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MARCH 2023

EDITORIAL

Matt O'Keeffe, Editor

EPA REPORT POINTS TO FUNDAMENTAL LAND-USE CHANGE

If anything was learned from the publication of the Environmental Protection Agency (EPA)-commissioned report from researchers at Atlantic Technological University (ATU), it was that the complex challenge of carbon reduction cannot be dealt with, and should not even be discussed, in a lopsided manner. The farming community, understandably, believes that reducing livestock numbers by one-third, accompanied by afforestation on a scale never experienced in this country, as well as a vast rewetting of peat soils, are extreme measures. Even the researchers themselves were critical of the manner in which their analysis was published. They legitimately argue that their work should be considered as one aspect of a far broader and more comprehensive approach to carbon reduction in Irish agriculture. The problem is that publishing lopsided research without the necessary balancing analysis of economic and social impacts is counter-productive. It gives the impression that those impacts are incidental, at best. Otherwise, why would the EPA-sponsored report not be considered and published in tandem with analysis of what needs to happen to mitigate the social and economic consequences of achieving zero-carbon emissions from agriculture?

The fact that the timeline for achieving this utopian target is 27 years away, gives some false solace. To achieve such a fundamental change in land use would require major incremental change every year until 2050. The practicalities of such change have not been discussed, except at a very shallow, 'cull-the-herd' soundbite level. Rewetting 90 per cent of peat-based grasslands, as the report suggests, would be necessary to achieve net-zero emissions in the prescribed timescale, and seems an almost abstract objective. It is only when one considers the fate of individual farms, farm families, and rural communities, that the real significance dawns. It would result in the demise of thousands of farms, not just some acres here and there. Many farms, mainly, though not exclusively, in the western and north-western regions would experience fundamental change, and economic activity, much of it livestock-based, would cease. There is no suggestion that rewetted grassland could be turned over to forestry. It, too, requires drainage to flourish, so in totality there would be, if all suggested land change initiatives were achieved, a reduction of one-quarter in productive grassland farming. Allied to that is the proposition that livestock numbers would reduce by 30 per cent. Some of that livestock cull would come automatically from the elimination of grazing on rewetted grassland and since there is an ongoing assault on existing stocking rates on more intensively farmed land, the 30 per cent cull target might well be overshot. The authors of the ATU report insist, rightly, that this is a theoretical analysis. Using existing knowledge around achieving carbon-reduction targets, this is what is suggested needs to be done. There is no intimation, however, that there is any other way to achieve the targeted reductions, only that the report should have been accompanied by a socio-economic analysis of the implications, for Irish agriculture, for rural communities and for individual landowners.

In contradiction of the defence of the report's authors that their analysis has been taken out of context, the reality is that the report reflects a belief, perhaps scientifically founded, that only a fundamental change in land use will accomplish the desired end effect. That is the only context. That the report was made public in isolation, does not change the context. The manner of implementation and management of the transition to a fundamentally altered Irish farming landscape, if or when eventually decided on, will not alter the context either.

CONTENTS

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JOHN DEERE PULL-BACK FROM PUBLIC SHOWCASES CONTINUES

John Deere has informed its dealer network and customers that it will not be attending the next SIMA show in Paris in November 2024. One of the main reasons for this decision is to allow greater focus on country-specific dealer and customer events throughout 2024. The decision is part of an ongoing strategy by the farm-machinery manufacturer to put its promotion resources into more exclusively farmer-facing events. According to John Deere marketing director, Andreas Jess, the Covid pandemic has changed the way customers want to interact with manufacturers.

The increased focus on in-country customer events will also support John Deere's transition to a more streamlined business that puts the customer at the centre, he added. Meanwhile, John Deere is currently planning its European dealer and customer events for 2024. However, it is understood that the global company still sees an important role for trade shows in the future but would welcome international trade-fair organisations to review their current timetables to allow greater flexibility for other promotional activities. The implications for FTMTA-organised machinery shows, as well as for the National Ploughing Association's annual event, should rival manufacturers increasingly adopt the John Deere approach remains to be seen.

According to the company website, its 'flash new look is inspired by our spectacular West Coast home'.

WHAT'S IN A NAME?

Ornua continues to protect its valuable Kerrygold brand name from all possible or potential mimics. The latest legal spat involved New Zealand's Westland butter offering on the US market. The use of the brand name Westgold, together with seemingly similar packaging colours and fonts, was deemed too close for comfort to the Kerrygold brand to get a free run. Ornua seems to have been successful in fending off what it saw as an assault on its highly successful brand, to some extent at any rate. After various complex claims and counterclaims, Westland agreed to change its butter packaging and provide Ornua with oversight of its new packaging before relaunching. Westland does want to 'flush' its existing offering through the US market and believes it will take until June to achieve this. The distinctive Kerrygold butter brand has achieved spectacular success on the US market with wide availability right across the States. It holds the position of being the biggest imported butter into the US and sells at a considerable premium price, as well as holding the accolade of being the second-best-selling branded butter on the American market after the native Land O'Lakes Dairy Co-op butter offering. No wonder, then, that Ornua is so protective of its golden butter.

MILK PRICES IN REVERSE GEAR

Lakelands and Kerry led the charge to reduce milk prices last month. They were followed to varying extents by other processors. West Cork's Carbery announced a reduction of 4c/L for January, with Dairygold and Tirlán following the 6c/L lead from Lakeland and Kerry. While there is evidence, as displayed in the mid-February Global Dairy Trade auction, of dairy markets stabilising and even potentially rebounding, the reality is that processors are already hinting of further cuts in the coming months. While last year's historic high milk prices were welcomed by producers they were accompanied by eye-watering input-cost increases. These costs have signs of abating somewhat, most especially for fertiliser, but it's the margin in the middle that counts, and the 6c/L reduction last month has tightened that margin considerably. The 6c/L cut, implemented at the start of the production season, will cost the average 100-cow milk producer up to €36,000 over the course of 2023.

IRISH PIG HEALTH SOCIETY 2023 SYMPOSIUM ANNOUNCED

The Irish Pig Health Society (IPHS) will hold its 2023 symposium at the Midlands Park Hotel, Portlaoise on Tuesday, April 18. The IPHS symposium is the country's largest pig event and attracts a diverse group of producers and industry representatives with an impressive array of keynote speakers. 'Quality over quantity by maximising health and efficiency' is the theme of this year's event. Thomas Gallagher chairs the symposium in his first year as IPHS president, having taken over from Dr Carla Gomes. Thomas currently works for MSD Animal Health in the Integrated Livestock Business Unit. The symposium will commence at midday on April 18, with a hog roast lunch, followed by conference presentations and access to the exhibition hall. All information, booking, and contact details are available on the IPHS website.

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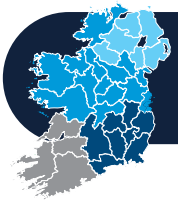

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ATTITUDES TURNING TOWARDS TURBINES

Whether people blow hot or cold about wind energy is usually determined by how close a turbine is to their home. Sight and sound are strong determinants of one's disposition to wind-turbine erection. The latest attitudes survey conducted by Wind Energy Ireland last December would suggest that a large proportion of people, upwards of 80 per cent of those polled, are favourably disposed to wind turbines, with 58 per cent in favour of having them in their locality. That benign attitude would not seem to be played out in the strong opposition to proposed wind-turbine farm developments in many parts of the country. Where they exist, people generally seem to accommodate them, but when confronted with the spectre of these behemoths being sited, perhaps, no more than a mile away from their abode, many people are now adopting a 'NIMBY' attitude. The Wind Ireland survey threw up some other interesting attitudes. Far from prioritising the potential of wind farms to lower CO_2 emissions, only 22 per cent cited this as a crucial benefit with almost half of respondents believing that anticipated lower electricity prices are more important. That must bring into some question the depth of the general public's commitment towards reducing emissions to mitigate climate change.

The Irish Farmers Association's National Sheep Committee brought the campaign for stronger supports for the sheep sector to the Department of Agriculture, Food and the Marine.

SHEPHERDS UNDER COST PRESSURES

Increased production costs have caught up on sheep farmers. After a period when sheepmeat prices were outpacing beef, there is now a realisation that high costs have taken more than the gloss off relatively high prices. The recent protests by sheep farmers are understandable as they see their incomes being eroded. Apart from venting frustration, it is difficult to see an immediate remedy. There is already evidence of consumer resistance to existing prices for sheepmeat, so hoping that a higher price in the supermarket or butcher shop will eventually pass back to the primary producer may not be a practical proposition. We all know that production costs should be fully reflected in the end price, but if the consumer decides not to buy and opts for less expensive meat then that argument is of little practical value. Looking forward, there is some anticipation that markets will improve. Considerable tonnages of southern-hemisphere lamb were imported into Europe last year and that hurt pricing and demand.

With China back in the market, most of the Australian and New Zealand supply will be redirected there. That should help stabilise EU sheepmeat prices. This may be only a temporary respite with the full impact of UK-NZ and UK-Australian trade deals likely to mean increasing amounts of sheepmeat entering the British market in the coming years.

That could become a double whammy with British lamb also being displaced and seeking other markets across Europe in direct competition with Irish exports. Meanwhile, the various religious festivals are coming up quickly and may deliver a boost to demand and, hopefully, price.

NEW *JOURNAL* EDITOR APPOINTED

The appointment of Jack Kennedy as editor of the I*rish Farmers Journal* (IFJ) will not come as a surprise. Jack has huge experience in agri-journalism and stepped up as interim editor when Justin McCarthy resigned from the role last year. Prior to that, Jack was deputy editor and had been dairy editor at the publication for many years. He follows in the footsteps of Stephen Cullinan, Paddy O'Keeffe, Matt Dempsey and, latterly, Justin McCarthy. That makes Jack Kennedy only the fifth editor in the 75-year history of the IFJ. The IFJ is owned by the Agricultural Trust, chaired by Matt Dempsey. There had been some speculation that the trustees might go outside the fold or even opt for a change of gender in the role of editor. The person they chose is capable, tested and well qualified for the job. We wish Jack every success in his new role.

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KEEPING OUR EYE ON THE BALL

CATHAL BOHANE,
INTOUCH NUTRITION

At this stage, the majority of calving will be completed, and full runs in the parlour will be increasing to more normalised levels. You should now have a clear picture of your dry cow programme and whether it was successful or not. As a general consensus, most calvings have gone well. A good spell of weather has allowed cows to be grazed earlier than expected in many areas, which has decreased the pressure of the workload and reduced demands on forage stocks. It is important to monitor the amount of grass that is both available and eaten – and while we need to hit certain targets to achieve quality later in the season, we also need to remember the cow in the midst of all this. A freshly calved cow will struggle to achieve optimal intake in early lactation. As such, we must constantly challenge the cow to eat. Cows need to be eating grass for the right reasons – and if it is not available or the conditions are unsuitable, then we should be adding dry matter in the next best way. While grass is usually better than grass silage on paper, it is the 25–30 per cent dry matter that will actually help, rather than the 11–12 per cent of grass. As mentioned in previous articles, yields and solids will be phenomenal at this time of the year, but this is actually a reflection of the cow's body reserves, not what she is eating at this moment. Similarly, what early cows are eating now will be reflected in the tank from the middle of March onwards and in their fertility later.

As mentioned above, for the most part, calving is going well on farms. If, for some reason, you are experiencing trouble with trough milk fevers or retaining cleaning, all is not lost. Speak to someone with a knowledge of the solutions to these problems, like a vet, nutritionist or advisor. Not only will they be able to discuss potential solutions with you, but they will also have an independent view of the possible causes of the problem. Both the expert and you should look at your system through the lens of the four pillars I have mentioned in previous articles: body condition, nutrition, minerals and management. Sometimes, when the issue is major, we look for the 'elephant in the room' but other times, it can be the result of a combination of smaller issues. As we are looking at our cows all day every day, we usually believe that conditions are good and that management is spot-on, so we immediately blame the nutrition and minerals for any issues. While these aspects do play a role in performance, each of the four pillars outlined above should be examined equally – which is why getting an independent second opinion is essential.

As the month goes on, body condition will increase, space will become tight as we must now accommodate two groups of cows, silage management can deteriorate, and naturally, with many other tasks on our plates, we can take our eyes off of the dry cows. We are nearly there when it comes to dry- and transition-cow management. Keeping dry cows stable in their system and maximising intakes by fresh cows are key. We are so close to our goal – and we should do everything we can to avoid dropping the ball now.

REDUCED CROP EXPORTS FROM UKRAINE IN JANUARY

Ukraine shipped 5.5m tonnes of grains, oilseeds, and other products in January 2023, which is 1.3m tonnes less than in December 2022, according to the Ministry of Agrarian Policy and Food of Ukraine. This downward trend, according to the ministry, is caused by the blocking of the grain corridor by Russian inspectors. As a result, only 3m tonnes were shipped in the first month of the year as part of the grain initiative.

In September and October, exports of agricultural products through the grain corridor in the framework of the grain initiative amounted to about 4m tonnes and over 4m tonnes, respectively. So, in the first month of this year, shipments decreased for all crops, including the leading crops such as corn and wheat. Corn was shipped in the volume of 2.6m tonnes (700,000 tonnes less), and wheat was shipped in the volume of 1.3m tonnes (250,000 tonnes less). In total, 15.4m tonnes of corn and 9.7m tonnes of wheat have already been shipped in the marketing season (July 2022 to January 2023). In total, 39.2m tonnes of grains and oilseeds have been shipped during the season. During the 11 months of the war, Ukraine shipped 44.4m tonnes of agricultural products to other countries, including 9.9m tonnes of wheat and 18.2m tonnes of corn. The slight difference in the supply of these crops comparing to the new marketing season is due to the closure of Ukrainian ports, which were out of operation for five months and started to increase gradually their operation volumes in August. Sunflower oil remained in the top three in terms of shipments with 347,000 tonnes, that is 121,000 tonnes less than in December. The January shipments of soybeans remained almost unchanged compared to December – 345,000 tonnes against 387,000 tonnes. A similar difference in volumes is observed in the supply of meal. In December, it was 331,000 tonnes, while in January it was 36,000 tonnes less – 295,000 tonnes. The supply of sunflower seeds in January was 190,000 tonnes while in December the volume was 122,000 tonnes greater. Rapeseed supplies continue to decline as the season for this crop is over. While, in November, the volume of rapeseed exports amounted to 412,000 tonnes, in December it was 237,000 tonnes, and in January only 186,000 tonnes were shipped.

Barley shipments remained almost unchanged in January: 168,700 tonnes against 179,000 tonnes in December. Soybean oil was shipped by 6,000 tonnes more in the first month of 2023, to 26,000 tonnes.

The overall picture of shipments in January in percentage terms is as follows: 47.36 per cent corn; 24.23 per cent wheat; 6.33 per cent sunflower oil; 6.29 per cent soybeans; 5.38 per cent meal; 3.46 per cent sunflower seeds; 3.39 per cent rapeseed; 3.08 per cent barley; and 0.49 per cent soybean oil.

Total shipments for 11 months by crops: 18.2m tonnes of corn (40.88 per cent); 9.9m tonnes of wheat (22.25 per cent); 3.6m tonnes of sunflower oil (8.12 per cent); 3.2m tonnes of rapeseed (7.21 per cent); 2.9m tonnes of sunflower seeds (6.49 per cent); 2.5m tonnes of meals (5.65 per cent); 1.9m tonnes of barley (4.21 per cent); 2m tonnes of soybeans (4.7 per cent); 215,000 tonnes soybean oil (0.48 per cent).

PROJECT HELPING WOMEN BREAK THROUGH THE 'GRASS CEILING'

South East Technological University (SETU) is leading a new European project that aims to empower rural women and increase the number of socio-ecological innovations led by women in agriculture, the rural economy and rural communities. GRASS Ceiling, a €2.8m project funded by the European Union (EU) under the Horizon Europe programme, brings together 25 partners from across Europe and will develop a forum where women can drive socio-ecological transitions, that is, develop innovations in response to socio-ecological challenges and strengthen the resilience of rural areas. This is essential to deliver the UN's goals on gender parity, realise the EU gender equality strategy, and achieve the goals of the Green Deal, the Farm to Fork strategy, the Long-Term Vision for Rural Areas, and the European Pillar of Social Rights. To achieve this, the project will establish nine living labs for rural female innovators in Ireland, Croatia, Italy, Lithuania, Netherlands, Norway, Scotland, Spain, and Sweden. Each living lab will train between six and eight women and establish a network learning and innovation system that will support women innovators, strengthen and measure their innovative identity, and transform gender norms and stereotypes by sharing and capturing insights on rural women-innovator policy and practical experience. Through these living labs, researchers will analyse the current position of women regarding megatrends in European agriculture and rural areas, understand the drivers and enablers for women-led innovations, the barriers encountered and supports that are needed at Member State and EU level. Female innovators from a rural or farming organisation will co-lead each lab, with Macra joining the project in Ireland. GRASS Ceiling's partners also include high level European bodies and stakeholders who can truly influence EU policy. Speaking of the importance of this project, project coordinator, Professor Sally Shortall, said: "We will work across Europe with leading women innovators to capture and share the key elements of their success, with the aim of increasing grassroots impact for women in rural and farming communities. The project will work together with both men and women to build a positive and empowering environment for socio-economic and green growth." Socio-ecological innovation in farming and rural areas is a developing area in Europe and GRASS Ceiling will ensure women can fully participate. The project commenced in January 2023 and will run until December 2025.

Dr Patricia Bowe, SETU; Dr Muireann Prendergast, SETU; Dr Geraldine Canny, SETU; Prof Sally Shortall, GRASS Ceiling project coordinator; Dr Suzanne Denieffe, SETU; Dr Jamie Power, SETU; Dr Leana Reinl, SETU. Photo:Patrick Browne.

Aiding the transition – pre-ruminant to ruminant

Maeve Regan,
Head of Ruminant Nutrition, Agritech

New-born calves are born with undeveloped rumens, yet they will spend most of their lives as fully functioning ruminants. The main objective is to assist the transition from pre-ruminant to ruminant by developing the rumen as much as possible before they are weaned off milk, so that they grow to be cost-effective forage consumers that are efficient at converting feed to milk or meat.

Rumen development begins within the first few days after birth and is advanced by exposure to healthy bacteria from the environment and the consumption of solid feeds – concentrates and straw (preferable to hay). Concentrates should be introduced from three days of age (an 18% crude protein calf-starter ration/nut ideally) alongside free access to fresh clean water and high-quality clean straw ad-libitum (no haylage or silage).

Source: Penn State Extension

Considering Weaning

Weaning on a weight basis alone can leave a false sense of security with how ready calves are for the next stage of life/nutrition. The success of the weaning process and the weeks thereafter will hinge around how the rumen has developed over the first weeks of the calf-rearing period. Weaning should never be considered until calves are consuming at least 1.5kg of concentrates/hd/day in grouped pens – signalling that the calves dry matter intake can cope with the transition to a 100% solid feed diet.

Concentrates should be offered ad-lib while on milk but tracked closer to weaning to ensure the group is consuming adequate levels to allow weaning to commence.

For further advice on calf rearing and calf milk replacer, contact your local Agritech Sales Advisor or visit www.agritech.ie

IMPLEMENTATION OF EPA REPORT WOULD CAUSE 'UPRISING' – IFA

The *Land Use Review: Fluxes, Scenarios and Capacity Synthesis* report commissioned by the Environmental Protection Agency (EPA) has been described by the president of the Irish Farmers' Association (IFA) as 'fundamentally flawed'. He also called on the Government to reject the report, which has caused a wave of controversy since it made headlines recently.

On reviewing the report, the IFA president said: "It was compiled using international averages (Tier 1 data) for emissions from organic soils and carbon sequestration by mineral soils. For a report of this nature to have credibility, Irish values (Tier 2/3 data) would need to be used as initial Irish research points to significant differentials in Irish values versus international values."

The IFA also pointed out that the 36-page report excludes any mention of farm income, family farm, and rural communities, and only references the word farm three times.

"It is not an exaggeration to say that this report realises farmers' worst fears and outlines scenarios without consideration for farmers, families and communities. Real sustainability is based on three pillars, economic, environmental and social. If implemented, it would effectively wipe out communities outside of large urban centres," he said. The report also does not refer to carbon leakage, despite the fact the Government is required to take it into account in the Climate Act, the IFA also said. "Imports of food from Brazil into the European Union increased by 47 per cent in 2022. In reality, reducing food production in Ireland will lead to 'carbon leakage' as food will be produced in other countries at a higher environmental cost. Meanwhile, we risk devastating our sector with significant economic and social consequences," the president stated. "The goalposts are constantly moving. While the report looks out to 2050, its publication causes huge uncertainty and unnecessary worry to a sector that contributed over €16bn to the economy in 2022. It undermines farmers' ability to plan and develop, and as we all know, uncertainty is the enemy of progress.

