions of ammonia and methane.

DAIRY EMISSIONS

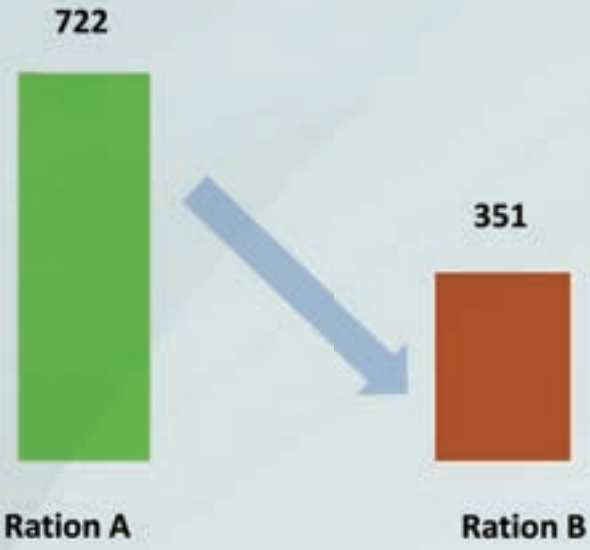
- Carbon footprint of milk produced: 0.82 CO_2 equivalent per kg fat- and protein-corrected milk (FPCM).
- Nitrogen use efficiency on the average dairy farm: 28 per cent.
- Major greenhouse gas CH_4 (animal digestion and slurry) and N_2O (manure and fertiliser).

EFFICIENCY

Efficient use of feed means optimising feed inputs and key to that is feeding the cow for performance. Through precision feeding, cows are fed consistently and accurately to match their dry matter requirements, maximising cow performance, while also reducing feed wastage. Necessary adjustments to the diet of dairy cows can be made in real time to proactively ensure optimal nutrition to drive performance in the herd. An improvement in feed efficiency means that more nutrients are utilised for production by the cow with less emissions losses to the environment.

The rumen can account for up to 39 per cent of a typical dairy farm's carbon footprint.

The reason the rumen accounts for so much of the farm's emissions is that it produces volatile fatty acids (VFAs). VFAs form through rumen fermentation and are essential for providing the animal's energy supply. They are then used to generate kilogrammes of milk solids. Any undigested feed is wasted and produces gases such as methane. The more efficient the rumen is at creating VFAs, the less methane gas is produced. The type and amount of VFAs produced all depends on the feeds going into the rumen. Keeping the rumen as healthy as possible begins with maintaining a stable rumen pH of 6. Anything less and the rumen can start to show signs



A comparison of two compounds where the carbon footprint of the ration was reduced by over 50 per cent by reducing soya bean meal, and replacing this with Optigen. Source: Alltech.

of acidosis. Formulating a diet for optimum performance starts with knowing and testing the quality of the feeds being used. Depending on the stage of lactation, the cows will have specific requirements for energy, protein and fibre to produce kilograms of milk solids. By maintaining a healthy functioning rumen year-round, cows avoid dips in milk protein six weeks post-calving and can beat the drop in milk fat when the fibre content drops in grass during the second rotation. These increases in rumen efficiency all lead to optimised milk solid production.

PLANNING

Many dairy farms are preparing to dry cows off and are planning for the calving season ahead. With variable forage quality being fed, body condition of cows is proving to be inconsistent across the country. The key to performance in any herd is managing body condition score (BCS). BCS monitoring and controlling BCS are key to a trouble-free calving and a more productive subsequent lactation. Planning ahead by analysing silage to provide a balanced diet based on the silage quality and condition of cows is fundamental to ensuring cows are dried off at the correct BCS. Once the cows are set up with a good body condition score in late lactation, the next stage is to prepare for the dry cow period. While the focus over the coming weeks is managing cow condition, we sometimes forget that the mineral status of the cow in late lactation to drying off will play an important role in the overall health and well-being of cow and the calf growing inside her.

In Ireland, many of our grass silages are deficient in trace minerals. Trace minerals support the cow's immune system, supporting the immune response during times of stress and thereby improving cow performance. Alltech's mineral management programme focusses on feeding organic trace minerals (copper, zinc, selenium) and these are better absorbed, stored and utilised by the animal and can be fed at significantly lower levels while still improve animal performance. This approach allows for better management of the animal's mineral requirements while reducing the impact on the environment. Research has shown that with the supplementation of Alltech's Bioplex minerals there are improvements in conception rates and dates to first service in the herd (Pino, et al., 2018).

Improving the quality of the silage being fed to cows and youngstock can help reduce the carbon footprint of the farm. Cutting the grass for silage at the correct growth stage and getting it ensiled at the correct time is vital to producing top quality feed. The first step to understanding silage quality is to test the silages you have already made. This can show you what feed value is in the silage for the winter. Silage needs to be tested for dry matter, energy, protein, and fibre. Youngstock require protein to grow and hit target weights for breeding and turn out. Protein in grass silages is between 12-15 per cent. The higher the protein content of the silage, the less imported protein needs to be fed in rations. This will reduce the farms reliance on imported protein sources such as soyabean meal, which is known to have a high carbon footprint.

Alltech's non-protein nitrogen source for ruminants concentrates the nitrogen fraction of the diet, creating dry matter space for more fibre and energy. The product, called Optigen, is a technology that delivers a sustained release of ammonia to the rumen over time to meet the needs of the microbial population more effectively than conventional protein sources, resulting in:

- Increased microbial protein;
- Increased fibre digestion; and
- Increased efficiency of rumen nitrogen capture.

Unlike other wasteful and potentially risky nitrogen sources, this is a safe and traceable source that increases the efficiency of rumen nitrogen capture, resulting in less nitrogen waste. The Carbon Trust has certified that the replacement of high-carbon ingredients (such as soya) with Optigen significantly reduces the risk of a high carbon footprint.

Through reformulations of a dairy diet with the use of Optigen, the overall crude protein can be reduced whil maximising animal performance. It has a higher soluble crude protein with a better balance of PDIN and PDIE, meaning less nitrogen waste, therefore less energy wasted by the cow. By reducing high carbon footprint ingredients, we can lower the global warming potential of feed, improving the overall dairy farm environmental credentials.

Lowering a farm's footprint goes with increasing farm efficiency and, therefore, profitability. Through improving farm management practices and embracing new technologies, you can move a step closer to your sustainability targets.

Farm Sustainability Learning Hub

New online modules added.

- Soil health
- Energy efficiency in agriculture by SEAI
- Water quality

Also available are modules on

- Greenhouse gases
- Teagasc MACC measures
- Responsible use of antibiotics
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MESSAGES

- This is the month to review your ICBF and PastureBase reports for 2023.
- Review your ICBF EBI report for 2023, make a plan, and act.
- Review your ICBF calving report for 2023, make a plan, and act.
- Review your ICBF fertility report for 2023, make a plan, and act.
- Review your PastureBase grass reports for 2023, make a plan, and act.
- Make sure to have adequate staff cover for next spring – plan now!
- Animal health preventive care now reduces cost and labour requirements.
- Brief reminders of important December tasks.

By Matt Ryan

REVIEW YOUR 2023 EBI REPORT

» Look up your own EBI on the ICBF site and insert the figures in the table – see Table 1. There is no point in aiming to be average; compare yourself with the targets.
  - Every €20 you are off the target results in:
    - You contributing 3% more carbon emissions;
    - You making €40 per cow less profit in the year.
  - There is only one way to 'catch up' with the best and that is by mating the best bulls, using sire advice, to the very best cows you have:
    - Spend some time now, during the quiet period, identifying your best cows, and in March/April you can choose your AI bulls.
    - If you will have surplus R1s or R2s to sell in the new year, identify the best of them now so that when the time comes you will be selling the worst of them.

Table 1: Dairy herd genetics summary for 2023. Source: ICBF EBI report.

Trait	National average	Target	Your figure
EBI: cows	€170	€280	
EBI: heifers (R1s)	€229	€330	
EBI: heifers (R2s)	€206	€310	
EBI: herd gain/year	?	€10+	
Herd's milk	€48	€65+	
Herd's fertility ▶ Friesan ▶ Jersey X	? ?	€110+ €65+	
Carbon	?	€30+	
Calving	?	€60+	
Beef	?	€20+	
Maintenance	?	€15+	
Management	?	€20+	
Health	?	€15+	
PD: % fat	?	0.28%	
PD: % protein	?	0.18%	
PD: kg milk solids	?	30+kg	

» Fertility genetics is a major driver of profit – this must be one of your main objectives for the future.

» Carbon, beef, maintenance, and health are very important traits going forward and one must endeavour to compromise so as to increase all – a challenging task!
  - The carbon will take care of itself if your bull/cow choice takes care of fertility and maintenance targets.

» The annual EBI increase should be €10.

» I am a big believer of managing your own milk price and leaving your farm organisation the job of putting pressure on your co-op. How?
  - Maximise your % fat and protein through genetics; the targets in Table 1 will deliver 9% solids.
  - Feeding, particularly quality grass and silage, delivers genetic potential.
  - Good management of the resources available.

» You must use sire advice next March-April to deliver the targets set out in Table 1. I am amazed how many 'good farmers' don't use it.

