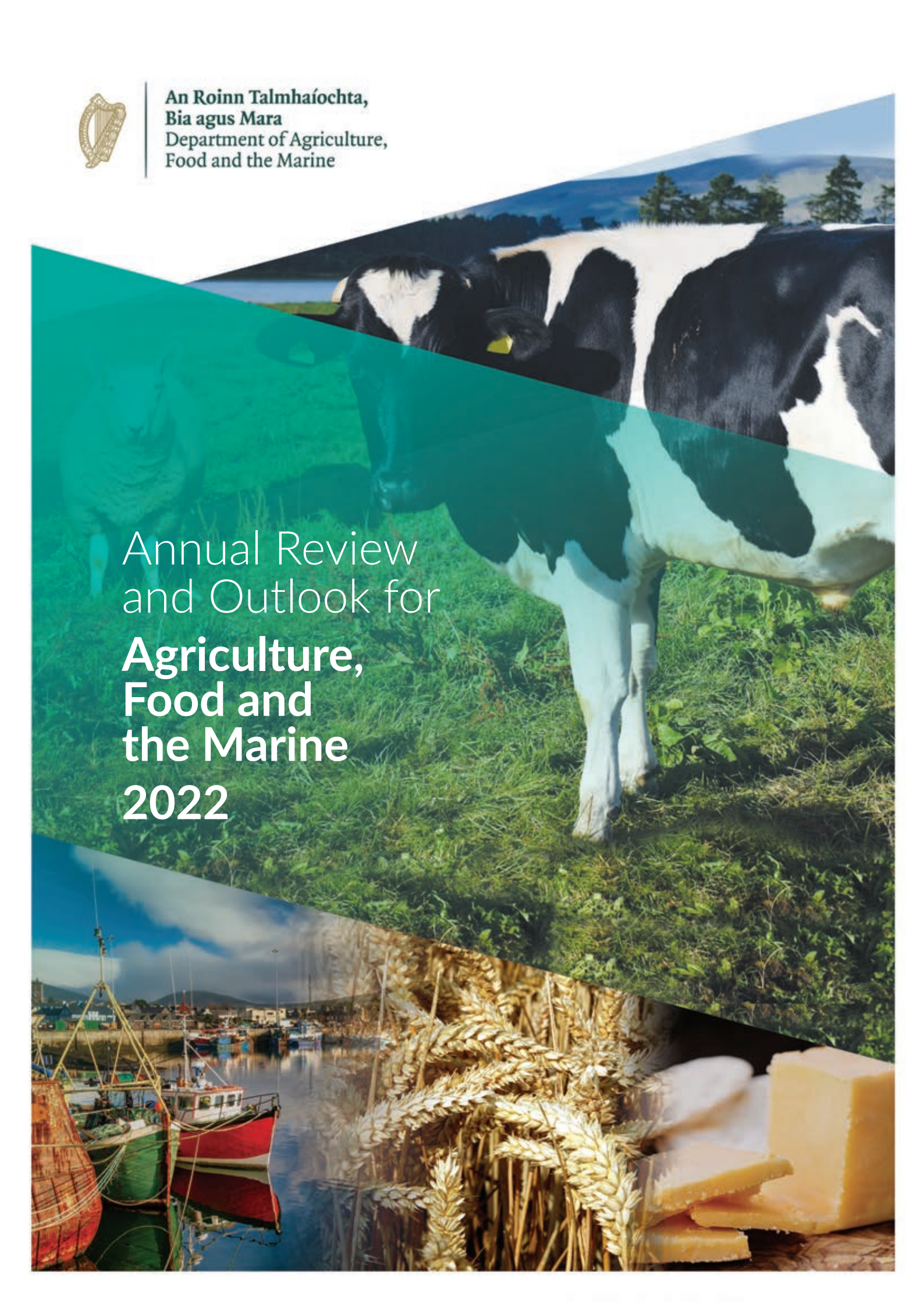




An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

The background of the cover is a collage of three images: a black and white cow in a green field, a harbor with several boats, and a close-up of golden wheat stalks and slices of cheese.

Annual Review and Outlook for **Agriculture, Food and the Marine** 2022



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

Annual Review and Outlook for **Agriculture, Food and the Marine** 2022

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Foreword

by Minister Charlie McConalogue T.D.



My Department's Annual Review and Outlook for Agriculture, Food and the Marine 2022 presents key data and information relating to the agri-food sector in Ireland. It provides an in-depth overview of the sector and delivers an outlook for the coming year.

It is an analysis of yet another challenging time for the sector, as the Russian invasion of the Ukraine exacerbated the ongoing effects of the pandemic. Once again, we have seen the resilience of our farmers and fishers, food producers, processors, and the distribution chain. This is evident in the rise in value of agri-food exports for 2021 to a record €15.4 billion, which is up 51% on 2012. We exported our in-demand produce to over 180 countries, with our largest export being dairy, which exceeded €5 billion for the third year in a row. Agri-food exports accounted for 9.5% of total exports from Ireland.

In 2021, Ireland had 135,037 farms, 808,848 hectares of forestry and nearly 1,900 fishing vessels. The sector employed 170,400 people, or 7.1%, of the total workforce on the island. Average Family Farm Income increased for the third successive year, by 26% during 2021. Irish farmers received close to €1.9 billion in direct and capital payments under EU and nationally funded schemes.

In summer 2021, I joined An Taoiseach Micheál Martin and Government colleagues in launching the new strategic framework for the sustainable development of the agri-food sector: 'Food Vision 2030 – A World Leader in Sustainable Food Systems'. This framework set an ambitious vision – that Ireland will become a world leader in sustainable food systems over the next decade.

In the time that has passed since this launch, stakeholders from across the sector have been working hard to make the Vision a reality. Achieving sustainability in all its dimensions will deliver significant benefits for the Irish agri-food sector, for Irish society and the environment. Ireland has long been held in high regard worldwide for our quality produce. My aim is to continue bringing excellent produce to the world market, while maintaining the highest standards of economic, environmental, and social sustainability.

Having a reliable evidence base is essential for policy formation, planning and implementation. This is more important than ever as we continue paving the way into the new era of sustainable development of the agri-food sector. I am sure that the data and information included in this Annual Review and Outlook will be of vital importance to the sector over the next year.

A handwritten signature in dark ink that reads "Charlie McConalogue". The signature is written in a cursive, flowing style.

Charlie McConalogue T.D.
Minister for Agriculture, Food and the Marine

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Annual Review and Outlook 2022

Top 20 Agri-Food sector export destinations

Total
€15.4
Billion

- | | | | | |
|-------------------------------------|---------------------------|----------------------------|---------------------------------|------------------------------------|
| 1 UK
€5,799 million | 5 Germany
€819 million | 9 Belgium
€271 million | 13 Denmark
€155 million | 17 The Philippines
€110 million |
| 2 United States
€1,291 million | 6 China
€778 million | 10 Nigeria
€211 million | 14 Poland
€150 million | 18 Mexico
€103 million |
| 3 The Netherlands
€1,240 million | 7 Italy
€396 million | 11 Sweden
€204 million | 15 Canada
€144 million | 19 Australia
€96 million |
| 4 France
€858 million | 8 Spain
€296 million | 12 Japan
€177 million | 16 Saudi Arabia
€112 million | 20 Switzerland
€90 million |

* rounding in operation



CHAPTER 1

Agri-Food Sector and the Economy



The operating surplus in agriculture in 2021 was
€3.5 billion,
up 18% on 2020.



Ireland's agri-food exports were a record
€15.4 billion
in 2021, a 50% increase
in 10 years.



The Agri-food sector
employed
170,400
people in 2021, up
4.2% on 2020.

1.1 Overview

The agri-food sector includes primary production in farming, fishing and forestry, and the processing and manufacture of food, beverages and wood products. It is Ireland's oldest and largest indigenous sector and reaches out to every corner of the country and across our seas. In 2021, the sector employed 170,400 people, representing 7.1% of the total workforce across 135,000 farms, 2,000 fishing vessels & aquaculture sites and some 2,000 food production and beverage enterprises. The sector is responsible for 4.5 million hectares of agricultural land, 770,000 hectares of forestry and producing close to 10% of Ireland's exports each year.

It is estimated that Ireland exports up to 90% of the food it produces. In 2021, Irish food and drink was exported to over 180 countries worldwide. Exports of Agri-Food products were valued at a record €15.4 billion, a 50% increase over the past ten years, up from €10.2 billion in 2012. Agri-Food exports represented 9.4% of Irish merchandising exports and the sector had a trade surplus of €5.6 billion.

In Ireland, agri-food is an integral part of the economy and society, and especially so for our rural and coastal communities. Beyond direct employment, the sector plays a key role in the wider rural and local economy, with estimates for output multipliers ranging from around 2.5 for beef, 2.0 for dairy and food processing and 1.75 for seafood. This compares with an average output multiplier of 1.4 for the rest of the economy and 1.2 for foreign owned firms. The Food & Drink sector accounted for 38% of all exports of Irish-owned firms in 2020.

The sector produces food and ingredients with a global reputation for quality and safety, with a livestock sector built on an enviable grass-based production system. Global demand for high quality food is increasing with population, urbanisation and affluence. The Irish agri-food sector is well placed to play a role in meeting this demand. Food Vision 2030, the strategy developed by representatives of the entire sector, sets out a vision for Ireland to be a world leader in sustainable food systems over the coming years.

Recent years have seen significant disruption to the sector caused by Brexit and COVID-19. The resilience shown by our farmers, fishers, food producers and processors, and the distribution chain, including retail, during this time is remarkable. Throughout the pandemic, the Irish agri-food sector continued operating, ensuring fresh and plentiful supply of quality food was available on the shelves of supermarkets and shops at home and abroad. Brexit impacted the agri-food sector more than most other sectors. This was particularly evident during the early months of 2021, when trade between Ireland and Great Britain was operating at a fraction of normal trade. Despite these setbacks, the agri-food sector had record exports in 2021 and Family Farm Incomes have increased for the third year in a row.

COVID-19 is still impacting life in 2022 and, like the rest of society, the agri-food sector has had to adapt. 2022 has seen a significant humanitarian crisis with the invasion of Ukraine. This crisis has had significant implications across all sectors, including the agri-food sector, and in particular on the cost of fertilisers, energy and feeding stuffs.

1.2 Economic Outlook

Recent years have presented a series of challenges. While uncertainty relating to Brexit was expected, the unexpected COVID-19 pandemic placed unprecedented stresses on food supply chains, with bottlenecks in farm labour, processing, transport and logistics, as well as shifts in demand. As society learnt to adapt and live with COVID-19, February 2022 witnessed the Russian invasion of Ukraine. This presented a new set of challenges. Russian and Ukrainian exports account for about 12% of total calories traded in the world, and the two countries are among the top five global exporters for many important cereals and oilseeds, including wheat, barley, sunflowers and maize. Ukraine is also an important source of sunflower seed oil, supplying about 50% of the global market while Russia is a major producer and exporter of potash, phosphate and nitrogen-containing fertilisers.

Linked to this series of challenges is the rise in inflation with June 2022 seeing inflation in Ireland reach 9.1%, the largest annual increase in the consumer price index for 38 years. In March 2022, the FAO Food Price Index (FFPI) reached its highest level on record since 1990, at 159.7 points. The FFPI retreated slightly in April, May and June 2022, though still 23% above its value a year earlier. Global oil and gas prices which were on an upward curve since the low prices of 2020 increased rapidly in early 2022, leading to significant price rises in energy products and fertilisers. The current price pressures increasingly show signs of broadening, suggesting that inflation could remain elevated for longer than previously anticipated.

The Department of Finance published their Summer Economic Statement 2022 in early July. It outlined that the economy has proven to be very resilient in previous years, and that this should help navigate our way through the testing times ahead. Economic recovery from the pandemic has been rapid, with activity in July 2022 5.6% above pre-pandemic levels. The evidence points to limited, if any, permanent damage ('scarring') to the economy from the pandemic. The rapid recovery in demand has run up against supply (capacity) constraints, putting upward pressure on prices. The step-change in energy prices on foot of the Russian invasion of Ukraine has worsened the inflation situation. Higher inflation means that the extraordinary monetary support of the last few years is now being withdrawn. Borrowing costs are, accordingly, on a rising trajectory. Public debt in Ireland is already very high, with significant fiscal challenges now firmly on the horizon.

The drivers of inflation largely relate to external developments including supply chain issues, the global energy market—the impact of the war in Ukraine has exacerbated these pressures—and the global level of savings. The difference between the headline and core inflation rate is largely due to energy price increases.

The data in table 1.1 reflects the Department of Finance's position in April 2022. While 2021 had seen strong growth in both GDP and GNP, both are expected to see more modest growth in 2022 and 2023. Modified Domestic Demand, which is arguably the most accurate indicator of domestic economic activity was 6.5% in 2021, but it is also expected to weaken slightly this year and next partly due to inflationary pressures. Unemployment took a big hit, mainly



DAFMag: Fergus Mahon

due to COVID-19, increasing from 5% in 2019 to 15.9% in 2021. This trend is now reversing with record numbers currently employed in the economy and unemployment expected to drop close to 5% by the end of 2023.

Table 1.1 Main economic and fiscal variables, per cent change (unless stated)

	2021	2022 Forecast	2023 Forecast
Economic Activity			
Real GDP	13.5	6.4	4.4
Real GNP	11.5	5.9	4.0
Modified domestic demand	6.5	4.2	3.9
Modified GNI	5.5	3.7	3.1
Prices			
HICP	2.5	6.2	3.0
Core HICP (*)	1.7	3.9	3.3
GDP deflator	-0.4	4.1	2.2
Balance of Payments			
Trade balance (per cent of GDP)	40.3	44.5	43.8
Current account (per cent of GDP)	13.9	18.1	17.3
Labour Market			
Total Employment ('000)	2,140	2,459	2,510
Employment	11.0	14.9	2.1
Unemployment (per cent)	15.9	6.2	5.4

Source: Department of Finance Ireland's Stability Programme, April 2022 Update

The Economic and Social Research Institute (ERSI) released their Summer Quarterly Economic Commentary, in late June. This notes that while the Irish economy is continuing to perform strongly in 2022, it is more subdued than the exceptional performance seen in 2021.

According to their commentary, they expect GDP to grow by 6.8% this year, and 4% in 2023, driven by strong export growth. Modified domestic demand (MDD) is forecast to increase by 4.4% and 3.7% for the same period, somewhat lower than outlined previously.

In July, The Central Bank of Ireland outlined that the recovery in demand since the pandemic abated has been tempered by the effects of the Russian invasion of Ukraine and more persistent supply-side challenges. They forecast that the economy will grow in 2022 but that higher and mostly externally-driven inflation will weigh on households and businesses in the short-term. Uncertainty around the medium-term outlook remains high. However, the central expectation is that inflation will start to decline during the second half of this year, falling to just above 2% in 2024. The main economic consequence of the Russian war in Ukraine has been to exacerbate global inflationary pressures and supply-side constraints. These were already arising as a result of the pandemic recovery. High energy prices are the most obvious example of the challenges that have come to the fore in 2022.

The EU's 2020 Economic Forecast, released in May 2020, projected that the outlook for the EU economy before the outbreak of the war was for a prolonged and robust expansion. However, Russia's invasion of Ukraine has posed new challenges, just as the Union had recovered from the economic impacts of the pandemic. By exerting further upward pressures on commodity prices, causing renewed supply disruptions and increasing uncertainty, the war is exacerbating pre-existing headwinds to growth, which were previously expected to subside. These factors led the European Commission to revise the EU's growth outlook downwards, and the forecast for inflation upwards. Energy commodity prices had already increased substantially before Russia's invasion, from the lows achieved during the pandemic. As supply struggled to keep up with the strong synchronised rebound in global activity, they surged well above pre-pandemic levels. In Europe, in particular, gas and electricity have been trading at record prices since autumn of 2021. Given the importance of Russia as a major exporter of fossil fuels, uncertainty about supply in the aftermath of the war has brought renewed upward pressures on energy commodity prices, amidst heightened volatility. The forecast uses the indications coming from markets' futures curves to project energy inflation.

The forecast indicated that GDP in Ireland is expected to keep increasing significantly, by 5.4% in 2022 and 4.4% in 2023, although slightly slower than previously expected. This is due to higher inflation, supply bottlenecks and uncertainty created by the Russian aggression against Ukraine, which will negatively affect private consumption and investment. Net exports are projected to remain resilient and an important source of growth. Inflation is rising and expected to remain high for longer, albeit moderating in 2023.

The OECD Economic Outlook is the OECD's bi-annual analysis of the major economic trends and prospects for the next two years. In June, they outlined that the world is paying a heavy price for Russia's war in Ukraine. They described it as a humanitarian disaster, killing thousands and forcing millions from their homes. The war has also triggered a cost-of-living crisis, affecting people worldwide. When coupled with China's zero-COVID-19 policy, the war has set the global economy on a course of slower growth and rising inflation, a situation not seen since the 1970s. Rising inflation, largely driven by steep increases in the price of energy and food, is causing hardship for low-income people and raising serious food security risks in the world's poorest economies.

The OECD's Outlook for Ireland outlines that against the backdrop of high COVID-19 vaccination rates, the full reopening of the economy is boosting a broad-based recovery, with GDP projected to increase by 4.8% in 2022 and 2.7% in 2023. Business conditions underpin sizeable employment gains, while household excess savings and wage increases support consumer spending. However, surging inflationary pressures, caused by disruptions in global supply chains and geopolitical concerns, will cut households' real income and dampen consumption growth.