"I know of no other sector where businesses are being asked to revert to how they did things 30, 20 or even 10 years ago and to sacrifice corresponding economic gains. Yet, some in Irish society would like to see farmers returning to milking by hand, cultivating crops without machinery, and changing some of the best ruminant grazing land in the world into unproductive areas. Let me be clear; this will not be allowed to happen. There will be an uprising in rural Ireland if the Government were to do anything like this," he said.

IMPROVING SOIL FERTILITY PROVIDES LARGEST COST SAVING

Improving soil fertility was the most significant cost-saving measure identified in the Smart Farming programme in 2020, according to Smart Farming leader, and environment chair of the Irish Farmers' Association (IFA), Paul O'Brien.

Farmers who participated in the Smart Farming initiative in 2020 identified potential savings of €1,624 or €25/ha by implementing measures to improve soil fertility, he explained.

"Soil is one of the most important assets on any farm. Better soil fertility can support increased production, improve farm incomes and enhance environmental performance on farms," he said.

However, about 90 per cent of the soils sampled in Ireland lack phosphorus, potassium or lime, limiting their production potential.

Smart Farming has updated its soil fertility guidance to give farmers the most up-to-date information and advice on soil management measures, including:

- Testing soils regularly to establish what nutrients are present and how much extra nutrients may be needed;
- Correcting soil pH through liming to increase the availability and efficiency of applied nutrients;
- Creating a nutrient management plan for their farm;
- Using low emission slurry spreading (LESS) to reduce ammonia losses; and
- Using protected urea to reduce ammonia and nitrous oxide losses.

Smart Farming links practical actions farmers can take to save costs and improve the environment in line with UN Sustainable Development Goals. This includes Life on Land, which aims to protect, restore and promote the sustainable management of land. Improving soil fertility also benefits water quality, air quality, biodiversity and greenhouse gas emission reductions. Farmers can get a free soil test, resource efficiency assessment, and cost-saving study for their farm by taking the Smart Farming challenge. Updated soil fertility guidance is available on the Smart Farming website.

AGRI-TECH, CLIMATE AND SUSTAINABILITY EMPLOYMENT UP BY 13%

Recent figures from Enterprise Ireland (EI) show that its client companies now employ 218,178 people, an increase of 5 per cent on 2021 numbers, with 68 per cent of these jobs located outside of Dublin. Employment increased across EI's three core economic sectors: technology and services (+8 per cent), industrial and life sciences (+5 per cent) and food and sustainability (+3 per cent). Strong employment growth was recorded in a number of specific sub-sectors, such as: climate, sustainability and agri-tech (+13 per cent); digital technology (+9 per cent); high tech construction and housing (+6 per cent); fintech, financial and business services (+6 per cent) and the life sciences and engineering sectors both saw 5 per cent employment growth. According to EI, job creation is ahead of target, with 10,841 of total net jobs created in 2022 and 161 early-stage company approvals made in the same year.

Damien O'Reilly
EU Affairs and
Communications Manager, ICOS

LETTER FROM BRUSSELS

The sign draping the side of one corner of the iconic Berlaymont EU Commission building here in Brussels advertises REPowerEU. It is a new plan with a double goal – to reduce the dependence on gas, oil, and coal imports from Russia, while at the same time accelerating the EU's ambitious climate-action targets.

The clean-energy transition can only be good news for hard-pressed families struggling to pay astronomical home-heating and electricity bills. So REPowerEU and all its armoury cannot come fast enough. Back home, ICOS is one of a few organisations working closely with its member co-ops to look at renewable opportunities – specifically in relation to biomethane – to capitalise on this drive to a green transformation. According to the Sustainable Energy Authority of Ireland (SEAI), the percentage of renewables in 2021 in Ireland was 12.5 per cent, significantly behind the EU average where the overall renewables percentage stood at 21.8 per cent, according to Eurostat.

The EU has a reduction target of 55 per cent by 2030, in the context of overall emissions, when compared to 2018. Every project has a fancy name or acronym and this one is called 'Fit for 55'. The revised Renewable Energy Directive (RED III) targets are for 45 per cent renewable energy across the EU by 2030. In Ireland, the target for biomethane is set at 10 per cent of the country's gas needs by 2030. "It appears that this will only be incentivised by way of a renewable heat obligation or RHO, obligating an increasing percentage of gas to come from renewable sources and letting market forces, rather than a guaranteed tariff, create a price floor for biomethane," says bioeconomy executive with ICOS, John Brosnan.

"Biomethane has a key role to play in the decarbonising of not only our energy sector, but it can also contribute to reducing emissions in the agri-food sector and to provide additional income to farmers," according to John. This is where it gets interesting for farmers. John is driving communication between farmers and co-ops on the potential to develop the industry in Ireland. "ICOS is supportive of the development of anaerobic digestion and production of biomethane alongside other renewable sources which we support." But, he says this cannot come at the expense of food and feed security. "Nor can farmers and co-ops be expected to bear all of the risk in embracing renewables with high upfront capital costs."

Back in Brussels, as RePowerEU attempts to speed up the switch to renewable energy, Irish co-ops are perfectly positioned and equipped to drive the development of biorefining. It's a win-win for farmers as an income source while playing a key role in meeting the EU's green targets. And hopefully it will be the beginning of the end of dependence on Russian gas and oil. Watch this space.

icos
Irish Cooperative Organisation Society

WARM WELCOME FOR SOLAR BUT DRIBBLE BARS DROPPED

BERNIE COMMINS LOOKS AT SOME OF THE MAIN FEATURES OF THE MUCH-ANTICIPATED TAMS 3, WHICH WAS LAUNCHED IN FEBRUARY

Fencing, farm roadways, cattle underpasses, milk recording and solar panels have been included in the newest iteration of the Targeted Agricultural Modernisation Scheme (TAMS 3). But the omission of dribble bars has drawn criticism, as has the application and approval timeline for slurry-storage investments, while agricultural contractors are unsatisfied that they have been excluded, yet again.

Tranche 1 of the new TAMS 3 opened last month and, for the first time ever, offered farmers the opportunity to receive funding support for solar panels under the Solar Capital Investment Scheme (SCIS). This is the first available investment and it opened for applications on February 22. The solar scheme will be ringfenced with its own investment ceiling of €90,000 and will be grant aided at the enhanced rate of 60 per cent, according to the Department of Agriculture, Food and the Marine (DAFM).

In addition to the higher grant rates, the size of the available investments has also increased from 12kW to 62kW. Farmers may also include the energy demand of one dwelling house per holding in the sizing of the solar panel array.

TAMS 3 – SCHEMES AND DATES

TAMS 3 will run for five years with a budget of €370m, and will include 10 schemes. Seven of these were previosuly available in TAMS 2, including: the Animal Welfare, Nutrient Storage Scheme; the Young Farmer Capital Investment Scheme; the Organic Farming Capital Investment Scheme; the Dairy Equipment Investment Scheme; the Low-Emissions Slurry Spreader Scheme; the Tillage Capital Investment Scheme; and the Pig and Poultry Capital Investment Scheme.

However, the the Women Farmer Capital Investment Scheme; the Farm Safety Capital Investment Scheme; and the Solar Capital Investment Scheme are new additions.

After the SCIS, the other investments will become available on a phased basis during Tranche 1 which will close on June 16. The schemes do not operate on a first-come first-served basis and all applications will go through a ranking and selection process after the closing date.

GRANT RATES AND CEILINGS

- **Animal Welfare, Nutrient Storage Scheme (AWNSS) at 40 per cent grant rate, with a €90,000 investment ceiling;**
- **Tillage Capital Investment Scheme (TCIS) at 40 per cent grant rate, with a €90,000 investment ceiling;**
- **Pig and Poultry Capital Investment Scheme (PPIS) at 40 per cent grant rate, with a €500,000 investment ceiling;**
- **Dairy Equipment Scheme (DES) at 40 per cent grant rate, with a €90,000 investment ceiling;**
- **Young Farmer Capital Investment Scheme (YFCIS) at 60 per cent grant rate, with a €90,000 investment ceiling;**
- **Women Farmer Capital Investment Scheme (WFCIS) at 60 per cent grant rate, with a €90,000 investment ceiling;**
- **Organic Farming Capital Investment Scheme (OCIS) at 60 per cent grant rate, with a €90,000 investment ceiling;**
- **Farm Safety Capital Investment Scheme (FCIS) at 60 per cent grant rate, with a €90,000 investment ceiling;**
- **Solar Capital Investment Scheme (SCIS) at 60 per cent grant rate, with a €90,000 investment ceiling that is separate from other schemes;**
- **Low Emission Slurry Spreading Equipment Scheme (LESS) at 60 per cent grant rate, with a €90,000 investment ceiling that is separate from other schemes.**

MINISTER ASKED TO REVISIT DECISION

The Irish Farmers' Association (IFA) referred to the exclusion of dribble bars from TAMS 3 as a 'glaring omission'. They were 'hugely popular' during TAMS 2, according to the IFA, and excluding them doesn't make sense, especially in the context of meeting our emissions ceiling.

"Trailing shoes are not suitable for use on many smaller farms. Removing dribble bars will now force those farmers to use contractors who are already overstretched at key slurry-spreading times of the year," explained IFA Rural Development chair, Michael Biggins.

"We are asking the minister to revisit this and look at including dribble bars in the next tranche of TAMS 3," he said.

NEW INVESTMENTS INCLUDED IN TAMS 3:

- Cattle underpasses;
- Farm roadways;
- Bovine fencing;
- Health and fertility monitoring systems;
- Automatic drafting system;
- Milk-recording equipment;
- Back-up PTO generator;
- Upgrade of water supply on farms with solar and nose pumps;
- Pasture management machinery, including soil aerators. Also, mulchers to deal with encroaching scrub, instead of burning, are to be included;
- Equine housing;
- Equine training facilities;
- Equine fencing;
- New investments around lighting, drinkers, and ventilation for the poultry sector;
- Investments to assist the potato sector in storing and handling are to be included, along with handling equipment for other crops;
- Biomass storage and handling equipment is to be included to support renewable energy;
- A range of pesticide-reduction equipment is being included for the tillage sector including interrow cultivators, and weather stations.

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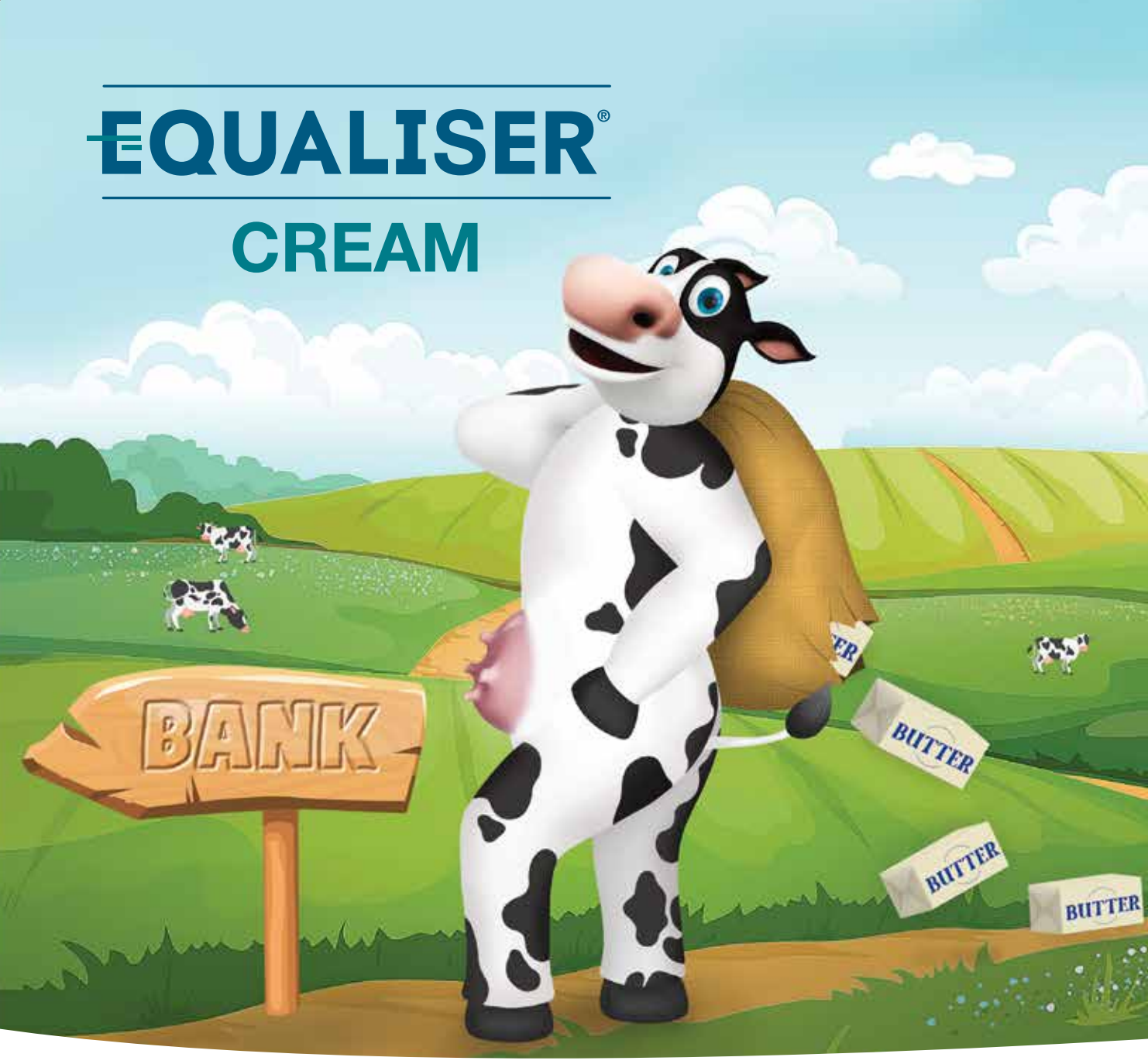

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'IT'S IMPORTANT THAT WE DON'T CATASTROPHISE'

BRENDAN GLEESON MAY NOT BE THE FACE OF THE DEPARTMENT OF AGRICULTURE, FOOD AND THE MARINE (DAFM) BUT AS THAT DEPARTMENT'S HIGHEST-RANKING CIVIL SERVANT, HE IS AT THE VERY HEART OF THE 4,000-EMPLOYEE-STRONG OPERATION. *IRISH FARMERS MONTHLY* DEPUTY EDITOR, BERNIE COMMINS, RECENTLY SPOKE WITH THE SECRETARY GENERAL ABOUT THE IMMENSE TRANSITION THAT IS UNDERWAY UNDER HIS WATCH

The word 'challenge' may have been one of the most-used in the lengthy conversation with the secretary general – the challenge of farming, the challenge of climate change and its mitigation, the challenge of meeting emissions ceilings targets, the challenge of food production and security, the challenge of Brexit. The list is lengthy.

But one of the main challenges right now for the DAFM involves the rolling out of the schemes that make up the new Common Agricultural Policy (CAP), which the department is in the throes of. This mammoth task sees the DAFM having to 'reinvent itself' every time a new iteration of CAP comes along, he explains.

"We have a whole new suite of schemes to develop and to roll out, which means we have to rewrite every piece of software we have; we have a lot of new computer systems and we have to train staff in ways that they haven't trained before; we have to work with the agricultural advisory system, and with farmers all over the country. So, the [CAP] negotiation is almost the easy part," he says.

"Now, we have to roll out this massive beast of a brand-new policy and we have to do it in a year. This CAP is more significant than others because we have so many new schemes so it means we are doing things simultaneously that you would normally do sequentially," he adds.

SYSTEMS AND SCHEMES

Since the interview took place, the new €370m Targeted Agricultural Modernisation Scheme (TAMS 3) opened, with 10 schemes available – three of which are brand new. And a new Basic Income Support Scheme, which replaces the Basic Payment Scheme and the Greening Payment Scheme, will open 'very soon', he says. In late 2022, the new €1.5bn Agri-Climate Rural Environment Scheme (ACRES) which is over-subscribed by 16,000 applications, opened. Just how the DAFM will resolve this over-subscription is something farmers and farming bodies have been seeking clarity on for a few months.

"We need to consider the resources available, the funding available and do we have it [funding] this year," he explains. "We have to consider whether the advisory system can handle the additional work that 16,000 extra people would create. We have the ACRES cooperation project groups, which are new, and we have to consider whether they have the capacity to handle an extra 16,000 applicants. The minister wants to take everyone in, and we are working hard to see if we can manage that," he says.

Just recently and, again, subsequent to our interview, the DAFM confirmed details of the contentious cow-banding system that was introduced on January 1. Implementation of this new policy comprising three nitrogen-excretion bands based on milk yield received

criticism from farming bodies who said the DAFM had not communicated the details clearly. And, Ifac's recently published *Irish Farm Report 2023* highlighted that 35 per cent of farmers had not even checked if the nitrate banding rates will affect their farm. On this, he says: "You can never have enough communication, but if you look at the likes of the CAP Strategic Plan, the DAFM has been all over the country explaining to farmers – those who attend these meetings, anyway – what the various changes involved for them. I would also say that we have spent a lot of time working with farm bodies and with farmers trying to explain the nitrates rules and the banding. But it is never possible to get around to every farmer in the country."
And, this takes us back again to the task that the DAFM has in adapting, communicating and implementing new schemes and policies. It takes time, he says, but he is confident in his department's abilities to deliver, and in being flexible when required. In relation to cow banding, this flexibility came in the form of the DAFM offering three ways to calculate cow milk yield to determine which band they fall in to. But there was no question of it not being introduced this year – it was a condition of Ireland's receipt of a Nitrates Derogation within which around 7,000 Irish farmers operate, according to Brendan.
"The derogation is an exception to European Union (EU) law and those exceptions are narrowly defined, so you can never take for granted that you will get a derogation. It is not something that you have a right to. It is something that you can persuade the Commission to give you, based on the scientific analysis you present them with.
"Three EU countries have the derogation. One of the conditions of Ireland's derogation is that there will be a review of water quality midway through and depending on the outcome, they might have to reduce the derogation from 250kg to 220kg [livestock manure nitrogen]. But without agreeing to that, we wouldn't have any derogation and those in derogation would have had to go straight to 170kg."

SECTORAL TARGETS

Brendan is a realist about the level of change that Irish farming is experiencing right now, but he does not believe the narrative that agriculture is being targeted in the climate-change debate and particularly in relation to the 25 per cent emissions target that was set for agriculture.
"From a public policy point of view, it is completely untrue to say that agriculture has been particularly targeted, it's not. If you look at the targets across all of the sectors, in the context of the Climate Action Plan, they are extraordinarily demanding. So, there is a difference between public policy and the narrative that is out there sometimes," he says. He believes that the agri-sector and farming bodies must be balanced in their commentary.

> **EVERY SIGNIFICANT CHANGE IN POLICY WHETHER IT WAS BACK WHEN WE ENDED COUPLED PAYMENTS, OR WHATEVER, IS ACCOMPANIED BY VIGOROUS DEBATE ON ALL SIDES**

"We just have to be careful – and I am talking about advocates for the agricultural sector – that we don't become too defensive and that the reaction to the things that we have to do is not always negative. There is a balance of responsibilities there between policy makers, the media, and the farming community to react in a proportionate way to the things that have to be done in the context of agriculture.
"What we have been exemplary at over the last few years, I mean really brilliant, is in reducing the carbon impact per kilo of output of food that we produce. We have been really strong on that, and in the context of a world where demand for food is increasing, that is really important work."
But, he says, there is no denying the environmental trends of the last few years that, according to Environmental Protection Agency reports, say that absolute emissions and biodiversity are going in the wrong direction. "There is no point in being defensive about that. These are challenges we have to meet. We have to be careful to recognise them and consider how well we are positioned to find the synergies between developing the sector and meeting all our environmental obligations." Does some of the climate and environment debate between farming representatives and others in the media frustrate him?
"I don't get frustrated with public debate on this because people have legitimate perspectives and concerns. But I think, too, that people of influence have to be careful about what they say [...] it is important that we don't catastrophise what the challenges are for the sector.
"This sector will exist long after the current policy debates are over and it is going to be prosperous and people will thrive, and every significant change in policy whether it was back when we ended coupled payments, or whatever, is accompanied by vigorous debate on all sides."

A FUTURE IN FORESTRY?