» Now, make a resolution to be proactive in driving all the targets set out in Table 1. Of all the money you will make in the years ahead, this is the easiest by far.

» The benefits from a genomic-tested herd are enormous!

REVIEW YOUR 2023 CALVING REPORT

» Let's examine the ICBF data available to you. See Table 2.
  - If you achieve these technical efficiency targets and others in grassland you will be farming at optimum levels.

Table 2: Calving technical efficiencies and targets for 2023. Source: ICBF calving report.

Technical efficiency	National average	Target	Your figure
Start of calving ▶ Cows ▶ Heifers	 ? ?	 Feb 1 7 days earlier	
Median calving date	March 6	Feb 15-25*	
Calving period	12-14 wks	10 wks	
Avg age calving ▶ Cows ▶ Heifers	 5yr 6mth 2yr	 6yr 6mth 1yr 11mth	
Avg lactation age culled	4.7	5.5	
Avg lactation – cow in herd	3.7	4.5	
Calving interval (days)	386	368	
6-week calving rate %	67%	90%	
Calves per cow per year	0.94	1.0	
Cows culled in a year	22%	15%	
Recycled cows %	11%	0	
% heifers calved 22-26 mths	90%	100%	
Replacements bred to dairy AI sires	60%	100%	

» You must make use of this efficiency data to avoid doing what you always do and, consequently, make lower profits:
  - Know where you are and the targets and how it affects profit.
» Calving date:
  - Heifers should calve five to seven days earlier than cows; so as to settle them in and, more importantly, because calving dates slip from four to five days from one year to the next.
» Median calving date: This is the date when the middle cow (cow number 50 in a 100-cow herd) calves. For dry land in the south this should be around February 15 and seven to 10 days later for northern or wetland farmers or farmers on very high stocking rates.
  - Start of calving to median calving date should be less than 15 days and 10 days, respectively, for the cows and heifers.
» Calving period – the shorter this is the better and the target should be 10 weeks.
  - Late calvers will produce 50-100kg less MS.
» Average age of herd in lactations – poor fertility genetics, high cow culling rates, poor cow fertility management, etc. results in the national herd's age being 3.7 lactations whereas the top 10% of herds are 4.6 lactations.
» Lactations milked before culling – the Moorepark target is 5.5+ lactations.
  - It takes a cow 1.6 lactations to pay the cost of rearing a replacement heifer.
» Heifer calving age – on average, the heifers will have to calve down at one year and 11 months' old. Because we need most of the heifers to calve down in the first three weeks – that is early February – March calves must be well reared to meet all weight targets. Fixed-time AI (FTAI) helps a lot.
» Calving interval – for every day longer than 365 the loss is 0.12c/L or €156 per cow for our national average farmer with a milk yield of 5,200L.
» Six-week calving rate for the national herd is pathetically low at 65% (target is 90%). This represents a loss of €20,550 for the average 100cow farm. Why are you not achieving it?
  - A genetically infertile herd?
  - Poor submission rate during the first three weeks of breeding?
  - Having a scattered calving pattern at present?
  - Not synchronising heifers?
  - Poor feed management before and/or after calving?
  - And, there may be many more!
» Calvings per cow will be one, if your cows calve every 365 days.
» Recycled cows – there is no financial gain, unless you have a very infertile herd, to recycling cows. Also, because it increases stocking rate there is a loss of nitrate opportunities.
» Replacements bred to dairy AI – must be 100% if you are serious about surviving in future. Nationally, 60% of all replacements entering the dairy herd are bred to dairy AI; the remainder, 40%, are by stock bulls. A shocking indictment on Irish dairy farmers and change agents!

REVIEW YOUR 2023 FERTILITY REPORT

» The 2023 fertility season determines the six-week calving rate for 2024.
  - Therefore, it is important to review 2023, so that you learn lessons for 2024. See Table 3.

Table 3: Fertility report and targets for 2023. Source: ICBF fertility report.

Technical efficiency	National average	Target	Yours
Mating start date ▸ Cows ▸ Heifers	 ? ?	 May 1 One week earlier	
Length of breeding ▸ Cows ▸ Heifers	 14+ wks 13+ wks	 10 wks 7 wks	
21-day submission rate ▸ Cows ▸ Heifers	 71% 80%	 90% 100%	
42-day submission rate ▸ Cows	 86%	 100%	
First service pregnancy rate	58%	75%	
Short repeat intervals	15+%	<10%	
Long repeat intervals	30+%	<20%	
Not in calf	9%	15%	
Services/conception by lactation	?	1.7	
% in calf by individual AI bull	?	70%	

» Know the targets, decide on the solutions and then put them into action next year.
» Mating start date (MSD):
  - Heifers' mating date should be five to seven days earlier than cows.
  - Synchronisation of heifers is absolutely essential to achieve the six-week calving target next year.
» Length of breeding season – this drives compact calving and weeds out infertility and poor heat detection – it must be 10-11 weeks.
» 21-day submission rate – it is the big driver of the six-week calving rate.
  - Submission rates are a function of previous calving date, good BCS management; good calving care, care from calving to

mating and, more than anything, very good heat detection rate,

» First service pregnancy rate – this is really non-return rate (NRR) unless pregnancy is confirmed by scanning and it needs to be over 70%.
  - It is amazing that this has disimproved by 3% over the last five years – might be due to sexed semen!
» Short repeat interval – some experts say that this indicates an over-anxious AI technician. But it suggests poor heat detection and presentation for service cows that are not in heat. Also, a lot of farmers reserve a cow if she is on heat the day after service – a very bad practice as it may cause a loss of pregnancy.
» Long repeat interval – indicates over cautious heat detection and a failure to inseminate cows that are actually on heat but are missed. A high % of long repeat intervals can occur due to infection etc. or with anoestrous after one or more heats.
  - This figure is a good indicator of your heat detection efforts.
» Percentage not in calf. It should be less than 10% based on scanning. It and six-week calving figure are the real KPIs for fertility assessment on a farm.
» Services per conception per lactation – the target is 1.7 services per cow in calf.
» Percentage in calf by bull name – this is very useful info in that it can tell you, if one bull is low, that his semen is suspect.
  - If all bulls are low, it begs you to ask the question, why?. It may be due to:
  - Poor management of straws on day of service or poor storage of AI straws.
    - Poor management of cows in day of service, resulting in stress
    - Problems before, at, or after calving.
    - Poor BCS at calving or loss of BCS from calving to mating.
    - Lack of energy with high % protein feeds from calving to mating.
    - Lack of key minerals, eg. copper, iodine, selenium, cobalt, etc.

REVIEW YOUR 2023 PASTUREBASE REPORTS

» The second of the two key KPIs for dairy farming is 'tonnes of grass utilised per hectare'. You must grow large quantities of grass to use it. PastureBase's annual report, tells you the tonnes you grew on your farm in 2023.
  - This report tells you the yield of grass on each field you measured.
  - With this information you must decide why one field was better than others – there can be a difference of up to 50% between the best and worst.
  - Ask yourself if it is a reseeding issue, a soil fertility issue, a soil structure issue? Then, decide on the actions to take in 2024.
  - Also recorded on that report are the amounts on N, P and K applied to each field.
  - The target is to grow 13-16t DM/ha.

Table 4: Some Key Grass Report and Targets for 2023. Source: Teagasc PastureBase Reports.

Technical efficiency	Target	Yours
No. grass measurements	40	
Total t grass grown per ha	13-16	
No. grazings + silage cuts	10	
Overwintered growth (Dec 1-Feb 1)	350+	
Avg pre-grazing yield (spring)	1,460	
Avg pre-grazing yield (summer)	1,600	
Avg pre-grazing yield (autumn)	1,800	
Avg growth rate (spring) kg DM/ha/da	25	
Avg growth rate (summer) kg DM/ha/da	75	
Avg growth rate (autumn) kg DM/ha/da	45	
Opening farm cover (Feb 1)	900-1,000	
Closing farm cover (Dec 1)	700-750	
Total meal fed (kg/cow)	550	
Area reseeded (%)	10%	
Avg kg N/ha (artificial) used	<220	
Start grazing on	Feb 1	
Finish grazing on	Nov 20-25	
Start of second rotation	April 1-10	

» Grass measurement; if you don't measure grass, or have too few measurements, you are managing grass in the dark because you will have no data for your farm in Table 4.
» OK, you haven't grown 13-16t grass DM/ha, you must now ask yourself 'why' based on Table 4.
» It could be due to:
  - The number of grazings per paddock has a big influence on yield per ha.
    - Every grazing below the target of 10, results in an overall reduction in yield of 1.3t grass/ha.
  - Having an opening AFC that was too low or too high, because of your closing cover the previous year or poor winter growth.
  - Grazing covers that are too high or too low in spring, summer or autumn?
  - If your grazing stocking rate (SR) is too high for the growth rates achieved, then you are likely to graze too tightly.
  - The amount of N used, without clover, will also influence grass growth as will the soil levels of P & K.
  - Poor-performing paddocks may need reseeding – best to do 10% per year.
  - Starting the second rotation to late or too early has a big effect on grass growth.