1.3 EU Agricultural Economic Outlook

The EU Agricultural Outlook for Markets, Income And Environment 2021 – 2031 is published once a year and presents the outlook for major EU agricultural markets, income and environment over the next ten years to 2031. It is based on a set of assumptions regarding macroeconomic conditions, the fixed agricultural and trade policy environment, and international market developments. These assumptions imply relatively smooth market developments when, in reality, markets tend to be much more volatile. Therefore, the outlook is not a forecast. More precisely, the projections correspond to the average trends agricultural markets are expected to follow in a given macroeconomic environment, if policies were to remain unchanged.

Published in December 2021, it outlined that according to macroeconomic assumptions, the global economy had rebounded in 2021 and will level off at an annual average level of growth of 2.7% by 2031. It forecast that the EU economy should recover to pre-COVID-19 levels by

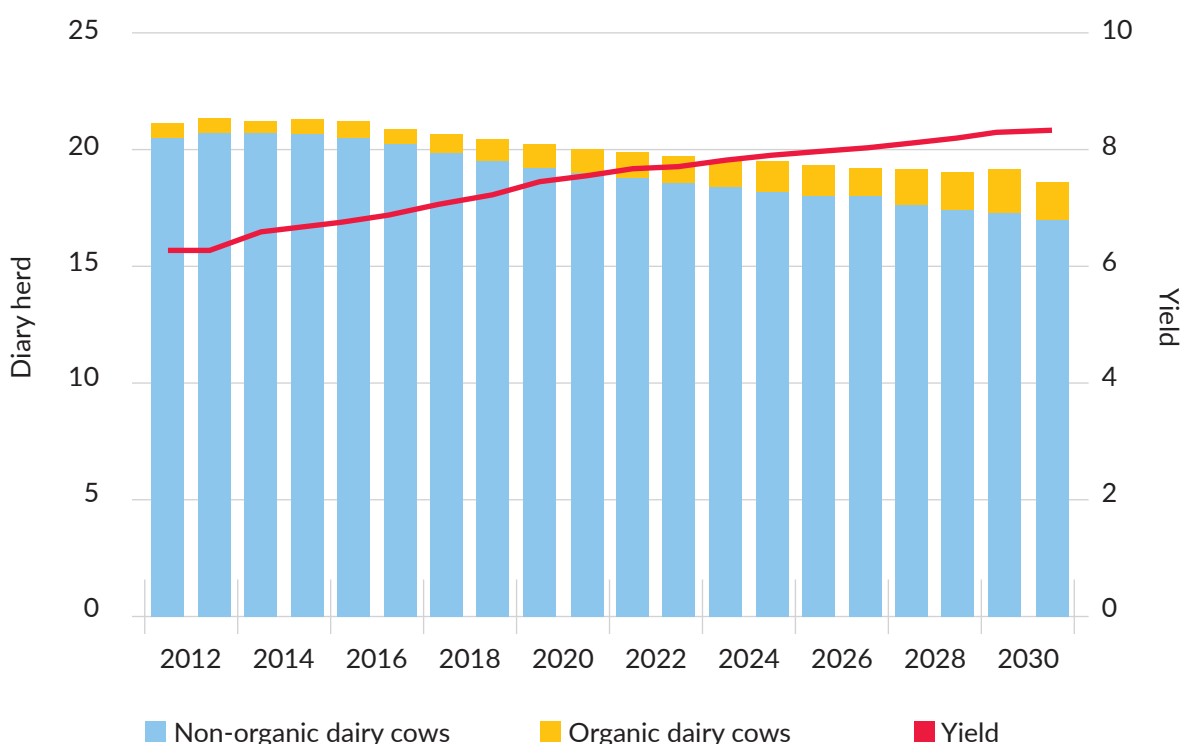
2023. Following several years of low inflation, the strong resumption of economic activity has been accompanied by an increase in commodity prices, mostly in energy prices, leading to a 10-year high in euro area inflation of 4.9 % in November 2021, reaching an all-time high of 8.9% in July 2022. The Outlook assumes the EU inflation will stabilise at 1.9% per year by 2025.

The Outlook projects that the total EU agricultural area will decrease slightly, mainly driven by reduced arable crops acreage. In the absence of supportive measures from the new CAP or European Green Deal related initiatives (yet to be implemented), the area dedicated to organic production is expected to reach 15% of the total agricultural land by 2031. This assumes that the demand for this type of production will continue to grow.

The total EU cereal area is projected to decrease to 51.2 million hectares between 2021 and 2031, driven by a decrease in the main cereal's areas. Yields of wheat and barley are expected to slightly decline, while maize yields may still increase due to yield improvements in eastern EU countries. This will translate to cereal production of 276 million tonnes in 2031, which will be down 2.5% compared to 2021.

The Outlook indicates that sustainability objectives could translate into a slowdown in annual growth in EU milk production (0.5% per year), which will reach 162 million tonnes by 2031. The sector will also likely further improve farming practices, focusing on efficiency gains and on higher environmental standards, while adding value to final products. Alternatives to conventional systems will gain a greater market share resulting in a lower annual yield growth of 1.2%, compared to 1.9% in 2011-2021, and offsetting stronger dairy herd reduction of 1.5 million cows by 2031. Organic milk production is expected to reach 8% in 2031, up from 3.5% in 2019, providing economic value, environmental benefits and satisfying societal demands such as animal welfare.

Figure 1.1. EU Dairy Herd (million heads) and Yield Development (tonnes/cow)



Source: EU Agricultural Outlook for Markets, Income And Environment 2021 – 2031

The EU will remain the largest dairy supplier on the world market with 30% of global dairy trade in 2031, ahead of New Zealand and the US. The strongest dairy demand growth will be recorded in Asia, driven in particular by rising incomes and westernisation of diets. Increasing demand will cover final products such as cheese and fresh dairy products, but potentially also value-added commodities for further processing domestically. Demand for organic dairy products is growing worldwide and creating considerable opportunities, including for the EU.

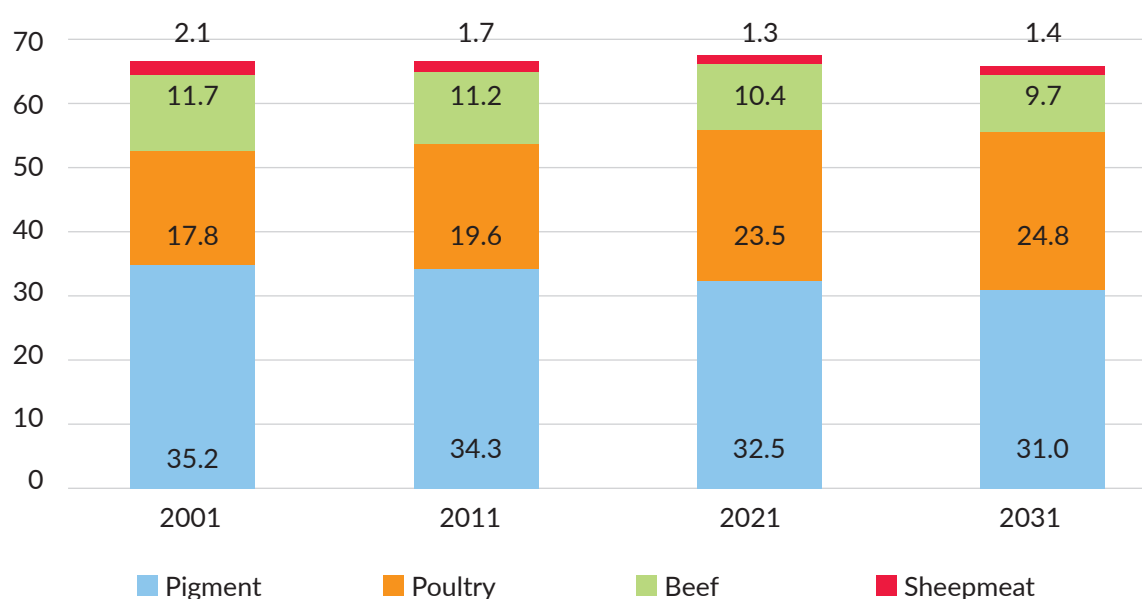
Cheese production is expected increase most from the additional EU milk that will be produced by 2031, while also generating the highest value. SMP and whey powders will closely follow in contribution to growth in volume terms. The EU market will remain the main user of domestically produced milk even if the share of exported milk could increase to 17% compared to 15% in 2021.

Nutritional aspects and functionality will drive EU dairy demand, with organic consumption being supported by public support measures. Organic traditional dairy products such as cheese, fresh dairy products and butter will benefit the most from existing demand while the expansion potential of organic milk powders remains high. The growth in EU consumption of cheese, fresh dairy products and butter could remain relatively modest and expanding production could be absorbed by rising exports. The EU will keep its position in the global trade of milk powders. While the stimulus for SMP production will come from export growth, domestic use will drive production increases in whey powders and WMP. The availability of plant-based products will also be a factor.

By 2031, greater demand for milk proteins and the anticipated sustained, high valorisation of milk fat are expected to drive an increase in the EU raw milk price of around EUR 39/t by 2031.

World meat consumption is expected to continue growing by 1.4% per year, thanks to increasing population and higher income in developing countries. An additional 3.4 million tonnes of meat imports globally will be needed to close the gap between domestic consumption and production in many countries. Sustainability is expected to play an increasingly prominent role in EU meat markets, both for producers and for consumers. As consumers' environmental awareness, health considerations and convenience trends change, per capita EU meat consumption is projected to slightly decline to 67 kg by 2031.

Figure 1.2. EU per Capita Consumption by Meat Type (kg)



Source: EU Agricultural Outlook for Markets, Income And Environment 2021 – 2031

Following the decline in the EU cattle herd, production of beef is expected to fall. Following the long-term trend, EU beef consumption is due to decline by 0.9 kg per capita. Export opportunities of meat may improve in the medium term but will be offset by a decline of live animal exports due the lower demand in Turkey and animal welfare concerns over long-distance transport. EU beef imports could also rise slowly but stay below the 2019 level because of high global demand.

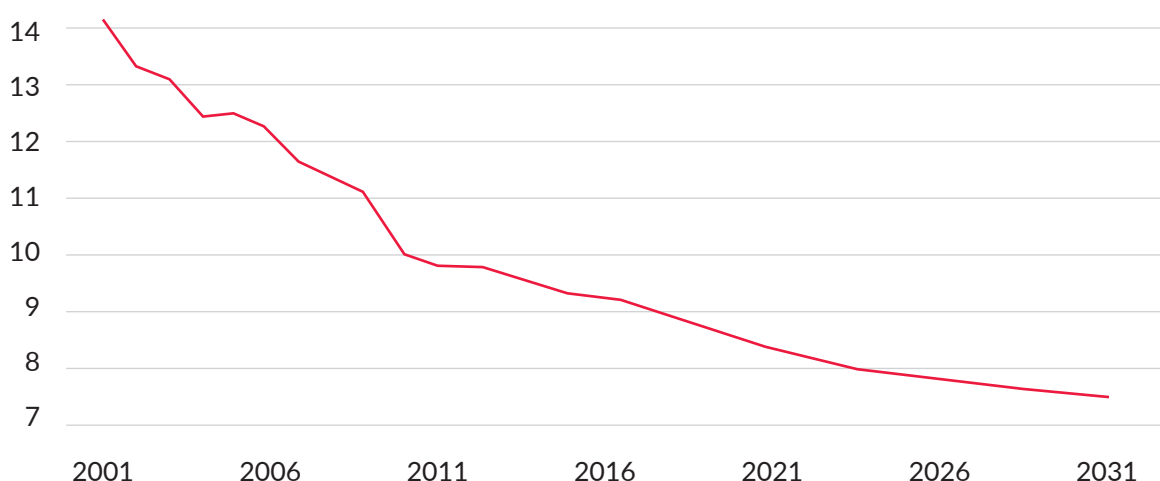
The recovery of pigmeat production capacity in China will have a massive negative impact on EU exports. Moreover, health, environmental and societal concerns should shift consumer preferences away from pigmeat, resulting in a yearly decline in production of 0.8% in the period 2021-2031. Nevertheless, the EU is likely to remain the biggest pigmeat exporter in the world.

The increase in EU demand for poultry meat and in EU poultry production is set to slow. Consumers still see it as a healthy and sustainable product. Exports should continue to benefit from the valorisation of specific cuts that are less in-demand in the EU, but expansion will be limited by competition. Imports, mostly supplying foodservice, are expected to recover close to pre-COVID-19 levels.

The EU production and consumption of sheep and goat meat are projected to increase slightly. Exports of live animals are due to decrease, mainly due to animal welfare concerns and financial risk, but may be balanced by exports of meat as a result of consolidation of trade with the UK and the Middle East. Imports of sheep meat will recover in the short term, but Australia and New Zealand will focus more on Asian markets.

Overall, the value of EU agricultural production is expected to increase by 0.7% per year. The value of crop production could decrease by 0.5% per year, a reversal of the past trend, while the growth in the value of animal products is due to slow down. The increase in intermediate costs is expected to slow down as well, while the share of energy and fertiliser costs will expand to 22%. The yearly increase in net value added is slowing down to 1%, compared to 3% in the period 2011-2021.

Figure 1.3. *Number of Agricultural Workers (Million Annual Work Units)*



Source: EU Agricultural Outlook for Markets, Income And Environment 2021 – 2031

Agricultural labour is projected to decrease by 1.3% per annum over the coming decade, slowing down compared to the 1.9% decrease over the previous decade. The number of farms managed by younger farmers has marginally increased by 3,200 per year between 2005 and 2016, a trend expected to continue out to 2031. Total farm income is projected to decrease by 1.2% per year during the projected period, offsetting the outflow of the labour force. As a result, farm income per worker is due to remain stable.

“
In 2021, the operating surplus in agriculture was €3.5 billion, up from €3.0 billion in 2020, an increase of €533 million or 18%.

1.4 Contribution of the Agri-Food Sector to the Economy

Gross Value Added and Modified Gross National Income

The agri-food sector is Ireland's most important indigenous exporting industry, playing a vital role in Ireland's economy. It is estimated that the agri-food sector, which is classified as primary production (agriculture, fishing and forestry) along with food & beverages and the wood processing sector, accounted for almost 4% of Gross Value Added at factor cost each year over the past three years. Gross Value Added at factor cost is the Gross Value Added at market prices less any indirect taxes plus any subsidies. The table below provides a further breakdown of these figures for the three years with the 2021 figure based on preliminary data from the CSO.

Table 1.2 Contribution of the Agri Food Sector to GVA, 2019 to 2021

	2019	2020	2021*
*2021 data is preliminary	Current prices, million euro		
Gross Value Added (GVA) at Factor Cost	€333,163	€355,459	€404,426
GVA in Primary Agriculture, Fisheries and Forestry at Factor Cost	€4,863	€5,124	€5,953
GVA in Food & Beverages Sector	€7,462	€7,691	€9,081
GVA in Wood Processing (estimated)	€327	€313	€367
Total	€12,653	€13,128	€15,402
GVA in Primary Sector as a % of GVA	1.5%	1.4%	1.5%
GVA in overall Agri-Food Sector as % of GVA	3.8%	3.7%	3.8%

Source: CSO

The Gross Value Added at Factor Cost in the agri-food sector has grown from €10.3 billion in 2012 to €15.4 billion in 2021, which equates to growth of almost 50% over the ten year period. In 2021 Gross Value Added in the overall agri-food sector represented 3.8% of total Gross Value Added at factor Cost. Modified GNI or GNI* is an indicator that was recommended by the Economic Statistics Review Group and is designed to exclude globalisation effects that are disproportionally impacting the measurement of the size of the Irish economy. Preliminary CSO results indicate that in 2021, the agri-food sector accounted for 6.6% of GNI*, the same as in 2020.

1.5 Agricultural Accounts in Ireland

The Central Statistics Office (CSO) has published the Final Estimate on Output, Input and Income (OII) in Agriculture for 2021. The OII outlines the performance of the primary producers in agriculture, providing details on the value of output at producer prices or at the farm gate, the cost of inputs, and the overall income or operating surplus in agriculture. In 2021, the operating surplus in agriculture was €3.5 billion, up from €3.0 billion in 2020, an increase of €533 million or 18%. Goods output at producer prices increased by 15% to €9.7 billion, up from €8.4 billion in 2020 and from €8.0 billion in 2019. Intermediate consumption, which is the value of all goods and services used as inputs in the production process excluding fixed assets, increased by 9.4% to €6.2 billion, up from €5.7 billion in 2020.

The main drivers of the increase in the value of goods output were milk, up in value by €642 million (23%) to €3.4 billion, cereals which were up by €145 million (50%) to €434 million and cattle which was up by €290 million (13%) to €2.6 billion. On the downside the value of pig output was down €47 million (8%) to €555 million.

On the input side, the increase in intermediate consumption was driven by a rise in feedingstuffs of €273 million (18%) to €1.8 billion, an increase in energy and lubricants of €79 million (21%) to €456 million and an increase of €73 million (14%) to €606 million in the cost of fertilisers. Feedingstuffs, energy and lubricants, along with fertilisers, accounted for 46% of the total costs of intermediate consumption in 2021. These three areas of expenditure are likely to see further significant cost increases in 2022. The cost of contract work, which represents about 7% of total intermediate consumption, increased by €33 million (8%) in 2021 to €464 million.