Brendan was appointed secretary general of the DAFM in 2018 and prior to this, he was assistant secretary general with responsibility for EU and international affairs, and Brexit. Before that, he was responsible for the development of the livestock and food sectors and played a prominent role in delivering significant reform of CAP during Ireland's presidency of the EU in 2013. So, he has done a lot, and seen a lot. Asking what he believed to be the most impactful change on Irish agriculture he says: "I don't think I can pick just one thing but, for example, a significant reduction in nitrogen-based fertilisers will require us to find new ways of doing things; a shift from unprotected urea to protected urea is another area; the changes in technology that will save people money; and significant investment into low emission slurry spreading.
"And, one of the things the minister has said, which I think is really important because we are talking about citizens with constitutional rights to their property who are earning a living from their land, is providing alternatives to pursue in the context of maximising their income."
One alternative the secretary general is keen to highlight is the €1.3 billion Forestry Programme (2023-2027) that has yet to be State-aid approved by the European Commission, and until such time as that comes through, no new afforestation applications can be made, nor forestry

licences issued in 2023. But Brendan says he expects that approval 'very soon'. Over the last number of years, the sector has been mired by licensing and other issues – a situation described as 'truly dire' by the Minister for Agriculture, Food and the Marine, Charlie McConalogue, in the Dáil recently.
Addressing this and the lack of confidence among farmers in forestry, Brendan says: "We have a significant backlog to work through in licensing and there is a complex reason for that. We have launched a scheme with €1.3bn in it, the biggest scheme ever. Once we receive approval, we will be able to accept new afforestation applications, issue new forestry licences for planting, and the incentives are significantly higher than the previous programme.

> **I THINK IT IS IMPORTANT NOT TO BE PARALYSED BY THE FEW MONTHS IT MIGHT TAKE US TO GET THE APPROVAL**

"I can understand why people in the sector are frustrated but we just have to go through the process. What we are talking about here is a 20-year programme and I think it is important not to be paralysed by the few months it might take us to get the approval. Once we have that, we will have the most generous incentives, ever, the largest-ever forestry programme and it will provide an income basis for people who choose to plant trees for the next 20 years with tax-free income from thinnings and harvesting after that."
But, then, in the middle of all that, the Gresham House-Coillte transaction story breaks, causing additional furore. Commenting, he says: "I think you have to look at that transaction in the context of the major ambition to deliver forestry here, and the €1.3bn forestry programme – the vast majority of that going into farmers' hands. So, obviously there was a very strong public reaction to that, and I think it is something we can be seized by, but against the background of a massive forestry programme, I would much rather focus on the very significant funding that is going to go into farmers' hands."
Another potential 'alternative' for farmers – anaerobic digestion – is an area in which Ireland is lagging, well behind Northern Ireland, and across Europe, where the practice is well established. This is changing, Brendan says: "Now, we have this very strong public policy incentive to switch to bioenergy and biomethane. It is something that is provided for in the national development plan, it is something that is provided for in the Climate Action Plan." The system in the north, he says, is heavily subsidised, while here, the cost has been a consideration.
"But it is something we are looking at seriously now, and we are trying to identify sources of funding to build a programme for the construction of anaerobic digestors around the country. I think a co-operative endeavour between farmers, or dairy co-ops engaging with their suppliers to produce something like this could be successful," he says.

> **THE DAFM IS A FASCINATING PLACE TO WORK. THERE ARE 179,000 JOBS AND €18BN IN EXPORTS INVOLVED IN IT. WHAT WE DO IS VERY IMPORTANT AND I FIND THAT VERY MOTIVATING**

BREXIT

Circling back to the question about the biggest changes in Irish agriculture, Brendan refers to 'the internationalisation of markets' which is significant in a Brexit context. "If you had asked me 15 years ago where our exports were going, more than 50 per cent were going to the UK. Now, it is about a third to the UK and a third to international markets and a third to the European union. That is a fundamental change, for the better," he says.
"And from an agri-food point of view, the volume and value of exports to the UK have been maintained, despite Brexit. But there has been a significant reduction of 15 per cent in quotas for our fishing sector so that has been a difficult burden for the fishing sector to bear. But the alternative, a no-deal Brexit, would have been immeasurably worse."

Brendan entered the Civil Service as a school leaver while attending college in the evening time. He is a 'first-generation Dub' he says but his parents are from rural Ireland.
"My mother was from the Beara Peninsula in Cork, and my father was from Cratloe in Co. Clare. I spent all my summers on a mixed farm in west Cork, so the farming I saw in the 1970s hadn't changed much for 30 years – things are very different now," he says.
"The DAFM is a fascinating place to work. There are 179,000 jobs and €18bn in exports involved in it. What we do is very important, and I find that very motivating. It is a privilege to be in this position. I am very proud to be a civil servant and that service of impartiality and independent advice is really important for stability in a time of political flux," he says.

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Padraig (right), pictured at home with Ella and son, Pat.

A BIG LOSS TO IRISH AGRICULTURE

IRISH FARMERS MONTHLY **EDITOR, MATT O'KEEFFE, WRITES A TOUCHING TRIBUTE TO HIS CLOSE FRIEND AND ALLY, PADRAIG WALSHE, WHO, SADLY, PASSED AWAY RECENTLY**

Much was written, in the days and weeks following Padraig Walshe's death, of the huge impact he had on Irish farming. His sudden death at the age of 65 was met with shock by the Irish agricultural community with thousands of mourners, representing all strands of farming and agri-business, in attendance at his funeral. Recognised as an outstanding grassland farmer, Padraig was also an impressive representative of Irish farming interests. He was president of Macra na Feirme from 1987 to 1989. Before taking on the role of Irish Farmers' Association (IFA) president from 2006 to 2010, he was awarded the Creamery Milk Supplier of the Year accolade for his outstanding grassland management practices. After his time as IFA leader, he was elected president of the European farmer representative body, COPA. The Co. Laois-based milk producer was a Nuffield Scholar and his thesis on the future of Irish dairy is widely referenced. The Irish Grassland Association (IGA) recognised Padraig Walshe's talents by appointing him as its president in 1996. Fully committed to the cooperative movement, Padraig served for many years on the council and area committees of Tirlán. Latterly, Padraig was chairman of Farmer Business Developments and oversaw the very successful expansion of the holding company into hotel and leisure facilities and investment property in Ireland and abroad.

A LIFELONG IMPROVER

Padraig proved time and again his commitment to advancing the cause of Irish agriculture. His acute intellect facilitated reasoned and rational responses to the challenges of his time.

A key attribute was his ability to take the long view on improving the lives, businesses and lifestyles of his fellow farmers. To that end, he was fully committed in his Macra years to promoting the rejuvenation of the Irish co-op movement through training and encouraging younger participation. He promoted farm succession throughout his career as a farmer representative, based on his own positive experience of early succession from his father, Paddy. The practicalities have changed over the years, but the themes of Padraig's foresight remained the same. He played a key role in securing tax concessions to encourage long-term land leasing, which has been one of the most positive changes in land use over the past half century. It is also a legacy that he successfully advocated for a third-level dairy course aimed at young people aspiring to manage dairy farms.

FORESIGHT

If we need further evidence of his foresight, it can be found in his Nuffield scholarship thesis. Completed in 1996, the scholarship allowed

Padraig Walshe leading a protest in 2008 against the infamous beef deal World Trade Organization talks. It was the popular view at that time that the then EU Trade Commissioner, Peter Mandelson, was selling out EU agriculture.

Padraig to compare and contrast international dairy farming with Irish milk production.
Twelve years into restricted milk production under the EEC's milk quota system, Padraig foresaw the eventual demise of quotas, even if his timelines turned out to be somewhat optimistic. As IFA Dairy Committee chair in the early years of this century, he influenced then agriculture commissioner Mariann Fischer Boel to contemplate eventual quota abolition.
The following extract from Padraig Walshe's Nuffield thesis displays his thinking: "Ireland has a suitable climate, which can grow grass for most of the year. We have the best dairy research facilities and people in the world to help us utilise this valuable resource. We also have a well-educated, highly motivated young farm workforce. The fact that Irish farmers have control of our processing facilities is a valuable advantage, not to be thrown away lightly. We also can produce milk to the highest international standards. We have access to the most valuable market in the world for dairy products, but we need better access to the growing markets in other parts of the world."

PREPARING TO TAKE ON THE WORLD

It continues: "There is also a need to continue our research to maximise our competitive advantage. Teagasc must face up to its challenges in technology transfer and reform its training priorities. If we do not tackle our infrastructure problems, we will end up with 8,000-10,000 dairy farmers, with an average of 100 cows each. If we tackle these problems now we can have 12,000-15,000 dairy farmers with an average herd size of at least 100 cows, thus, doubling total production. If we use the period between now and when quotas go to prepare ourselves for a more competitive environment, we will not need subsidies to take on the world."
Predicting the demise of the quota system, Padraig wrote: "It is clear that, sooner or later, quotas will be abolished, and Irish dairy farmers will have to contend with world milk prices. I feel it is vital that we would use the transition period to prepare ourselves for a more competitive production environment."
And, he adds: "If present trends continue only 16,000 of our farmers will be milk producers (by 2006) with an average of about 50 cows each. Efficient, small dairy farmers must be given an opportunity to increase their scale. It is my view that, in a world price environment, specialist milk producers will need at least 60-80 cows to earn the same margin as they do now with 30 cows within the present milk quota regime."

> **HIS ACUTE INTELLECT FACILITATED REASONED AND RATIONAL RESPONSES TO THE CHALLENGES OF HIS TIME**

A BELIEF IN EDUCATION

His Nuffield thesis also shows Padraig's total commitment to a scientific approach to food production was matched by his equally consistent commitment to education:"When I set out, I wanted to examine the potential for expansion of the dairy industry around the world. I identified several key factors needed for expansion. The most important one of these is a young, well educated, highly motivated workforce. Farming is competing with the economy generally for young entrants. If margins continue to increase, the only hindrance to expansion will be processing capacity."
His thesis tackled larger economic issues too: "Something that is often forgotten, when comparing production costs between Ireland and our non EU competitors, is that we are expected to produce cheap food in a high-cost economy where labour, energy and many other vital inputs, are much more expensive. Labour is the major cost, because all our support services, processing and marketing businesses, must pay this high labour cost."

FOLLOWING THE SCIENCE

Padraig was as active at the time of his death as at any time during his most productive life. Until his passing on February 1, he diligently and enthusiastically pursued his ambition to further develop the Walshe dairy farm at Bishopswood near Durrow. Without doubt, his son, Pat, with the able support of Padraig's wife, Ella, will continue on that journey. Outside the farmgate, as chairman of Grass10 he was still 'following the science' through lifting Irish grassland farmers' ambitions to deliver 10 grazings per paddock and 10 tonnes of grass dry matter utilised annually, from 13 tonnes of grass grown per hectare. These are goals that have been well surpassed on the Walshe farm over many years.
Padraig was an individual who could walk the walk as well as talk the talk. His early death is a terrible loss to his family, wife Ella, daughters Julieanne, Catherine and Elma, son Pat, to his friends, and to the entire Irish agricultural community.

THE CRITICAL ROLE OF FORESTS

FORESTS PLAY A CRITICAL ROLE IN THE GLOBAL CARBON CYCLE AND IN MITIGATING CLIMATE CHANGE, AND TEAGASC'S MICHAEL SOMERS AND RÓISÍN MCMANUS OUTLINE THOSE ROLES HERE

Forests store large amounts of carbon above and below the ground, which can help to reduce the amount of carbon dioxide (CO_2) in the atmosphere. When trees grow, they absorb CO_2 from the air and use it to create energy through photosynthesis. A portion of this carbon is stored in the tree's trunk, branches, and roots, while the rest is returned to the atmosphere through respiration and decomposition.

THE CARBON CYCLE

Soil carbon, found in soil's organic matter, is also a critical carbon-cycle component. Soil carbon is created from the decomposition of plant and animal matter. In other words, as the tree's needles and leaves fall to the ground, they form into the soil's organic layer and play a crucial part in the soil's nutrient cycle. This, within the forest cycle, provides plant nutrients. Soil carbon helps regulate soil temperature, improve soil structure, and promote water retention.

Forests have a significant impact on soil carbon, with the presence of trees being an essential factor in determining soil carbon levels. Forests can store large amounts of carbon in their soil because they create a microclimate

ideal for the growth and decomposition of organic matter. The shade created by trees slows down the decay rate, allowing more organic matter to accumulate in the soil. Trees also add organic matter to the earth by releasing leaves and roots, which provide a carbon source for microorganisms in the soil. Removing trees through deforestation or land-use change can lead to soil carbon loss. In addition, removing trees can lead to changes in soil structure, reducing the soil's ability to store carbon. When forests are cleared, the organic matter stored in the ground is exposed to sunlight, which speeds up the decomposition rate and releases the stored carbon back into the atmosphere.

MANAGING SOIL CARBON

Forest management practices can also have an impact on soil carbon. For example, using clearcutting or slash-and-burn agriculture can lead to the rapid release of soil carbon. In contrast, sustainable forest management practices, such as selective and reduced impact, can help maintain soil carbon levels. Using agroforestry practices, such as intercropping and agroforestry systems, can also help keep soil carbon levels by providing a continuous source of organic matter.
Forests, particularly new forests, are vital in the global carbon cycle. Woods and soil carbon are closely linked. The presence of forests and their management practices can significantly impact soil carbon levels, with the removal of trees leading to a loss of soil carbon and sustainable forest management practices helping to maintain soil carbon levels. We can help mitigate climate change's effects by preserving and restoring forests and promoting a healthy, sustainable environment.

NATIVE WOODLANDS

Ireland's native woodlands have evolved with our watercourses since before the ice age. Our townlands illustrate this close relationship whereby 14,000 out of 16,000 townlands names refer to water or trees. Today, native woodlands only account for 1 per cent of land cover. New native forests are slowly reappearing in the landscape where their ancestors grew. Our waterways, in particular, will benefit from this native woodland re-emergence.
Today, native woodlands play a crucial role in maintaining water quality. Trees and other vegetation in these woodlands act as natural filters, absorbing pollutants and contaminants from the water that runs through them. Trees' roots also help stabilise the soil, preventing erosion and sediment from entering streams and rivers. Additionally, the shade from the trees helps cool the water, creating a more suitable habitat for fish and other aquatic life. A critical way that native woodlands improve water quality is through nutrient uptake. Trees and other vegetation in these woodlands absorb excess nutrients such as nitrogen and phosphorus, which can cause algal blooms and other water quality issues when present in high concentrations. These nutrients are then stored in the trees and other vegetation, reducing their availability to cause problems in the water.

REDUCING RUN-OFF

Another way native woodlands help improve water quality is by reducing the amount of runoff that enters streams and rivers. Trees and other vegetation in these woodlands can absorb large amounts of water, reducing the amount that runs into nearby waterways. These woodlands help prevent erosion and sedimentation and reduce the pollutants and contaminants carried into the water by runoff. Native woodlands also provide essential aquatic life habitats, including fish, amphibians, and insects. Additionally, native vegetation along the shoreline can provide important spawning and feeding habitats for fish. As we move into the era of environmentally based agriculture, native woodlands are a vital tool to help absorb pollutants and contaminants, stabilise soil, and provide shade and habitat for aquatic life. New native woodland and woodlands established to protect water are essential to preserve and restore the health of our waterways for future generations.

Farming for Soil Health

FIELD EVENT

Building resilient agricultural systems from the ground up

Thursday, 16th March | 10.30am - 3.30pm

Productive and resilient agricultural systems start from a foundation of good soil health. This field event, held in association with the 3rd Global Soil Biodiversity Conference, will demonstrate the practices and technologies that can be adopted on farms to assess and enhance soil health.

These will include:

- Demonstrations of visual assessment techniques
- Soil functional assessment
- Practices that improve soil health in soils (including diversification of grassland swards, cover crops, straw incorporation and manure amendment of soils)
- Avoiding physical damage of soil
- Enhancing soil nutrient supply and
- Increasing soil carbon

Those in attendance will also have the opportunity to take a close look at some of the biology in soil and 'Ask a Soil Scientist'. Attendees will include farmers, agricultural advisors and policy makers, and the scientific community including Global Soil Biology Initiative scientists.

This event is free to attend, but registration is essential

For more information or register please visit:
www.teagasc.ie/farmingforsoilhealth

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FOCUS

TILLAGE

IRISH FARMERS MONTHLY EDITOR, MATT O'KEEFFE CAUGHT UP WITH FARMER AND CHAIR OF THE IRISH GRAIN GROWERS GROUP, BOBBY MILLER, AS THE LAOIS TILLAGE FARMER PREPARED FOR SPRING, AND THE MANY JOBS IT BRINGS

SPRINGING INTO ACTION FOR THE TILLAGE SEASON

Bobby welcomed early February's gift of dry weather, but it came on the back of a miserable few months: "The few dry weeks were welcome in catching up on field work," he says. "Autumn work ended abruptly with many farmers not getting all their planned planting completed. Later-sown crops on many farms suffered a bit with headlands especially impacted and looking the worse for all the rain after sowing. Decisions will have to be made on some crops, whether to carry on or start fresh with another crop. Spraying was badly affected at the back end and weed control, especially, had to be postponed. Most growers availed of the chances in early February to bring that herbicide work up to date. The dry spell also allowed farmers to get ploughing done for spring crops and prepare ground where they intend to do min-till establishment. It's noticeable that min-till options are gaining in popularity year on year."

SPRINGING INTO ACTION

With the dry weather offering some breathing space to play a little catch up, Bobby outlines his main priorities for this busy season: "My first job, if possible, is to get beans sown. Some growers went ahead and planted in early February. I held off for a little while. There were some wet patches, so I waited for them to dry up. My intention is to sow beans in place of spring barley, which was the original choice. So, beans will increase with a reduction in spring barley, all going well," he says. And, there are two reasons for this: "The first is the newly increased protein payment for beans under the new Common Agricultural Policy (CAP). The other is the high price of fertiliser, so the lower nitrogen requirement compared to barley makes beans more cost efficient. There are also yield benefits with following crops. You do need specific ground as beans need a long interval of at least five to six years between crops, so it isn't every field that is suitable. Bringing in a crop of oil seed rape can help to stretch the timescale further between bean crops."

COST CHALLENGES

The Laois-based tillage farmer recognises the cost challenges facing the sector: "Input costs have not come down significantly. Spray prices especially, are going up further for the coming season. Some companies are increasing prices marginally while others are looking for up to 25 per cent increases for products. Fertiliser price is affecting every farmer. Sales are slow. Some farmers forward-bought last autumn. Global fertiliser prices have come down but that hasn't been fully reflected in Irish prices, yet anyway. Suppliers may have bought in stock at higher prices. Pressure will be on farmers to buy some fertiliser soon and the hope is that prices will fall further in the short term. While fuel price has fallen it is still at least a third higher than we historically paid for it. Supply is not an issue so price is the main concern."

NITRATES DRIVING OUT TILLAGE

The reaction to changes in nitrates regulations is a pressing matter for tillage farmers, explains Bobby. "Competition for land that is suitable for tillage is being driven by concerns over nitrates. Lower stocking

rates mean that dairy farmers, for instance, need more land or will have to reduce stock numbers. At the inflated prices being quoted, tillage farmers can't compete. The big drops in milk prices may dampen enthusiasm but that's not good news either. We want to rise all boats not potentially gain because someone else is losing. Cutting the legs off each other is bad for everyone. There is land being lost from tillage farming right now and that flies in the face of any hope of increasing the national acreage. There are markets there for premium grains and we will lose out if acreage drops instead of increasing."

But Bobby hopes for some fresh thinking: "Far more could be done with a little novel thinking," he says. "The new CAP doesn't offer solutions. The department [Department of Agriculture, Food and the Marine (DAFM)] could be more pro-active in encouraging cooperation between livestock and tillage farmers. Promoting slurry use on tillage farms as a solution to the nitrates challenge is the biggest option. It makes a lot of sense for everyone instead of chasing extra acres. Many dairy farmers would much prefer to trade slurry instead of being forced to rent extra land. A little bit of fresh thinking could go a long way to alleviating the problems facing all of us."

TAMS ANNOUNCEMENT

When our interview took place in mid-February, there was no news of the specific funding streams for the Targeted Agricultural Modernisation Scheme (the details of this scheme were subsequently announced by the DAFM on February 21). Commenting, Bobby said: "Our Grain Growers Group met the DAFM to discuss what should be included. If there is serious intent to support increased tillage, this is an area of support that would be encouraging farmers to invest further to minimise waste or losses in fertiliser and spraying, for instance. We also need positive engagement around the eco schemes to make them more attractive to tillage farmers."

As min-till becomes more popular, Bobby says he intends to proceed with caution: "I do intend to dip my toe into the min-till option. My intention is to cover all bases and I would buy equipment that would operate in both min-till and plough-based situations. The new ACRES programme has an option to engage in some min-till on farms and that's welcome. The big discussion we had with officials was around specific plots for min-till. Now you can rotate around plots depending on the situation on a farm. That will encourage farmers to engage to some extent at least in the practice. I should say that it's up to each farmer to do what is appropriate on their own farms and in each field and for each crop. Soil type, crop rotation, problem grasses all come into the equation so there is no set strategy that suits all situations."

CHALLENGE TO VIABILITY

A final matter of great concern to Bobby and his tillage farmer colleagues is around potential increased restrictions on the use of crop protectants: "We want to grow high-quality, value-added grains. Doing that is dependent on the availability of products that will protect the crops from disease and other challenges.

"Further restrictions on the products available for use by growers will seriously impact on our ability to produce high quality crops and achieve yields that will leave us with a margin."

YIELDING RESULTS FROM EXTENSIVE CROP RESEARCH

Barley yellow dwarf virus, which causes yellowing and stunting of cereal crops, is one area of research being undertaken.