ADEQUATE STAFF FOR SPRING WORKLOAD

» Make absolutely certain that you have more than adequate staff cover to get you through a busy, stressful spring.
» Staff, generally, never fall into your lap, therefore, you must be very proactive in sourcing staff.

- Students – transition year or third-level – may be the first port of call – contact schools.
- Advertise for staff on all media platforms.
- The Farm Relief Service is a great source but it may be too late to book now.
- Think outside the box – some neighbours may be only too delighted to get a few hours' work each day.
- Ask contractors if they might be available – give them regular work such as spreading slurry, spreading fertiliser, feeding out silage, fencing, dehorning calves, maintenance work, etc.

» **Make sure you are fully aware of workers' rights. The consequences of ignorance here could be very serious.**
- The Workplace Relations Commission webpage is very helpful (www.workplacerelations.ie).
- It would be important to develop protocols for staff on your farm, making everyone aware of their duties/responsibilities.

» **If you are employing young staff, the WRC gives the following advice:**
- For a regular job, the minimum age is 16. But employers can take on 14-15-year-olds to do light work:
- Part-time during school term is allowed, but they must be over 15.
- As part of an approved work experience or educational programme.
- During school holidays, provided there is a minimum of a three-week break from work in summer.

Maximum hours of work per week.

Age	14	15
Term-time	0	8
Holiday work	35	35
Work experience	40	40

- The WRC has a poster relating to employing young people on farm and this should be displayed on all farms.

» **Work that students enjoy:**
- A varied job. Not always milking or feeding calves – they like a mixture!
- Working with other people, especially people around their own age.
- Learning new skills.
- Being trusted to do a job.
- Having jobs on the farm that only they are responsible for.

- Getting paid and good dinners.
- Going to discussion groups or seeing another farm.
- Having some fun along the way,
- Someone who gives them time.
- In the future, to make your farm more attractive to 'transient staff' it is advisable to provide good on-farm accommodation.

ANIMAL HEALTH PREVENTATIVE CARE

» **Use your vet to make a winter animal health preventative plan.**
- Also, you should, with their advice, shift some vaccinations from Feb and March to December to reduce spring workload.

» **Cows should be examined now for health-related problems, such as fluke, worms, lice, mastitis, lameness, etc. to make their lives more comfortable and fruitful for calving; as well as being more profitable next year.**
- Confirm the presence of health problems with a blood or milk test.

» **If cows have not already been treated for fluke they should be done now.**
- The regional labs say both liver and rumen fluke are common this year.

» **Young cows, if they are scouring, may need a worm dose.**
- Happens when immune system is low due to over-use of dosing at calf stage.

» **All stock must be done for lice at least once if not twice during winter.**
- Some farmers see a benefit of clipping a strip of hair along the backbone, as is done on weanlings and beef cattle.

» **To prevent mastitis arising during the dry period keep the cows' bedding very clean during the first 28 days after drying off.**
- Clean off cubicle ends and put lime or sawdust on them every day.
- Keep an eye out for cows developing mastitis during the dry period.
- At the end of December, you must start feeding pre-calving minerals (start 40 days before calving) to cows that will be calving in January-February.
- Throw 100g cow per day on the silage, half in the morning, and half in the evening.
  - Pre-calving minerals are essential to prevent, retained placenta, calving difficulty, poor thrive, depraved appetite, calf death, etc.
  - Will cost €2.50 - €3 and is very good value.
  - To save money there is no need for minerals for March or April calvers for another month or so.

BRIEF REMINDER OF IMPORTANT TASKS

» **Get your dairy profit monitor done in December – talk to your adviser.**
- This was a difficult year but you must learn to manage your finances for the bad years.

» **You must get your milking machine tested NOW.**

» **Make sure all machinery is in good working order – don't wait until it breaks down.**

» **Calf sheds must be made operational. January is too late as pressure is on to do short-term jobs/tasks. Have you adequate calving area and calf housing?**

» **Farm infrastructures must be reviewed so that they are adequate and fit for purpose.**
- Walk your roadways/paddocks with a notebook and biro noting broken stakes; poorly tensioned wires; leaking/overflowing water troughs (they should be emptied in winter to avoid frost damage); dirty and water-laden paddock entrance; sections of roadways that are poor and holding water.
- Get in some help to do these tasks so that you can concentrate on the planning aspects of your farm – mostly office work.

» **Mix in-calf heifers with second calvers and thin cows so that they get used to being with cows as it helps to reduce stress and weight loss post calving.**

» **Feeding silage care: manage the pit so that it or the silage in the feeding passage doesn't go off.**

» **Heifer target weights on December 1 and quality of silage drive the decisions:**
- Weanlings should be 43% of the cows' mature weight; 235-245kg.
- In-calf heifers should be 83% of the mature weight; 455-470kg.
- Feed meal to underweight stock – none to animals over target.

» **Condition score all cows now and act on the results.**

» **Lameness – walk cows through ordinary footbath (4L Formalin or 4-5kg bluestone or zinc sulphate in 200L of water) on three consecutive days, morning and evening, every month is useful where lameness is a developing problem.**
- You must remove the cause of the problem before any treatment becomes effective.

ADVICE FOR THE YEAR AHEAD

» **Further increases in productivity will be greatly influenced by:**
- Continued increase in the genetic potential of your dairy herd.
- Increase grass utilisation through improved grassland management.

» **Increase in sustainability will be greatly influenced by:**
- Adoption of technologies in relation to LESS and greater use of protected urea.
- Increase nitrogen use efficiency and use of white clover to replace chemical nitrogen.

HAPPY CHRISTMAS TO MY READERS!

A resilient person is one who learns from the adverse situations they have experienced and is able to see the positive side of things. Here is to a positive 2024.

This is a great time of the year. Enjoy it with your family by relaxing with plenty of time off. You deserve it!

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FROM THE CAB

ARGO TRACTORS-OWNED McCORMICK SCOOPED A TOP ACCOLADE AT THE RECENT TRACTOR OF THE YEAR (TOTY) AWARDS. HERE, WE REVIEW THE MACHINE THAT SAW McCORMICK TAKE THE WIN IN THE BEST UTILITY CATEGORY FOR 2024

BEST UTILITY VICTORY FOR McCORMICK AT TOTY 2024

For the second consecutive year, McCormick has been victorious in the utility category at the annual TOTY awards. Last year, the X6.414 P6-Drive turned the judges' heads and this year, it was the turn of the X5.120 P3-Drive. Described by TOTY as 'compact, robust, versatile, and connected' the McCormick X5.120 P3-Drive is deemed the 'ideal utility vehicle for daily use on the farm.'

DOUBLE SUCCESS
Argo Tractors' Landini Rex4 120 GT Roboshift Dynamic won the Best of Specialized award at TOTY 2024.

The TOTY utility category is open to multi-purpose and utility tractors, above 70hp, with a maximum of four cylinders, a maximum operating weight of 10,500kg, and a maximum horsepower (hp) of 150. The X5.120 P3-Drive, which beat off strong competition this year from the Claas Axos 240 and the Soliz X90, comes in at 114hp due to its four-cylinder FTP F36 Stage V 3.6L engine. It has an empty weight of 4,000kg, with a maximum allowable load of up to 7,000kg. So, with those boxes ticked, what are some of the highlights of the McCormick X5.120 P3-Drive?

WINNING FEATURES

TOTY judges were impressed by its automated powershift transmission which allows for automatic shifting through up to 12 gears, both in the field and on the road, controlled by the ergonomic SmartPilot joystick – more about this later. The onboard technological package also includes the Advanced Driving System (ADS) dedicated to advanced steering functions, including automatic wheel realignment and direction maintenance on uneven terrain. The axle and cabin are suspended to ensure maximum comfort in any application, and a factory-fitted front loader is available. The TOTY judges found the digital equipment to be impressive, with integrated functions for Isobus connectivity, precision steering, fleet management, and remote diagnostics.

The main innovation of note in the X5 range is Argo Tractors' P3-Drive transmission, which made its debut on the X5.120, and which would have aided its progression to Best Utility finalist, and overall winner. The 36+12 or 48+16 transmission with creeper, designed and manufactured entirely in-house by Argo Tractors, allows a combination of 3 PowerShifts (HML) with four robotised gears for each range, offering 12 automatically controlled ratios. Everything is conveniently controlled via the SmartPilot joystick, taking advantage of the Auto PowerShift (APS) function that automatically engages the gear as speed increases in both field operations (AutoField) and road transport (AutoRoad). Housing the joystick that, in addition to the transmission, controls other functions including the rear hitch and PTO, is the new right-hand console, revised in terms of control ergonomics and designed for greater operator comfort.

Introduced for the first time on this model is the ADS+, which allows advanced management of a number of steering functions, including, according to the company, automatic wheel realignment in road mode, 'effortless' steering on uneven terrain, and a system that increases steering-wheel stiffness as speed increases, to ensure automotive-style driving comfort.

What makes this model unique compared to the competition, according to McCormick, and ensures high operator comfort, is the combination of suspended axle and cab. Considered design means that the exhaust gas aftertreatment system consisting of DOC, DPF and SCRoF is housed entirely under the bonnet to ensure greater visibility. The bonnet itself, made in one single piece, offers a wide opening for easy maintenance and cleaning of the radiators.