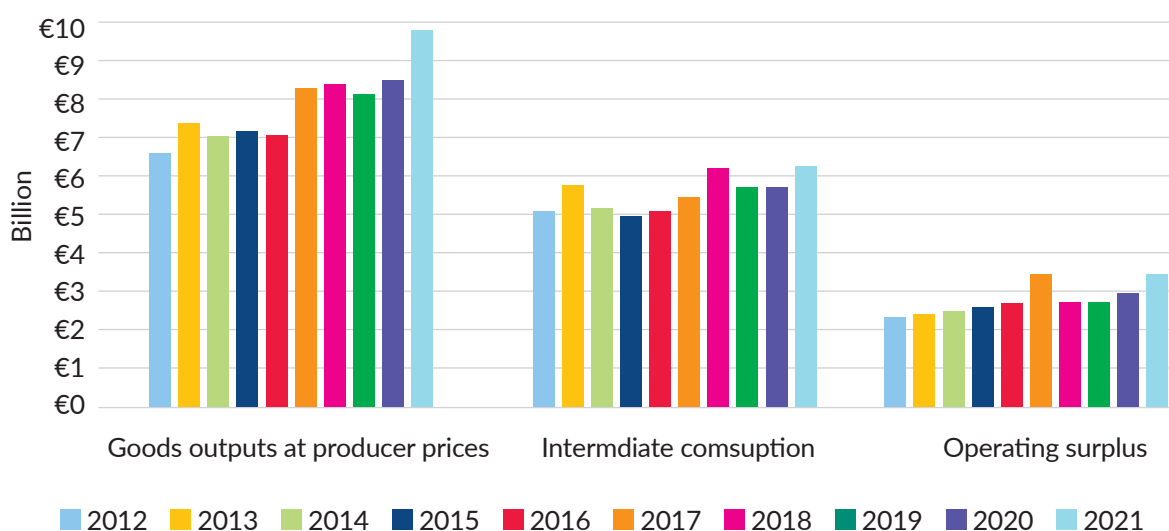
Subsidies less taxes on production and on products was worth €1.73 billion in 2021, down slightly on 2020 by €30 million (2%). This reduction was mainly due to the absence of exceptional payments that had been paid in each of the previous two years due to COVID-19 and Brexit such as the Beef Exceptional Aid Measure (BEAM) and the Beef Finisher Payment (BFP).

Table 1.3 *Output, Input and Income in Agriculture, 2019 – 2021*

	2019	2020	2021	% Change
	Value €m	Value €m	Value €m	2020 - 2021
Goods Output at Producer Prices	€8,049	€8,446	€9,710	15%
Contract Work	€444	€431	€464	8%
Subsidies less Taxes on Products	€96	€95	€37	
Agricultural Output at Basic Prices	€8,593	€8,971	€10,211	14%
Intermediate Consumption	€5,692	€5,694	€6,231	9%
Gross Value Added at Basic Prices	€2,901	€3,277	€3,981	21%
Fixed Capital Consumption	€973	€994	€1,095	10%
Net Value Added at Basic Prices	€1,928	€2,283	€2,886	26%
Other Subsidies Less Taxes on Production	€1,636	€1,663	€1,690	2%
Factor Income	€3,564	€3,946	€4,576	16%
Compensation of Employees	€820	€992	€1,089	10%
Operating Surplus	€2,745	€2,954	€3,487	18%

Source: CSO

Looking at the trends in the OII over the past decade, there is an upward trend in each of the three main components, namely goods output at producer prices, intermediate consumption and operating surplus. It is always good for the producer to see the value of goods output increasing; however, the producer needs that increase to be greater than any increase in the cost of intermediate consumption. In this respect, 2021 was a good year. It resulted in the 'bottom line' or operating surplus increasing by 18%, the highest increase since 2017. Over the past ten years, goods output at producer prices has increased by 48% while intermediate consumption has increased by a more modest 23%, resulting in operating surplus increasing by 53% since 2012.

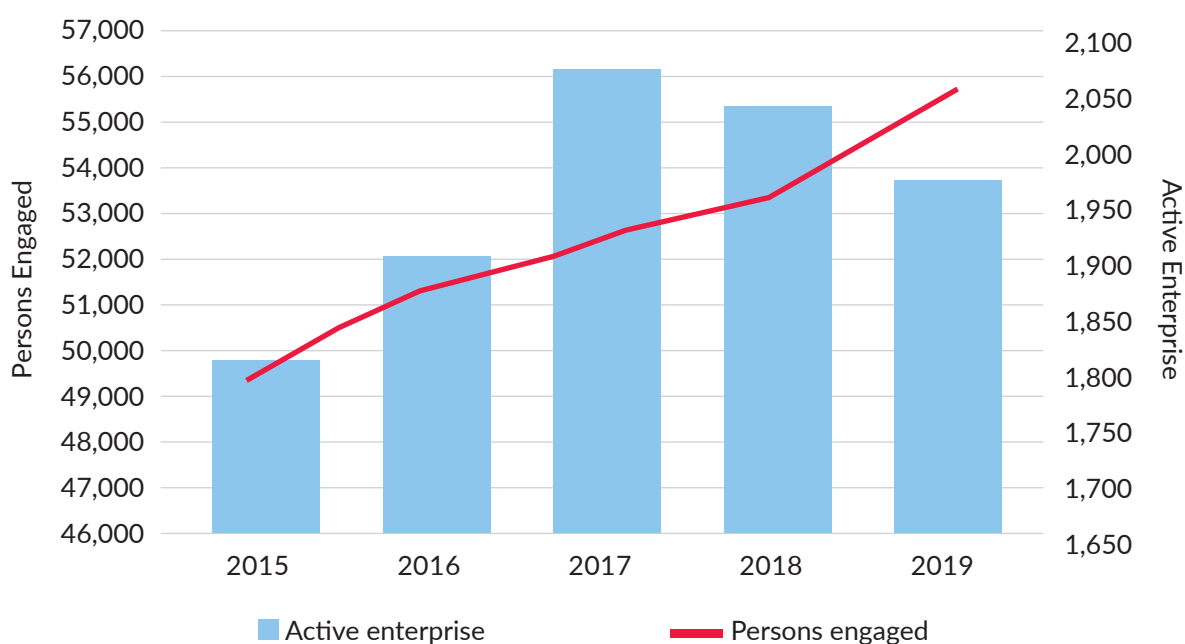
Figure 1.4 Trends in Operating Surplus, Goods Output and Intermediate Consumption, 2012 – 2020

Source: CSO (AEA01)

1.6 Contribution of the Food and Beverages Sector

Food and beverages enterprises

The CSO business demography release provides data on the number of enterprises and the number of persons engaged in these enterprises. The latest data available is up to 2019. In that year there were 1,966 active food products, beverage and tobacco enterprises, down from 2,034 in 2018 and 2,067 in 2017. Despite this fall off in number of enterprises, the number of persons engaged in these enterprises grew from 54,411 in 2018 to 55,731 in 2019. Between 2015 and 2019, the number of persons engaged in active food products, beverage and tobacco enterprises grew by over 6,250 or 13%.

Figure 1.5 Active Food Products, Beverages and Tobacco Enterprises & Persons Engaged.

Source: CSO (BRA11)

There were 1,467 active food products, beverage and tobacco enterprises in 2019 which had under 10 people engaged, while there were also 52 enterprises with 250 people or more engaged in each. These 1,467 enterprises have 2,814 (5%) of the those engaged in their employment. The 52 larger enterprises had 29,760 (53%) of total people engaged in active food, beverage and tobacco enterprises.

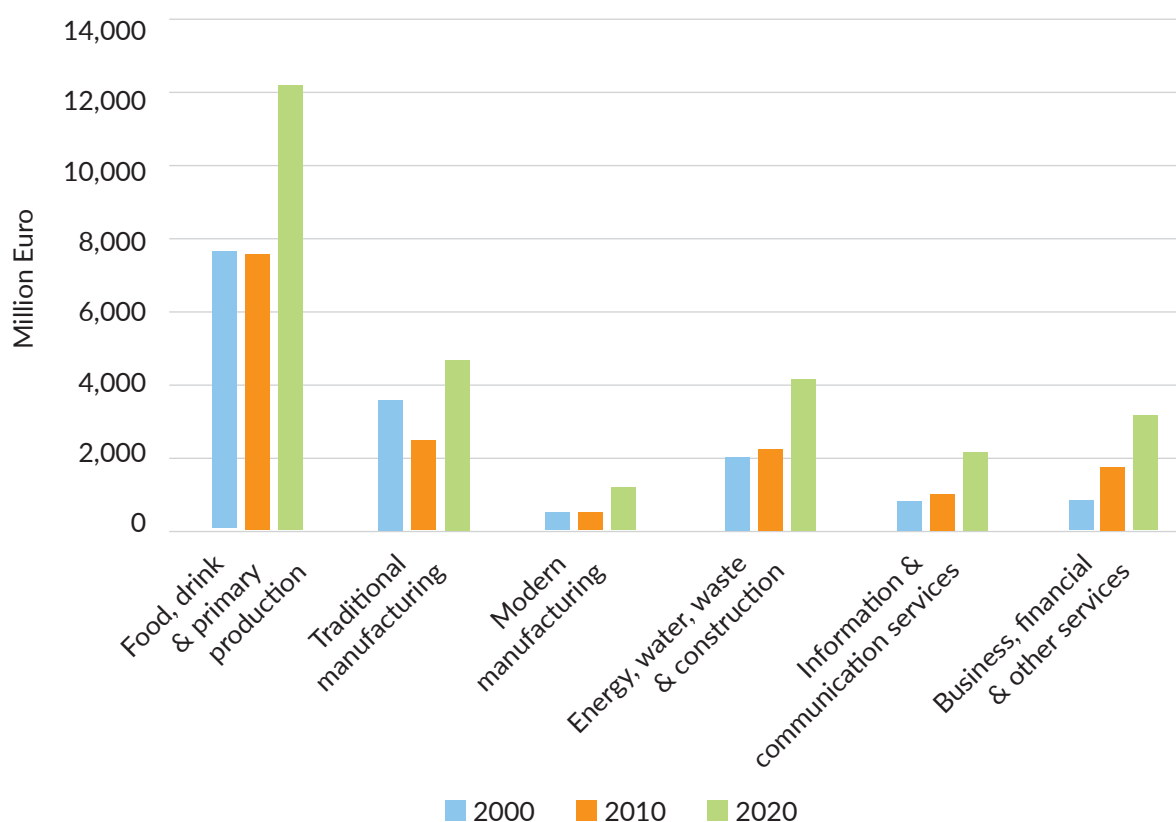
Annual Business Survey of Economic Impact (ABSEI)

The Annual Business Survey of Economic Impact (ABSEI) 2020 is a survey of approximately 4,200 client companies of Enterprise Ireland, IDA Ireland and Údarás na Gaeltachta, employing ten or more employees in Ireland. All IDA Ireland clients are foreign owned while Enterprise Ireland and Údarás na Gaeltachta have both Irish and foreign-owned client companies. It comprises the Manufacturing & Information, Communication and Other Internationally Traded Services sectors. This survey includes a number of Food and Beverage Manufacturers. The first ABSEI survey was conducted in 2000 and the results for 2020 look back over the past 20 years.

Key findings in this report for Irish-Owned clients include:

- The largest sector for Irish-owned clients is the Food, Drink & Primary Production sector with sales of €16.3 billion in 2020 – an increase of 0.8% over 2019 and of 2.9% per annum increase over the 2000 figure of €9.2billion.
- While the Food, Drink & Primary Production sector accounted for 35% of the sales in Irish-owned industry in 2020, it accounts for 24% of the employment.
- The Food, Drink & Primary Production sector accounted for 39% of all exports of Irish-owned client firms in 2020. This sector has increased exports from €4.5bn in 2000 to €9.3bn in 2020, a per annum increase of 3.7% in current prices.
- The Food, Drink & Primary Production sector has an export intensity of 57% in 2020, which is an increase on its 2000 intensity ratio of 49%.

Figure 1.6 Direct Expenditure in the Irish Economy by Irish Owned Client Firms



Source: Annual Business Survey of Economic Impact

- Value-added per person employed in Food and Drink Manufacturing is estimated at €79,300 in 2020, an increase of 4.1% per annum in nominal terms since 2000.
- Within the Food, Drink & Primary Production sector, Irish raw materials at €9.0 billion accounted for 80% of the total materials spend in that sector. Of all the Irish raw materials purchases by Irish-owned firms, the majority or 70% related to the Food and Drink sector in 2020.
- The proportion of Irish services purchased by Irish-owned firms, ranges from 38% for Business, Financial and Other Services firms to 83% for Food, Drink & Primary Production firms.

Key Business Indicators for Foreign-owned Agency Clients include:

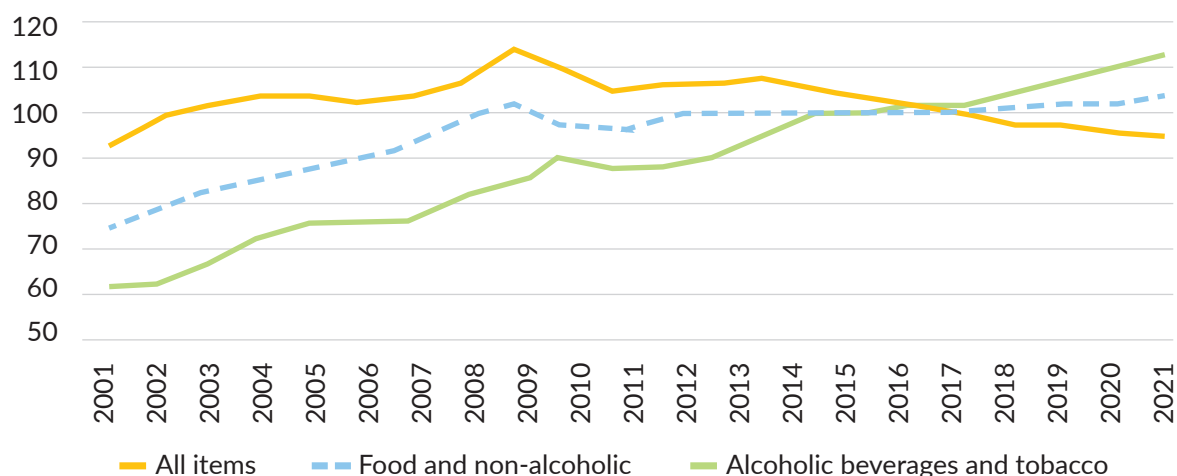
- The Food, Drink & Primary Production sector, with an 87% share of sales for export in 2020, increased its proportion of exports from 59% in 2000.
- The largest proportion of Irish-sourced materials is found in the Food, Drink & Primary Production sector where 43% of all materials purchased were sourced in Ireland. This share has dropped from 66% in 2000. In monetary terms, this amounted to €735 million spent in Ireland in 2020.
- The share of total services sourced in Ireland by foreign-owned Food & Drink sector declined from the 2000 figure of 43% to 27% in 2020 (Absolute value €503.1 million).

1.7 Consumer Price Index

Every month the CSO gather and publish the Consumer Price Index (CPI). This is designed to measure the change in the average level of prices (inclusive of all indirect taxes) paid for consumer goods and services by all private and institutional households in the country and by foreign tourists holidaying in Ireland. Approximately 50,000 prices are collected for a representative basket, consisting of 615 item headings in a fixed panel of retail and service outlets throughout the country. Based on these prices, the CSO can track the change in prices of goods over time.

Figure 1.7 displays the relative movement of the CPI since the start of the century. The dashed line represents all items included in the CPI basket of goods and since the year 2000, it has gone from 75.1 to 104.2 in 2021, an increase of 39%. Over the same period alcoholic beverages and tobacco increased by 84% from 61.1 to 112.2. Food and non-alcoholic beverages increased between 2000 and 2008 before dropping back for the next two years. It then increased slightly between 2010 and 2013 before dropping again. In 2021 the price of food and non-alcoholic beverages is just 3.0 % higher than it was in 2000.

Figure 1.7 Consumer price Index, 2000 to 2021 (Base Dec 2016=100)



Source: CSO (CPA01)

From the second half of 2021 and continuing into 2022, the CPI has risen sharply. Prices rose by 9.1% in the year to June 2022, the largest increase in almost 38 years. This compares to an average increase of 1.8% over the past 21 years. The previous section 1.2 looks briefly at some of the reasons for the increase in the CPI and the likely direction it will take.