FROM PROTEINS TO POTATOES, OATS TO APHIDS, THE TILLAGE-CROP RESEARCH BEING CARRIED OUT BY TEAGASC IS AS EXTENSIVE AS IT IS CUTTING EDGE. AT THE ORGANISATION'S RECENT TILLAGE CONFERENCE, SEVERAL ONGOING RESEARCH TOPICS WERE HIGHLIGHTED. *IRISH FARMERS MONTHLY* EDITOR, MATT O'KEEFFE WAS THERE, AND HE HARVESTED INFORMATION ON JUST A SAMPLE THAT PIQUED HIS INTEREST

Work is being carried out by Teagasc Oak Park, in conjunction with Harper Adams University and ADAS in Cambridge in relation to the yellowing and stunting of cereal crops as a result of the barley yellow dwarf virus (BYDV). This virus, carried by aphids, is familiar to all tillage farmers and can cause yield reductions of up to 80 per cent – not uncommon in severely infected crops. The challenges facing BYDV management include reduced availability of some critical insecticides as well as increasing incidences of insecticide-resistant aphid populations.

The aims of this BYDV-related research include developing reliable aphid and viral pressure monitoring systems to support grower decision-making around whether there is a need to spray crops. Ultimately, it should be possible to decide which monitoring tool provides the best indicator of BYDV risk. Another objective is to test the ability of tolerant varieties to control the virus. In addition, it is anticipated that the research will determine whether these tolerant varieties will require spraying.

POTATO BREEDING

Another collaborative research project that Teagasc is engaged in with the plant breeding centre at Wageningen University concentrates on potato breeding. The key aim, as the Teagasc poster confirmed, is to examine new DNA-based tools that are being developed to advance the accumulation of several agronomic and quality traits in potato breeding.

Teagasc has established 40 potential diagnostic DNA markers to select for 17 traits including yield, chipping colour, skin quality and maturity. These markers will be used to select potato clones for fast accumulation and fixation of desired traits in the breeding programme. The methodology is detailed and includes the use of 629 diploid clones provided by six breeding companies. Field trials were completed over three years at six different sites. The monitoring process included 12,000 observations focusing on 24 agronomic and quality traits

> **THIS VIRUS CAN CAUSE YIELD REDUCTIONS OF UP TO 80 PER CENT – NOT UNCOMMON IN SEVERELY INFECTED CROPS**

HIGH PROTEIN POTENTIAL

Just to give a flavour of the research diversity into developing alternative protein-rich crops alone, a look at the list of the species and varieties under scrutiny in research is worthwhile. This research is being conducted by the Department of Crop Science at Oak Park in association with South East Technological University's (SETU) Department of Science and Health.

The pulses are listed, as follows, with their average protein content:

- Dry beans (25 per cent);
- Lentils (29 per cent);
- Cowpeas (20 per cent);
- Pigeon peas (20 per cent);
- Dry peas (23 per cent);
- Chickpeas (22 per cent);
- Faba beans (30 per cent);
- Bambara beans (25 per cent);
- Lupins (40 per cent);
- Vetches (20 per cent).

THE NARROW LEAF BLUE LUPIN IS A PARTICULAR FOCUS AS RESEARCH INDICATES A SUITABILITY TO IRISH GROWING AND WEATHER CONDITIONS

Potato-breeding research is being carried out researchers at Teagasc and Wageningen University.

A cursory glance shows the potential of lupins in terms of protein content. The narrow leaf blue lupin is a particular focus as research indicates a suitability to Irish growing and weather conditions. Its potential as a good break and combinable crop as part of a rotation, increases its potential value. An ability to fix nitrogen is another important asset. Initial results, as confirmed by the Teagasc research, suggest a high yield potential delivering greater than four tonnes per hectare from crops grown last year. However, the research also confirmed that certain varieties are prone to pod shattering so, if the crop is to have wide commercial value, strict variety selection will be critical.

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Researchers are looking at the effect of nitrogen, plant growth regulator, and variety on yield in autumn-sown oats.

There is also early data to show that earlier sowing dates are achievable with some varieties. The plan of action to further assess potential is to complete more trials both this year and in 2024.

OATS UNDER SCRUTINY

Another research project being undertaken by both Teagasc and SETU involves the effect of nitrogen, plant growth regulator, and variety on yield in autumn-sown oats. Given the increasing demand for food-grade oats, this research is timely. The key message is summed up by the researchers: the value of grain yield performance and quality characteristics of autumn-sown oats brings into question management practices such as nitrogen and growth regulator doses. The study, they add, supports the development of a specific oats growth guide. It's all part of a broader and longer-term research project that will build on the preliminary results gathered so far from year one of a three-year trial and the work will continue on the roles of nitrogen and plant growth regulator in oats. Additional work will be required to determine specific crop management practices to take account of different growing sites as well as weather variations across the growing season from year to year.

THE ROLE OF LEGUMINOUS COVER CROPS

University College Dublin (UCD) and Teagasc Oak Park have teamed up to examine the potential of leguminous cover crops to deliver a nitrogen input reduction in subsequent crops. Legumes can grow well over the winter period and so have the potential to impact positively on spring barley grain yields, according to the research results so far. The conclusions, to date, indicate that different species vary in terms of crop growth over the winter. Cover crop effects on grain crops can be seen, the researchers say, but this effect between cover crop species decreases as chemical fertiliser rates increase. The experimental process is well laid out with the cover crop established in late August/September, allowed to grow through the winter, and then ploughed-in during February. Spring barley crops are then sown with five nitrogen rates used during the growth stages. At harvest, the grain yield, grain quality and nitrogen content are measured. No research is straightforward or simple. While vetches produced the highest subsequent grain yield, common vetch suffered severe frost damage in spring 2021. Cover crop species, rainfall, length of growing season, temperature and management decisions all have to be taken into account.

> **NON-PLOUGH SYSTEMS CAN BE LESS EXPENSIVE TO RUN AND POTENTIALLY KINDER TO THE SOIL**

ASSESSING GROWER ATTITUDES

Another in the long list of research projects initiated by Teagasc Oak Park relates to the most basic of all tillage decisions: to plough, or not to plough. Jack Jameson and Dermot Forristal provided a key message that non-plough systems can be less expensive to run and potentially kinder to the soil. Such systems, they confirmed, have performed satisfactorily in limited trials. Initially developed for drier climates, they can be faster and more labour efficient, and are being used successfully by some Irish growers, the researchers confirmed. Notable challenges include grass weed issues and suitability or otherwise for wet conditions. There is, the researchers noted, a positive impact in relation to carbon emissions, though this can be somewhat negated by higher NO_2 emissions. The researchers noted that there are existing knowledge gaps in relation to the overall performance of non-plough systems in Ireland and potential divergences between controlled trials as distinct from on-farm performance. The best advice for those not already practicing min-till or direct drill/no-till crop establishment is to proceed with caution using all available advice. System change should take full account of soils, localised climatic conditions and other relevant criteria.

Thomas and Annabel Butler, who claimed the coveted Tirlán Quality Grain Supplier of the Year Award for 2022 pictured with Tirlán chair, John Murphy, and Tirlán director of ingredients, Aoife Murphy.

INGRAINED IN A GROWING FAMILY TRADITION

THE BUTLER FARM IN BENNETSBRIDGE, CO. KILKENNY, TOOK THE OVERALL TIRLÁN QUALITY GRAIN SUPPLIER OF THE YEAR AWARD AT THE RECENT PRESTIGIOUS EVENT, WHERE THE FARMING FAMILY ALSO SCOOPED AN AWARD FOR GREEN FEED WHEAT. *IRISH FARMERS MONTHLY* EDITOR, MATT O'KEEFFE WAS PRESENT, AND CAUGHT UP WITH THOMAS BUTLER, THE CURRENT CUSTODIAN OF THE LAND, TO FIND OUT WHAT MAKES THEIR CROPS SO SPECIAL

Thomas and Annabel Butler have 250 acres under tillage with additional grass and woodland acreage. The farm has been producing grain crops for generations, which makes the award extra sweet, explains Thomas: "It's a huge honour to win the award and reflects on what was a great year for grain crops. I recognised when it was coming off the combine that it was an exceptionally high-quality crop, and we knew from neighbours and friends that there was exceptional quality and yield across the region. We didn't break any records with yield but the quality more than made up for that.

"My father and his father before him all grew grain crops on the farm and the tradition goes back many generations. I'm the current custodian of the farm and we have a young son who may, in turn, be interested in farming. Time will tell."

ROBUST ROTATION

Still a dedicated adherent to ploughing, 90 per cent of crops on the Butler farm are established using a plough, with the remaining 10 per cent being direct drilled. There is a wide variety of crops grown, including wheat, winter feed barley, spring malting barley, food-grade peas, feed beans, along with winter and/or spring oats. There are also niche acreages of naked barley and heritage wheat varieties grown for supply to a local specialist flour mill.

Much of the focus in crop rotation is to ensure that yield and quality are optimised on ground to be used for first wheat crops. The strategy, obviously, works well with the award-winning wheat crop achieving a specific weight of 80.8kg/ha and 11 per cent protein at a moisture of 14.1 per cent across a total yield of 310 tonnes. Thomas reflects on the crop: "I start a rotation with a break crop, either peas or beans – or linseed now is an option we use. Oats is also grown. The aim is to have clean ground for the following winter wheat crop. We follow the wheat with a winter barley crop and then a spring barley option with break crops then starting the cycle again. In total we aim for a four- or five-year rotation, depending on weather, available acreage, and the best mix for achieving quality, yield and return."

DEPENDABLE CONTRACTORS

The Butler tillage enterprise utilises contractor expertise and machinery to great effect, as Thomas explains: "I use contractors for much of the work. Given the scale of the farm, it makes sense. When I took over the farm 20 years ago, there was

an aging machinery profile. We worked away for a number of years and then began using contracting services to a greater extent. "Brendan and John Hughes provide a very good contracting service, including the heavy lifting of ploughing, tilling and sowing. I cover the spraying and fertilising myself. The harvesting is done by Brian Harris so there is a good, reliable team of contractors and that's very important to us.
"It's very rare to be left wanting and we know the exact cost of establishment and harvesting with all crops, without having to invest heavily in machinery ourselves. Because the contractors can spread the machinery cost across large acreages, they can justify the investment involved and can keep their machines fresh and can buy the most technologically advanced options available."

HUGE CHANGES IN TILLAGE SECTOR

Thomas, in an earlier career, worked as a scientist in the UK before returning to farm in Ireland in 2003. He has witnessed great change in the tillage sector, and indeed their own farm, in the intervening 20 years. "I began farming with my father. We had an employee on the farm at that time and, essentially, we were trying to make an income for three families. Now, there is one family income needed and we are happy that we can achieve a decent living from the farm," he says. "Having said that, the volatility in terms of income is increasing every year and, as a result, there is a continuous need to find different things to safeguard our income, whether that's new crops or other activities on the farm.
"We particularly aim for crop quality to maximise returns from our tillage enterprise. The way input costs have gone, and the huge price volatility mean that it's very difficult to budget and figure out where we will be, come harvest time."

> "MY FATHER AND HIS FATHER BEFORE HIM ALL GREW GRAIN CROPS ON THE FARM AND THE TRADITION GOES BACK MANY GENERATIONS

ADDING VALUE

In this regard, Thomas was complimentary of Tirlán for pursuing quality, premium-market opportunities: "I strongly feel that is the way forward for tillage in Ireland. We can grow the best crops in the world. We have the climate and the skills to achieve high yields and high quality. We can grow great feed wheat and barley crops. The trouble is that these can be imported for, more or less, the same price, or cheaper. The key for success for Irish cereal growers is to add value to our crops. I was very impressed by a tour around Tirlán's research-and-development facility at Ballyragget to see what they are achieving and what their thinking is as regards novel approaches to increasing value from our crops."
Is there potential to grow quality flour crops in the Irish climate? "It's possible. We grow a small amount of heritage wheat on the farm for a local specialist miller. He's happy with what we produce. On a larger scale, it's so weather dependent, to achieve consistent bread-quality wheat, year on year – and that's what flour millers need from their suppliers and for their customers. In terms of crop protectants, we are concerned about the direction the EU is going in terms of what will be allowed in future. We need these crop protectants more in Ireland than elsewhere, given our often damp, growing conditions. If there is hard science behind these restrictions, so be it."

ALTERNATIVE ENTERPRISES

There is grassland on the farm at Bennetsbridge and another rather more exotic enterprise, as Thomas explains: "We have a pheasant shoot on the farm as well as some forestry. The grassland is rented out. We had cattle on the farm in my father's time, but they are no longer part of the mix. In addition, we have some houses on the farm for rent, so it's a mix of income streams, many complementary to each other. The woodland lends itself to pheasant rearing and shooting and the tillage ground provides feeding space for the birds across the autumn and winter. In summary, it is a traditional family farm like thousands of others. We hope that can continue to be the case and that we can pass on the farm in even better shape than we received it."

LOOKING BACK TO GO FORWARD

FOLLOWING IN HIS FATHER'S FOOTSTEPS, CATHAL McCABE HAS RECENTLY TAKEN UP A TEACHING POSITION IN UCD SCHOOL OF AGRICULTURE AND FOOD SCIENCE. WITH A KEEN AWARENESS OF HERITAGE AND WHAT CAN BE LEARNED FROM PREVIOUS GENERATIONS, CATHAL EXPLAINS THAT RESEARCHING THE PAST CAN HELP TO ENSURE A MORE SUSTAINABLE AND PRODUCTIVE TILLAGE INDUSTRY HERE IN IRELAND

Cathal grew up on a tillage farm in Co. Meath. Growing wheat, barley, oil seed rape and beans, Cathal remembers a traditional ag childhood, helping out on the farm and learning from his father. Today, Cathal is several weeks into a new role as a lecturer in crop science in UCD, where his father, Tomás McCabe, is already well-known on campus as a lecturer himself.

"I love the farm but what I am really interested in is research and seeing that research come to life by working directly with industry. Practical research – issue-specific research – that is focused on what industry requires can make a big difference and can really support farmers."

LEARNING FROM PAST GENERATIONS

Cathal completed an undergraduate in Animal and Crop Production and did his PhD in UCD Lyons farm. Before he took on the lecturing role, Cathal was involved in the Healthy Oats research programme, which is funded by the European Regional Development Fund through the Ireland-Wales Programme 2014-2020. Led by UCD in collaboration with Aberystwyth University, Swansea University and Teagasc, Healthy Oats is a research programme promoting the development of oats as a healthy food product and a climate-resistant crop in Ireland and Wales. It surveys consumer attitudes to oat products in current and future climate scenarios, helping industry to develop new products, to demonstrate their health benefits and to evaluate how policy can promote sustainable oat product production. Objectives of the programme include:

- Develop practical management and low input climate resilient methods leading to improvement of the agricultural sector and human health;
- Improve the long-term feasibility of oats by developing new nutritionally enhanced varieties resistant to changes in the climate;
- Develop new products and industrial procedures and processing techniques based on optimal, sustainable and nutritious oats, satisfying the market demand for plant protein products; and
- Enhance the income diversity in rural communities to reduce their dependence on livestock farming and maximise secondary socioeconomic and ecological benefits through innovation in the food supply system.

"As part of this research, we were looking at a range of heritage-type varieties in relation to how they perform in fields and what their nutritional benefits could be, in terms of developing added-value products for human nutrition. One of the key areas of interest is in disease resistance. It is amazing that some of these varieties demonstrate disease resistance considering they were not bred for that purpose. We have found interesting, novel sources of resistance we can use. In addition, some of these older varieties tend to have a more balanced nutritional profile in terms of fats and proteins."

Cathal highlights a variety called 'Sandy' as an example, which was released in 1824. "This is an older variety that is not suitable in its current state – it is quite tall and prone to lodging – but it is very high in proteins and oils and, importantly, disease resistance."

Many of the varieties that the Healthy Oats programme is researching were bred in the Royal Albert College in Glasnevin, which was the first agricultural research centre in Ireland and preceded Lyons Farm. "We are looking back at the past to see if there is anything we left behind that can drive yield and improve sustainability for the future. We are going to start using these older varieties in breeding programmes and get all those useful genes back in the modern varieties."

Cathal also notes that many of these varieties were released during a period where there were no chemical pesticides of fertilisers used so they would be suitable to lower input systems.

PROTEIN-I

Cathal is also involved in the Protein-I project. Led by the UCD Institute of Food and Health's Prof. Lorraine Brennan and Prof. Fiona Doohan, the Protein-I project is focused on plant production through to human health, while paying particular attention to the development of Ireland's rural bio-economy. The project aims to develop strategies to maximise sustainable plant protein production in a traceable/transparent fashion, assess the impact of existing value

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chains and develop new value chains for the rural economy at different scales and promote uptake of such strategies. It is funded by the Department of Agriculture, Food and the Marine, and the Department of Agriculture, Environment and Rural Affairs in Northern Ireland, and is partnered with Teagasc.

"We are looking at domestic plant protein production – particularly pea and wheat varieties – to reduce our dependence on importing protein sources. This is important work in relation to food security right now."

Cathal adds that in the long-term he would like to start a plant breeding programme.

"Currently, there is no cereal breeding programme in Ireland, which means that instead of us creating our own varieties for our own conditions we are trying to retrofit from different countries to our environment."

COLLABORATION WITH INDUSTRY

Collaborating with industry is key to Cathal's work and, he believes, this type of commercial research benefits the farmer as it takes very scientific research and applies it in a practical way to assist problem-solving at field level. "Some of the research we do is very technical and scientific but, ultimately it needs to solve a problem on the farm – we have to support the farmer and the industry to become more efficient and to meet climate action goals. The main challenge for crop production is around the EU Farm to Fork Strategy where we need to reduce our chemical inputs. In order to meet these reduction targets, while still maintaining production, we need new techniques in disease control and this has to be supported by really good, solid research. Making changes to a farming system involves huge risk for the farmer, so they need to be confident that the research is sound and will bring positive results.

"For a long time, the focus was simply on improving yields in terms of plant breeding. But now we need to focus on improving our nutritional quality for added value and ensure sustainability when we are selecting plants."

YaraVita for successful cereal growth

Whether you drilled winter cereals early or late, using foliar phosphate is an efficient way of getting the nutrient into the plant to aid root growth.

Later-drilled crops, in particular, don't have as long to establish as much biomass as those drilled early.

Phosphate is well-known for its role in plant-root development, but isn't plant available when soil temperatures are below 8°C.

It also gets locked up in the soil easily, with up to 40 per cent of an application of MAP/DAP locked up two weeks after application due to becoming attached to ions – aluminium (AL), iron (Fe), and calcium (Ca) – in the soil.

A more effective method of getting phosphate into the plant, when it has a limited root system, is to apply it as a foliar spray. Foliar phosphate uptake is more efficient when the roots aren't able to access soil phosphorous (P), meaning that the later-drilled crops can access it.

A micronutrient mixture, YaraVita Maize Boost, is a particularly useful product for application to cereals in the autumn. Not only does it contain P and potassium (K) but also zinc (Zn) and magnesium (Mg), both of which aid establishment and help reduce levels of disease infection within a plant. Another micronutrient mixture specifically designed for cereals is YaraVita Gramitrel. It contains Mg, copper (Cu), manganese (Mn), and Zn – all of which are the key micronutrients for cereal crops. Zn and Mn, in particular, are important for the number of ears/m2 and grains/ear, therefore, are key for manipulating yield at certain times in the crop's growth cycle.

Independent trial work carried out on winter wheat at two sites in 2021 gave an average yield increase of 1.2t/ha from an application of 3L/ha YaraVita Maize Boost in the autumn, followed by 2L/ha YaraVita Gramitrel in the spring. Another winter wheat trial in 2022 showed that an application of YaraVita Maize Boost at T0 followed by YaraVita Gramitrel (same rates as before) gave 0.6t/ha yield increase. Therefore, whether you apply Maize Boost in the autumn or early in the spring at T0, there are good returns with an average yield increase of nearly 1t/ha, making it well worth the investment. There are also some encouraging results when using YaraVita Maize Boost in a maize crop too. In 2021 a maize trial where 5L of YaraVita Maize Boost was applied there was a 3.7t/ha increase in the amount of dry matter (DM), which is a 24 per cent increase in yield versus the control without micronutrients. For cereals, Mn is a key nutrient for establishment as well as disease resistance and better grain quality.

It also impacts tillering, therefore, is key for increasing biomass on spring cereals which have less time to accrue this.

YaraVita Mantrac Pro contains a high concentration of Mn, which is nearly eight times more than in a liquid chelate product and is very safe on the crop. Apply 1L/ha at the start of tillering (T0) to give the crop good foundations for building yield, this can then be followed up with an application of YaraVita Gramitrel at late tillering (T1) to cover all key micronutrients for spring barley.