The open-centre hydraulic circuit with an 82+32 L/min triple pump guarantees high performance with the loader, rear and front hitches and implements that can be connected to the vehicle's five-spool valves. The electronically controlled category 2 rear-hitch with 4,500kg capacity is precise and easy to use thanks to the SmartPilot joystick and right-hand console, while the category 2 front hitch has a lifting capacity of 2,200kg. And, the M20 front loader, 100 per cent compatible with the front hitch, is easily controlled with the dedicated ergonomic joystick.

The tractor is prepared to accommodate a

rear Isobus socket, PSM (Precision Steering Management) satellite guidance and is equipped as standard with the McCormick Digital Solutions: McCormick Fleet Management for optimal management of the tractor fleet in terms of telematics, and remote diagnostics and McCormick Farm, an innovative App that manages the entire agronomic part of the farm, collecting data and making them available to the activity log and warehouse.

'WIND IN OUR SAILS'

Kevin Phelan, country manager for Argo Tractors Ireland Ltd – officially launched at the Farm Tractor and Machinery Trade Association (FTMTA) Machinery Show this year – said seeing McCormick claim this award category for the second successive year is 'tremendously satisfying.'

"From Argo Tractors Ireland's perspective, winning this accolade less than five months on from our official Irish launch is a tremendous confidence boost that will put further wind in our sails as we move into 2024," he said.

"We have an internationally acclaimed brand, committed to delivering the best in efficient and contemporary products, combined with its focus on top-class customer service, environmental protection, along with technological and digital innovation."

Argo Tractors is headquartered in Fabbrico in the northern Italian province of Reggio Emilia, 60 kilometres northwest of Bologna.

TOTY WINNERS

Tractor of the Year

The overall 2024 Tractor of the Year award went to the Claas Xerion 12.650 Terra Trac, which is the most powerful continuously variable transmission tractor in the world.

Best Utility

The McCormick X5.120 P3-Drive was deemed the 'ideal utility vehicle for daily use on the farm'.

Best of Specialized

This category was won by Landini's Rex 4-120 GT RoboShift Dynamic, a tractor designed for vineyards and orchards.

Sustainable TOTY

With a power output of over 60hp, the Fendt e107 V Vario took the win in this category.

NOEL DUNNE
Machinery editor

GOODBYE TO 2023

We bid farewell to 2023, and I am not a bit sorry to see the back of it. What a challenging year it has been for farming between input costs, regulations, extreme weather, and price fluctuations across all sectors of our industry. But we are resilient and now is the time to plan and refocus for 2024!

I recently returned from Hannover in Germany where I was attending the Agritechnica show with a group of 20 farmers and associates from the machinery sector. *Irish Farmers Monthly* is a member of Tractor of the Year (TOTY) judging panel and I particularly enjoyed participating in the TOTY jury deliberations to choose this year's overall winner, the Claas Xerion 12.650 Terra Trac. Powered by a Mercedes-Benz OM473 engine, delivering 653hp, it is the most powerful continuously variable transmission tractor in the world.

My experience of walking through Hannover at night was safer and more welcoming than recent visits to Dublin's O'Connell Street, with low police presence and little evidence of the drug and social problems of our own capital city. I know many of my neighbours and friends will opt to shop locally this Christmas rather than visit Dublin in the present circumstances. My heart goes out to the people of Dublin who have to deal with thuggery on a daily basis.

Back to Agritechnica. After a four-year absence, Europe's biggest machinery event finally returned. With almost 3,000 exhibitors from 52 countries spread over 24 halls, most of them the size of football pitches, Agritechnica ran from November 12-18. Four hundred and seventy thousand visitors from across the world viewed every conceivable machine and technology in use on farms, globally. There were 15 Irish farm-machinery manufacturer exhibits in attendance, showing the latest on offer from the Irish market. Large machines and labour replacement were the eye-openers at this event, with scale, alternative fuel, and automation now the apparent priorities for world farming.

On the home front, the €8m tillage payment scheme is being supplemented to provide support for tillage farmers who could not harvest parts of their crops. That's a positive outcome from the strong lobbying carried out by the sector. The new quad-safety rules are now in place with quad-bike training taking place nationwide. It is a necessary imposition to make the machines safer and reduce accidents and deaths on our farms. Rollbars or similar may yet add a further safety feature. On the machinery front, Meath Farm Machinery has now expanded its operations into Louth and Dublin. I will have more on this and on the TOTY winners, and what's new in the tractor world, in our bumper *Tractor Guide* in our January 2024 issue.

I would like to take this opportunity to wish you all a very happy Christmas. Stay safe and well as we hope for an improved 2024 on every front. Farm wisely and farm safely.

A 'POWERFUL YET GENTLE' MOWER

Claas describes its recently launched Disco 9700 RC Auto Swather as 'redefining the new large-scale mower class'. Let's take a look at its main features.

At a glance, it has a working width of up to 9.5m, Active Float ground-pressure control, non-stop collision protection, roller conditioner and flexible, high-performance Auto Swather swath grouping with optimised crop flow. These features, the company says, make it the professional machine of choice for 'powerful yet gentle' forage and biomass harvesting.

According to Claas, cutting alfalfa, winter forage, and whole-crop silage is a special challenge for mowers. While alfalfa is a fragile crop that calls for particularly gentle conditioning, like whole-crop silage and winter forage, it also produces high yields, so the mower has to handle high volumes of material as well. Efficient crop flow is, therefore, just as important as robust, sturdy drives and high-performance swath grouping with optimised swath formation.

As the flagship of the new Disco 9700 series, the Disco 9700 RC Auto Swather has been designed specifically for harvesting high to very high forage volumes combined with gentle conditioning and swath grouping, according to Claas.

The innovative crop flow is a particular feature of the Disco 9700 RC Auto Swather. As standard, the roller conditioners are driven by a double drive roller with a specially designed scissor gearbox – for maximum throughput and durability even under sustained heavy use. The transmission and drive trains are designed for use with tractors up to 500hp and incorporate new, P-Line triple telescopic driveshafts developed jointly with Walterscheid featuring specially toughened large diameter steel profiles and a new K-90 friction clutch.

Two counter-rotating polyurethane rollers crush the crop gently yet effectively without loss. The conditioner spans the entire width of the mower bed to ensure continuous linear flow without forage blockages. Optimised crop transfer to the 1,100mm wide, extremely robust Kevlar-reinforced cross conveyor belts ensures uniform filling of the Auto Swather belt units. This produces an even, loose and perfectly shaped swath, which the harvester following behind can easily pick up and process.

When working without swath grouping, with less regrowth or when less wilting is required, one or both of the belt units can be folded up hydraulically to consolidate a working width of 19m to 12m (the '19 to 12' method) for the next pass with a 12.7m wide standard four-rotor swather.

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CLAAS

FARMERS HAVE HUMAN RIGHTS TOO

When we look at players in the farming sector, how could we categorise the relationship between farmers and agricultural contractors? Is it akin to an arranged marriage, or are we together so long we might as well get hitched, or is it a marriage of convenience? Take your pick. For me, contractors bring something to the relationship that most farmers in Ireland do not have, and that's the ability to invest in cutting-edge farm machinery; machinery that is way beyond the financial resources of most farmers. So, for me the relationship could be deemed as any of the above and it has endured for over 60 years.

Let's be clear, farming and contracting are not just jobs, they are vocations, which very few are queuing up to take on. Not surprising, really, with the reward of an hourly rate that is, in most cases, less than the national minimum wage.

Why is this? Because agriculture is the only sector that cannot set an economic price for its production.

The European intervention in controlling the price of agricultural produce goes back to the 1960s and the Green Pound, the forerunner to the Common Agricultural Policy. Both, essentially, control inflation, and both systems are not only flawed but discriminate against farmers. I have no doubt that in any other circumstances the European Court of Human Rights would rule that farmers are being unjustly treated. By not guaranteeing farmers a fair farm gate price for their toils, our politicians are using our farmers' endeavours to subsidise the price of food and as a tool to keep inflation containable. What other sector would tolerate that?

The system is unbalanced because there is no control over the food chain and the unequal profits made after heavily subsidised production. Not only are our farmers being denied a fair livelihood so too are agricultural contractors, who are not only tied into the unjustified treatment of farmers, but they are also further penalised by being excluded from any grants unless they own land. Even more frustrating, agricultural contractors do fall under the remit of the Department of Agriculture, Food and the Marine because they are deemed to be part of the service industry and, as such, fall under the Department of Enterprise, Trade and Employment, which hasn't a notion about agriculture.

I take some comfort from the fact that my frequent rants about the blatant unfairness forced onto farmers, the threat to food stability, and the total lack of political vision have been taken up by the heavyweights in the agricultural world, namely *Irish Farmers Monthly*, editor Matt O'Keefe. In his November editorial, he called for the fog surrounding the future of farming in Ireland to be lifted and for a workable plan for the next 30 years to be put in place. Not an unreasonable request. Ciaran Fitzgerald in his *Agriland* article on November 1 brilliantly explains the EU's muddled policies and incompetence over the 50 years since Ireland joined. These are policies that have forced farmers into what amounts to slave labour, and the Commission into deals like the Mercosur Agreement undermining food security in Europe.