Irish Food Prices Compared to EU Food Prices

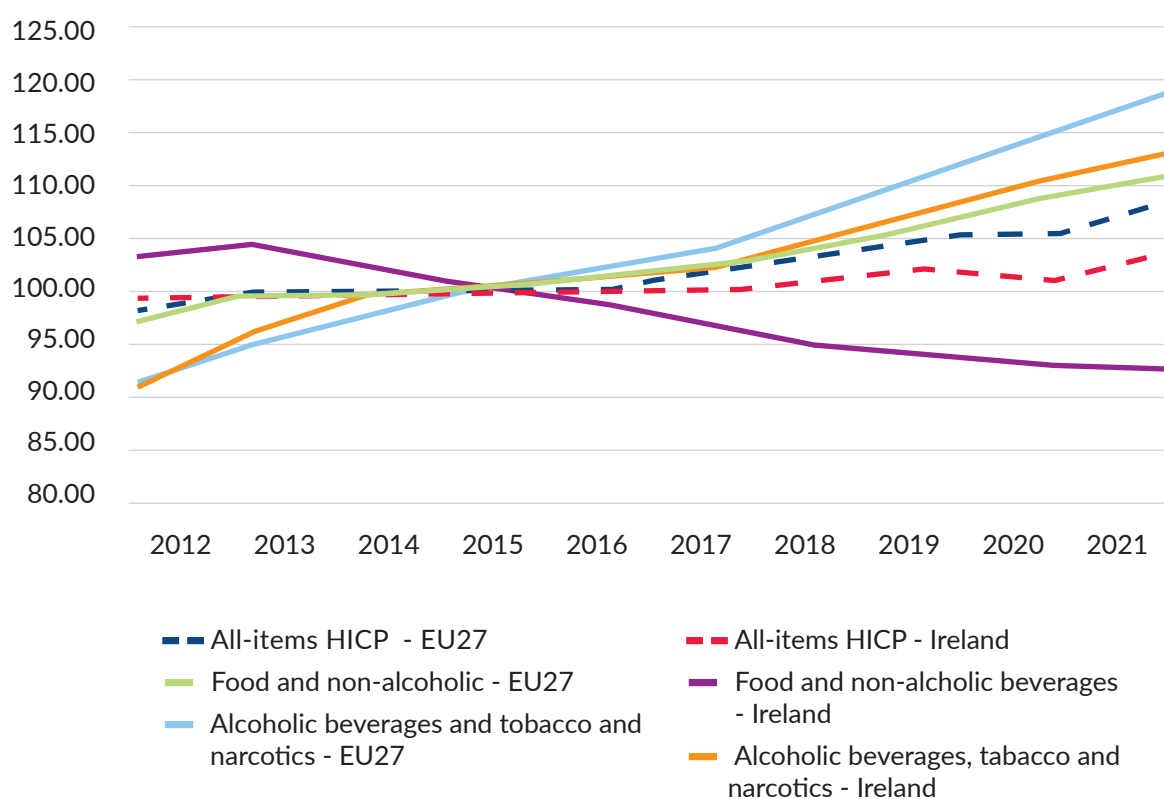
Eurostat produces European statistics in partnership with National Statistical Institutes, such as the CSO in Ireland and other national authorities in the EU Member States. The data Eurostat produce is based on similar data collected from each member state, to allow comparison of data from one country to another.

In figure 1.8, data from both Ireland and the EU 27 is shown for the Harmonised Index of Consumer Prices (HICP). Both the CPI, which is the official measurement of inflation in Ireland, and the HICP are designed to measure, in index form, the change in the average level of prices paid for consumer goods and services. A number of items included in the CPI are not included in the HICP, such as mortgage interest, motor tax, house and car insurance, while imputed rentals for housing are included in the HICP.

The trends seen in the HICP data, as shown in figure 1.8, were food and non-alcoholic beverages have fallen in price in Ireland since 2012, although at an EU27 level, food and non-alcoholic beverages have increased over the last decade. When comparing all items included in the HICP data the figure indicates that prices have risen more in the EU27 than in Ireland over this ten year period.

Alcoholic beverages and tobacco have increased in price considerably both in Ireland and the EU27, while all items in HICP have increased more in the EU27 than in Ireland.

Figure 1.8 Comparison of EU and Irish Prices, 2012 – 2021 (2015 = 100)



Source: Eurostat

Price Levels of Food, Beverages, and Tobacco 2021: How Ireland Compares

In June 2022, the CSO issued a release focusing on the relative price levels of food, beverages and tobacco in Ireland in 2021, compared with 35 other European countries.

According to the CSO report, Ireland was the sixth most expensive country among 36 European countries for food, the fourth most expensive for beverages and the most expensive for tobacco. Ireland's position varied from being the 18th most expensive for fish, to being the most expensive for tobacco.

For the overall category, food and non-alcoholic beverages, Switzerland was the most expensive country, with prices on average 66% above the EU27 average, while Turkey was the least expensive, 37% below the EU27 average. Irish prices were 19% above the EU27 average and roughly 14% above the Eurozone average.

Table 1.4 Food and Non-Alcoholic Beverages Relative Price Levels

EU27 Average	100
Most Expensive (36 countries)	(Switzerland) 166
Most Expensive European Union (27)	(Luxembourg) 125
Most Expensive Eurozone (19)	(Luxembourg) 125
Ireland	119
Least Expensive (36 countries)	(Turkey) 63
Least Expensive European Union (27)	(Romania) 69
Least Expensive Eurozone (19)	(Lithuania) 88

Source: CSO

The results for the main food sub-categories show that, of the 36 countries, Ireland was the 8th most expensive country for bread and cereals, 11th most expensive for meat, joint 18th most expensive for fish, 8th most expensive for milk, cheese & eggs, 11th most expensive for oils & fats and joint 9th most expensive for fruits, vegetables and potatoes.

It should be noted that the CSO have outlined that Price Level Indices (PLI) are not intended to rank countries strictly. In fact, they only provide an indication of the order of magnitude of the price level in one country in relation to others, particularly when countries are clustered around a very narrow range of outcomes. The convergence or divergence of prices among countries is of interest in a number of contexts such as competition policy and consumer protection. PLIs provide a means of observing the movement of price levels over time, but they have to be used with caution. Outside the euro area, they are influenced by exchange rate fluctuations and individual prices can be volatile. This is generally so at the lower aggregation levels where sample sizes are small. Usually such volatility diminishes, if not disappears, with aggregation. The prices collected for the Food, Beverages and Tobacco Survey happened in Q2 2021.

1.8 Agri-Food Strategy – Food Vision 2030

Food Vision 2030 – A World Leader in Sustainable Food Systems



The development of a new ten-year strategy for the agri-food sector is a key commitment of the Programme for Government, which called for an ambitious blueprint for the sector for the years ahead, adding value sustainably into the future, with a strategic focus on environmental protection.

The agri-food sector has benefited from an approach to strategic planning through the development of ten-year stakeholder-led strategies, updated every five years. Since their inception twenty years ago, these strategies have ensured that the sector has a coherent, stakeholder-led vision and strategy to underpin the sector's continued development.

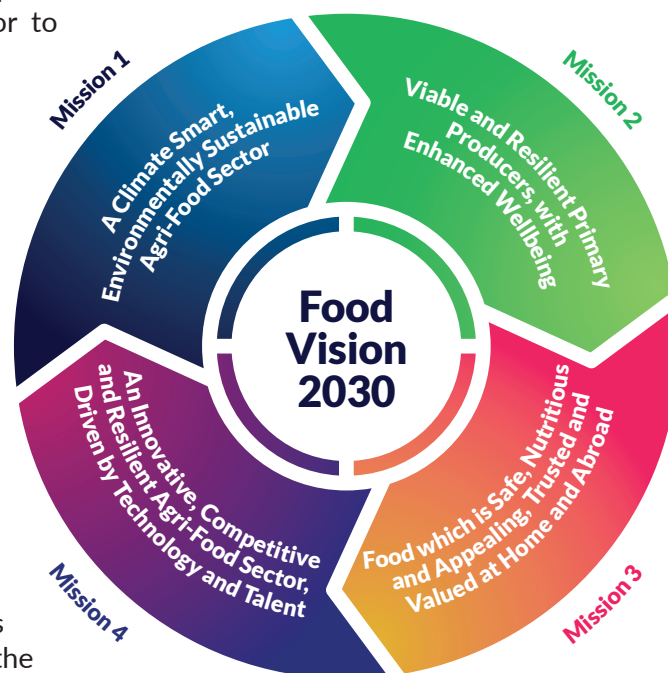
In late 2019, a committee with 32 members representative of the sector, and chaired by Tom Arnold, was established, and tasked with developing the agri-food strategy to 2030. Their terms of reference were to outline the vision and key objectives, with associated actions, required to ensure the economic, environmental, and social sustainability of the agri-food sector in the decade ahead. Following the publication of a draft Strategy and associated environmental assessments for public consultation, a final Strategy was agreed and published by the government in August 2021.

Entitled 'Food Vision 2030 – A World Leader in Sustainable Food Systems', its Vision is that

"Ireland will become a world leader in Sustainable Food Systems over the next decade. This should deliver significant benefits for the Irish agri-food sector itself, for Irish society and the environment. In demonstrating the Irish agri-food sector meets the highest standards of sustainability – economic, environmental, and social – this should also provide the basis for the future competitive advantage of the sector. By adopting an integrated food systems approach, Ireland will seek to become a global leader of innovation for sustainable food and agriculture systems, producing safe, nutritious, and high-value food that tastes great, while protecting and enhancing our natural and cultural resources and contributing to vibrant rural and coastal communities and the national economy".

The Strategy consists of 22 Goals, grouped into four high-level Missions for the sector to work toward:

- 1) A Climate Smart, Environmentally Sustainable Agri-Food Sector
- 2) Viable and Resilient Primary Producers with Enhanced Well-Being
- 3) Food, which is Safe, Nutritious and Appealing, Trusted and Valued at Home and Abroad
- 4) An Innovative, Competitive and Resilient Agri-Food Sector, Driven by Technology and Talent



A food systems approach involves considering the interconnectivity of the food system, especially with the environment and with nutrition & health. The internationally accepted definition of a “Sustainable Food System”

(FAO 2017) is a food system that delivers food security and nutrition for all in such a way that the economic, environmental, and social bases to generate food and nutrition for future generations are not compromised. This means that:

- It is profitable throughout (economic sustainability)
- It has a positive or neutral impact on the natural environment (environmental sustainability)
- It has broad based benefits for society (social sustainability).

The Food Vision 2030 Strategy was developed with this context in mind, and aims to balance economic, social and environmental sustainability under a holistic Food Systems approach.

Mission 1 – A Climate Smart, Environmentally Sustainable Agri-Food Sector

There are seven Goals in this Mission that aim to deliver a climate-neutral food system by 2050, with verifiable progress achieved by 2030, encompassing emissions reductions, carbon sequestration, improvements in air quality, restoration and enhancement of biodiversity, improvements in water quality, development of diverse forests, enhanced seafood sustainability, exploring the bioeconomy and strengthening Origin Green.

The Strategy acknowledges that in general, future environmental targets are likely to be set by legislation and commits to participating in the various target-setting processes with a view to the ultimate commitment to be climate neutral by 2050.

Mission 2 – Viable and Resilient Primary Producers, with Enhanced Wellbeing

There are four Goals in this Mission which involve improving the competitiveness and productivity of primary producers, increasing the creation of value and distributing it fairly, introducing greater diversification in production systems and incomes, and improving the social sustainability of primary producers across areas such as generational renewal, gender balance, health and safety, mental health and wellbeing and rural development.

The Strategy is ambitious for primary producers, envisaging an upward trend in Family Farm Income towards 2030, with an increased share of viable and sustainable farms, reflecting improved economic returns to land and profitability per hectare, an upward trend in primary

output value with increased diversification across sectors. The Strategy also foresees the seafood sector continuing on a path of sustainable economic and environmental development by carefully managing the utilisation of sea-fisheries and aquaculture.

The Strategy aims to improve the social sustainability of primary producers, increasing the share of younger and trained farmers and fishers, reducing the risk of social isolation, and ensuring a much improved record on health and safety.

Mission 3 – Food that is Safe, Nutritious and Appealing, Trusted and Valued at Home and Abroad

There are four Goals in this Mission that aim to prioritise coherent food and health policies for better health outcomes, enhance consumer trust in our food system, create value add through insight, innovation and product differentiation, and developing market and trade opportunities both at home and abroad.

The Strategy aims for an integrated food systems approach to food and health policy, continued world-class standards in food safety, animal health and welfare, increased value-addition, and an increase in the value of agri-food exports to €21 billion by 2030, built on sustainable steady value growth.

Mission 4 – An Innovative, Competitive and Resilient Agri-Food Sector, Driven by Technology and Talent

There are seven Goals in this Mission which are relevant to all other Missions and will act as key enablers. They include moving to a challenge-focused innovation system, having a strategic approach to funding R&D, developing dynamic knowledge exchange practices, enhancing the use of technology and data, improving competitiveness and resilience, attracting and nurturing diverse and inclusive talent, and improving policy coherence in Sustainable Food Systems between Ireland's domestic policy and its development cooperation and foreign policy.

The Strategy envisages a more output-focussed collaborative innovation system by 2030; with private R&D to reach 1% of turnover. The agri-food sector should be more competitive and resilient, and seen as attractive by a young, diverse and talented workforce.

Ireland will advocate for Sustainable Food Systems internationally and for the development of a recognised SFS measurement or index to supplement and strengthen its vision for 2030. Ireland's advocacy that SFSs are an important part of the deepening strategic relationship between Africa and the EU, and within Ireland's overall relationship with Africa.

Food vision 2030 was the theme of Ireland's engagement with the recent UN Food Systems Summit and will continue to be in follow-up work.

Monitoring and Implementation

Tracking the success of the new Food Vision 2030 Strategy will depend on effective monitoring and implementation. With this in mind, a specific "Monitoring and Implementation Framework" section was developed in the strategy and a formal "Food Vision 2030 Implementation Plan" has been published.

This plan was developed by DAFM in close collaboration with industry stakeholders. The monitoring and implementation of the strategy will be undertaken through close liaison with the key stakeholders on a biannual basis.

With the aid of these industry stakeholders, three working groups have already been formed: the Food Vision Environmental Working Subgroup, the Food Vision Dairy



Working Group and the Food Vision Beef and Sheep Working Group. These groups are focused on priority actions, and they aim to steer the sectors in line with the strategy targets.

Delivering the Food Vision 2030 strategy

In order to deliver the Food Vision 2030 strategy, key steps will be followed: -

1. Biannual surveys of key industry stakeholders will be undertaken through a dedicated online platform. These surveys will be completed by agreed key industry stakeholders who, in turn, will collate information from other stakeholders to deliver a clear and accurate response to the survey of their respective sectors.
2. The development of an Annual Monitoring and Implementation Report will be created from the responses to this survey with analysis of each Mission, Goal and Action as set out within the Food Vision 2030 Strategy.
3. Regular meetings of the High-Level Implementation Committee (HLIC), chaired by the Minister for Agriculture, will be undertaken with each Mission to be considered at least once per year by the HLIC. The HLIC will regularly engage with stakeholders on a planned basis. The HLIC will be solution-focused and action-oriented to swiftly bring resolution to any roadblocks as they arise.
4. The Environmental Working Subgroup will continue meeting on a regular basis and will report on the environmental trends as a result of the Food Vision 2030 Strategy. An annual environmental monitoring report will be submitted by this group to the HLIC for review.
5. The Food Vision Dairy Working Group will continue to meet on a regular basis to progress its recommendations on the sustainable environmental footprint of the dairy sector. A similar plan will be prepared by the Food Vision Beef and Sheep Group.
6. Any unforeseen or negative effects identified through the Monitoring and Implementation Framework will result in corrective actions taken on any of the Missions, Goals and Actions in the Strategy as necessary.
7. Ultimately an evaluation of the performance, delivery and impact of the Strategy is planned to take place in the coming years, at an appropriate stage during its implementation. This will lead to further refinement of Ireland's future Food Systems approach while delivering economic, environmental and social sustainability in the ultimate aim of Food Vision for Ireland's agri-food sector to become a world leader in Sustainable Food Systems. This monitoring will also aid Ireland's response to meeting the UN Sustainable Development Goals and associated reporting into the future.

Environmental Working Sub-Group

Food Vision provides significant detail on the critically important area of environmental monitoring, including the establishment of a dedicated environmental monitoring group. The Strategic Environmental Assessment (SEA) Report recommended that an Environmental Working Sub-Group (EWSG) should be established to oversee monitoring, review and reporting of environmental issues and report back to the High-Level Implementation Committee (HLIC). The EWSG held their first meeting in December 2021 with subsequent meetings in February and May 2022.

For more information see: [gov.ie](https://www.gov.ie) - Food Vision 2030 – A World Leader in Sustainable Food Systems (www.gov.ie)

Case Study

Visit to Ireland by FAO Director General QU Dongyu

The UN Food and Agriculture Organisation (FAO) is the custodian of UN Sustainable Development Goal (SDG) 2, “Zero Hunger”. Food insecurity has become a pressing issue for all countries in the world, with conflict being the main driver behind rising global hunger and malnutrition rates, worsened by climate change and COVID-19. The Department of Agriculture, Food and the Marine leads on Ireland’s engagement with FAO.

In late May and early June 2022, a visit to Ireland by FAO Director General QU Dongyu and his Senior Management team was facilitated by the Department of Agriculture, Food and the Marine. The visit included an address by Director General QU at the plenary session of the 11th World Potato Congress and involved engagements with Bord Bia, including meeting with Origin Green food and drink companies, to discuss the importance of sustainability credentials in bringing Ireland’s food and drink offering to customers around the world.

Following a bi-lateral meeting with Minister McConalogue and a presentation on Food Vision 2030, DG Qu noted that other countries must learn from the history of Ireland and the country’s leading role in ensuring food security at global level.

The visit of the FAO DG also included a meeting with a sustainable Origin Green dairy farmer on his farm and a tour of Teagasc Ashtown Food Research Centre, where Teagasc experts explained their unique role in leading agricultural research, education and advisory services.

In addition to these events, the DG Qu also visited EPIC - The Irish Emigration Museum for an engagement with the Irish Forum for International Agricultural Development (IFIAD) and concluded his stay with a visit to the Food Cloud distribution hub and to Manor Farm Lodge potato farm.



CHAPTER 2

Farm Income and Structures



According to the Census of Agriculture in 2020, there were

135,037
farms in Ireland.



13.4%
of farm holders are female but they make up 27% of the agriculture labour force.



Average family farm income for 2021 was
€34,367,
a record year, and up by 26% on 2020.