Trials carried out in Ireland in 2022 on spring barley showed a 0.4t/ha yield increase when using YaraVita Mantrac Pro, followed by YaraVita Gramitrel combined with a biostimulant. In the same treatment in 2021, there was also a 0.4t/ha yield increase with the same combination, giving consistent results across two seasons.

THE COMMITMENT AND PASSION WITHIN THE TILLAGE SECTOR WAS EVIDENCED BY A FULL HOUSE ATTENDANCE – GROWERS, RESEARCHERS, ADVISORS AND SERVICE PROVIDERS – OF TEAGASC'S NATIONAL TILLAGE CONFERENCE, WHERE CHALLENGES WERE OUTLINED, AND OPPORTUNITIES WERE PRESENTED. **MATT O'KEEFFE** REPORTS ON HIS MAIN TAKEAWAYS FROM THIS YEAR'S EVENT

THE GROWTH POTENTIAL OF PLANT PROTEIN FOR IRISH TILLAGE FARMERS

The challenges facing the sector were well outlined. Further reductions in the range and availability of crop protectants and herbicides were referenced as was the increasing incidence of plant and disease resistance to many of the most important fungicides and herbicides. Even the emergence of novel and increasingly invasive weeds to the Irish environment signals fresh challenges to growers. Likewise non-inversion tillage techniques offer opportunities, but also pose significant management-change challenges for many tillage farmers. It was reassuring to hear that Teagasc is continuing and intensifying its research efforts to provide as much guidance and assistance as possible to growers towards meeting and overcoming these and other challenges to their future viability.

NEW MARKET OPPORTUNITIES

The figures are clear. The European plant-based food market is expected to exceed €16bn by 2029. That's just six years away. Compound the figure with global expectations and Irish tillage farmers need little further encouragement to chase a decent slice of this expanding market opportunity. Teagasc has been active in researching specific opportunities that can be adopted and adapted for Irish growing conditions. As the paper delivered by Shay Hannon of the Teagasc National Prepared Consumer Food Centre confirmed, increasing vegetarianism, declining meat consumption (at least in the EU), an increasing preference for plant food and an abundance of venture capital investment available for alternatives to animal production, all point to a potential market opportunity for Irish tillage farmers. Most plant-based protein sources for Irish made food products are currently imported so the holy grail of import substitution is another compelling argument for due diligence on potentially rewarding novel plant production. Shay asked the most pertinent question of all: "What if we can produce a plant-based protein grown by Irish farmers, processed in Ireland and sold to consumers?" We are not starting from ground zero. We already have some produce fit for purpose. Gluten-free oats springs to mind immediately and the successful efforts being made by Tirlán, Flahavans and others to make these oat-based products successful export opportunities on top of home demand are particularly exciting.

THE ALTERNATIVE MARKET

While many livestock-based food producers are critical of any move away from traditional food production and products, the reality is that there are viable market segments to be serviced, while animal-sourced food products will remain to the fore for a long time yet. Alternatives to dairy are already being progressed by Irish processors, including some dairy processors. Internationally, alternatives to meat products are being financed and developed though consumer resistance has been, in general, greater than anticipated. Ready-to-drink beverages were instanced by Shay Hannon as having market potential for Irish tillage farmers. The baked goods and confectionary sectors have also been underutilised by Irish ingredient suppliers, as Shay told the audience.

SCALE AND PROCESSING CAPACITY

Many of the opportunities to supply plant-based proteins do not involve novel crop departures for Irish growers. While soy and almond production may not be possible

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at scale with existing varieties and the vagaries of the Irish climate, others crops are well established in the annual rotation on Irish tillage farms.

Peas and lupins are specialist crops and are being grown successfully. Oil seed production is very well established and others such as linseed are minority options. Oats, as previously referenced, is being further scaled up in tandem with positive market development and increasing demand both at home and abroad. Tirlán has an ambition to double acreage of gluten-free oats planted this season. Faba beans is an increasingly popular choice for growers, driven by price, and EU-supports, as well as intensive research and advisory support

> IRISH TILLAGE FARMERS NEED LITTLE FURTHER ENCOURAGEMENT TO CHASE A DECENT SLICE OF THIS EXPANDING MARKET OPPORTUNITY

from Teagasc, seed specialists and private grain buyers and processors. However, the Teagasc Tillage Conference did confirm some inadequacies in the supply chain that need to be remedied. Processing capabilities, including extraction facilities, need further development if we are to take full advantage of plant-based market opportunities. Greater scale will be required both at production supply level as well as along the food chain through processing and end-product development. Otherwise, the value-added potential of these crops, even if production is ramped up by growers, will be fully harvested externally, delivering limited premium pricing for growers. Oilseeds are a prime example of value potential not being fully exploited currently.

FINANCIAL COMMITMENT

In fairness, progress is being made with significant financial supports in place for ongoing R&D. The titles of several papers and presentations on the subject of plant-based protein development point to the commitment to further exploit the market potential of protein crops in Ireland. Sinead Fitzsimons spoke about the ongoing efforts towards 'unlocking protein resource opportunities'. Ewen Mullins expounded on 'new value landscapes for plant protein pathways'. Perhaps the ambition can best be summarised, as it was at the conference, by comparing the current relative infancy of the plant-based protein sector in Ireland to the extraordinarily successful development in recent decades of whey protein as a valuable ingredient in the food and drinks industry – 'one that is prized for its nutritional and functional characteristics'.

In three decades, whey has moved from being an inconvenient by-product, often fed to pigs and cattle, to an industry worth upwards of €250 million in 2023. Does the success of whey protein point the way for a similar success story for Irish grown plant-based protein?

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MARK MOLONEY, INTOUCH FEED SPECIALIST AT ALLTECH IRELAND, EXAMINES HOW TO 'BEAT THE DROP' WHEN IT COMES TO ACHIEVING OPTIMAL COW NUTRITION

BEAT THE DROP

With the 2023 calving season winding down on most farms, the focus will now switch to helping cows achieve a peak milk solid yield in the coming months. The payment system is focused on kilogrammes of fat and protein, and this is a function of milk yield and solids percentages. Previously, the solid percentages from the freshly calved cows in the herd would have been high, but now they will slowly start to decrease and, after six weeks, they will serve as a true reflection of your herd health and the management practices carried out on your farm. With this in mind, the focus should not be on what the actual percentage of fat or protein is at the moment but, rather, the steepness of the decline. Protein will usually decline from March onwards as a result of a negative energy balance and dry matter (DM) intake. Butterfat percentages will drop from April onward or after the second round of grazing due to leafy grass and a high oil content in the grass.

To 'beat the drop' it is crucial to focus on four key areas:

- Nutrition;
- Rumen health;
- Grassland management; and
- Genetics.

NUTRITION

As mentioned previously, the first six weeks are vital in terms of setting the cow up for the rest of the lactation period. Achieving optimal cow nutrition is reliant on her dry matter intake, which will dictate the body condition score (BCS) of the cow and how long she spends in a negative energy balance. Aim to achieve an average BCS post-calving of more than 2.75, and avoid a drop of more than 0.5 units until breeding. Drops of more than 0.5 units are usually a symptom of reduced dry matter intake or, more importantly, a reduced energy intake.

To calculate the potential or optimal intake of the herd, use this simple equation:
Peak yield (L)/1.5 = DM intake (kg)
e.g.: A herd peaking at 30L/1.5 = 20kg DM intake

Milk solid percentages will be determined by both the quantity and the quality of what is fed during early lactation. Milk protein levels will be determined by the starch and sugar content of the diet. Starch is usually provided in the form of concentrate, and sugar will come from grazed grass. With the weather in Ireland being as unpredictable as it is, both the starch and sugar content should remain as consistent as possible — whether that be indoors or outdoors. Butterfat percentages are determined by a lack of ruminal-degradable energy and the quality of the fibre presented to the cow. Increased levels of fatty acids in lush grazed grass must be counteracted with long fibre, like straw or grass silage. If this is not possible, then a high level of fibre should be included in the parlour nut, such as soya hulls, beet pulp or rolled oats.

RUMEN HEALTH

When we talk about rumen health, we are talking about the bacteria in the rumen environment, which is mainly determined by the rumen pH. High amounts of concentrate

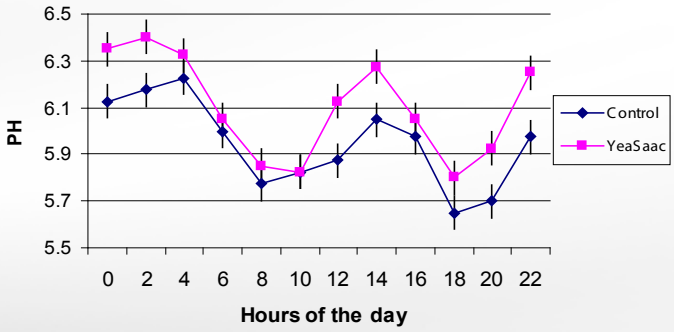


Figure 1. Effect of Yea-Sacc supplementation or control on rumen pH (p<0.01).

or high levels of lush grass with a low fibre content create a toxic environment for the rumen bacteria, hampering them from breaking down feed efficiently and lowering the pH in the rumen. Once the pH falls below the optimal level of 6, the bacteria that help digest or ferment the feed inside the rumen will slow down and will not work as well.

Another result of a reduced pH is damage to the rumen lining. This lining has both protective and absorptive functions. The cumulative result of a low rumen pH and poor rumen health is, ultimately, decreased performance and wasted nutrients from a diet that could potentially have encouraged the animals to perform much more successfully.

When cows are grazing — especially that second-rotation grass — we see a drop in butterfat, as most fats and oils found in plants are unsaturated, while the fats in milk and butter are saturated.

Unsaturated fats are toxic to the rumen bacteria, and in order for them to survive, they go through a process called biohydrogenation. This process creates byproducts, which, in effect, stop the udder from producing butterfat. Grass, which can have especially high oil content in that late-spring/early-summer period, can cause this decrease in butterfat. The degree of the drop in butterfat is dose dependent, so the more oil in the grass, the greater the effect will be. Research has shown that the more leaf, or the "lusher" the grass is, the higher the fat content. Also, the more nitrogen we use in our pastures, the higher the fat content will be, amplifying the impact even more.

The signs of poor rumen health usually include poor rumination or chewing the cud, increased levels of loose manure and poor rumen fill. There is also a risk of increased levels of sub-acute ruminal acidosis (SARA) when cows are out at grass. There might not be any visual signs of SARA; sometimes, changes in the milk fat percentage are the only indicator of this problem, so all aspects of the diet and management must be considered. Improving the level of output does not need to come at the expense of the cow's rumen health. As mentioned above, increasing the amount of fibre in the diet and making gradual changes while maintaining consistency will help maintain an optimal pH.

Including a proven live yeast culture, such as Yea-Sacc, in your feed can rapidly promote an anaerobic environment, helping increase the presence of desirable, fibre-digesting bacteria and encouraging them to efficiently colonise feed particles. This results in a higher and steadier optimal pH, which can facilitate better performance. Studies have shown that live yeast cultures can lead to an increase in milk solids of 6 per cent.

Yea-Sacc is also proven in grazing systems, as shown in Figure 1, which illustrates the results of a trial carried out on Lyons Estate. The results showed that the pH of the rumen was maintained at 6.0 for significantly longer in the group fed Yea-Sacc than in the control group.

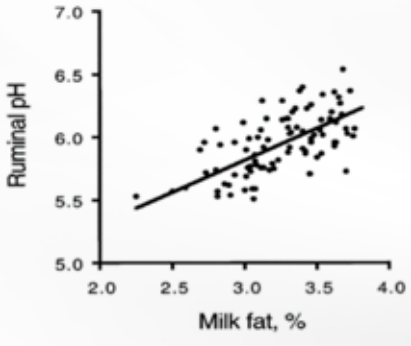


Figure 2: The relationship between the rumen pH and the percentage of milk fat (Allen, 1997).

GRASSLAND MANAGEMENT

The focus of any grassland management programme is to grow and utilise as much grass as possible. Grazing covers of 1,300–1,500kg DM/ha (8-9cm), or what was outlined in the past as 'the three-leaf stage' should be the target for the majority of farms.

The correct graze-out of paddocks in the first round of grazing will result in higher-quality, lush grass growing in the second round. Grazing these covers down to 4-5cm will promote a higher quality of grass further into the year. As outlined above, this will increase the oil content and reduce the fibre content of the grass. While this change promotes good milk and protein yields, it needs to be managed from a butterfat standpoint — and establishing a healthy rumen that can deal with this is key.

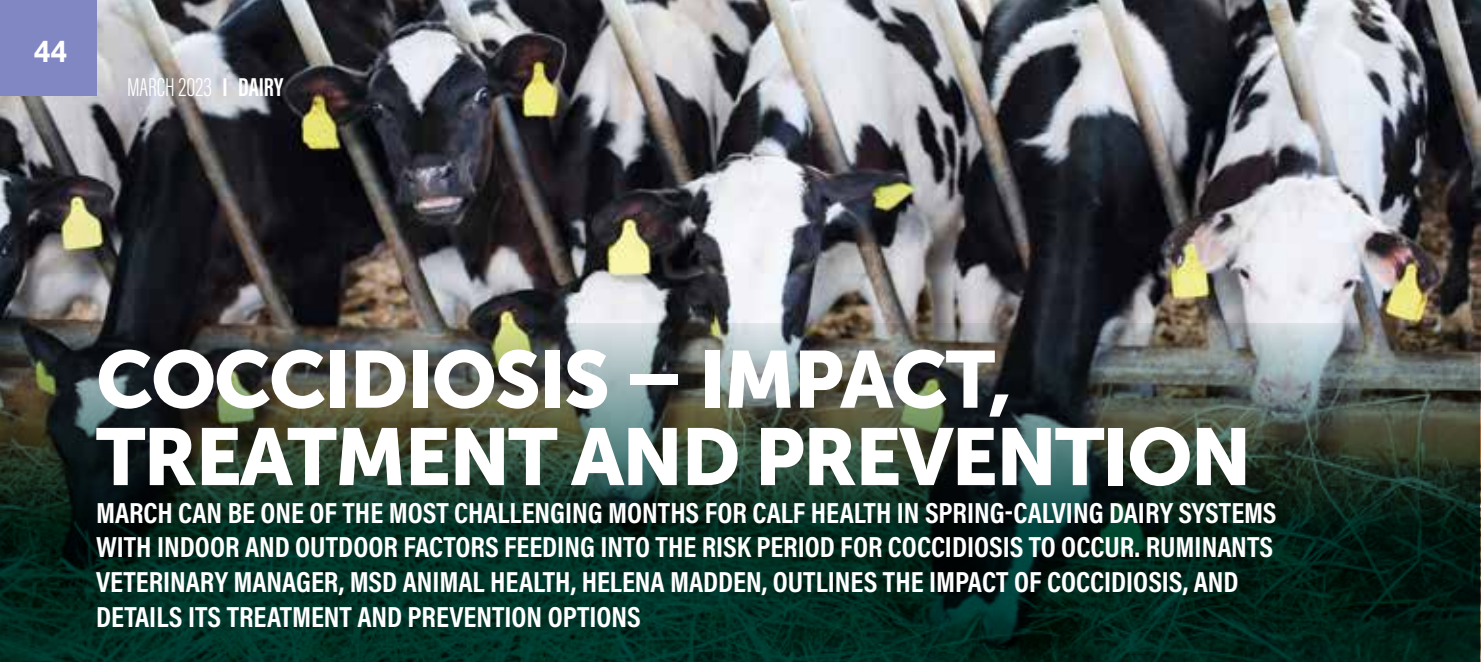
If supplementation is required — which will be dictated by milk yields and requirements — a good target is to get 16kg of grass DM into the cows. High yields, weather conditions, availability and stocking rates will determine whether extra supplementation or the addition of forage-based buffers are required.

GENETICS

Some herds may experience a drop in milk solids every year, despite following every suggestion mentioned above. If this is a persistent problem, genetics should be taken into consideration.

Some herds that achieve optimal kilogrammes of milk solids throughout the year may find that their percentages are now falling behind, which will affect the bottom line. This could be the result of a genetic issue in the herd.

As a starting point, look back at the milk record, and compare it with the EBI report on ICBF. This is a long-term solution — but success is ultimately determined by the environment and the genetic potential of the herd. There is no one solution that will fit every farm.



COCCIDIOSIS – IMPACT, TREATMENT AND PREVENTION

MARCH CAN BE ONE OF THE MOST CHALLENGING MONTHS FOR CALF HEALTH IN SPRING-CALVING DAIRY SYSTEMS WITH INDOOR AND OUTDOOR FACTORS FEEDING INTO THE RISK PERIOD FOR COCCIDIOSIS TO OCCUR. RUMINANTS VETERINARY MANAGER, MSD ANIMAL HEALTH, HELENA MADDEN, OUTLINES THE IMPACT OF COCCIDIOSIS, AND DETAILS ITS TREATMENT AND PREVENTION OPTIONS

Crossing the halfway point of calving results in a mix of calf ages in sheds along with an increasing density of stock numbers indoors, while on drier farms with early turn out of calves, small calf paddocks close to sheds are often targeted first for grazing. Either way, we are in a risk period for coccidiosis to occur on farms.

WHAT IS COCCIDIOSIS?

Coccidiosis is a common disease of the intestine that is caused by a parasite known as *Eimeria*. The *Eimeria* family of parasites has around 20 different species, but only three of them are known to cause significant illness. Calves from the ages of three weeks to six months are particularly susceptible as they have little immunity in comparison to older animals. Young calves become infected by ingesting *Eimeria* eggs, known as oocysts, that are in the environment. These tiny oocysts are very robust and can survive from year to year in infected faeces, often being completely unaffected by most disinfectants due to their thick outer wall.

Through feeding equipment, water sources or licking, these microscopic oocysts are ingested and invade the gut lining of the calf. Once inside the cells of the gut wall, the parasite undergoes cycles of development and replication resulting in damage to the gut lining as the cells rupture. As coccidia are highly prolific, the replication process results not only in damage to the gut, but also the release new oocysts in high numbers into the environment for the next susceptible animal to become infected. A calf can shed more than a million oocysts per gram of faeces during an initial infection demonstrating how quickly calf pens can become highly contaminated.

HOW DOES COCCIDIOSIS AFFECT CALVES?

The outcome of infection with coccidia depends on a number of factors:

- The number of oocysts ingested;
- The immune response of the calf;
- Stressors (poor weather, transport, regrouping, dehorning, weaning); and
- Management practices (nutrition, stocking density, hygiene).

OTHER DISEASE PRESSURES

Calves presenting with clinical coccidiosis show signs of watery, sometimes bloody scour accompanied with weakness, dehydration, straining and weight loss. Death can result in severe cases, but chronic ill thrift is often seen in calves following infection due to permanent damage caused to the gut. The lining of the gut is where a calf absorbs all the nutrients required for growth and it is easy to understand how damage here can impact on productivity. Subclinical infection is of much greater significance as the long-term effects of reduced weight gain, feed intake and poor performance are considerable. Over a 21-day period, research studies have demonstrated a 2-6kg difference in weight gain across a group of calves due to subclinical coccidiosis.

TREATMENT AND PREVENTION OPTIONS

It's important to reach the correct diagnosis on any illness that causes scour in calves as this is key for successful treatment options. Your vet might use a combination of clinical signs along with pooled faecal samples from groups of affected calves to reach a working diagnosis of coccidiosis. In terms of treatment, prevention is the best option, as once clinical signs are seen, gut damage and production losses are already suffered. Prevention needs to be considered as a three-pronged approach combining:

- Calf health;
- Hygiene; and
- Strategic use of anticoccidial medication.

Firstly, the basic foundations of good calf health are essential following best practice around colostrum intake, minimising stress and optimising nutrition. Secondly, in order to limit the build-up of oocyst contamination in the environment, hygiene is paramount. This involves limiting overcrowding, clean feeding equipment, good bedding management as well as looking at the out of season house hygiene in order to begin the spring with low levels of contamination. It is important to understand that 100 per cent environmental elimination of the parasite is difficult to achieve and explains why we see this issue annually on farms.

Finally, in order to develop immunity, some low-level exposure to coccidia is necessary but this needs to be limited in order to prevent disease risk. The ingestion of oocysts allows time to stimulate immunity, but the parasite is removed through strategic dosing with an anticoccidial medication around two to three weeks following exposure. It is necessary to treat all calves in the group due to the nature of the infection; if one animal is exposed it is safe to assume all are. Use of anticoccidial medication has not only shown to prevent clinical and subclinical disease by removing parasites within the gut, but also reduces subsequent environmental contamination with oocysts. This preventative approach, combining farm management, calf health and the use of anticoccidial medication, reduces the considerable annual economic losses that occur due to both clinical and subclinical coccidiosis.

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- Seriously consider using sexed semen this year.
- Because fertiliser will cost €1,130/ha, have a plan and be very conscious of costs.
- Use protected urea all the time as it is best value for money.
- Use the spring rotation planner to graze 30% and 60% of milking platform by March 1 and March 15, respectively.
- Use the grassland planner to grow more grass and reduce silage costs.
- Know and correct, now, the factors that lead to poor conception rates.
- Weigh maiden heifers now and act!
- It is vital to milk record at least four times this year.