Finally, is the cat out of the bag? My good friend, Commissioner Mairead McGuinness, at a recent Teagasc conference said 'farm policy had gone too far in one direction, of a production focus only, without taking account of the consequences on the environment and climate'. She went on to say that the development of the next CAP will see modifications to take account of the anticipated enlargement from twenty-seven to thirty member states. Mairead sits at the Commission table and would be party to discussions on future policies. It doesn't bode well that she is not flagging up any measures to help guarantee a fair price for farmers, or a policy that would ensure food security for the EU. Without both of these measures, what future is there for farmers?

I'll sign off for 2023 by wishing everyone a very happy Christmas and peaceful New Year. Our thoughts and prayers are with those who lost a loved one in 2023.

NEW LEMKEN HARROW A FORCE ON UNEVEN GROUND

Lemken's recently launched Thulit, represents the company's first weeder harrow comprising four beams and eight rows of harrow tines, and that rounds off its range of mechanical weed-control implements.

Complex spring combinations are replaced by an innovative hydraulic tine pressure adjustment, which ensures that the tines deliver more even pressure across the full working surface. The pressure can be continuously adjusted to up to 5kg while driving. As a result, the Thulit performs well during the sensitive crop growth stages. The tines are arranged with a line spacing of 31.25mm and ensure blockage-free work. Stable, true-to-track and wear-free tine bearings ensure optimum weed removal. A straightforward quick-change system makes it easy to replace the harrow tines. The Thulit features precise and continuous ground contour following with consistent tine pressure, making it a versatile implement, even on very uneven ground and in ridge crops, according to Lemken. Due to its generous clearance height and clever design that removes the need for the usual springs, it is almost impossible to find plants getting caught underneath the frame, the company added. The flexible hydraulic system further supports width section control within the frame sections to avoid multiple passes across parts of the field.

Minimising the frame weight was a core aim in designing this machine, Lemken has said. To achieve this, the number of moving parts was significantly reduced in comparison to similar models, ensuring that the Thulit can also be used easily with tractors with low lifting capacity. The driver has a clear view of the harrow tines during work and therefore a constant view of work results. For transport, the tines fold in automatically for an increased level of safety. The Thulit harrow will initially be available in limited quantities in working widths of 6m and 9m in spring 2024.

A SINGLE PASS THAT TICKS SEVERAL BOXES

Pöttinger has equipped not only its Terria stubble cultivators but also its trailed Terradisc 8001 T/10001 T disc harrows with a distribution system coupled to the Amico F front hopper. Now, according to the company, soil cultivation and sowing or fertilisation can be done at the same time.

In just one pass, fertiliser or cover crops are sown directly into the soil using this resource-saving process. By feeding fertiliser into the raised flow of soil, it is mixed in and covered straight away. The fertiliser does not lose any of its effectiveness and is immediately available for the plants. This process is suitable for seedbed preparation in spring or for replenishing nutrients with granular trace elements in autumn.

Cover crops are directly stimulated to germinate because they are immediately covered and consolidated by the packer, according to Pöttinger. This can be done during shallow stubble cultivation. Driving speeds above 10km/h in combination with the wide working widths of 8m and 10m ensure an enormous output.

Large, scalloped discs with a diameter of 580mm slice into the ground and get the soil moving. The aggressive setting of the tools ensures reliable soil entry, even in the driest conditions. The Twin Arm suspension system prevents the discs from deviating sideways on hard ground. This ensures that the whole surface is moved, which ultimately ensures uniform application of the seed material and fertiliser.

Setting the distribution rail with the outlet diagonal to the ground feeds the fertiliser or seed into the flow of soil. As a result, the material joins the flow of soil to be deposited on or near the surface. This method is suitable for sowing greening or cover crop mixtures. By setting the distribution rail perpendicular to the ground, the material is immediately mixed into the soil below so that it is deposited across the full cultivation depth. The fertiliser and seed material is therefore distributed throughout the entire cross section or soil movement. During stubble cultivation, for example, compensatory fertilisation of potash or nitrogen can be used to accelerate the decomposition of straw.

The capacity of 1,700L or 2,400L and a division of 60:40 ensures a wide range of applications for the front hopper. To ensure convenient operation, the Amico front hopper is equipped with Isobus, as standard. The material is applied using a single shoot process with a pressurised hopper system. One or two metering units can be controlled site-specifically by the intelligent control system. Furthermore, the hopper can also be used in combination with third-party equipment thanks to the Isobus control system without any issues.

KUBOTA LAUNCHES BATTERY-POWERED COMPACT LOADER

Kubota has launched two models of battery-powered RT compact wheeled loader, the RT210-2e and RT220-2e. These new models offer a zero-emission, near-silent solution for those needing a clean-fuel alternative for working indoors, around livestock, or in environments where ultra-low noise levels are required.

Power for these electronic machines is supplied by a 48-volt (V) DC electrical system that is equipped, as standard, with a 260Ah lithium-ion battery pack. As an option, buyers can choose from two larger battery packs offering 390Ah and 520Ah capacities, offering longer run-times between charging. Typically, run times can be from two to eight hours, depending on the size of battery pack and the application. On-board charging affords a 230V/40-amp capability and a five-hour charge time, with a more powerful 60-amp unit available as an option, reducing the charge time for the standard 260Ah battery to just four hours.

For those able to make the most of a three-phase electricity supply, there are two models of 400V Super Charger available to further shorten the charging times – the most powerful 300-amp version can fully charge the largest 520Ah battery pack in just 90 minutes. An adaptor is also available to enable the RT 'e' models to be recharged via an electric car charging point.

Both Kubota RT 'e' models are equipped with an integral energy recovery system that automatically puts power back into the battery pack when the loader decelerates, or travels downhill, contributing to energy conservation.

The drive motor, which is fitted to the rear axle to transmit power to all four wheels is a 135-amp electric motor packing a 6.5kW punch. Travel speeds can be 0-5km/h; 0-12km/h and 0-20km/h. A more powerful 250-amp electric motor is used to operate the hydraulic system with a power rating of 12kW. Both electric motors are certified IP54, offering protection from dust and water, with in-built protection against over-heating. Operating weights are 2,200kg and 2,350kg, respectively, for the RT210-2e and RT220-2e when equipped with the standard 260Ah battery pack. Models differ only in their front-end configurations, and as a result, tipping loads in the straight-ahead position are 1,480kg for the RT210-2e, and 2,054kg for the RT220-2e. Compact in size, the RT series offers a low overall height of 2.3m, a minimum overall width of 1.04m (RT210-2e), and a maximum hinge pin height of 2.82m (RT210-2e). Either model can be specified in a cab or canopy configuration.

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AMAZONE LAUNCHES NEW COMBI SPREADER

Amazone has launched a new combined fertiliser and lime spreader called the ZG-TX. This spreader, according to Amazone, combines the advantages of the TS spreading system, with its disc-integrated AutoTS for optimum border spreading results, with maximum efficiency in spreading lime. Both granular mineral fertilisers and bulk limes can be applied precisely through one machine by means of a simple conversion between the TS spreading system and the newly developed lime spreader unit. This new machine is available in Special and heavier Super frames. The former comes with a hopper capacity of 6,800L and 9,000L with a maximum permissible machine weight of 17t; the latter has a capacity up to 11,200L and a weight of 21t. Instead of a simple chute via which the fertiliser is guided onto the disc, a defined delivery point adjustment is integrated into the ZG-TX. This in turn enables features such as Headland Control and Section Control.

As a result, the spreading unit, familiar from the TS spreaders, provides precise spread patterns up to a working width of 54m. When combined with the optional FlowControl torque measuring system, an exact spread rate regulation is guaranteed. The fertiliser is precisely metered using the intelligent interaction between the electric double shutter and floor belt speed. This is also possible for each side independently when using application maps.

The AutoTS disc-integrated border spreading system is fitted during assembly to the right-hand side of the machines as part of the TS spreading system. This guarantees an optimum border spreading result right up to the edge of the field, even at large working widths. Previously a feature only found on the ZA-TS and ZG-TS precision spreaders, the system is now also used on the ZG-TX. As a result, up to 17 per cent additional yield is possible in comparison to conventional border spreading systems. The use of such a border spreading system in a combi spreader is unique.

The ZG-TX Super has an axle load of 15t combined with a drawbar load of 4t, enabling the maximum load to be carried on a single axle. Steep hopper walls and an optional chain rake guarantee that all materials, even bulk lime, will flow smoothly to the spreading unit.

The right control system is available for every application with the two operating concepts Easy and Tronic, according to Amazone.

The new intuitive Isobus control provides all the functions of the Isobus world in the ZG-TX Tronic. In addition to Section Control, part-area, site-specific application and job management, the control system can be integrated in the operating system of the tractor with AUX-N.

FARMHAND APPOINTED EXCLUSIVE DISTRIBUTORS OF AMAZONE GROUND CARE MACHINERY

Farmhand, which has been distributing Amazone agricultural machinery for almost 60 years, has recently been appointed sole distributor for the Amazone ground care range across the island of Ireland. This will be headed up by Farmhand's Adrian Leech, who has many years of experience in ground care equipment. Farmhand is planning to develop a new ground care dealer network in Ireland and Northern Ireland for both sales and service in the coming months.