2.1 Overview

The year 2021 was a good year for farm incomes and this chapter examines the supporting data for this statement. However, it should be remembered that this is national data and average Family Farm Income and that the reality for an individual farmer can be quite different. Data from numerous sources is analysed to outline developments in farm income and structures, both at Irish and EU level. Data is sourced mainly from the Central Statistics Office (CSO), Teagasc, Central Bank and Eurostat. The data from these sources is used to generate an overview of farm income and farm structures in Ireland. In addition, the level of off-farm income sources and direct payments is examined. The viability of Irish farms is considered using Teagasc's National Farm Survey results and the support schemes for farmers. Investment and borrowings in the agri-food sector, the age profile of farmers and the role of women in agriculture are also examined.

2.2 National Farm Income (Operating Surplus), 2021

Output Input and Income in Agriculture

There are two main sources of national farm income. One is the Central Statistics Office (CSO) release called Output, Input and Income in Agriculture, which is examined here, and the second is the Teagasc National Farm Survey, which is examined later in this chapter.

Three times each year, the CSO release a statistical publication called Output, Input and Income in Agriculture (OII). The first or Advance estimate is generally released in early December of the reference year. This is based on the data available at the time, which is not fully complete. The Advance estimate is updated in March of the following year, when the Preliminary estimate is published. This incorporates all additional up-to-date information that has become available by that time. In June, the Final estimate of the agricultural accounts is prepared, based on the complete set of data.

The OII sets out the estimated value of goods output at producer prices for livestock, livestock products and crops. It estimates the cost of intermediate consumption or inputs, includes the value of subsidies and estimates the operating surplus or estimated aggregate farm income.

In 2021, the total estimated value for goods output at producer prices was a record €9.7 billion, up from €6.5 billion ten years earlier in 2012, a 48% increase. This comprised of €4 billion for livestock, €3.5 billion for livestock products (mainly milk) and €2.2 billion for crops which include cereals, horticulture, and forage plants such as silage & hay used on the farm. Goods output at producer prices were up by 15% in 2021 compared to 2020 and have grown at an average rate of 3.7% per annum since 2000, when they were valued at €4.9 billion.

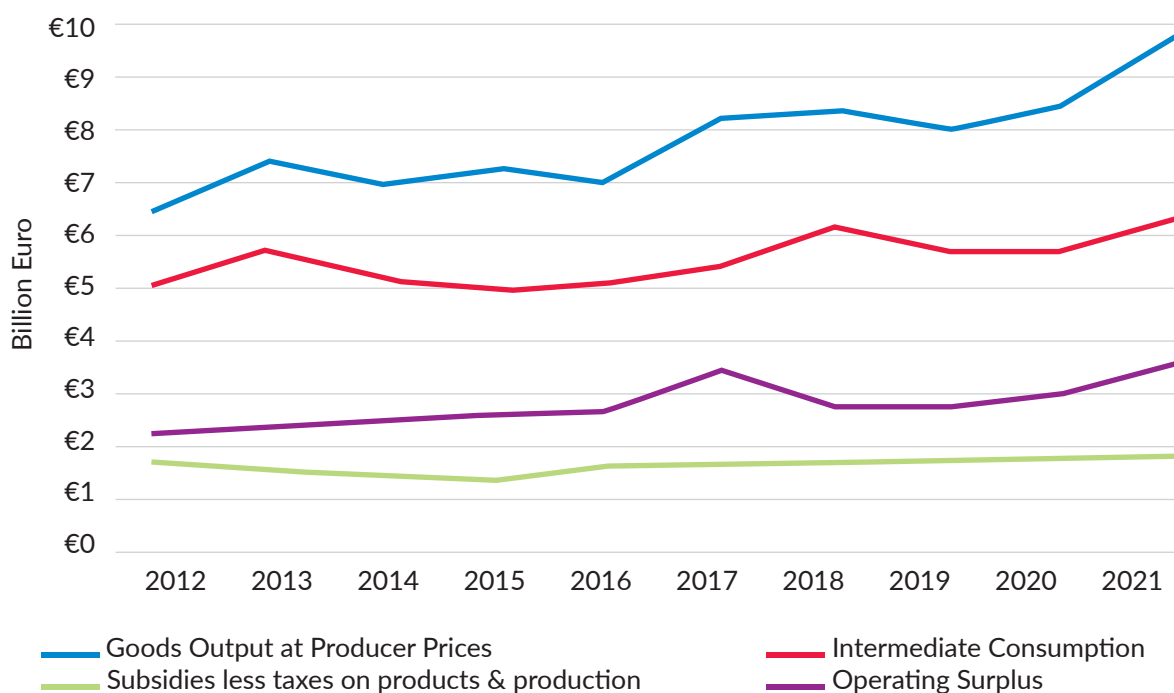
While the value of goods output at producer prices increased by 15% in 2021, some of this additional value to farmers was taken up by a 9.4% increase in intermediate consumption. This is the value of all goods and services used as inputs in the production process, excluding fixed assets. Feeding stuffs and fertilisers account for almost 40%, or €2.4 billion of total intermediate consumption. Both saw significant increase in total spend, with feeding stuffs up 18% and fertilisers up 14% in 2021, with increases in these costs continuing in 2022. On average, all other items of intermediate consumption increased by slightly over 5%.

In 2021 the final OII indicated that the operating surplus was €3.5 billion, up 18% on 2020. This €3.5 billion operating surplus is an estimate of income before deductions for interest payments on borrowed capital, land annuities and rent paid by farmers to landowners for the use of their land. It is the largest increase in operating surplus since 2017 when it increased by 29%. However, as farmers know only too well, farm income can be quite volatile from year to year and in 2018 farm incomes dropped by 20%. Prices for feeding stuffs and fertiliser had increased by 33% and 164% respectively between May 2021 and May 2022, with much of the

increase coming in the first five months of 2022. If prices remain at these elevated levels for the remainder of the year, the operating surplus in agriculture in 2022 may decrease from the record level seen in 2021.

Total subsidies, less taxes on products and production, provide a significant portion of operating surplus. In 2021 they were worth €1.7 billion, down 1.7% on 2020, when the Beef Finisher Payment (BFP) boosted payments.

Figure 2.1 Goods Output, Intermediate Consumption, Net Subsidies and Income, 2012 - 2021



Source: CSO

Operating Surplus (OS)

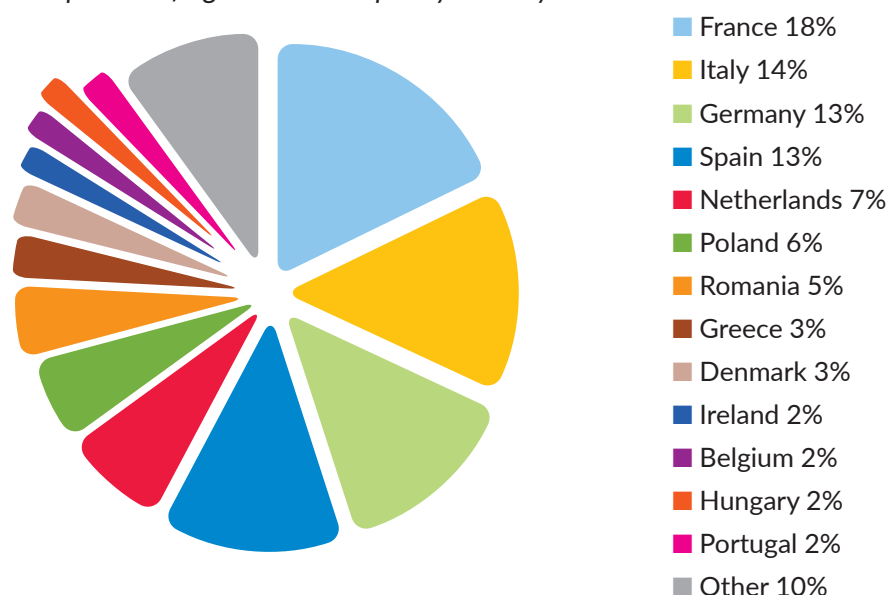
Operating surplus is defined and calculated by the CSO by subtracting compensation of employees from farm income accruing from farm output. The figure is comprised of the operating surplus earned by farmers and that earned by agricultural contractors. It is an estimate of income before deductions for interest payments on borrowed capital, land annuities and rent paid by farmers to landowners for the use of their land. It does not include income from non-farming sources and may not be equated to household income.

Agriculture Output in Europe

Key Figures on the European Food Chain 2021 edition, published by Eurostat provides a selection of indicators concerning the food chain, from primary production in agriculture and fisheries through to consumption. Data is presented for the European Union (EU), its individual Member States and European Free Trade Agreement (EFTA) countries. This publication may be viewed as an introduction to agriculture, fisheries and food chain statistics. It provides a starting point for those who wish to explore the wide range of data that is freely available on Eurostat. Most datasets available in Key Figures on the European Food Chain are from 2019, with some from 2020. More up-to-date data on European agriculture production can be found at the agriculture page on Eurostat where data tables are updated during the year as data becomes available.

According to Eurostat data, Ireland has the tenth largest amount of agricultural output among the EU 27, although it is the fifteenth largest country. France, which is the largest country in the EU 27, produces 18% of the agricultural output in the Union. The top three countries for EU agriculture output are France, Italy and Germany and together are responsible for 45% of total EU 27 agricultural output. Interestingly the Netherlands and Denmark, which have the sixth and seventh smallest land mass in the EU27, respectively produce the fifth and ninth most agricultural output of the 27 countries.

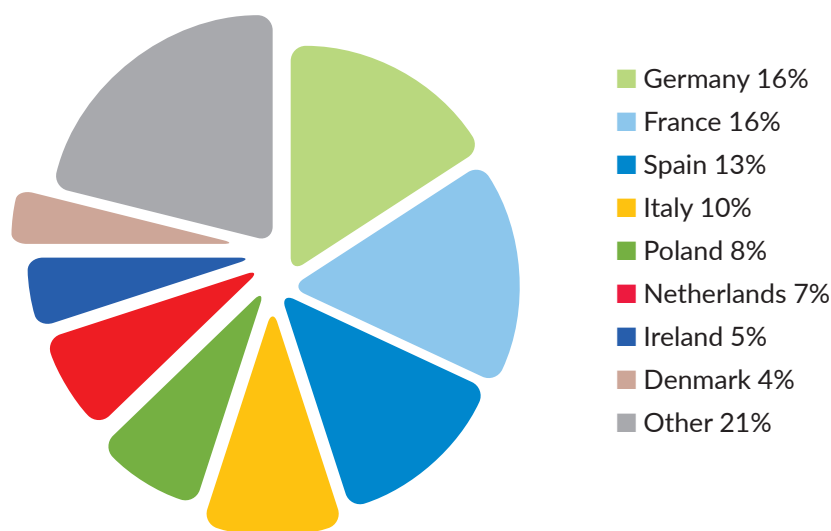
Figure 2.2 Proportion of Agricultural Output by Country in EU27



Source: European Accounts for Agriculture

Ireland's farmers are mostly animal farmers with a small number of tillage farmers. Animal output, as calculated by Eurostat includes meat, milk, eggs and other animal products. As this covers a significant amount of Irish agriculture, it is not that surprising to see that Ireland produces the seventh highest animal output in the EU27 at 5% of total animal output. Germany and France both account for 16% of animal output, with Spain at 13% and Italy at 10%.

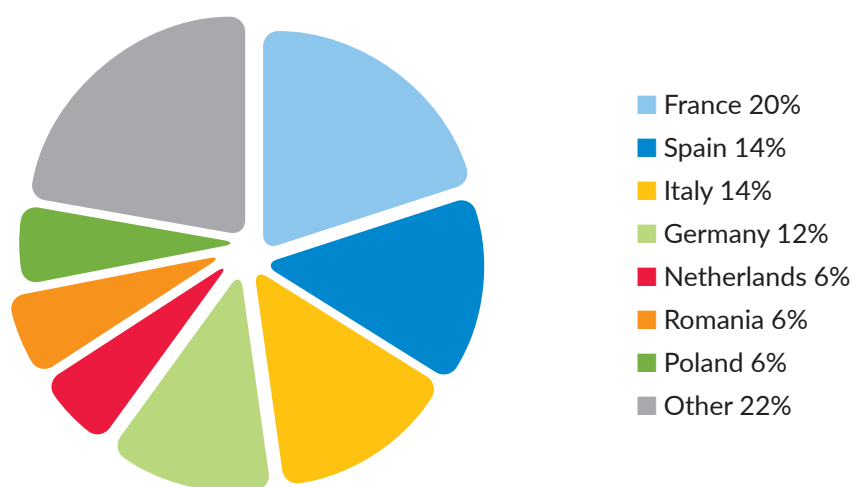
Figure 2.3 Proportion of Animal Output by Country in EU27



Source: European Accounts for Agriculture

Looking at crop production in the EU, the largest proportion comes from France at 20%, followed by Spain and Italy at 14% each. Ireland ranks in 17th position for crop output in EU27, accounting for just 0.5% of total output.

Figure 2.4 Proportion of Crop Output by Country in EU27



Source: European Accounts for Agriculture

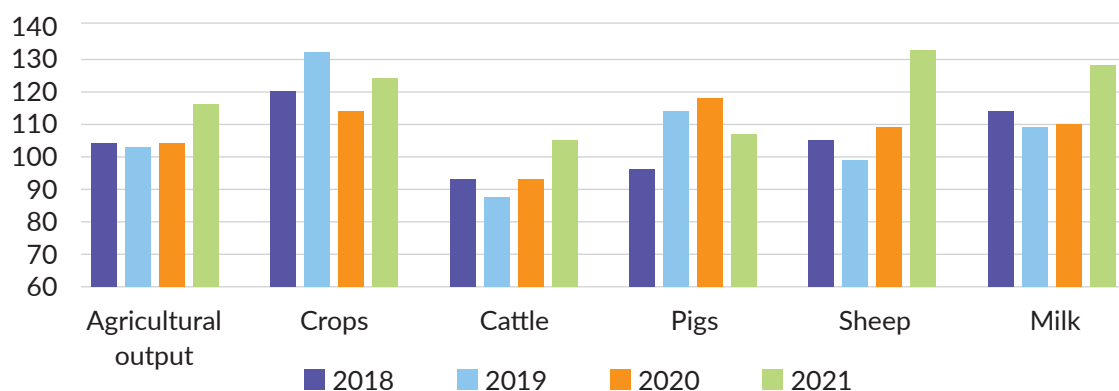
2.3 Agricultural Price Index

The agricultural output price index measures trends in the price of agricultural produce sold by farmers. The agricultural input price index is designed to measure trends in the price of farm inputs purchased for current consumption. When the input and output price indices are examined together, it gives an indication of the movement in the margin for profit. As with any index, a base year is chosen when the prices are set at 100. Subsequent years can be compared relative to the base year.

Figure 2.5 highlights that the price of agricultural output which had remained relatively steady for a few years increased in 2021. While this is a positive change overall, the effect on individual farms will depend on the movement in the various sectors. For example, the milk price index and the sheep price index both had a significant increase in 2021, indicating higher output prices for these products. On the other hand, the pig output price index, which had risen in 2019 and 2020, dropped in 2021 indicating a lower price for pigs in 2021.

Overall, 2021 saw an increase in the price index for most sectors, except the pig sector. Figure 2.5 highlights the volatility of the various sectors; each of the five sectors highlighted below have at least one year in the last three years when the output price for their product dropped.

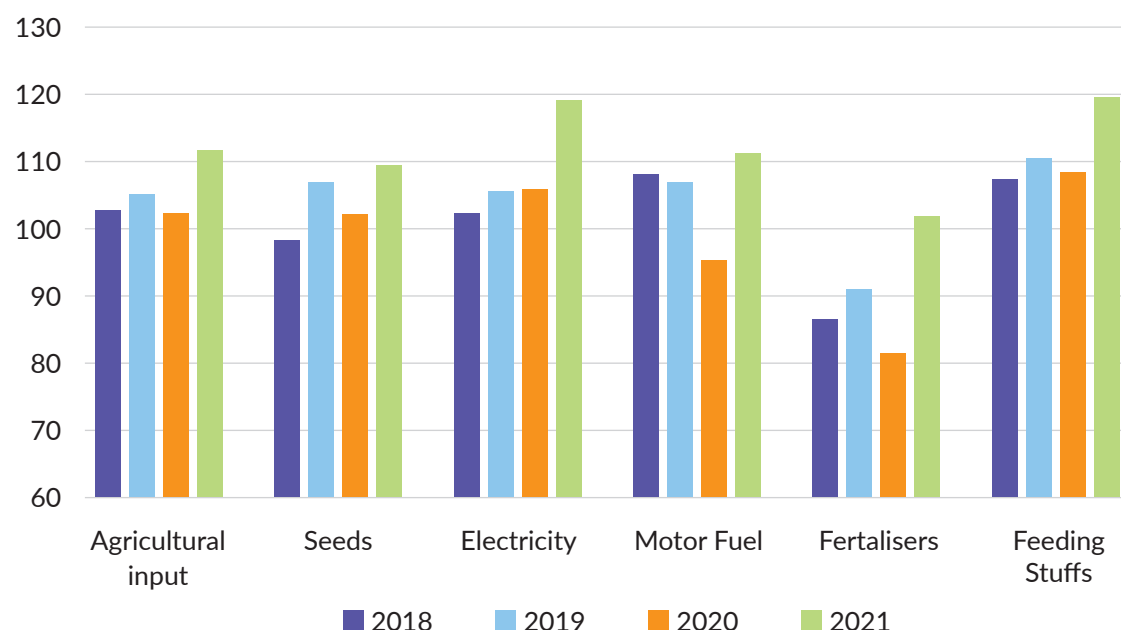
Figure 2.5 Agriculture Output Price index 2018 to 2021 (Base 2015=100)



Source: CSO

On the input side, all major categories increased in 2021 which was change from 2020, when all categories, apart from electricity, decreased. The index was set at 100 and based on 2015 prices. Interestingly, fertiliser in 2020 was almost 20% cheaper than in 2015. However, fertiliser prices increased by 14% in 2021, with further substantial price increases in 2022. It should be noted that the annual price index, as shown here, is calculated based on the price throughout the year and not on the price at year end.