By Matt Ryan

SERIOUSLY CONSIDER SEXED SEMEN... BUT PLAN

According to Stephen Butler of Teagasc, Animal & Grassland Research and Innovation Centre, Moorepark, sexed semen is now a serious technology for the Irish dairy industry. Why? I summarise his ideas here:

- The industry will have to generate fewer dairy male calves;
- Better Economic Breeding Index (EBI) replacement heifers;
- Better Dairy Beef Index (DBI) non-replacement calves;
- Improved sustainability metrics.

» **If you have not used sexed semen before, try it on a small number of heifers, because sexed semen is a fragile product, and you must learn/know all the pitfalls associated with its use.**

» **If you have used it in the past, with reasonably good experience, 'go for it' as there are over 200,000 straws available from all the good AI bulls. In trials, 25% of herds have conception rates as good as conventional AI; proving it can be done when all the advice is adhered to.**

» **You must make a plan in order to achieve high conception rates. This should not be a 'hit and miss' approach as the straws are expensive and if badly done conception rates will be poor.**

» **The plan:**

- When to use? Within the first 10 days of breeding season but not later than the first three weeks.
- Sex semen all maiden heifers:
  - They must be on weight target – weigh now to make sure; you will know if they are likely to 'make it' and, therefore, you can eliminate light ones from the plan.
  - They must be on second or third heat – therefore, if possible, record their heats from now.
  - Plan to fixed time AI (FTAI) them – this works well and has many advantages.
- Sex semen suitable cows:
  - Identify your best cows.
  - Of these, identify cows: that did not have a difficult calving, ketosis, or acidosis; that withheld cleaning; that are lame or have other health issues. This info must be recorded to eliminate these cows from the plan.
  - They must be cows of one to four lactations with high fertility genetics.
- Order sex semen straws now:
  - To help you, Stephen uses an example of 100-cow herd with 25 replacements (R2s), using the assumptions in Table 1 and with a desired calf crop of 30 heifers. These targets should also be used as your own targets.

Table 1: Assumed (%) conception rates (CR) for conventional and sexed semen. Source: Stephen Butler.

	Heifer CR	Cow CR
Conventional AI	70%	60%
Sexed semen (observed)	60%	50%
Sexed semen (FTAI)	60%	50%
% heifers/conception	90%	90%

AI all heifers, once, with sexed semen. This will give you 13 heifer calves. Serve the repeats with beef AI to give you a total of eight to nine dairy-beef calves. From this you will be able to calculate how many cows you need to serve with sexed semen so as to have 30 dairy-heifer calves born. Therefore, you need 30 minus 13 = 17 female calves from the cows; and 38 sexed semen [17/(0.5x0.9)] straws will give you this. From this you will have 30 heifer calves and 71-72 beef calves.

- From this you can see that you will require 2.1 to 2.2 sexed semen straws for every dairy replacement calf needed – in conventional AI it is approximately 5.5 straws.
- I have a little programme that can help you calculate the number of straws required.

- Contact your vet, make him/her aware of your synchronisation plans so they are ready to work with you.
- Contact your AI person, who will be a major cog in the success of the sexed semen plan because correct AI timing is critical – 14-20 hours after the onset of heat, is a must!

» **Next month, I will remind you of sexed semen issues to consider as you enter the AI season.**

WHICH FERTILISER TO USE?

You should spend time deciding, based on price, soil test results, and your fertiliser plan which fertiliser or combinations best economically suits your own situation.

Table 2: Present (approx.) fertiliser costs and their unit value

Fertiliser	Present (*) cost per tonne (€/t)	Cost per tonne unit (€/t)	Cost per kg (€/kg)	Cheaper than CAN
CAN (27% N)	805	29.81	2.98	
Urea (46% N)	915	19.89	1.99	50%
ProUrea (46%)	970	21.09	2.11	41%
ProUrea (38.75% N)	940	24.26	2.43	23%
16% Super (P)	810	50.63	5.06	
50% Potash (K)	920	18.40	1.84	

Table 3: Fertiliser costs and their comparison value to 0:10:20 and urea and CAN

Fertiliser type	Present (*) cost per tonne	Cost compared to using straights (per tonne)	Cost of urea (46%) + 0:10:20 (per tonne)	Cost of Pro Urea (46%) + 0:10:20 (per tonne)	Cost of CAN (27%) + 0:10:20 (per tonne)
0:10:20	€870	€874			
0:7:30	€875	€906			
10:10:20	€945	-	€1,069	€1,081	€1,168
18:6:12	€925	-	€880	€902	€1,059
14:7:14	€935	-	€887	€904	€1,026
27:2.5:5	€920	-	€755	€787	€1,022
27:2.5:10	€930	€1,116	-	-	-

» Table 2 gives the unit cost of N, P and K which will be used to establish the relative values of compounds in Table 3.

» Table 2 shows that urea (46%) is 50% cheaper than CAN; while protected urea (46%) is 6% more expensive than urea. But it is 22.6% cheaper than CAN. With possible fertiliser costs per hectare of €1,130+, it may be hard to believe that 46% urea is €456/t cheaper than CAN equivalent, and that protected urea (46% N) is €236/t cheaper than CAN. Both are as effective as CAN as a source of N.

» Table 3 shows:
- That all compounds are cheaper than using a combination of CAN plus straight P and K as 16% Super and Muriate of Potash, respectively, by wide margins.
- That 0:10:20 is approximately the same value as P and K as straights.
- That 0:7:30 is €31/t cheaper than straight P and K.
- That 10:10:20 at €945/t is cheaper than using the equivalent amount of 0:10:20 with urea (46%), protected urea (46%).
- That 18:6:12 at €925 is cheaper than a combination of protected urea and 0:10:20 but more expensive by €45/t than a combination of ordinary urea and 0:10:20; the same is true for 14:7:14.
- 27:2.5:5 at €920/t is more expensive than a combination of urea with 0:10:20. I guess the same would be true for 27:2.5:10 plus equivalent 0:7:30. But urea or protected urea and straights would be nearly €100/t and €50/t, respectively, cheaper.

Table 4: Cost of 50kg N application, using different fertiliser types.

	CAN	Protected urea	Urea
Kg N spread	50	50	57*
Cost per kg N	€2.98	€2.11	€1.99
Total cost of application	€149	€106	€114

*Needed to supply the same plant available N.

» Table 4 highlights the cost of applying 50kg N/ha, taking into account the present cost of the three nitrogen sources and the efficiency of each.
- Protected urea is more efficient because of lower nutrient losses compared with urea.
- The value of retaining N, due to urease inhibitor in protected urea, that previously lost as ammonia has increased dramatically in line with the increased fertiliser cost.
- Therefore, use protected urea all through the year and you can reduce greenhouse gas emissions by 7-8% on your farm, while at the same time saving yourself money and growing as much and more grass (based on a seven-year trial in Johnstown Castle).

» Nitrogen: It is recommended to have 23 units N/acre applied in February. With that applied you should apply 2.5 bags 18:6:12 in early March, that is 45 units N and, if no P or K has been applied to Index 3 soils, 15 units P and 30 units K.
- If P and K are Index 1 & 2, then use four bags 10:10:20 over a few months.
- Silage fields must get four to five bags 0:7:30 and protected urea – slurry is very suitable and can be used to reduce the amount of bag manure.

» Slurry of 7% DM contains 10, 6 and 36 units of N, P and K, respectively, per 1,000 gallons – where it is being used, discount bag fertiliser need as outlined in previous bullet point.

» Manage fields with clover as per all other fields.

GRASSLAND PLAN TO MAXIMISE FIRST CUT & REDUCE COST:

» Being a key performance indicator, we must plan 14-16t DM grass/ha and maximise the size of the first cut to reduce silage-making costs, particularly contractor charges, and save on N by only requiring a small second cut.

» You haven't a chance of achieving it unless all fields on farm have a pH of 6.3+, and all are Index 3-4s for P and K – no more talk on that – just do it! Reseeding, also, is a big help.

» You must make a grassland plan for the year, NOW, so that the acreage you have is adequate to provide grazing and silage for all livestock being kept. I have an Excel programme for that but it works as follows by providing the following grazing hectares:
- April-May: 4.7-4.9 cows/ha, 2,500kg (cattle weight)/ha, and 23 calves/ha;
- June-July: 3.6-3.9 cows/ha, 2,200kg/ha (cattle weight), 14 calves/ha;
- Aug-Sept: 2.7-2.9 cows/ha, 1,700kg/ha (cattle weight); seven calves/ha;

» Once these areas have been allocated, the remaining area of the farm must be cut for a heavy silage cut. With the nitrate restrictions, you have no chance of having enough silage unless you close large areas of the farm for first cut and take heavy cuts.

» You will know I am not in favour of a grazing system that involves taking out surplus bales – only rarely when we have massive growth.

» From this plan, you know the area being grazed by the cows from April to October and this will be managed using the grass wedge.
- The pre grazing cover (PGC) for a stocking rate of 4.7/ha and a 21-day rotation for a 550kg cow producing 2kg MS/cow (means 17kg DM/cow of a daily requirement) is calculated as follows: 4.7x17x21 + 50 = 1,730kg DM with an average farm cover of 800kg DM/ha (50 = post grazing height of 50cm).

» In my experience, to be able to graze cows at 4.7+ per hectare from April 15-20, one needs to have an average farm cover of over 650kg/ha in early April. This is only achieved by:

- Having the specified % areas grazed up to March 1 and March 15;
- Having adequate levels of N applied in time; and
- By feeding the required levels of meal as directed by a grass budget.

KNOW & CORRECT THE FACTORS THAT RESULT IN POOR CONCEPTION

Because non-return rate (NRR) or conception rate (%) to first service is poor on many farms – look up yours on the ICBF fertility report for 2022 – Stephen Butler, from Teagasc Moorepark addressed this on a recent Zoom session with my clients. The following is his summary of the factors to address:

- Age:
  - Young cows are more fertile than old cows.
  - Examine the age structure of your herd.
  - Examine the age structure of the cows culled because they were not in-calf.
- Days in milk:
  - This is the most important factor affecting herd fertility.
  - The more days in milk prior to mating the better is conception, because the uterus has more time to recover.
  - Conception to first heat after calving is lower by 8%.
- Body condition score (BCS) at AI:
  - Influenced by BCS at calving and post calving nutrition.
  - Thin cows at calving take longer to come back in heat.
  - And are more likely to be bred at first heat.
  - If lower than 2.75, submission and conception rates at six weeks can be reduced by up to 16 per cent.
- BCS loss from calving to mating start date (MSD):
  - Cows that have high BCSs at calving will lose a lot of weight to MSD.
  - If BCS loss is greater than 0.5 units submission rates can be reduced by up to 49% and pregnancy rates by up to 20%.
- Post-calving metabolic and reproductive disorders:
  - Milk fever, ketosis, and displaced abomasum.
  - Retained placenta, metritis, endometritis.
- Mastitis and high somatic cell count (SCC):
  - Before and after service.
  - Local inflammation in mammary gland.
  - Has a systemic effect on the whole animal.
  - Detrimental to the control of reproduction.
- Dietary deficiencies:
  - Energy intake, either two weeks before or after AI service.
  - Phosphorous, copper, celenium or iodine deficiency.
  - Disease prevalence within the herd:
  - Lameness is a major issue;
  - Respiratory diseases;
  - Parasite burden.
- Vaccination strategy:
  - Complete all vaccination programmes at least one month before MSD.
  - Live vaccines can cause corpus luteum regression.
- Milk production:
  - Normally, this is not a problem if cows are well fed, maintaining or gaining BCS.
  - However, if they are milking far higher than their milk and fertility genetic sub-indices, it then may be an issue.
  - But periods of under-nutrition or rapid changes in diet will affect it.
- Individual performing AI:
  - Is it a technician or DIY? Initial the animals by name of server.
  - DIY operators need a refresher course – admit if you are not up to standard or have too much work to do.
  - DIY operators must have straws stored correctly, and manage them correctly before and during the AI process.
  - How many services per man at any one time? With synchronisation, AI operators are under so much pressure that there is always need for extra technicians on the day.
- Bull to bull variation:
  - Use a large team of bulls and no bull should be used on more than 15% of herd matings.
  - Based on discussion group member comparisons, some individual bulls gave bad results last year.
- On-the-day management of cows:
  - Avoid having cows stressed by being bullied, or short of water or feed.
- Optimum time to AI:
  - For conventional straws it is 12-24 hours after the onset of heat.
  - And for sexed semen it is 14-20 hours after the onset of heat.
- Re-serving cows the day after service, according to Dr Doreen Corridan of Munster Bovine, can have a detrimental effect on conception rates.
  - From this, it is obvious that good records are essential when analysing poor on-farm fertility.

WEIGH MAIDEN HEIFERS NOW

» **Bulling heifers must now weigh 53% of their mature weight:**
- That is 295kg for a Friesian and 285kg for a Jersey cross on March 1.
- If underweight, feed 1-2kg meal to light ones while on grass from now until May 1.

» **The following problems arise with bulling heifers (R2s) on dairy farms:**
- Most of them are not big enough at calving, due to being too small at mating.
- Some are too fat and heavy – bulling heifer over 360kg will have trouble going in-calf and will remain in milking herd for shorter periods.
- We have too few AI-bred heifers with very high EBIs with high % fat and protein available.
- They are not at grass long enough pre-mating because they will lose weight for six weeks after going to grass if they have done 'too well' on silage.
- Iodine and copper are two key minerals to promote 'heat' and good conception rates – if grass is deficient in those, you are in trouble because, unlike cows, they will be on no meals.

» **To produce enough heifers from your own herd you must:**
- Calve down 30% of herd to heifer calves. No more, because they are too expensive to rear and farmers are not prepared to pay the €2,000 one needs to achieve as two-year-olds so as to make a small profit.
- Also, there is no point in being overstocked with non-profitable animals.

» **Conception rates will be best if:**
- They weigh 310-340kg at MSD.
- They are on the third heat on service day.
- They are well used to a grass diet at that time (let them out early March).
- No injections within one month MSD.
- Adequate cover for minerals, particularly iodine.

» **Manage animals accordingly to achieve these objectives.**

» **Let out big yearlings' heifers (290+ kg) onto grass immediately:**
- They will lose weight for four to six weeks (gut-fill) after let out.

- They will be well conditioned into the grass environment by the time the breeding season starts.

» **'Small' bulling heifers are the issue and they represent the potential of your herd to expand next year or give you an extra cash income of €1,500+ each. Therefore, consider your options with them:**
- A 'small' yearling heifer is one weighing less than 240kg on March 1.
- There are 60 days to May 1, which is an appropriate MSD.
- With good grass they will put on 1kg/hd/day of live weight gain.
- With good grass and 1-2kg meal for some of the time they will do 1.25kg/day.
- They may be still a little light, so it is suggested you delay their bulling date for 15-20 days, and serve with a Jersey, which, even though not totally advisable, represents a far better option than carrying them over for another year.

» **Vaccinate for BVD, IBR and leptospirosis now or over next two weeks (do the cows also):**
- This is a 'must-do job' for most herds.
- It must be done three to four weeks (at least) before MSD.

» **Stock them on grass at 2,500kg/ha, or seven to nine per hectare until July:**
- Equally, a copper bolus may be required if copper deficiency is a problem on your farm.
- Also, address iodine where necessary.

» **A let-out worm dose is not necessary for these animals (or any other yearlings). But if fluke – liver or rumen – is a problem (check dung sample) dose before let-out.**
- Bits and pieces for March
- The chances that meal feeding should now increase as cows' individual intake demands are higher and we need to ration grass in cows' diet (adds an extra €2.80/cow/day profit) so that the first rotation lasts until early April. Feed 3-5kg/cow/day.

» **Condition score the whole herd now. Cows that are a BCS of 2.75 or less should be put on once-a-day (OAD) milking, but continue to feed well.**

» **Continue dry-cow minerals to March/April, calves.**

» **Feed magnesium to milkers at grass if on low levels of meals. They need 2-3oz/cow/day.**

» Calf snippets:
- Feed milk replacer (not cow's milk) to replacement heifer calves to prevent the spread of Johne's disease at 6L/day. With the price of milk this year we should feed all milk replacer.
- Let out suck calves to grass in early March as they will thrive as good as indoor-reared calves, have less disease, and you will have less work:
- Give them a fresh area of grass every four to six days.
- Provide straw in a rack at all times.
- Feed 1kg meals/calf/day but protect against bird contamination (coccidiosis).
- Before selling male calves, check their EBI – it may be very high and they could be valuable.

» **Use the spring rotation planner to guide your rationing of grass to cows so that you have enough so as to delay the second rotation start date to early April.**
- On dry land, aim to have 30%+ and 60%+ grazed by March 1 and March 15, respectively.
- On wet or 'late' farms, these dates will be delayed by seven to 14 days.

» **Milk recording is a must-do now as there is much more you can do in terms of cow selection for mating or culling.**

» **Farm roadways, particularly damaged ones, must be resurfaced to prevent lameness – serious consequences to BCS and peak milk yield at this time of year.**

» **Start researching the AI bull catalogues/Active Bull list for the best and most suitable AI bulls for your farm and cows.**

» **Spread 2t lime per acre now but:**
- Avoid using urea for three to six months afterwards.
- Avoid using slurry for three to six months afterwards.
- However, you can spread lime seven days after spreading urea and slurry.
- There is no issue with CAN/lime inter-reacting.
- Leave seven days between spreading lime and slurry, CAN or N, P, K compounds and vice-versa.
- "Develop an approach to maximise income at the top end of a business cycle and do not feel the slightest bit embarrassed about it!".

CONDOLENCES

Padraig Walshe (RIP)

My sympathies to Ella, Julieanne, Catherine, Elma and Pat on the untimely passing of Padraig. He was a great friend, confidant, and inspiration to all of us who knew him. His significant contributions to national agriculture have been well documented, but I got to know him from the initial formation of the Damer Discussion Group, formed in 1989. Being a very good farmer, Padraig was an early adopter of all dairy research technology, which resulted in him growing 18-20t of grass and with a herd EBI of €222. He helped and shared all the information he had, unstintingly, with all his contacts. He will be sadly missed. May he rest in peace.

POWER OF A DIFFERENT CLAAS

THIS MONTH, WE RETURN TO A RANGE OF MACHINES THAT HAS FEATURED – AND RIGHTLY SO – ON THESE PAGES BEFORE: THE CLAAS ARION 400 RANGE, WHICH UNDERWENT A REDESIGN AND A STAGE V EMISSIONS MAKEOVER IN 2022

This time, we are going to focus a little more on the power that this range possesses due to a new feature, on all models – from the 115hp Arion 440, and above – Claas Power Management (CPM). This gives a further 10hp power boost for PTO and transport work, which means that with CPM, the new flagship Arion 470 has a maximum power output of 155hp from its four-cylinder engine. This, combined with its greater hydraulic power, gives this particular machine a combination of engine and hydraulic power that is unrivalled in the market.

150L/MIN HYDRAULIC OPTION

A new load-sensing pump is now available on CIS and CIS+ models that delivers a 150L/min hydraulic output, ensuring more than enough power for loader work, in addition to a 110L/min pump, as before. This is fitted as standard on the Arion 470 and available as an option on all other models. Even at a fuel-saving 1,600rpm, it delivers an output of 110L/min. With two open-centre hydraulic circuits delivering 60L/min and 100L/min, this gives the option of four different pump systems to suit a wide range of applications. Both load-sensing versions also offer increased lift capacity at the rear of 6.25t, an increase of 500kg on previous models.

LOADER CONTROL

The fully integrated front linkage and factory-fitted front loaders can be conveniently controlled by the multifunction control lever, with the option of controlling the front loader by Electropilot (CIS or CIS+) or Flexpilot. However, the responsiveness of the Electropilot can now be adjusted to suit the driver. And the new automatic front-loader detection system saves having to manually switch hydraulic functions. Just like its predecessors, the Arion 400 can be configured in diverse ways to suit customer requirements and applications. Proactiv front-axle suspension, mechanical two-point cab suspension and various seating options are available to further increase driver comfort. Both the front and rear linkage and the Claas front loaders are also equipped with vibration damping.

FACTORY FIT GPS

All Stage V Arion 400 tractors can be factory-fitted with a Claas GPS steering system which is controlled via the S7 terminal and shown on the screen. Various RTK correction signals can be selected in addition to Satcor and Omnistar. Auto Turn performs turning manoeuvres at the headland fully automatically when enabled by the driver. With Isobus terminals, it is also possible to control Isobus-enabled implements via an Isobus socket optionally provided at the rear. Up to four freely assignable function buttons offer a level of user friendliness unique in this class and are ideal for use with Isobus.

EXCITEMENT AND ADVENTURE AROUND EVERY CORNER

Dear readers, spring has finally sprung and we have reached double digits, temperature-wise, in some parts of the country. This is ideal farming weather, so let's hope for more of the same.