Amazone offers some of the most unique grass cutting and collection mowers on the market specifically engineered for sports turf, landscaping contractors, national parks, private estates and stud farms. Within the extensive range of machines, there is a model to meet the demands of every customer, according to Farmhand.

For the stud-farmer, for example, the Amazone HorseHopper, with a working width of 1.35m to 2.10m, can be attached to a small tractor and does everything in a single pass: mowing, aerating, cutting and collection. The HorseHopper is equipped with wing blades and scarifying blades for the collection of wet grass mixed with horse droppings. The scarifying blades loosen the horse droppings from the turf. During mowing, the wing blades convey the horse droppings to the hopper together with the grass.

Amazone's HorseHopper mounted mower.

The HorseHopper neatly mows down heavy grass patches and weeds for well-maintained paddocks to keep horses happy and healthy. Amazone's Groundkeeper is an ideal all-round machine for pollinators and wildflower management, large open spaces, sports pitches and public parks

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ROAST TURKEY WITH THYME AND ONION STUFFING

Serves: 12-14 people **Time: 3½ hours**

Main ingredients
7 kg turkey, oven ready
Salt, black pepper and a little flour
2 tbsp softened butter
8 slices streaky bacon

Stuffing
450g bread, broken into pieces
6 tbsp fresh parsley, chopped
2 tbsp fresh thyme, chopped
1 medium onion, cut into quarters
Salt and black pepper
100-150g butter, softened

To Make the Stuffing
Place the bread, parsley, thyme and onion in a food processor. Process until you have fine breadcrumbs and the onion is finely chopped. Remove to a bowl, season and mix in the butter.

To Stuff the Turkey
Loosen the skin at the neck end with your hands. Pack the stuffing in, pushing it up between the flesh and the skin, but not too tightly, because it will expand during cooking. Tuck the neck flap under the bird's back and secure with a cocktails stick. Any remaining stuffing can be cooked in a covered baking dish with the turkey. Weigh the turkey, and calculate the cooking time. Allow 15-20 minutes per pound (allow 10-15 minutes per pound for turkeys weighing over 16 lbs). Place the turkey, breast side up, in an oiled roasting tin.

To Cook the Turkey
Set the oven at Gas Mark 7, 220°C (450°F).
Season the turkey with salt and pepper and dust with a little flour. Rub all over with the butter, then lay the bacon slices on the breast, overlapping each other. Cover the bacon with a piece of buttered greaseproof paper. This will keep the bacon in place. Wrap the turkey loosely in foil and roast in the preset oven. After the first ¾ hour reduce the heat to Gas Mark 3, 170°C (325°F). Baste a couple of times during roasting. For the last ½ hour remove the tin foil.
To check if the turkey is cooked pierce the thickest part of the leg – the juices should run clear. When the turkey is cooked remove from the oven, transfer to a large plate, reserve the cooking juices in the tin to make the gravy. Cover the turkey loosely with foil and allow to rest for ½ an hour in a warm place while you finish the ham and roast potatoes.

CIDER BAKED HAM WITH A CHERRY GLAZE

Cherry and plum jam work well in this glaze. If you are cooking a full ham just double the glaze quantities.

Serves: 8 people **Time: 3½ hours**

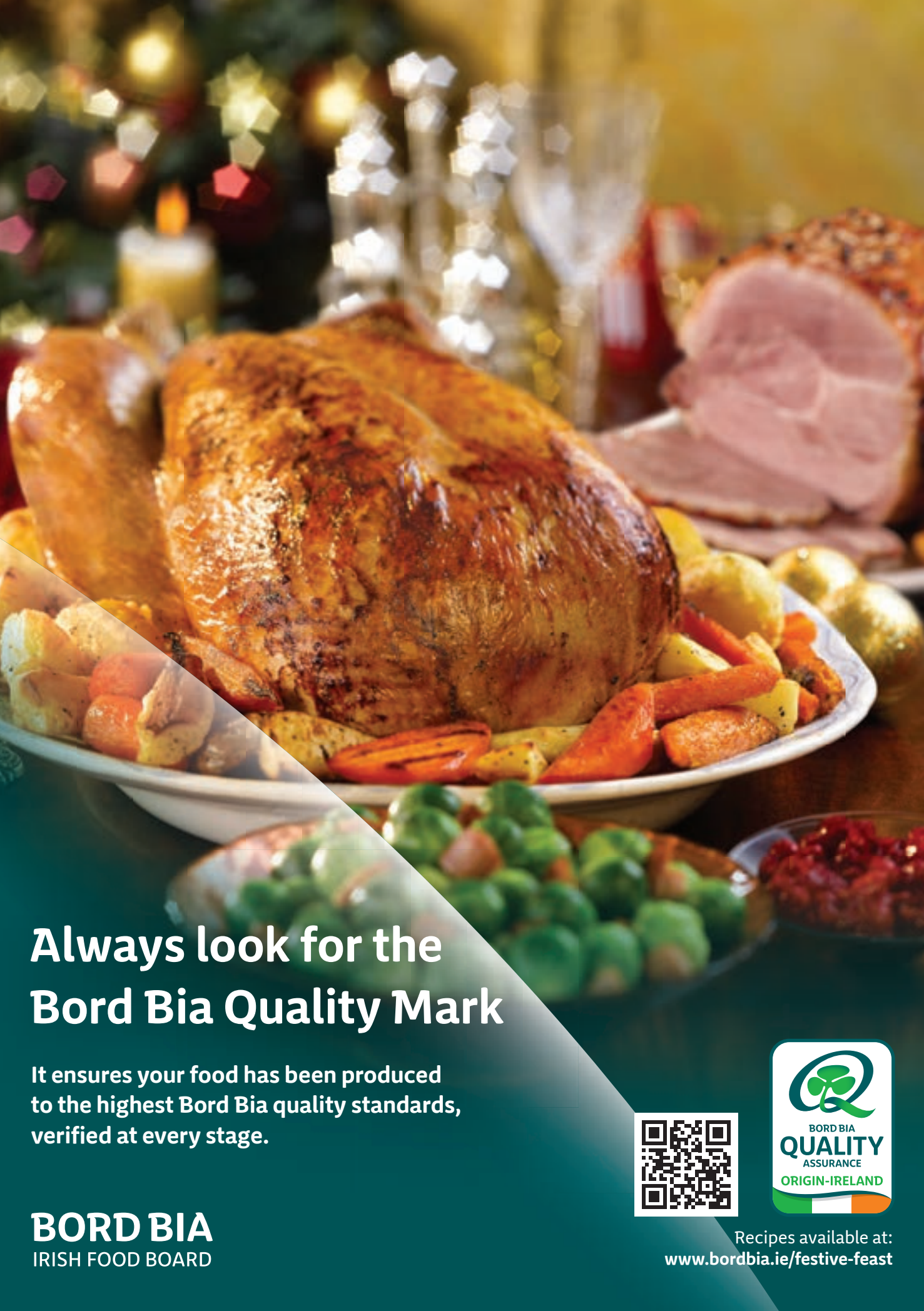
2.5kg boneless ham, smoked or unsmoked
1 litre cider
2 bay leaves

Glaze
100g cherry jam (or plum jam)
25g brown sugar
1 tbsp honey
1 tbsp port
Juice ½ lemon
2 tbsp Dijon mustard
1 tsp cinnamon
½ tsp nutmeg
To serve: Roast potatoes, carrots and parsnips.

Preheat the oven to Gas Mark 6, 200°C (400°F).
Place the ham in a roasting tin, skin side up and pour the cider around it. Add the bay leaves. Cover tightly with a double layer of tin foil. Bake for 3 hours. After this time lift the ham onto a carving board and allow to cool for about 10 minutes.

To make the glaze: Place all the glaze ingredients in a bowl and mix well. Set aside while you prepare the ham.
When the ham is cool enough to handle, cut off any stings and, with a sharp knife, carefully remove the skin. Score the fat in a criss-cross pattern. This helps the glaze to stick to the ham and also looks good when finished cooking.

Transfer the ham to a roasting tin lined with tin foil. Spoon half of the glaze mixture over the ham. Place in the oven and bake for 20 minutes until the glaze is golden brown. After the first ten minutes spoon over the rest of the glaze. Set aside to rest for about 10 minutes before carving.
To serve: Transfer the ham to a large serving platter, carve and serve with the roast potato, vegetables and some mustard on the side.



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RECOGNISING THE CHALLENGES FACED BY OLDER FARMERS

CIARAN ROCHE, FBD RISK MANAGER, DISCUSSES THE CHALLENGE OF NAVIGATING SAFETY IN AGRICULTURE IN LATER LIFE

Farming is a deeply fulfilling way of life. However, it is not without its perils, and this can particularly be the case for older farmers. The Health and Safety Authority's data on fatal accidents from 2013 to 2022 sheds light on a concerning trend: older farmers and older residents on family farms are disproportionately at risk.

Over this period, a total of 191 lives were lost in farm accidents, with 47 per cent of these fatalities occurring among individuals aged 65 or older.