Figure 2.6 Agriculture Input Price index 2018 to 2021 (Base 2015=100)



Source: CSO

Terms of Trade

The agricultural terms of trade index is the output price index expressed as a percentage of the input price index (all percentage changes have been calculated on actual figures before the index is rounded to one decimal place). The terms of trade indicate the trend in the level of margin that is available to the farmer. Over the past six years, since 2015, the terms of trade have fallen in 2016, 2018 and 2019, indicating that there was a smaller level of margin than in the previous year. In 2017, 2020 and 2021, the terms of trade increased and in these three years farm incomes tended to rise.

Table 2.1 Terms of Trade, 2015 - 2021 Base 2015 = 100

	2015	2016	2017	2018	2019	2020	2021	Change 2020/2021
Output	100.0	95.1	106.5	104.4	103.3	104.0	114.7	10.3%
Input	100.0	97.9	98.2	102.7	105.0	102.2	109.0	6.7%
Terms of Trade	100.0	97.2	108.4	101.6	98.3	101.7	105.2	3.4%

Source: CSO

2.4 National Farm Survey – Preliminary

The Teagasc National Farm Survey (NFS) has been conducted on an annual basis since 1972. The survey is operated as part of the Farm Accountancy Data Network (FADN) of the EU and fulfils Ireland's statutory obligation to provide data on farm output, costs and income to the European Commission. A random, nationally representative sample is selected annually, in conjunction with the Central Statistics Office (CSO), to represent those farms with greater than €8,000 of Standard Output. Each farm is assigned a weighting factor so that the results of the survey are representative of the national population of farms. These preliminary results are based on a sample of 744 farms, which represents 85,000 farms nationally.

Following the Census of Agriculture by the CSO in 2020, the weighting factors were updated. This resulted in minor changes to the NFS results for the years 2017 to 2020 for cattle, sheep and tillage farms. Following the removal of the EU milk quota system, there has been a period of considerable change in the dairy sector in Ireland, and this is reflected in the newest weighting factors. The Census of Agriculture 2020 indicates that there are fewer dairy farms than in 2016, but that a greater proportion of these farms fall into larger size classes. When applied to the NFS sample, these new weights increase the average output of dairy farms and the average dairy farm income, compared to previously reported estimates for the period 2017 to 2020. As a result, on average, these dairy farms produced more output than had previously been estimated. This has the effect of adding roughly €1,000 to €5,000 to the previously reported National Farm Survey estimates of the average annual dairy farm income over the period 2017 to 2020.

Standard Output

The Standard Output of an agricultural product is defined as the average monetary value of the agricultural output at farm-gate prices. Standard Output is not a measure of farm income. It does not take into account costs, direct payments, value added tax or taxes on products.

Farms are assigned to five main farm systems, on the basis of farm gross output, as calculated on a standard output basis. The NFS farms are categorised into one of five main farm types:

- (i) Dairy,
- (ii) Cattle Rearing, which comprises farms that are mainly specialised in suckler beef production,
- (iii) Cattle Other, which comprises mainly of beef finishing farms, but also includes farms selling store cattle,
- (iv) Sheep, and,
- (v) Tillage.

Some data on Mixed Livestock farms is also available, representing about 2% of the farm population. Given that individual farms typically have more than one farm enterprise, a rigorous basis for categorising farms into each system is required.

“Farm system” or “type” refers to the dominant enterprise in each group. For example, the cattle rearing system refers to those farms where the greater proportion of the farm's activity relates to suckler beef production. There are many other farms (including those in the dairy, sheep and tillage systems) that have a cattle enterprise. The mixed nature of Irish farms is reflected in the individual contribution of livestock and crop categories to gross output.

“
Over the past ten years FFI has fallen in three years, held steady for one year and increased in six of the ten years. However, 2021 is the only year in the past ten years where each sector saw an increase in FFI.

Farms below the €8,000 standard output threshold are not included in the annual survey sampling frame but data is collected on those through the Teagasc Small Farms Survey, the most recent of which was conducted in 2015.

Family Farm Income (FFI)

FFI is calculated by Teagasc by deducting all farm costs (direct and overhead) from the value of farm gross output. Unpaid family labour is not included as a cost. FFI therefore represents the financial reward to all members of the family, who work on the farm, for their labour, management and investment. It does not include income from non-farming sources and thus may not be equated to household income.

Factors Influencing FFI

There are numerous factors which have an influence on FFI and many of these are outside the control of the farmer. In any one year, weather can have a significant impact on FFI. For example, in 2018, there was a cold, wet spring with snow in many parts of Ireland in early March. This was followed by a hot, dry summer, resulting in lower yields for many crops including grass and additional feed costs on many farms resulting in a fall in average FFI of 20% in that year. However, FFI did not fall on all farms in 2018, as despite lower yields, tillage farms saw their FFI increase due to higher prices.

Over the past ten years FFI has fallen in three years, held steady for one year and increased in six of the ten years. However, 2021 is the only year in the past ten years where each sector saw an increase in FFI.

It is estimated that Ireland exports up to 90% of the food it produces, and prices received are heavily influenced by world market prices. Ireland exports up to 45% of beef produced to the United Kingdom, with a further 45% going to the EU. Therefore, the price our farmers receive for their beef will be influenced by the price that customers in the United Kingdom and the EU are prepared to pay. If farmers in the United Kingdom or the EU, or indeed any country around the world, produce beef of a similar quality at a lower price, this can have an on effect on Irish beef prices.

The average farm size and the quality of the land the farmer farms influences FFI significantly. Tillage and dairy farms tend to be based on the better-quality lands. They are also on average about twice the size of the average cattle rearing or cattle other farms. The average dairy farm in 2021 was 64 hectares, with the average tillage farm 70 hectares, while the average cattle farm was closer to 34 hectares. Therefore, comparing average FFI on a dairy farm with a cattle other farm, the dairy farm FFI is almost six times higher. However, comparing FFI per hectare, the dairy farm is just about three times greater than on cattle other farms.

National Farm Survey Preliminary Results, 2021

The preliminary results for the 2021 National Farm survey issued in June 2022 shows that the average FFI for 2021 was €34,367, a 26% increase on 2020 figures. The average FFI has increased each year for the past three years from €24,213 in 2018 to €24,804 in 2019 to €27,241 in 2020 and €34,367 in 2021. While FFI on most farm types followed the average, the exception was tillage farms, where FFI fell in 2019 and again slightly in 2020, before increasing significantly in 2021. Cattle other FFI also fell in 2019 but recovered and increased slightly in 2020 and 2021.

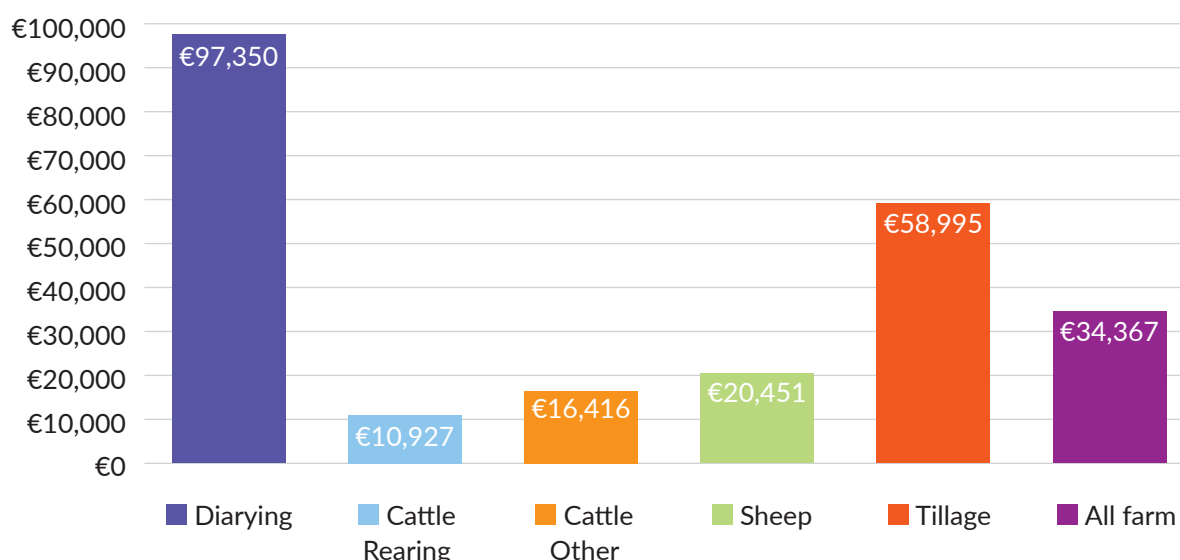
Family Farm Income by Farm Type 2021

Average FFI is estimated to have increased by 26% during 2021. Higher output prices across most farm enterprises were the main driver of the increase in farm incomes in 2021. However, the scale of the increase in income varied considerably across farm systems.

In general, farms experienced an increase in production costs, as key farm input prices for fuel, feed and fertiliser all rose in 2021, which marked the beginning of the escalation in costs that has intensified in 2022. According to the CSO OII release spend on fertilisers increased by 14%, feed by 18% and energy costs by 21% in 2021.

According to the NFS, dairy system production costs rose by 11% in 2021 but an increase in milk output volume and significantly higher milk prices, resulted in an average dairy farm income of €97,350, an increase of 23% or €18,350 on the 2020 level.

Figure 2.7 Family Farm Income by Farm Type in 2021



Source: Teagasc, National Farm Survey – Preliminary results 2021

In the cattle rearing system, which is made up of farms that are mainly specialised in suckler beef production, costs increased by 10% in 2021. However, the value of output on cattle rearing farms increased in 2021 by 15%, mainly due to higher cattle prices. The value of support payments for cattle rearing farms also increased in 2021. Overall, the average cattle rearing income of €10,927 in 2021, was up 30%, or €2,500 compared with the 2020 level.

In the cattle other system, which comprises mainly of beef finishing farms, but also includes farms selling store cattle, production costs increased slightly in 2021. While support payments were lower, the value of farm output increased by 3% due to higher cattle prices. In combination this resulted in an average income of €16,416 in 2021 for the cattle other system, an increase of 6% or almost €900 compared with the 2020 level.

Production costs rose on sheep farms in 2021, largely due to higher feed prices, but the sector experienced a 16% increase in the value of farm output, which was driven by higher lamb prices. On average, the level of direct payments for sheep farms was down slightly. The average income on sheep farms was €20,451 in 2021, an increase of 14%, or almost €2,600 relative to the 2020 level.

Higher fertiliser, feed and contracting charges saw production costs on tillage farms increased in 2021 by 34%, a much larger percentage increase than occurred in the grassland systems. However, the average income on tillage farms rose by 77% in 2021, to almost €59,000, which was up by €25,650 on 2020. This was because tillage farms experienced particularly good production conditions in 2021, which led to higher crop yields. Substantially higher cereal prices in 2021 also helped to boost the value of farm output, which increased by 47%. The average level of support payments also increased slightly on tillage farms in 2021.

Distribution of FFI and Farm Holdings

An analysis of the Teagasc National Farm Survey shows that 35% of farms have a FFI of less than €10,000, down from 43% of farms in 2020. Nine percent of farms have a FFI of greater than €100,000 compared with just 5% in 2020. On cattle rearing farms almost six in 10 farms have a FFI of less than €10,000, while on dairy farms four in 10 farms have a FFI of greater than €100,000.

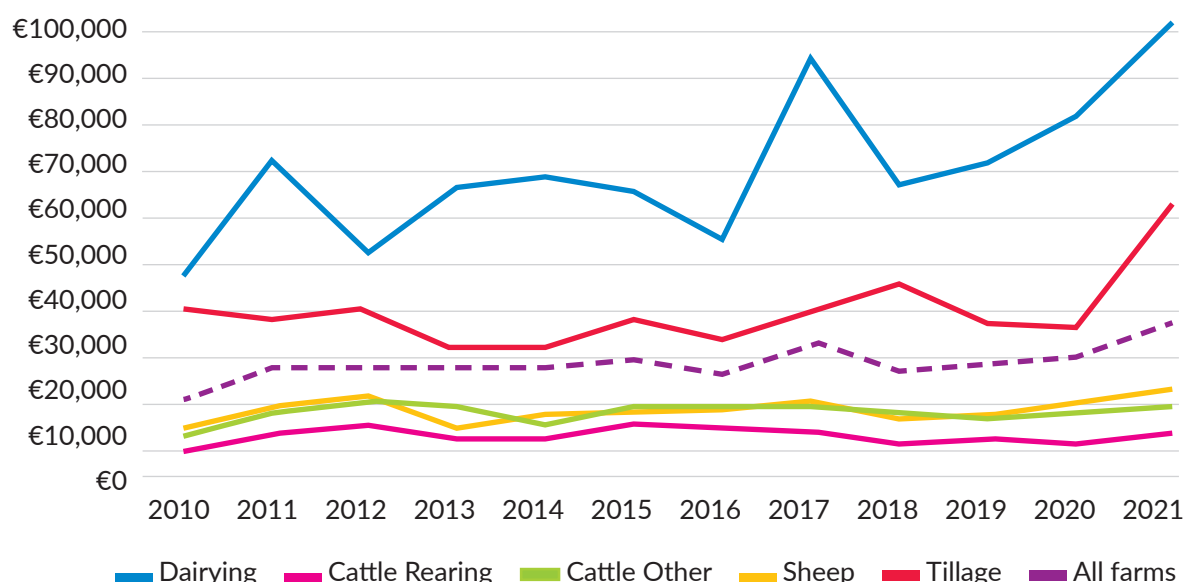
Overall, half of the aggregated FFI is returned on dairy farms despite the fact that they represent just over 18% of all farms in the survey. Cattle rearing and cattle other farms represent 56% of all farms, yet they return just 23% of aggregated FFI.

According to the Teagasc survey, there are 15,319 dairy farms and 72% of these are in the Southern region of the country which includes all six Munster counties along with Wexford, Kilkenny and Carlow. Sheep farms are concentrated in the Northern and Western region, which covers the five Connacht counties along with Donegal, Cavan and Monaghan, with 8,439 sheep farms or 60% of the total. In contrast there are just 92 tillage farms in the Northern and Western region out of a total of 6,246 tillage farms, with 46% in the Southern region and just under 40% in the Eastern and Midland region which comprises Louth, Meath, Dublin, Kildare, Wicklow, Laois, Longford, Offaly and Westmeath. Overall, 43% of all farms are in the Southern region, 37% in the Northern and Western region and the balance of 20% in the Eastern and Midland region.

FFI volatility and Direct Payments

Over the last 12 years, the average FFI has increased from €17,771 in 2010 to €34,367 in 2021, an increase of 93%. However, the increase has not been even over the years, as can be seen in figure 2.8. FFI on dairy farms, for example, increased by 73% in 2017 but that followed two consecutive years when FFI fell in 2015 and 2016. In 2018, FFI on dairy farms dropped by 30%. This highlights the volatile nature of FFI which can vary significantly from year to year.

Figure 2.8 Family Farm Income by Farm Type, 2010-2021



Source: Teagasc, National Farm Survey – Preliminary results 2021

While cattle rearing FFI is the lowest over the years, it has increased from €7,023 in 2010 to €10,927 in 2021, an increase of 56%. While FFI on cattle and sheep farms varies over the years, it is not as volatile as on tillage and dairy farms. The lower level of FFI volatility on cattle and sheep farms is partially due to the level of direct supports these farm types receive.

Table 2.2 Direct Payments as Proportion of FFI

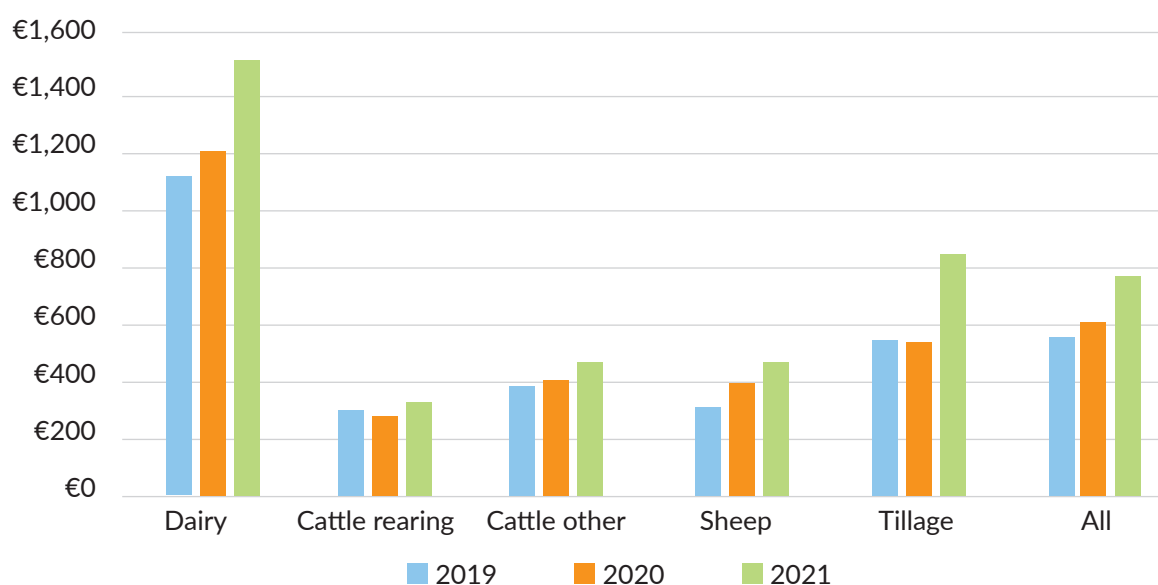
2021	Dairying	Cattle Rearing	Cattle Other	Sheep	Tillage	All Farms
% Of farms represented	18%	21%	37%	17%	7%	100%
Direct Payments	€21,097	€15,125	€15,356	€18,535	€27,707	€18,003
FFI	€97,350	€10,927	€16,416	€20,451	€58,995	€34,367
DPs as % of FFI	22%	138%	94%	91%	47%	52%

Source: Teagasc, National Farm Survey – Preliminary results 2021

In 2021, direct payments accounted for 91% of sheep FFI, 94% of cattle other FFI and 138% of cattle rearing FFI. This indicates that on cattle rearing farms some of the direct payments made up for losses on farm output, while on sheep and cattle other farms, more than €9 out of every €10 in FFI was provided by direct payments. In contrast, just over €2 in every €10 of FFI on dairy farms was provided by direct payments. The high percentage of direct payments included in FFI on cattle and sheep farms ensures that even in lean years there will be a basic level of FFI.