As I pen this month's column, I am just back from an extended trip to India, which started with a four-day trip with BKT Tires, and finished with a few days' R&R in Mumbai.

What a wonderful and exciting country India is. The noise, the smells, the hustle and bustle, the warmth of its people, its delicious food. Despite socio-economic and class challenges that exist there, the people really are wonderful and so helpful. The country is a complete assault on the senses. You just do not know what to expect, with excitement and adventure around every corner! Having been given the opportunity to sample the delights of India, its culture, its food, its way of living, I embraced all it had to offer me, and I am looking forward to returning someday soon.

The business side of the trip commenced with a visit to BKT's state-of-the-art manufacturing plant in Bhuj, a short flight from Mumbai. This plant stretches over 300 acres, employs about 3,000 people, and the adjoining compound comprises living accommodation for workers, a school, medical facilities, and more. The site also has its own water supply and sustainable power plant and major plans are afoot to extend the existing facilities to keep up with the growth of the expanding tyre market and demands for BKT's tyres on the domestic and world markets. Everything from large earth-moving tyres, agri-specific tyres, industrial tyres, and more, are manufactured here and plans to increase that range are underway. Stay tuned for more on this in the coming months!

Now, down to the business in hand, while the recent €370m TAMS funding is welcome, the exclusion of dribble bars is a worry. These are a go-to piece of kit for slurry application as trailing shoes are not really suited for small farm holdings. Manufacturers and dealers have a lot of dribble bars in stock and their omission from TAMS 3 will have repercussions for both manufacturers, dealers, and farmers and contractors.

It is rumoured that the pesticide market is expected to see large price increases of anything up to 40 per cent on individual products this year coupled with fertiliser prices still at a industry high. This is all stemming from high energy prices created from the conflict in the Ukraine, which has been ongoing for a year now. Its effects are really being felt at farm gates.

There was good news for Mountbellew Mart as suspension of its licence was lifted, which came with great relief to the local community and its many customers.

On the machinery front, in January 2022, 485 new tractors were registered representing an increase of 15 per cent on the same month in 2022, when 420 units were registered. And all counties in the Republic of Ireland saw increases in sales in January. In Northern Ireland, 60 new tractors were registered compared to 58 in the same month last year. In the UK, 644 tractors were registered in January, an increase of 28.8 per cent year on year. The reasons for the increase both here and in the UK are mainly down to strong economic circumstances both in dairy and tillage coupled with farmers ordering in advance of pending price increases this year.

Now, I'm going to finish on a rant! But, please, stay with me – I'll be brief. One thing really frustrated me when I returned from India, was a national newspaper article that featured a certain person calling for the outright ban on tractor runs in rural Ireland! These same tractor runs raise substantial funds for both national and local charities and without this funding, the charities and services would suffer.

Tractor runs just don't raise funds they bring out the whole community – young and old – for a day of celebration in the area. So, before calls are made to ban such events, maybe the people voicing them should realise the value of them, and that maybe one day they will need the services that these events support, such as cancer services, and much more besides. Our local tractor run has raised in excess of €220,000 over 10 years, all of which went to the local cancer centre. My family needed that service over Christmas when a loved-one died. Before knocking something, we should all consider the the bigger picture and the road ahead....

Until next month, farm wisely and farm safely.

TWO FROM VÄDERSTAD FOR THE 2023 SEASON

Tillage, seeding and planting specialist, Väderstad, has two machines that are perfect for the 2023 tillage season, and we review them here.

Launched in mid-2022, and available since October, is the company's new disc cultivator, Carrier XT 425-625. With an easy machine setting as well as rotating disc axles, the Carrier XT is built to 'optimise the tillage result depending on the working depth' the company says.

This latest addition to Väderstad's family of Carrier disc cultivators is used for high-speed primary tillage and seedbed preparation, and can handle all the versatile challenges of modern farming – from ultra-shallow tillage to a deeper incorporation.

The Carrier XT is available in three different working widths: 4.25m; 5.25m; and 6.25m. The machine can be delivered as trailed or mounted versions. All Carrier XT models can be equipped with a range of both single- and double-packer options. A main feature of Carrier XT is its hydraulically rotating disc axles, enabling it to optimise the cut-out performance at shallow depth, while increasing the depth precision at deeper working depths. By increasing the disc angle towards the soil, the disc will increase its penetration ability. By changing the tilting angle of the disc, the cut-out surface is shifted. Väderstad has put in much research and knowledge to fine-tune these angles to maximise the field performance, says director Tillage Product Management, at Väderstad, Wolfram Hastolz.

As a result, Carrier XT can optimise the disc angles to its working depth. For the farmer, this is seen in a full cut-out at shallower working depth, as well as reduced soil flow at deeper working depths. Both of these factors contribute to a lower diesel consumption.

Carrier XT can either be fitted with the 450mm disc, 470mm TrueCut disc, or the ultra-shallow CrossCutter Disc. Each disc is built from high-quality Swedish V-55 steel at Väderstad's genuine parts factory, Väderstad Components.

Next up is the new tine cultivator, Cultus HD, which is available in working widths of 4.25m or 5.25m. It can work down to 30cm depth and is equipped with three tine axles, resulting in a tine spacing of 27cm.

The heart of the machine is the new heavy-duty Cultus HD tines. With a release force up to 680kg, it will keep its depth in a full range of conditions, says Wolfram.

"A key performance indicator for a tine, is its ability to always keep a high force towards the soil. This is where the new Cultus HD tine is unique in the market. If meeting a heavy obstacle, the Cultus HD tine is able to fully release out of the soil to pass the obstacle. When re-entering the soil, it will however keep its full power to quickly return to working position. In this way Cultus HD is able to ensure an extremely accurate depth precision, resulting in excellent tillage results over the entire field," he explains.

The depth is set from the cab, it is equipped with a hydraulic wing lock and the new unique levellers adjustment system, Dynamic Control, enhances the performance.

"Dynamic Control ensures the levellers are always working in optimal position. This takes away the need for manual adjustment, and the driver does not have to worry about the important levelling performance," says Wolfram. The new mounted tine cultivator will go into full production in the autumn of 2023, according to Väderstad.

FENDT

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A GIANT AMONG LEADERS

Tom Murphy
Professional Agricultural Contractors of Ireland

Padraig Walshe was a giant among leaders in the agricultural sector and his legacy is one of the most profound. Farmers, past and present, benefitted from his endless work both nationally and in Europe. Whenever I met him at meetings, at home and abroad, even if he was in the audience, he never missed an opportunity to advance the case for farmers. I remember at an international gathering in Brussels with over 2,000 attendees, Padraig stood up, proudly announcing that he was there to represent Irish farmers and he disagreed with the points one of the speakers made. Despite the chair trying to stop him, he delivered what he wanted to say firmly but with courtesy, finally sitting down to cheers and applause. He was a superb lobbyist, one of the best I have ever known. And, he was ahead of his time in his advocacy of Irish farming. Results are not always achieved around the table, particularly in Brussels. Sometimes it's over lunch with your adversaries, or at Kitty O'Shea's, a well-known place across from the Commission (affectionately known as 'the office'), where differences were ironed out and many a difficult issue resolved.

On behalf of PAC Ireland, I offer Ella and the family our heartfelt condolences and, in doing so, thank Ella for the unstinting support she gave to Padraig over the years. Rest in peace, Padraig.

PREPARE YOURSELF

At this time of the year, you will get streams of advice about preparing your machinery for the coming season. This may incur spending fair amounts of money to ensure the machinery doesn't let you down. However, when it comes to contractors' and farmers' own health, and preparing themselves for the busy time ahead, there is often little investment made! The health of the animals, the land, the fleet are all that matter sometimes. "Ah, sure I'm as fit as a fiddle" most would reply, if you asked them about their health, and I would bet that the majority have not spent a cent on having a health check of their own. It is always better to be forewarned of any health issues and to be able to take preventative action or get early treatment. Sudden illness can be very costly. A 'head-in the sand' approach to health doesn't just affect you it affects your family, your clients, and your employees. If you suddenly can't run your business, it can raise doubts of your ability to continue to provide a service to your clients.

For a relatively small amount of money, a complete health check can put you and your family at ease. What's more, if you need to take action on any health issues it is far better to do this early.

PROTECT YOURSELF

Many drivers do not have any patience when travelling behind an agricultural vehicle. They often do not appreciate that the tractor and trailer have nowhere to pull in, resulting in dangerous overtaking, and risk of collision. This begs the question as to why, after years of lobbying, the powers that be do not provide places to pull in, not only for agriculture vehicles but also for heavy goods vehicles. The majority of agricultural drivers are courteous and sensible drivers, but it seems to me they can be often accused of inconsiderate driving and accused of being in the wrong. Talking to colleagues in the UK and at meetings in Brussels, the advice to all tractor drivers is to, where possible, install cameras at both front and rear, which could be an essential tool in proving no fault in the event of an accident.

Service manager, Massey Ferguson, Sean McEvoy; service engineer for harvesting equipment, Massey Ferguson, Frank Reynolds; Country Crest's Michael Hoey; and AGCO's William Judge. This photo was taken at the official opening of WBD Farm Machinery's new state-of-the-art premises at Blake's Cross, Lusk, in 2022.

WBD FARM MACHINERY CONTINUING TO BREAK NEW GROUND

Noel Dunne travelled to north Co. Dublin to visit WBD Farm Machinery's new state-of-the art premises at Blake's Cross in Lusk. Although built in 2020, an official launch had to be put on ice due to the Covid-19 pandemic, but in 2022, this important milestone in WBD's four-decade existence was marked. Here, we present a few of the many highlights from this special event. WBD Farm Machinery was originally set up in 1984 by locals, Jimmy Weston, Michael Butterly, and Tommy Dunne. Now, their three sons run this growing and successful enterprise, which is main dealer for a host of brands including a full line of Massey Ferguson products, Maschio Gaspardo rotavators, power harrows, disc subs oilers, and seed drills along with Ocmis irrigation systems, Scova pumps, Checchi & Magli vegetable planters and equipment, and Standen-Pearson destoners, harvesters, planters and ridgers. This is all backed up by an extensive workshop and parts department situated in a tillage and vegetable heartland.

GASPARDO NEW FOR 2023

New for the 2023 tillage season and available for demonstration is the 3M Gaspardo direct seed drill, which is available in a seed-only version, or seed and fertiliser version complete with electrically driven seed and metering units.

WBD Farm Machinery has an extensive range of round and square balers, along with Massey combines.

There is a full line up of Massey Ferguson tractors at WBD Farm Machinery, from municipal tractors to the high-horsepower ranges.

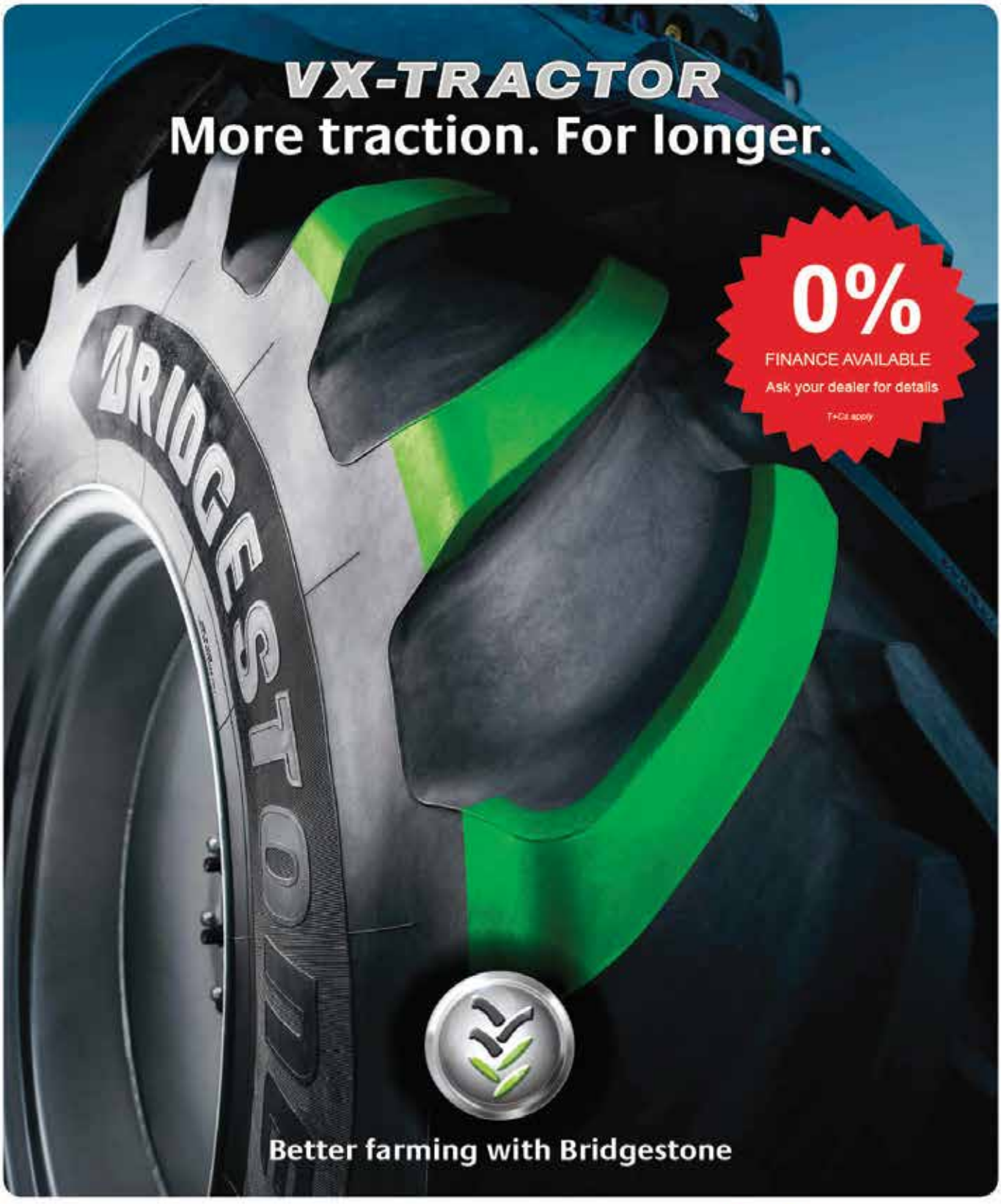
A sample of the Italian-built Maschio Gaspardo range of rotavators, power harrows, disc subsoilers and seed drills.

The second-generation management team at WBD: Declan Weston, Alan Butterly, and Alan Dunne.

NEW TRANSPORT CARRIAGE FOR LARGE FURROW PRESSES

When ploughing, furrow presses are mainly used if there is not enough time for the soil to settle gradually and tilth to form, naturally. Furrow presses immediately restore capillary action and, therefore, retain moisture in the soil. Lemken is introducing a new trailer for its proven VarioPack furrow press, which allows even large furrow presses used with six-furrow or larger mounted and semi-mounted ploughs to be easily transported by road. The VarioPack with trailer is coupled to the tractor via a cross shaft and with a transport width of 2.8m, even narrow field tracks pose no problem. As the trailer is EU-approved for speeds of up to 40km/h, VarioPack presses can now be quickly and easily transported to the field. The implement is switched hydraulically from its transport to its working position from the cab. The arms of the VarioPack can be adjusted vertically, laterally and in length, allowing them to be optimally adapted to any given conditions. This ensures reliable capture even on slopes, and the furrow press can be run close to the plough to minimise side draft. The trailer is available for large VarioPack double furrow presses with 70cm or 90cm rings.

BRIDGESTONE



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OUT WITH THE OLD, IN WITH THE NEW

In extending its range of one-pass seed drills, Amazone introduced the Centaya 3000 Special and with it, replaced the AD-P Special, which has been a hugely popular one-pass seed drill among Irish tillage farmers over the past 20 years. The Centaya Special is available in hopper sizes of 1,000L and 1,500L and with a working width of 3m. The seed drill can be equipped with the RoTeC single disc coulter or with the high output TwinTeC Special double disc coulter.

COMPACT, USER-FRIENDLY AND PRECISE

The seed distributor head on the Centaya Special is now mounted behind the seed hopper directly above the coulters. This arrangement ensures a short conveying time for the seed. The hopper is positioned further forward and offers an optimum centre of gravity close to the tractor. The distributor head can be reached easily via the loading platform and can then be regularly checked. Setting the tramline system is also easy to carry out as a result of the good accessibility. The low profile of the hopper also gives the driver a better view of the machine. The very large 2.3m x 0.84m hopper opening ensures a quick and easy fill, from large bags with a front-end loader. The deep hopper tip and steep walls are specially designed to guide the seed down to the metering unit. The Centaya Special drill can be controlled via Isobus with AmaTron 4 terminal and will also be available with AmaDrill 2 in the future.

SMART CALIBRATION

Calibration of the seed hopper can be carried out conveniently from the loading platform. The easily accessible metering unit on the bottom of the hopper ensures even, accurate seed metering. The seed is gathered in the collection bag supplied and is weighed using the scales that are included as standard. For other seeds, or different seed rates, Amazone offers a variety of different metering wheels for the Centaya Special. Only two bolts need to be released on the metering unit using the tool supplied to change the metering wheels.

SINGLE DISC OR DOUBLE DISC COULTERS

The Centaya Special can be equipped either with the RoTeC single disc coulter or with the TwinTeC Special double disc coulter. RoTeC coulters are maintenance free and work very reliably, even where large amounts of straw or cover crop residues are present. Row spacings of 12.5cm and 15cm can be chosen. Equipped with the high-performance TwinTeC Special, the seed drill offers a very precise and sturdy double disc coulter with a disc diameter of 340mm and a coulter pressure of 40kg, the row spacing is 15cm.

QUICKLINK QUICK COUPLING SYSTEM

The Centaya Special harrow-mounted seed drill can be very easily and quickly connected without tools to the various Amazone tillage implements via the QuickLink quick coupling system. Depending on the soil conditions, it can be combined with the KG and KX rotary cultivators. The Centaya Special can be combined with the CombiDisc compact disc harrow also.

AEROSEM VT 6000 DD – TOP FEATURES

Following the success of the Aerosem VT trailed pneumatic seed drills with a working width of 5m, Pöttinger launched this combination with a working width of 6m. In conjunction with active tillage, this machine also combines maximum output with excellent flexibility, while perfect seed placement and maximum soil conservation are also features, according to the company.

To avoid a bulldozing effect, the high-volume packer tyres with a diameter of 800mm reduce ground pressure and rolling resistance. Optimum consolidation of the seed rows is made possible by the large area of surface contact in combination with the special grooved tyre profile. The additional damping of the packer ensures smoother running during operation. Because this machine runs so smoothly, it enables high driving speeds to be maintained on different types of soil.

The longitudinally mounted pressurised hopper is now available with a capacity of up to 4,600L on the Aerosem VT 6000 DD. The 5m-wide version holds 2,800L. The hopper is divided 50:50 along the direction of travel. This configuration enables seed with fertiliser, or seed on its own, to be applied conveniently. In addition to good accessibility to the metering units, shut-off plates make it easier to change the metering wheels when the hopper is full, according to the company. The proven Aerosem pressurised hopper system is designed for the highest application rates. This system ensures exact seed flow rates regardless of the type of seed or the working conditions. Each side of the hopper features a separate metering unit - but feeds the same single shoot seed line. The metering units can be controlled independently of each other. Two components can be applied simultaneously. Moreover, two application maps can be used for site-specific drilling. The double disc coulter system – Dual Disc – ensures precise seed placement. The large coulters are slightly offset and form a clean and tidy seed slot. The equal-length coulter arms are mounted on sealed bearings with a coulter offset of 30cm to ensure maximum reliability even with high volumes of plant residues. The coulters cut right through, even at high driving speeds thanks to a coulter pressure of up to 60kg. The V-shaped seed slot prevents the seed from rolling.

This drill will be demonstrating this year. Contact local dealers for details.

JOHN DEERE DEALER ACQUISITION

John Deere's agricultural and sports turf machinery will be available through a single, larger dealer in the counties of Antrim, Derry, Armagh and Down after Stephen W Moore Ltd announced recently that it is acquiring its neighbouring franchise, Johnston Gilpin & Co. Ltd.

All Johnston Gilpin & Co. employees will be transferred to Stephen W Moore, but that company's branch in Lisburn will continue to trade under the name Johnston Gilpin. The expanded dealership will offer the full range of John Deere agricultural machinery as well as domestic and professional turf care products, supplying farms, homes, sports venues and golf courses with the same quality equipment and aftersales service they have received under the previous structure, according to John Deere.