An additional 19 per cent fell within the age group of 55 to 65. The leading causes of fatal accidents for those aged 65 and above were attributed to vehicles (40 per cent), cattle incidents (26 per cent), falls (13 per cent), loads falling (10 per cent), and drowning (6 per cent). Older farmers can be slower to recover from injuries and may be less likely to survive the injuries they sustain in the event of a serious accident.

The physical capabilities of older farmers vary by individual. While some maintain strength, flexibility, hearing and eyesight well beyond the age of 65, others can experience decline. Nonetheless, older farmers can continue to be valuable contributors to operations on the farm, provided they and their families recognise age-related risk factors and adapt working practices accordingly. FBD is urging farmers to proactively acknowledge key age-related risk factors in their farm-safety management.

AGE-RELATED RISK FACTORS

Strength: Ageing often brings a decrease in muscle strength, leading to changes in posture that heighten the risk of sprains and strains. Farmers also may compensate for decreased physical capabilities by adopting unsafe work practices or taking shortcuts in established safe procedures.

Mobility: Reduced mobility can pose a challenge for older farmers, hindering their ability to swiftly move out of the way of imminent dangers.

Vision: Declining vision, exacerbated by inadequate lighting in various work settings (such as in fields at dusk or at night, or inside dimly lit sheds), can compromise the ability to recognise objects clearly.

Hearing: Normal age-related hearing loss, coupled with prolonged exposure to noisy farm environments, for example tractors, farm machinery, and confined livestock, can mean an older farmer may not be able to hear the warning signs of an approaching hazard.

Illness and disease: Age-related medical conditions like arthritis can reduce mobility, affecting the ability to navigate climbing up and down from machinery and livestock-related tasks. Prescription medications may further impact reaction time in a dangerous situation.

To mitigate these risks, older farmers are encouraged to:

- Conduct thorough risk assessments to highlight hazards and associated risks before engaging in activities involving tractors, machinery, livestock, or working at heights.
- Use well-maintained livestock handling facilities including calving gates.
- Ensure farm vehicles and machinery are maintained in safe operating condition.
- Regularly evaluate personal capabilities. Before each job ask yourself the following: Can I carry out this job safely? Do I need to get help? Do I need to engage a specialist contractor e.g. for work at height or building repair? Do I have the appropriate equipment and facilities to carry out the work safely?
- Inform someone about where you are going and carry a mobile phone while farming.

The key message is clear, getting older doesn't necessitate retirement from farming. Older individuals bring invaluable experience and knowledge to family farms. Grandparents, in particular, can play a crucial role in imparting farm safety wisdom to the younger generation.

In conclusion, the path to safer farming involves acknowledging and addressing the unique challenges faced by older farmers. By prioritising safety and implementing preventive measures, we can ensure that the agricultural way of life remains both fulfilling and secure for generations to come.

Always think, safety first!

Statistics: Health and Safety Authority fatal accident data 2013-2022.

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BARNARDOS – HELPING THOSE WHO WERE FARMED OUT AND FORGOTTEN

EARLIER THIS YEAR, BARNARDOS LAUNCHED A FREE NATIONAL SERVICE FOR ADULTS AIMED AT PROVIDING A RANGE OF SUPPORTS TO THOSE WHO WERE 'BOARDED OUT' OR 'FARMED OUT' AS CHILDREN PRIOR TO THE INTRODUCTION OF THE CHILD CARE ACT 1991. BERNIE COMMINS SPOKE TO NATALIE JOHNSON, A PROJECT COORDINATOR AT BARNARDOS, ABOUT THIS ESSENTIAL SERVICE AND ITS RELEVANCE TODAY

Ireland has a chequered history regarding the care of its children. The publication of reports into the Magdalene laundries and mother-and-baby homes, the many stories recounted by women who lost their children, and children who lost their identities, are sad testaments to this. These reports, these lived experiences, paint bleak pictures of a harsh place for young mothers and their children.

WHAT DOES 'BOARDED OUT' MEAN?
'Boarded out', 'fostered', 'farmed out', 'at nurse', and 'nursed out' are terms used to describe both a formal and informal system of care for children that existed in Ireland from the early 1900s up until the introduction of the Child Care Act in 1991.

From the turn of the 20th century until the introduction of the Child Care Act in 1991, there were many reasons why children – formally and informally – became part of the childcare system in place during that period, explains Natalie: "For children born in mother-and-baby institutions, county homes, and private nursing homes to unmarried mothers, many were nursed out as infants by the authorities to families other than their own.
"In families where a parent died, or a parent was unable to care for the children due to poverty or illness, these children were boarded out by the authorities to families other than their own. Children in industrial schools were also boarded out to farms and homes around the country." Children were also boarded out among members of their extended families, Natalie says:
"Informal arrangements between families were common where children were sent to live with a relative to help ease the burden on a family with a lot of children, or a child could be sent to live with a relative to work on the farm or care for an ailing aunt or grandparent."
Although the exact number of children boarded out in Ireland is unknown, Natalie says that information from the Adoption Authority of Ireland and the *Final Report of the Commission of Investigation into Mother and Baby Homes* indicates that between 1920-1970, approximately 20,000-30,000 children were boarded out by the State.

A LASTING IMPACT

Barnardos' Boarded Out Practical Support Service for Adults was launched in July 2023 to offer help to today's adults whose childhoods reflect these situations. Natalie explains: "From speaking with people who have been boarded out as children, it's clear how this early experience can have a lasting impact throughout their lives. For some people the trauma of early separation from

their mothers, and the subsequent experience of abuse, missed educational opportunities, forced labour, stigma and lack of information about their identity and reasons for being boarded out or fostered can have lifelong consequences because childhood lasts a lifetime."

Natalie is keen to point out that being boarded out was not a negative experience for all who experienced it: "For some children, being boarded out was a positive experience, where they grew up feeling part of a family, where their needs were met, and they were looked after well." But for others, she says, their experiences were traumatic. "Children were boarded out to families where they experienced maltreatment, were kept home from school to carry out unpaid farm and domestic work that was not appropriate for their age. Many of these children grew up without any information about their family of origin or the reason they were boarded out."

SUPPORT AVAILABLE

Today, there are people living in our rural communities who were boarded out as children and who are still affected by their early experiences. Natalie explains: "Barnardos wants to raise awareness of our service among the farming and rural communities, so we can reach people who may need our support." Barnardos has centres in Dublin, Cork and Galway, and its community support workers can meet people in these centres, or they can travel to people's homes, or meet somewhere local to the person who requires help. "The service is open to anyone regardless of how long they were boarded out, fostered out, nursed out, whether the boarding out was a formal or informal arrangement or whether the experience was positive or negative," says Natalie.

The service, funded by Department of Children, Equality, Disability, Integration and Youth Dormant Accounts, is free, confidential, non-judgemental, and can be accessed in a number of ways.

Send an email to:

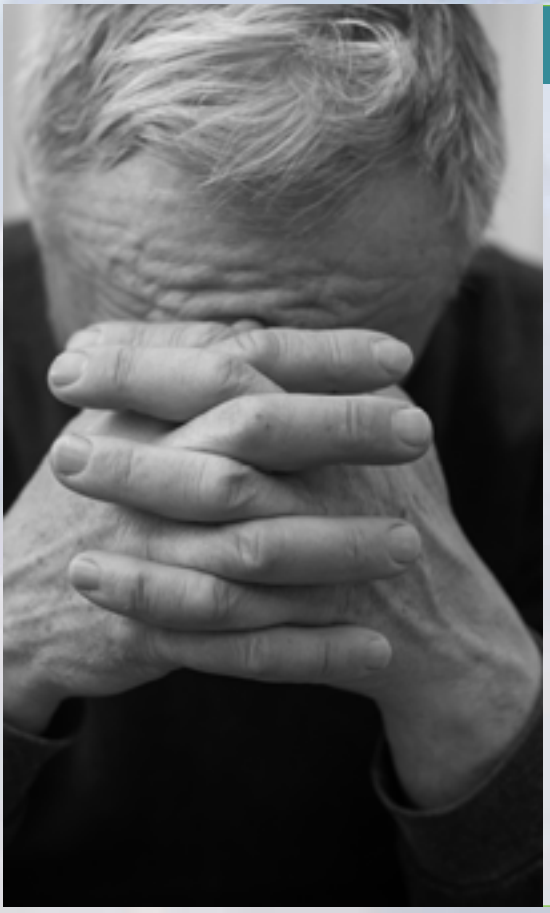
- birthhistory@barnardos.ie.

Visit Barnardos' centres:

- Dublin: Christchurch Square, Dublin 8, D08 DT63; and 23/24 Buckingham Street Lower, Dublin 1. Tel: +353 1 813 4100.
- Cork: Blackmore House, Meade Street,Cork. Tel: 353 21 203 8005.
- Galway: The Sanctuary, 27 Chois Chlair, Claregalway. Tel: +353 91 454489.

The supports available through Barnardos' Boarded Out Practical Support Service for Adults include:

- Support to access early life records;
- Support to access health, community and social services;
- Support with isolation and loneliness;
- Assistance in filling out forms and grant applications;
- Advocacy, information and signposting; and
- Referral to Barnardos therapeutic supports.