Family Farm Income by Farm Type per Hectare

The average farm size included in the Teagasc National Farm Survey in 2021 was 45 hectares, with average income per hectare coming in at €768; up from €607 in 2020. The lowest FFI per hectare was on cattle rearing farms at €326 per hectare and they also had the smallest average farm size at 33 hectares. In contrast cattle rearing farms received the highest direct payments per hectare at €452 compared with an average of €402. Dairy farms generate average FFI of €1,526 per hectare, close to five times that of cattle rearing, yet they receive €121 per hectare less in direct payments at €331 per hectare. Sheep farms and cattle other farms on average both generate FFI of €466 per hectare, but as sheep farms have on average nine hectares more than cattle other farms, their FFI is about €4,000 more than cattle other farms in 2021. Tillage farms in 2021 generated FFI of €846 per hectare, with close to half of that FFI due to direct payments. Tillage farms have the largest average farm size at 69 hectares.

Figure 2.9 Family Farm Income per Hectare, 2019 -2021

Source: Teagasc, National Farm Survey – Preliminary results 2021

Off farm Employment Income, 2021

According to the Teagasc National Farm Survey (NFS), in 80% of farm households either the farmer and/or spouse has an off-farm job and/or another income from pension or social assistance. Therefore just 20% of farm households rely fully on their farm as their only source of income.

In the NFS, a farm is classed as full-time or part-time based on the standard labour units required to operate the farm, as calculated on a standard man day basis. This results in many farms classified as part-time, yet the farmer may have no other employment source. On average, part-time farms which have no off-farm job have an average FFI of €12,222. The average full-time farm, where the farm holder or spouse does not have an off-farm job, has a FFI of €82,216.

Many farm holders regarded as full-time (based on the standard labour units required to operate it) may also have an off-farm job. Their average FFI is €82,447, of which €59,499 is from farming activities and the balance from the off-farm job.

On those farms, where the farmer has no off-farm job, the average income on the farm is €42,820. While on the farms where the farmer has an off-farm job, the average income rises to €45,600.

Figure 2.10 Source of Income on Farm Households 2021



Source: Teagasc, National Farm Survey – Preliminary results 2021



About 53% of farm households had a source of off-farm employment income in 2021, slightly up on the past few years. The proportion of farm households where the spouse was employed off-farm remained steady at 36% in 2021, while the proportion of farmers employed off-farm was slightly less, at 33%, similar to 2020.

The off-farm employment situation differs by system, with cattle rearing farmers most likely to work off-farm. The proportion was 44% in 2021, a 3% increase from 2020. The equivalent figure on cattle other farms was 38%, unchanged year-on-year. A lower proportion of sheep farmers worked off-farm in 2021, at 36%, an increase of 2% year-on-year. The proportion of tillage farmers employed off-farm remained relatively stable, at 35%. Although a very low proportion of dairy farmers, at 12%, work off-farm, 55% of dairy farm households have an off-farm employment income as a high proportion of spouses work off-farm on dairy farms. The incidence of household off-farm employment for cattle rearing farms is 58%. The comparative figure on cattle other farms is slightly lower at 51% with 55% of sheep farm households and 49% of tillage farm households having either the farm holder or spouse employed off-farm.

Full and Part Time Farms, 2021

According to the preliminary results of the 2021 National Farm Survey, one third of farms are full-time farms and the remaining two thirds are part-time farms. A significant difference between the two groups of farms is the average utilisable agricultural area (UAA) farmed. Full-time farms have an average of 74 hectares while part-time farms have less than half that amount of land, at 30 hectares. The availability of land and whether the farm is full-time or part-time are significant factors on FFI. Full-time tillage farms have the largest farms on average, at 117 hectares, while part-time dairy farms have an average farm size of 23 hectares, about one fifth the size.

Full-time farms have a FFI of close to €79,000, while part-time farms have an average income of around €11,550. Part-time cattle rearing farms have an average income of €7,770 while full-time dairy farms have an average FFI of €103,000, thirteen times greater than the part-time cattle rearing farms.

Subsidies and Direct Payments, which contribute to FFI on all farms, are particularly important on part-time farms, where they contribute 111% of the FFI, meaning that without these payments, the farm would be making a financial loss. While they are also important on full-time farms, they contribute far less proportionately to the average FFI at 36%.

Table 2.3 Main results from National Farm Survey for Full-time and Part -time farms, 2021

System	Dairying	Cattle Rearing	Cattle Other	Sheep	Tillage	All Sizes
Full-time						
Per Cent of Population	16.7	2.3	5.4	4.5	3.3	33.8
U.A.A (ha)	66.8	62.2	67.8	77.0	116.6	73.8
Family Farm Income (€)	€103,097	€35,053	€41,282	€46,656	€99,821	€78,920
Subsidies and Direct Payments (€)	€22,043	€30,835	€30,582	€34,292	€42,219	€28,055
DPs % of FFI	21%	88%	74%	73%	42%	36%
Part-time						
Per Cent of Population	1.2	18	30.9	11.8	4	66.1
U.A.A (ha)	23.1	29.7	29.5	31.2	31.7	29.9
Family Farm Income (€)	€19,822	€7,769	€12,013	€10,364	€25,816	€11,555
Subsidies and Direct Payments (€)	€8,328	€13,069	€12,661	€12,470	€15,914	€12,856
DPs % of FFI	42%	168%	105%	120%	62%	111%

Source: Teagasc, National Farm Survey – Preliminary results 2021

2.5 Farm Viability Analysis

The main results of the Teagasc NFS relate to the FFI for the various farm systems. While FFI is a useful measure, it does not account for the economic viability of the farm business, nor does it make any allowance for the role of income earned outside of the farm in determining the sustainability of farm households. To help address this, the NFS also provides a viability profile of its farms broken into three categories viable, sustainable and vulnerable.

Sustainable

If the farm business is not viable, the household is still considered sustainable if the farmer or spouse has an off-farm income.

Viable

A farm is defined as economically viable if the farm income can remunerate family labour at the minimum wage (taken as €20,129 in 2021) and provide a 5% return on the capital invested in non-land assets.

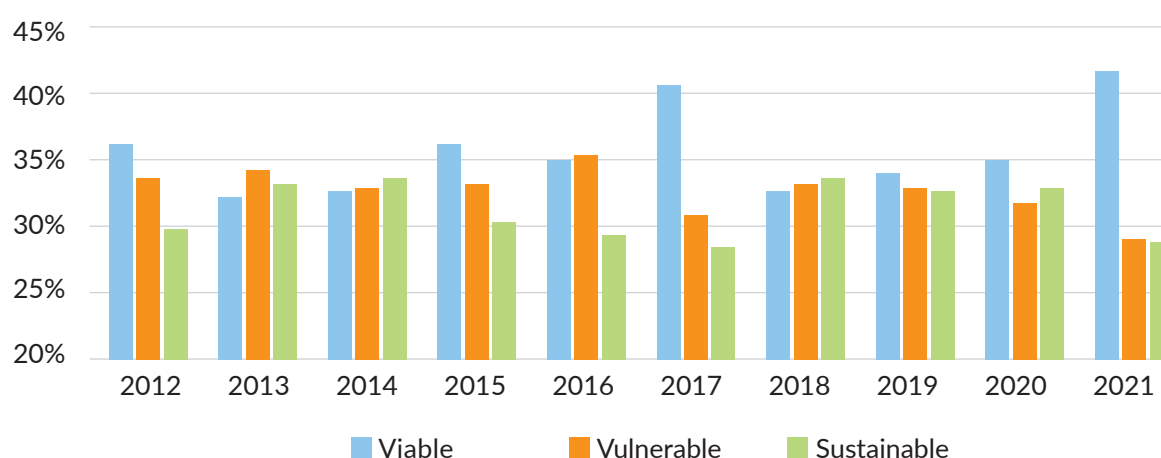
Vulnerable

A farm is considered to be economically vulnerable if the farm business is not viable and if neither the farmer nor spouse works off the farm.

In the 2021, NFS preliminary results it outlines that 42% of farms were viable in 2021. This is the highest proportion of viable farms in the last decade. The last time the number of viable farms was greater than 40% was in 2017 when it was 41%. Apart from these two years, the average proportion of viable farms was 34% over the other eight years of the past decade. 2017 and 2021 were also the only two years in the last decade that average FFI exceeded €30,000, highlighting the link between average FFI and the number of viable farms.

The number of vulnerable farms tend to reduce when the number of viable farms increases, and this is borne out by the fact that was the lowest proportion of vulnerable farms over the past ten years at 29% in 2021 and 31% in 2017. Apart from these two years, the average proportion of vulnerable farms was 34% over the other eight years. Similarly, the number of sustainable farms drops slightly in years when FFI is relatively high, as those farms where neither the farmer nor spouse has an off-farm income see an increase in FFI moving them into the viable category.

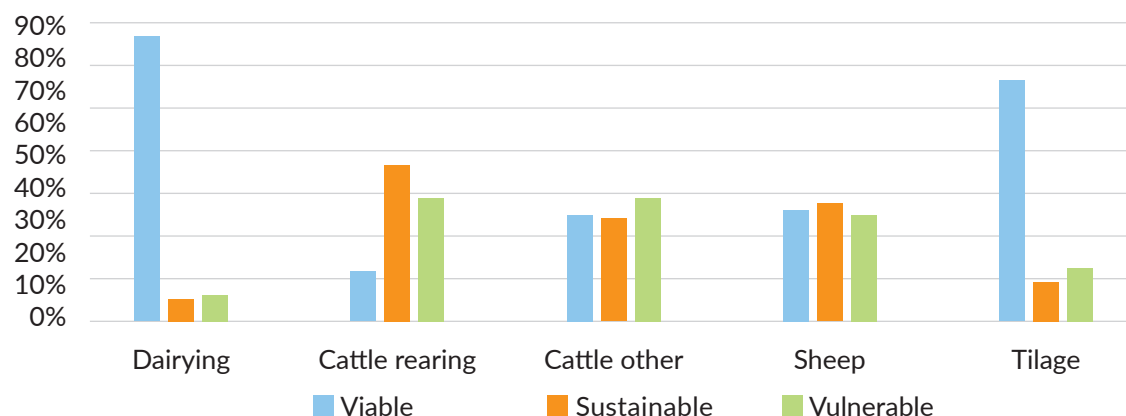
Fig 2.11 Farm Viability 2012 to 2021



Source: Teagasc, National Farm Survey – Preliminary results 2021

The viability of Irish farms varies significantly across systems. In 2021, 85% of dairy farms were found to be viable, up from 80% in 2020. Tillage has also seen an increase in the proportion of viable farms in 2021 to 72%, up from 67% in 2020. Cattle other and sheep farms had the same FFI per hectare and likewise the proportion of viable farms on both systems is almost the same at 32% for cattle other and 33% for sheep farms. Cattle rearing farms however have just 16% of the farms in the viable category although it is an improvement on 2020, when just 11% of them were viable. There are 34,800 viable farms nationwide in 2021.

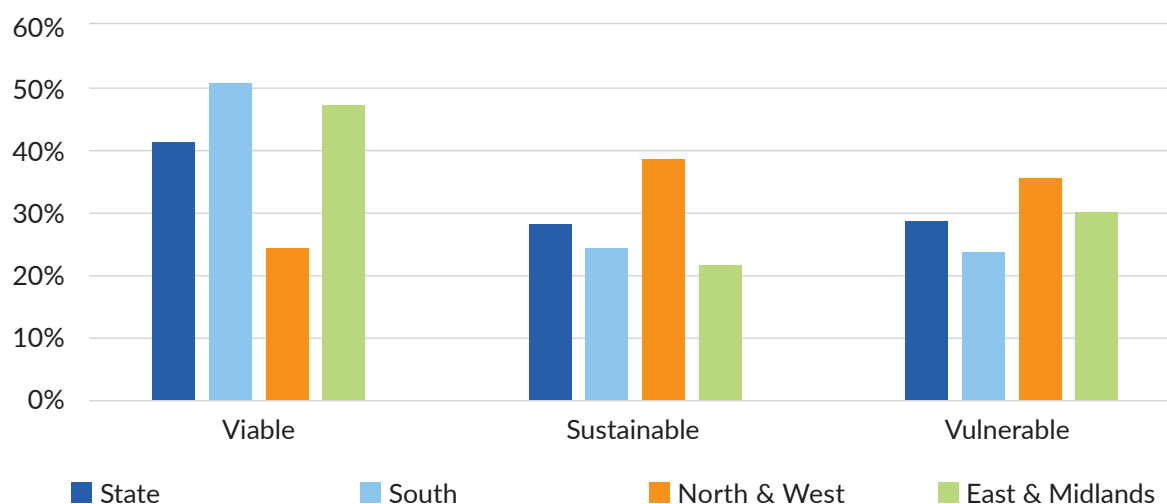
Figure 2.12 Viability of Farms by System, 2021



Source: Teagasc, National Farm Survey – Preliminary results 2021

The survey found that 37% of cattle farms, both rearing and other, are vulnerable. As stated earlier, these cattle farms tend to have the smallest farms at around 34 hectares each. According to these results, there are over 24,500 vulnerable farms. These include 17,850 vulnerable cattle farms nationwide, about 4,475 vulnerable sheep farms and 2,225 vulnerable dairy and tillage farm combined. It should be noted that the NFS does not include about 50,000 farms with a standard output of less than €8,000. These smaller farms are included occasionally in the NFS, the last time was in 2015, and at that time half of the small farms were found to be vulnerable. It is expected that these small farms will be surveyed later in 2022.

Figure 2.13 Viability of Farms by Region, 2021



Source: Teagasc, National Farm Survey – Preliminary results 2021

Looking at viability of farms on a regional basis, the Northern and Western region has the lowest proportion of viable farms at just 25%, while the proportion in the Southern region and the Eastern and Midland region are around 50%. Thirty-six percent (or over 11,000 farms) in the Northern and Western region fall into the vulnerable category, with only 24% or 8,700 in this category in the Southern region.

2.6 Direct Payments

Irish Direct Payments

The Common Agricultural Policy (CAP) was created sixty years ago in 1962 by the six founding countries of the European Communities and is the longest-serving EU policy. Its aim is to:

- provide affordable, safe and high-quality food for EU citizens
- ensure a fair standard of living for farmers
- preserve natural resources and respect the environment.

It is a dynamic policy which, through successive reforms, has adapted to new challenges faced by European agriculture. The EU has created and implemented the CAP to meet challenges such as:

- providing food security for all European citizens
- addressing global market fluctuations and price volatility
- maintaining thriving rural areas across the EU
- using natural resources in a more sustainable manner
- contributing to climate change mitigation.