Dealer principal, Stephen Moore, said: "This is an exciting time as we prepare to nearly double the size of our business with the next stage of our evolution. "We have known the McConnell family and the Johnston Gilpin group for many years and the whole team has done a fantastic job serving agricultural and turf care customers in the territory. It is clear we share the same core values around delivering unrivalled customer service so I am looking forward to integrating the two businesses under the Stephen W Moore banner. "The transition will be smooth and steady, ensuring that it's business as usual for our customers while we are learning from each other behind the scenes." Stephen W Moore has been a John Deere dealer since 2008 in Coleraine. It is known for its strength in supporting farmers and contractors in the region, offering the full range of forage harvesters, combines, small, medium and large-frame tractors, sprayers, mowers and balers.

The branch in Coleraine will continue to operate as normal. "As well as covering a larger area and the benefits that scale brings to a business like ours, we will now be able to offer the full range of professional turf care machines, parts, service and technical knowledge," Mr Moore added.

"As one franchise with access to more machines, parts and know-how, the training and advice we can offer to customers and staff will continue to improve."

John Deere's division sales manager, Brian D'Arcy, said: "The acquisition is a great fit for our dealer network and the new, larger business – backed up by the support from John Deere – is an extremely strong proposition for our customers in Northern Ireland.

"Both companies are well established with knowledgeable staff and connected support. Looking ahead, the business will go from strength to strength and be in a position to make the future investments required in facilities, logistics and advanced precision technologies.

"Our special thanks go to Donn, Randal, Neale and all the McConnell family for their valuable and longstanding contribution to the industry after serving as a dealer in the area for John Deere for the past 54 years."

WHEN THE DIFFERENCE IS MORE THAN ELECTRIC

BKT now features tyres that are suitable for electric vehicles using 'advanced technologies' that are umbrellad by the brand, E-Ready. The E-Ready logo made its debut at SIMA, where it was imprinted on the Agrimaxfactor tyre (BKT's all-new 70 series designed for tractors), and, the company says, it will be extended to all products in this category in the future.

BKT says that the E-Ready specification represents the beginning of a path toward delivering solutions suitable for electric mobility, and underscores BKT's commitment to sustainability. So, how does a tyre intended for an electric vehicle differ from a conventional one? There are many differences, BKT says. In fact, trials and field tests have revealed that, in order to equip an electric vehicle, designers must take into account various factors that characterise electric mobility: weight, engine structure, range, noise. Electric vehicles weigh more because their batteries may be adding up to 30 per cent extra weight, something that really affects the work of the tyre. Not only are they heavier, they also move differently than vehicles running on conventional fuels. The vehicle immediately hits maximum power when stepping on the accelerator, which means that load shifts can be faster and more intense than in conventional vehicles, with a consequent effect on tyre wear. Energy autonomy also plays a decisive role. If an electric vehicle is designed for energy saving, tyres should also be designed not to affect vehicle consumption, such as the case of rolling resistant tyres. Noise is also something that tyre manufacturers are particularly considering for electric vehicles, whose tyres should have different tread patterns and compound compositions, both natural and synthetic.

NEW OFFERINGS FROM QUICKE

Quicke has introduced two new loaders designed as powerful bucket grabs for silage handling with telehandlers and wheel loaders. The newcomers to the range are the Powergrab L+ for loaders with a lift capacity of up to 5.5t and the Powergrab XL+ for loaders with a lift capacity of up to 10t. Distributors, Farmhand, says these 'highly efficient new Powergrab models are ideally suited to farms with high feed rates'. Their powerful cylinders can handle all types of silage, grass, maize, straw and farmyard manure, and the build quality is second to none, the company says.

The Powergrab L+ and XL+ would also be an excellent addition to any anaerobic digestion operation. With its large volume capacity and clean operation, it will save time when handling whole crop, maize or beet and other farm waste associated with the anaerobic digestion process. Both the Powergrab L+ and XL+ are available with the bolt-on brackets, which allows them to be used with all popular loader types.

POWERGRAB L+

- Efficient bucket grab for silage handling with large front loaders, telehandlers, and wheel loaders;
- For loaders with a lift capacity of 3-5.5t;
- Up to 2.1m3 of silage in a single operation;
- Opening width 200cm.

POWERGRAB XL+

- High-capacity bucket grab for silage handling with large telehandlers and wheel loaders;
- For loaders with a lift capacity of 5-10t;
- Up to 3 m3 of silage in a single operation;
- Opening width 214cm.

KVERNELAND F-DRILL – FLEXIBILITY FOR FARMERS AND CONTRACTORS

The f-drill has been designed to give farmers and contractors additional flexibility as it adapts to all kinds of farming systems, according to Kverneland. Here, we take a look at some of its main attributes

"This front hopper is ready to be combined with different implements and for operation in various working widths. A wide range of fine to larger seeds and fertiliser can be applied. Seeding and fertilising in one pass is possible as well as the combined application of seeds and companion crops," says Sebastian Koers, product manager at Kverneland Group.

In spring, the Kverneland f-drill can be used as a fertiliser hopper with the Optima F or for example in combination with the Kultistrip for strip tillage. When joined with a power harrow drill combination, such as the Kverneland e-drill, the f-drill can be used as an additional seed hopper for sowing companion or spring crops. In summer and autumn, the hopper can be combined with the Kverneland power harrow range and the well-known coulter bars to have a compact combination from 3m up to 6m working width.

Operator's safety and easy manoeuvrability

The modular structure of the Kverneland f-drill ensures an even weight distribution across the machine arrangement, giving the tractor the best balance by maximum capacity. This improves both safety and manoeuvrability, while at the same time giving the driver an unrestricted view over the entire machine set-up. The wheel packer with lifting function relieves the load on the front axle while maintaining good steering ability. The packer is self-steering and pull-attached which reduce power requirement and fuel consumption. It is available as basic version and as an Isobus steered comfort version.

Standard and duo

The front hoppers are available in two sizes and two versions. The f-drill compact has a capacity of 1,600L and the f-drill maxi up to 2,200L. The standard version is equipped with one Eldos metering unit. Either seeds or fertiliser can be filled into the hopper. Higher application rates can be achieved by the duo version, as two Eldos units distribute two times up to 400kg/ha of one type of fertiliser or seeds. Easy and reliable, the high volumes are ensured by the venturi system with no need for a pressurised system.

Easy connection with electronics

The Isobus e-com software 'plug and play' compatibility enables the f-drill to be connected to any Isobus-compatible tractor, for fully functional use by the tractor's own terminal. Alternatively, Kverneland's IsoMatch Tellus Pro or the IsoMatch Tellus GO+ terminals can be used. Both are fully Isobus compatible. Non Isobus tractors can be upgraded to Isobus standard by the IM Tellus series.

Pat McCormack, President, ICMSA

ILLOGICAL SEQUENCING OF SLURRY-STORAGE TAMS OPTION

A very wise axiom of the most successful managers in sports, commerce, innovation, or almost any other field of worthwhile human endeavour is to 'control the controllables'. Its apparent simplicity disguises the depth of its importance: there will always be factors beyond our control – other people, other motives, other priorities – but those factors that are within our control must be managed in a way that maximises their role in achieving the goals or ambitions we have set. Now, consider that message and set it against the emissions-lowering ambitions that we are told is the core operating principle of TAMS.

We have a completely illogical and unworkable sequencing of the slurry-storage option under TAMS 3 that is effectively going to mean that nothing at all will be done this year on one of the most effective areas for environmental improvement. Everyone agreed that improved slurry storage is top of the list in terms of the sustainability ambitions for the agriculture sector. Everyone agrees that we desperately need to get better storage facilities to the dairy farmers that are equally desperate to construct them.

The Department of Agriculture, Food and the Marine (DAFM) wants dairy farmers to have better slurry storage and the dairy farmers want to build better slurry storage. It's all lined up. What could go wrong? Well, the DAFM could design a timeline for slurry storage in TAMS that would delay the whole process to a point, so late in this year, that no building work might even commence, much less be completed. And, that is exactly what they have done.

To be honest, this is the kind of sequencing that just drives farmers mad and makes a mockery of the DAFM's own list of priorities.

The deliberations on TAMS made no amendment to the calendar for applying for a grant for improved slurry storage, so we are left with a date for those applications of mid to late June, with a decision on approval to be expected in late August or early September, with the successful farmer applicant expected to find a contractor and begin the work just as the days get shorter, darker, and wetter. Would it not have made so much more sense to bring forward that sequence so that the approval and construction was possible by that mid-June deadline when the weather and ground conditions would allow for faster and more efficient construction? Wouldn't bringing forward that tranche dealing with the slurry storage also coincide with the DAFM's own prioritisation of improvements in that area? The department's sequencing and timeline on this – something that was entirely within their own control – writes off the whole year in terms of getting better slurry storage.

It's important to realise that these were not overly complex calculations and sequences to work out. This wasn't 'high' maths, it was a simple sequence that a novice civil servant with a pencil and a calendar and the phone number of a small building contractor might be expected to set out correctly.

But it hasn't been set out correctly and, therefore, a really easy 'win' for the agri-sector on lowering emissions has been lost for this whole year. It is incredibly frustrating for farmers to have to plead for the obvious and logical sequence to be introduced.

The minister should intervene on this matter and rearrange the timeline in a way that has the DAFM issuing approvals by mid-June so that the farmers can get the builders, the builders can get the weather, and the department gets the slurry storage improvements that are the whole point of the process.

45% OF FATAL FARM ACCIDENTS INVOLVE VEHICLES

FARM VEHICLE ACCIDENTS CONTINUE TO BE THE MAIN CAUSE OF FATALITIES ON IRISH FARMS. CIARAN ROCHE, FBD RISK MANAGER, REPORTS

The Health and Safety Authority's *Review of Work-Related Deaths in Agriculture in Ireland 2011-2020* identified that 45 per cent (93) of farm-related fatal workplace accidents involve vehicles. Of the 93 fatal accidents 55 per cent involved tractors, 14 per cent involved loaders/telehandlers and 14 per cent involved quads. Farmers rely on tractors and other vehicles (including quads) to get their work done quickly and effectively. Not only are tractors and vehicles essential on the farm, but they are instrumental in helping to save time and increase productivity. However, they are hazardous if not operated safely and tragically the proof of this is all too clear. It is essential to ensure that all farm vehicles are well maintained and operated in a safe manner by competent people. Two of the main causes of vehicle-related fatal accidents are vehicles crashing (29 per cent) and parked vehicles rolling and striking a victim (25 per cent).

Vehicles-related accidents are caused mainly by:

- Operator: e.g. human error, inexperienced operator, speed, fatigue, distraction (mobile phone);
- Unsafe environmental conditions: e.g. steep gradient, poor weather, poor driver vision;
- Unsafe vehicles: e.g. poor mechanical condition of vehicle; and
- Unsafe systems of work: e.g. failure to follow safety procedures or ignoring a warning.

A large number of tractor accidents can be prevented by following the steps below:

- Always maintain tractors in good condition, in particular the brakes, lights, mirrors and wipers;
- Special attention should be given to ensure that brakes are serviced on tractors, as there have been a significant number of fatalities due to brakes not working effectively;
- Ensure that all controls are maintained in good working order and clearly marked;
- Make sure all moving parts such as the PTO shaft are guarded properly;
- Ensure that a cab or safety frame is fitted;
- Only allow competent experienced people to operate tractors;
- Avoid rushing, drive at a safe speed, always be vigilant and take adequate breaks;
- Always park the tractor safely and remove the keys; and
- Keep children away from areas where tractors are operating.

QUAD BIKE SAFETY

The causes of quad-bike accidents can often be attributed to lack of training and experience, excessive speed, carrying a passenger or an unbalanced load, turning over on a slope or due to hitting a rock, rut or bump. The most important safety measures for those using quads are training, experience, wearing personal protective equipment (PPE), maintenance and a good knowledge of the terrain. Head protection is essential as a significant percentage of serious injuries with quads involve head injuries. New legal requirements regarding all-terrain vehicles (ATVs) operation under the Safety, Health and Welfare at Work (General Application) Regulations are due to come into effect on November 20, 2023. These regulations require that all operators of quad bikes/ATVs, in all workplaces must have successfully completed a Quad Bike Training Course provided by a registered training provider to a QQI Standard or equivalent. Additionally all such operators must wear appropriate (PPE), while operating a quad bike.

CHILD SAFETY

Tractors and vehicles account for most of fatal accidents involving children on the farm and therefore children must not be allowed access to the areas where tractors and vehicles are in operation. Children should be supervised at all times on the farm. As per the *Code of Practice on Preventing Accidents to Children and Young Persons in Agriculture*, children under the age of seven must not be allowed to ride on a tractor. Children over the age of seven may only ride on a tractor provided it is fitted with a properly designed and fitted passenger seat with seat belts inside a safety cab or frame. Children under the age of 14 must not be allowed to drive or operate tractors or self-propelled machines. In addition children over the age of 14 must only be allowed to operate tractors after having received adequate training and under adequate supervision. Young people must be at least 16 and hold an appropriate drivers licence before they can drive in a public place.

Always thinks safety first when operating farm vehicles, ensure that they are maintain in good condition and only allow competent people to operate them. It could be the difference between life and death.

DATA SOURCES

- https://www.hsa.ie/eng/publications_and_forms/publications/agriculture_and_forestry/a_review_of_work-related_fatalities_in_agriculture_in_ireland_2011-2020.pdf
- https://www.hsa.ie/eng/Your_Industry/Agriculture_Forestry/Young_Elderly_on_Farms/Children_on_Farms/

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AGRI TALES

ALMA JORDAN, FOUNDER OF THE AWARD-WINNING SOCIAL ENTERPRISE AGRIKIDS, HAS RECENTLY PUBLISHED A NEW BOOK, WITH A SECOND IN THE SAME SERIES HITTING THE SHELVES ON MARCH 2ND FOR WORLD BOOK DAY. HERE, WE TALK TO ALMA ABOUT HER PASSION FOR EDUCATION AND FARMING

Alma spent her childhood on a beef and tillage farm in Kildare and she currently lives on a farm in Meath with her husband and son. She is best known in the farming world for her farm safety education platform, AgriKids, which she set up in 2014 in response to the high number of farm accidents recorded that year and, heartbreakingly, the deaths of two young children on a farm: "I was so upset for the families that I wanted to make sure we were doing our bit when it came to safety."

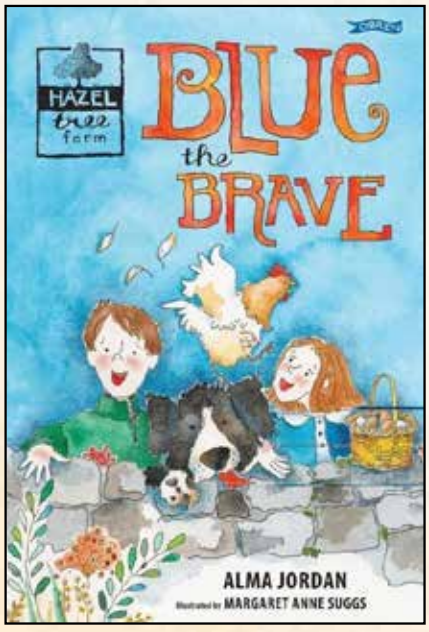
AgriKids is aimed at schoolchildren and offers training, interactive games, workshops and school talks for a classroom setting. "We engage, we educate and empower kids to be farm safety ambassadors."

It has been a labour of love for Alma and her efforts have been acknowledged in numerous ways: she has won a host of awards including a Social Entrepreneurs Ireland Award, a Network Ireland Business Woman of the year and an All Star Female Led Business award.

BRAVE MOVE

Alma has also written and self-published books which offer key safety themes within the storylines. "I got a D in English in my Leaving Cert - I never thought I'd become an author. As a child, I was your quintessential Enid Blyton and Roald Dahl fan. I liked stories with a little bit of magic; I was a daydreamer and writing books now is putting my daydreams down on paper."

Alma's self-published books attracted the attention of O'Brien Press and she began working on a project with the publishing company aimed at children aged 10 and over. "My books are a tool to encourage kids to keep reading, but I have always wondered why there aren't more farming themed books for kids beyond toddler age. And, for a long time, I've been passionate and curious about the disconnect around agriculture I believe we have in Ireland. There isn't a good understanding about what farmers do. So, during Covid, I tried my hand at farm stories for children aged 10+. They are partly based on my own farm life as a kid in Kildare. I want them not just to appeal to farm children, I want all kids to read and appreciate the books. I like to think that we could open the eyes of other kids to what life on a farm is like and maybe even encourage them to take up agriculture as a career."



Blue the Brave is the first book published within this series. Illustrated by Margaret Anne Suggs, the book tells the story about Peter Farrelly who is hard at work training sheepdog Blue for the trials at the Ballynoe Fair, while Kate – who wants to be a vet like her mam – is busy with her cheeky pet hen, Hettie. "The characters are all personal to me. Peter and Kate are the two main characters, and the names come from my grandparents."

The book was published in February 2023 and another book is due out in March to coincide with World Book Day. "I was on holiday in Disneyland last June – the first time out of the country as a family in years – and I got a call from O'Brien about World Book Day; they said they'd love for my book to be involved and they wanted me to write another book! I went straight to the souvenir shop and bought a Mini Mouse pen and a Lion King notebook and began the outline for the forthcoming Hazel Tree Farm book - One Stormy Night. This is the prequel to Blue the Brave and sets the scene and background for the characters." Alma adds that there will be a third book in the autumn.

TELLING THE FARMER'S STORY

Showcasing Irish farming life and encouraging interest in agriculture is at the heart of Alma's storytelling: "I would love to see this series inspire children to read, while also giving a platform to Irish farming. Some of the best workshops we have held have been in urban schools. In no way was their interest dulled by not being on a farm. I am hoping that we can talk about farming in a way that's more positive, because, as farmers, we need to talk about what we do, how we do it, and why we do it. We need to reconnect. We're good at farming, but we need to be better at safety."

AGRIKIDS CALENDAR

Alma has a full schedule for the year ahead: "I am actually booked out for the rest of the year. I am visiting all the schools and preschools to award them as AgriKids safety ambassadors. I am also part of the Safe Habitat project, led by Teagasc, which will run for the next four years, and we are investigating how to improve farm safety on a European level. AgriKids is the only child-centric safety programme on a European level. And I will be out and about at shows over the summer. The work I do is for farm families and I want it to be available to as many people as possible, but it is limited by me. I am hoping to get sponsors on board again and get better structures in place beyond me to build and grow."

LET THE CULLING COMMENCE

The carbon cull could become contagious. All we need to do is decide which carbon emitters to prioritise in this culling frenzy. Why stop at culling cows? Let's include cars, for a start. Globally, there are approximately 1.45 billion privately owned cars. In Ireland, the figure up to May of last year was 2.46 million units. That was an increase of 3.2 per cent on the previous 12 months. Ten years ago, the number of cars on Irish roads was close to 2.25 million. Over that 10-year period the car herd increased by 210,000 units to 2.46 million. That represents impressive annualised growth given that it includes a slowdown in car purchases in the early years of the last decade after the near collapse of the Irish economy, as well as a fall off during the Covid-19 pandemic of 2020 and 2021. New-car purchase is again gathering momentum, only hindered by supply-chain shortages in steel, semi-conductors and other essential car components. Parking the modest increases in electric car ownership, there is a rational argument to initiate a car cull. Petrol and diesel-fuelled cars are recognised as prime emitters of greenhouse gases (GHGs). The list of noxious, chemical fumes spewed out by car exhausts include nitrogen oxides, particulate matter, sulphur oxides, carbon monoxide, as well as heavy metals including cadmium, lead and mercury. Car use contributes to lung disease incidence and other health issues. That's before we consider the negative impact on our natural environment and the long-term GHGs cars release into the atmosphere. Is a 30 per cent car cull merited? Another targetted cull could legitimately be aimed at aviation. Last year, after a two-year Covid-induced hiatus, over 28 million passengers travelled through Dublin Airport. Add on another four million for the other major airports and we have 32 million passengers. Many Irish people do not fly at all, so there are some people taking several flights, annually. A further segregation of those travelling on essential business, leaves a major cohort who hop on a plane at a whim, several times a year. Take out tourists visiting Ireland, because they make an important economic contribution and there is still a strong case to reduce the amount of non-essential flight travel. Aviation fuel carries no tax burden so that artificially reduces the cost of flight travel. That same aviation fuel pollutes the environment and makes a major contribution to climate change. Does a 30 per cent seem reasonable?

We now have more mobile phones than people – by a considerable margin. They contribute to the growth of data centres, the ongoing depletion of rare earth minerals, and are an increasing drain on our energy sources, renewable or otherwise. Again, the bottom line is that phones contribute to climate change and global warming.

So, is a 30 per cent cull called for?

The mechanics of culling cars, flights and mobile phones are incidental. We managed to ban tobacco use in public places. We eliminated smokey fuels from urban areas. A cull of planes, phones and automobiles would have an immediate and positive impact on our environment. Even a quota on flights, mobile phone use, and car ownership would make a substantial contribution to our carbon-reduction commitments. The righteous brigade might complain of interference with their civil, even human rights. The sense of entitlement to fly, drive and text incessantly is seemingly sacrosanct. However, curtailment of food production can and must be accepted as a necessary sacrifice for the common good.

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