SENT TO LIVE ON A FARM – NOEL'S STORY

Barnardos provided *Irish Farmers Monthly* with a case study to highlight the ways in which the Boarded Out Practical Support Service for Adults can assist people. It tells the story of 82-year-old Noel* who was sent to live on a farm in rural Ireland when he was a child, having been born in a mother-and-baby home. Noel never knew his birth family and although he was looked after by the family he was placed with, he was regularly kept home from school to work long hours on the farm. When Noel did go to school, he struggled to keep up and was often slapped by the class teacher for making mistakes. After years of struggling, Noel left school when he was just 13 with very poor literacy skills. He continued to work unpaid on the farm until he was 16 and then left for England to try to make a new life for himself. He never knew his family of origin or why he was boarded out as a child.

Over 60 years later, Noel contacted Barnardos Boarded Out Practical Support Service, as he needed help filling out forms to access his birth information. Carol, a community support worker from the service, visited Noel in his home and assisted him to complete the forms and understand the birth history information he received.

Noel confided in Carol that he struggled to cook his meals and complete other household chores due to mobility issues, and he told her that he felt isolated living alone. Carol contacted the local primary care team and advocated for a homecare package for Noel. She also arranged for Meals on Wheels to be delivered daily, so he did not have to worry about preparing meals.

Carol's visits helped Noel to feel less alone, but she also put him in touch with the local Family Resource Centre so he can access local groups. Noel now has a social outlet where he is connected to his community. **Not his real name.*

ICMSA

Pat McCormack, President, ICMSA

Pictured at the recent ICMSA AGM, Pat McCormack, delivered his final address as the organisation's president.

THE QUESTION WE NEED TO ASK

The unofficial theme of our AGM held on November 17 was: what exactly is the Government's issue with family farms? What have we done? I believe the animosity towards us is unmistakeable.

The An Taisce action on the Nitrates Derogation is hugely symbolic of the way the Government regards farmers and has mishandled the nitrates issue. The ICMSA is a notice party to this case, due to be heard this month (December). Through its financial support of An Taisce, the State is effectively funding this legal action. The State won't fund our legal action (farmers will have to do that themselves) but the ICMSA is happy to use our scarce resources to do so. The Irish Government is paying both sets of lawyers to prepare legal arguments for and against the policy as decided by the Irish Government. The only party to this legal case that is not sending its bill to the Irish Government is the farmers.

This is interesting because it highlights an unmistakeable trend: the rise and rise of the quangos and NGOs. By this, I am referring to what I see as the abdication of the civil service in the formulation of policy, and the rise of NGOs who seem to have become an alternative civil service that questions Government policy, then demands and gets Government money to mount legal challenges – to the Government! This sub-contracting of policy, I believe, is now reaching alarming levels and, in the rise and hype around Citizens' Assemblies, we begin to see a whole parallel administration: unelected, unaccountable, and unprecedented in a nation and society with a great and historical commitment to voting on who decides policy. Farmers – and I think very many others – are becoming perturbed and anxious about the levels of power and control that unelected and unaccountable NGOs seem to have assumed for themselves, and which elected individuals and offices of State seem only too happy to hand over.

A YEAR TO REMEMBER

Put simply, 2023 has been a disaster for dairy farmers with prices crashing by 23c/L, made worse by awful weather conditions. Incomes have been severely hit due to these things, as well as the failure of input costs to fall in line with milk price. The last two months have seen an unexpected 'firming up' on dairy markets, which would instil a level of optimism as we enter 2024. The new year will commence with milk price on an upward trend and at this stage, as global milk supplies appear constrained, we can expect a strong average milk price, in the 40s, next year. But let's be clear, 40c/L is the new 32c/L in terms of breakeven and 40c/L is no reason to be getting excited.

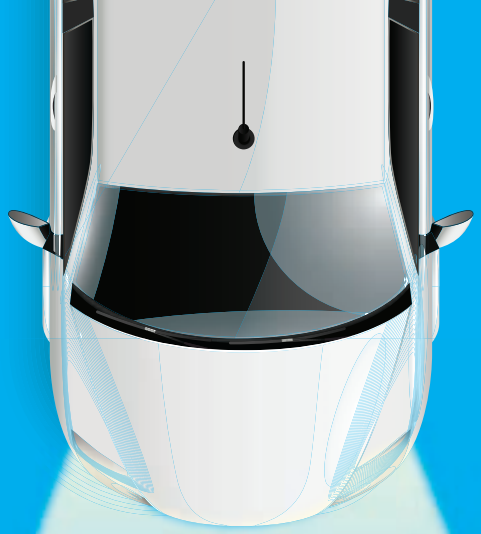
On beef, one threat looms large and I'll say only this, if the Mecosur deal proceeds, then I think the Irish Government and the EU forfeit the right to ever mention sustainability again. Every single morning, we wake up to a working day that will be dominated by the word 'emissions' and how we can lower them. Rising emissions are – we never cease to be told – a global problem and the survival of the human race, not to mind our family farms, depends on lowering emissions. Imagine our surprise, then, to be recently told by Peter Kearney who heads up the newly independent State air traffic control and navigation agency, AirNav Ireland, that we can expect air travel to surge by 12 per cent next year. Just in case that was too vague, we had Kenny Jacobs of Dublin Airport Authority (DAA) complaining that the current Dublin Airport passenger ceiling of 32 million was hopelessly inadequate – that it was too low, and it was going to cost Ireland money – and we had better get that up to 40 million, pronto.

You might have thought the Irish Government would have shot that down on grounds of the huge increase in emissions? Not a bit of it. In the *Sunday Independent* of November 5, the Taoiseach indicated that he supported the lifting of the ceiling on passenger numbers from Dublin Airport. The reason he cited – if you can believe it – is that if we don't offer those new routes then we'll lose them to other competing hubs and airports.

The question then becomes, why aren't emissions a problem for flights overseas for stag parties and hen nights but are a problem when they are connected to food production anywhere in Ireland? Cows are bad! Foreign-destination hens and stags are grand, though. Carry on.

I leave you with that, but I want you all to keep asking this very question. Even as I step down from the presidency of the ICMSA, you can be assured that I'll go on asking it, as will my successor at the helm of a very great association of farmers who will go on as we always have, to continue looking for solutions and demanding fairness and the proper prices for our work and our product.

I would like to take this opportunity to thank you all for your help, and well wishes. I wish you a very happy Christmas and the very best of luck for 2024, and beyond.



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MATT O'KEEFFE
EDITOR

THE NEED FOR MORE FOOD, NOT LESS

Economists are often viewed with scepticism, as either harbingers of doom or unrealistic optimists. Not Jim Power, who always brings a frank and fresh perspective to his subject matter. He recently spoke about the realities of Irish, European and global food production on a KCLR podcast hosted by John Purcell. During the broadcast, Jim said that despite the extreme weather conditions experienced this year, Irish farming is in reasonably good shape. However, being so weather dependent, farmers are, naturally, very impacted, both physically and psychologically, by prolonged poor weather. On the positive side of the economist's equation, he highlighted the reductions in recent months in energy, fertiliser and other production costs, relative to where they were a year ago. "When input costs increased dramatically with the onset of the Ukrainian war, output prices also increased for farmers. The net effect was that farmers continued to achieve reasonable growth in income last year and that continued into the early months of 2023."

GEO-POLITICAL CONCERNS

A concern he has is around those geo-political events and their potential impact on energy costs over the next six months, which will be a focus of attention for farmers: "Obviously, agriculture is very energy dependent as are many other sectors of the economy. On the whole, farming is doing ok, but there are the obvious immediate, medium- and long-term challenges for farmers in relation to the environmental agenda. There is growing pressure to cut production of farm output in this country." This policy approach, he said, concerns him.

Economist, Jim Power.

"I am dubious about this, because if I look at the global situation, a growing population will require significant increases in food production. World food production capability is being significantly distorted and impacted by climate change, so I believe that, in the longer term, there will be a huge focus on countries like Ireland for food production. A lot of other countries will become increasingly undermined as food production regions because of climate change and extreme weather events. Despite the weather here in recent months, Ireland is still in a relatively good position, compared to many countries and is likely to remain so. I think Ireland's status as a food-producing nation must be protected. I am sceptical about those environmental claims about food production. We need to feed an increasing global population."

BINARY DEBATE

Asked whether that sophisticated argument had been taken on board, Jim was adamant that it had not: "The discussion is entirely binary with no account being taken of the need to produce more food, in countries that are most capable of doing so. The entire focus is on what is happening here in Ireland. The debate has certainly not taken account of the broader global situation. I believe that realisation will dawn on people over the next couple of years as we see increased flooding and droughts in major food-producing countries such as the US, Canada, Australia and so on. I would be very optimistic about the potential for the Irish agri-food sector to be an important global player in food production over the coming decades."

SAFEGUARDING

What Jim did not say, and it should be raised as an important aspect of the debate, is that if we continue on the road of forcing reductions in Irish food output, there is a real danger of permanently stifling our production capabilities. While taking account of the need to reduce the carbon footprint and environmental impact of Irish food production, we must safeguard our food production capabilities, as other global food sources literally wither away.

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