The CAP is divided into three main areas of action, namely direct support, market measures and rural development. Direct support consists of payments granted directly to farmers, providing them with a safety net. The CAP guarantees EU citizens a dependable and plentiful supply of high-quality food as well as a healthy environment and exceptional landscapes. Direct support ensures that:

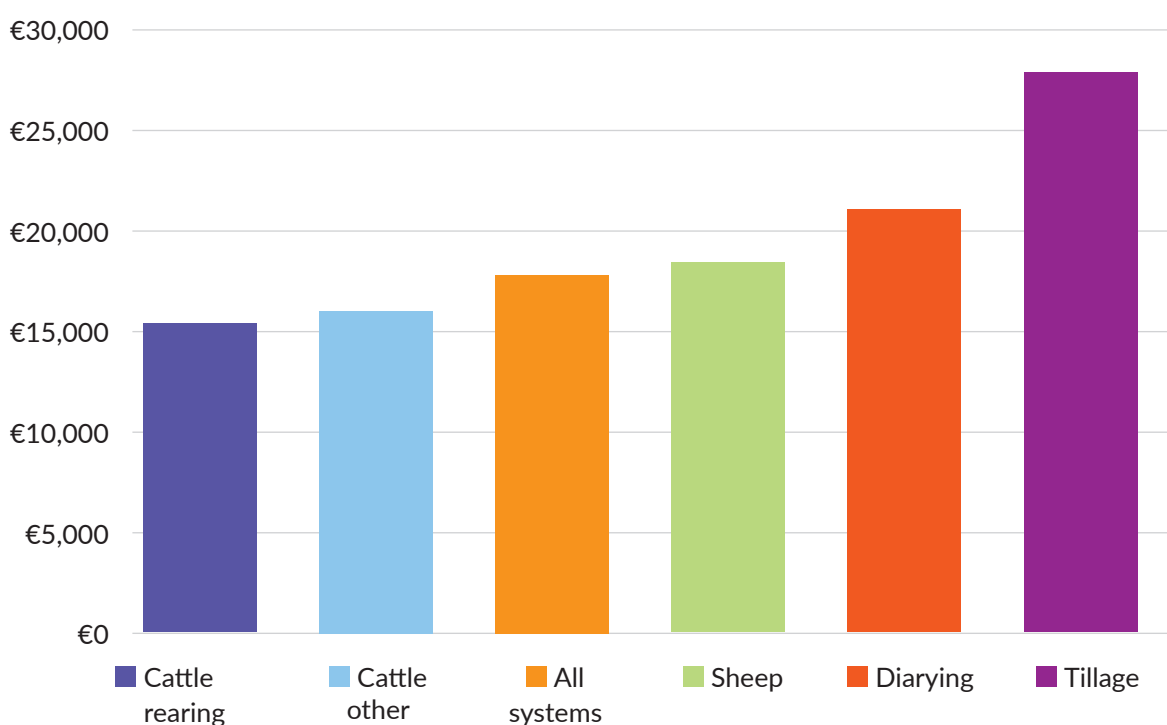
- farmers receive income support in return for looking after their farmland and meeting food-safety, environmental and animal welfare standards
- EU member states maintain farming activities adapted to their climatic or geographic situation
- producers respond to market signals so that they produce the goods demanded by consumers, allowing them to maximise their profits
- farmers who do not comply with certain requirements in the areas of public, animal and plant health, environment and animal welfare, may receive less or no support (cross compliance).

The CAP is a common policy for all EU countries. It is managed and funded at European level from the resources of the EU's budget.

In 2021, Irish farmers received around €1.8 billion in direct payments. The largest payment is the basic farm payment or BPS, which accounts for around €800 million. Most farmers are eligible to receive this, along with greening, which pays out around €360 million. ANC (Areas of Natural Constraint) payments are slightly over €246 million and GLAS (Green Low-Carbon, Agri-environment Scheme) payments were close to €190 million. Other schemes include BDGP (Beef Data and Genomics Programme, BEEP (Beef Environmental Efficiency Programme) and the SWS (Sheep Welfare Scheme), which combined paid out close to €90 million in 2021. The RBEAPP (Results-Based Environment Agri Pilot Project) scheme commenced in 2021 with payments of close to €11 million.

Other payments, such as forestry premia and TAMS (Targeted Agricultural Modernisation Scheme) are not counted as direct payments.

Fig 2.14 Direct Payments by Farm System 2021 for Farms Included in National Farm Survey



Source: Teagasc, National Farm Survey – Preliminary results 2021

Table 2.4 Distribution of Basic Payment Scheme (BPS) & Greening Payments to Farmers by County, 2021

		Total payments per county	Average Payment per county
County	Recipients per county	€million	€000
CARLOW	1,849	€24.23	€13.11
CAVAN	4,722	€33.39	€7.07
CLARE	6,028	€45.84	€7.60
CORK	13,135	€149.22	€11.36
DONEGAL	8,393	€58.71	€7.00
DUBLIN	853	€11.10	€13.02
GALWAY	12,030	€86.38	€7.18
KERRY	7,721	€68.11	€8.82
KILDARE	2,201	€29.06	€13.20
KILKENNY	3,291	€46.36	€14.09
LAOIS	2,614	€31.32	€11.98
LEITRIM	3,556	€22.60	€6.36
LIMERICK	5,101	€48.59	€9.53
LONGFORD	2,450	€19.01	€7.76
LOUTH	1,539	€18.25	€11.86
MAYO	11,191	€71.86	€6.42
MEATH	3,647	€46.27	€12.69
MONAGHAN	3,914	€25.91	€6.62
OFFALY	2,746	€30.21	€11.00
ROSCOMMON	5,390	€37.22	€6.90
SLIGO	3,916	€25.20	€6.44
TIPPERARY	6,975	€89.37	€12.81
WATERFORD	2,314	€34.04	€14.71
WESTMEATH	3,278	€32.26	€9.84
WEXFORD	4,231	€55.78	€13.18
WICKLOW	2,055	€25.98	€12.64
Total	125,140	€1,166.29	€9.32

Source: DAFM

Basic Payment Scheme

In 2021, around 125,100 farmers received a BPS and/or a Greening payment. The payments issued in 2021 generally relate to applications made in 2021, but some payments may relate to earlier years. Also, deductions may have been applied in 2021 for earlier years if the applications were not fully compliant with the relevant regulations.

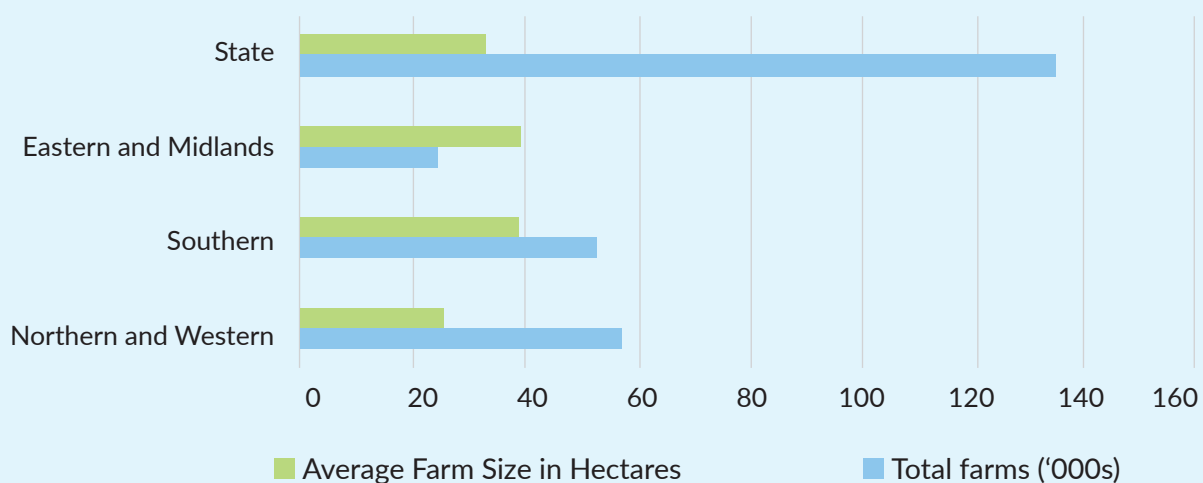
The average payment nationwide is just over €9,300, but there is significant variation on a county-to-county basis. Donegal farmers received an average payment of €7,000, while farmers in Leitrim, Mayo, Sligo, Monaghan and Roscommon all received on average less than €7,000. In contrast, an average payment in Waterford, Kilkenny, Kildare, Wexford, Carlow and Dublin is greater than €13,000 per farmer.

2.7 Farm Numbers and Size

The CSO carry out a national farm census every ten years, in line with their EU colleagues. They also carry out a farm structure survey three years and six years after the census. Data on animal housing and manure management and the farm labour force was collected in late 2020 and early 2021, via sample survey. The Preliminary Census of Agriculture 2020 results were released in December 2021, with the remaining results published in May 2022.

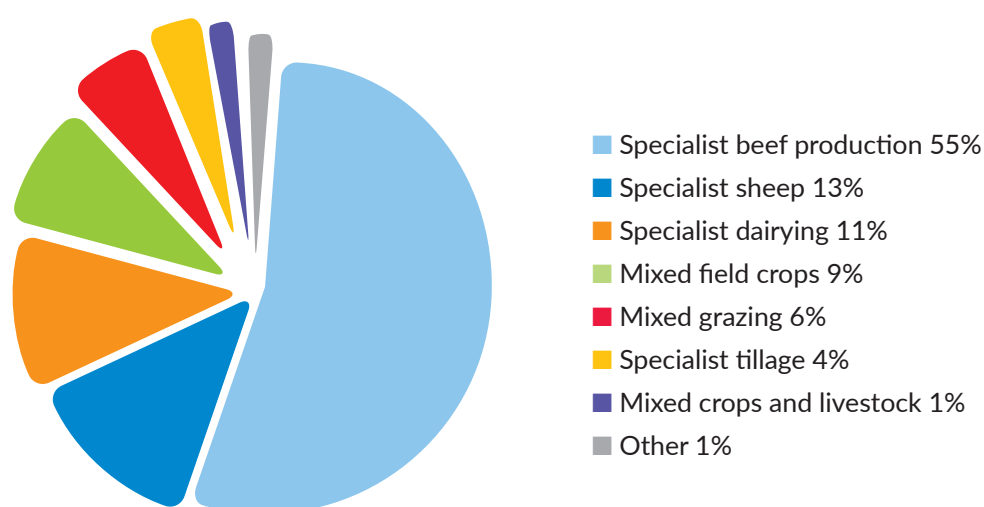
The Census of Agriculture (CoA) 2020 provides data on Irish farm numbers and demographics. In 2020 it was estimated that there were 135,037 farms in Ireland, compared with 139,860 in 2010 and 141,527 in 2000. The average Agricultural Area Utilised (AAU) per farm, or farm size, was 33.4 hectares, up slightly from 32.7 hectares in 2010 and from 31.4 hectares in 2000.

Fig 2.15 Total Number of Farms and Average Farm Size, by Region and Nationally, 2020



Source: CSO

According to CoA 2020, 57,000 of the farms were located in the Northern and Western region, while 53,000 farmers were located in the Southern region. The Eastern and Midlands region accounted for least number of farms overall at 24,000. However, the Eastern and Midlands region had the largest average farm size or AAU at 39.4 hectares. The Southern region had the next largest average AAU at 38.8 hectares, while it was 25.8 hectares in the Northern and Western region. The average farm size in the state was 33.4 hectares, a 2.2% increase on 2010. At the same time, the number of farm holdings decreased by 4,823 or 3.4%, contributing to this increase in average farm size over the ten-year period.

Figure 2.16 Proportion of Farms by Farm Type, 2020

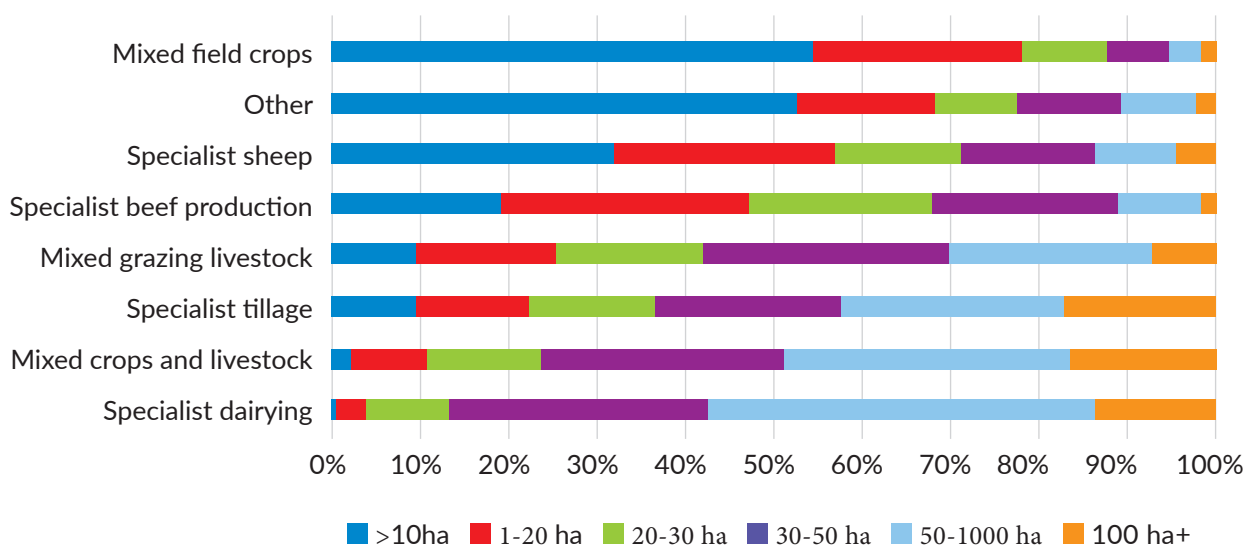
Source: CSO

Specialist beef production was the most common farm type in Ireland in 2020, accounting for 55% of all farms (74,200). Of these, 34,200 were in the Northern & Western region, 26,800 were in the Southern region while 13,200 were in the Eastern & Midland region.

Specialist sheep farms accounted for 13% of all farms (17,400). The majority of these farms were in the Northern & Western region at 11,200 farms, while there were 3,900 and 2,300 in the Southern and Eastern & Midland regions respectively.

Specialist dairying farms accounted for 11% of all farms (15,300). The Southern region continues to hold the majority of dairy farms at 11,000 holdings, while the other two regions have approximately 2,200 each.

Specialist tillage farms accounted for four percent of all farms (4,600). The Southern region had 2,500 farms while the Eastern & Midlands region accounted for 1,900. There are just 200 tillage farms in the Northern & Western region.

Figure 2.17 Distribution of farm type by size, 2020

Source: CSO

Specialist dairying farms had the largest proportion of farms over 50 hectares at 58%, while only four percent reported having a farm size of less than 20 hectares for this farm type. Almost half of the mixed crop and livestock farms were over 50 hectares at 49%. Specialist tillage farms had 43% of farms over 50 hectares, while having the highest proportion of farms greater than 100 hectares in size at 17%. These three farm types make up 45% of large farms in Ireland.

Almost half of specialist beef production farms were between 10 and 30 hectares (49%), while 39% of specialist sheep farms were within these size parameters. Farms in the mixed field crops and other categories had the smallest average farm sizes, with over half of farms in these categories being less than 10 hectares.

2.8 Age Profile of Farmers

According to the CoA 2020, more than half of farm holders were aged 55 or over. Farm holders over 65 years of age made up 33% of all farm holders in comparison to 26% in 2010. In 2020, 25% of farm holders are in the 55 to 64 years age group. The number of young farmers under 35 years old was 7% in 2020, up slightly on the 2010 figure of 6%.

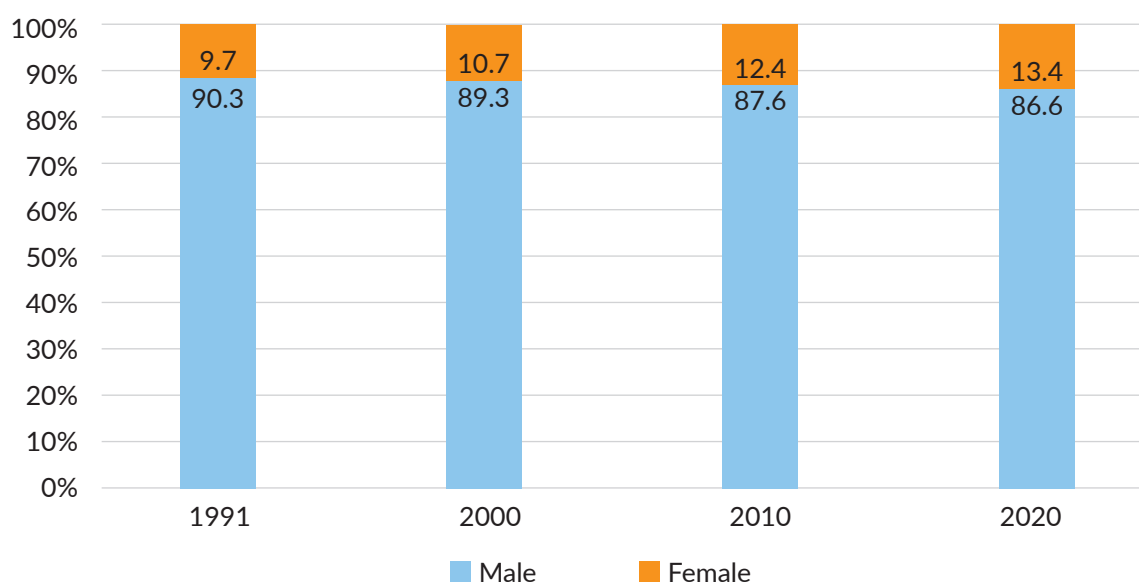
Taking a wider view, the age profile of farm holders has changed significantly over the past 30 years, and there are now fewer farm holders under the age of 45 and considerably more aged 65 or over. In 2020, one third of farm holders were aged 65 or over compared to just above one fifth in 1991. In 1991, 33% of farm holders were under the age of 45, whereas in 2020 this age group represented 21% of all farm holders. The proportion of farm holders under 35 fell between 1991 and 2010. However, there was a slight increase in the proportion in this youngest age category between 2010 and 2020, from 6% to 7%.

Table 2.5 Number of Farms by Age of Farm Holder, 1991 - 2020

Age	1991		2000		2010		2020	
	Farms	%	Farms	%	Farms	%	Farms	%
under 35 years	22,447	13	18,382	13	8,683	6	9,338	7
35 - 44 years	33,752	20	30,780	22	24,562	18	18,701	14
45 - 54 years	37,013	22	36,332	26	34,614	25	29,616	22
55 - 64 years	38,030	22	27,805	20	35,058	25	33,247	25
65 + years	38,651	23	28,043	20	36,639	26	44,135	33

Source: CSO

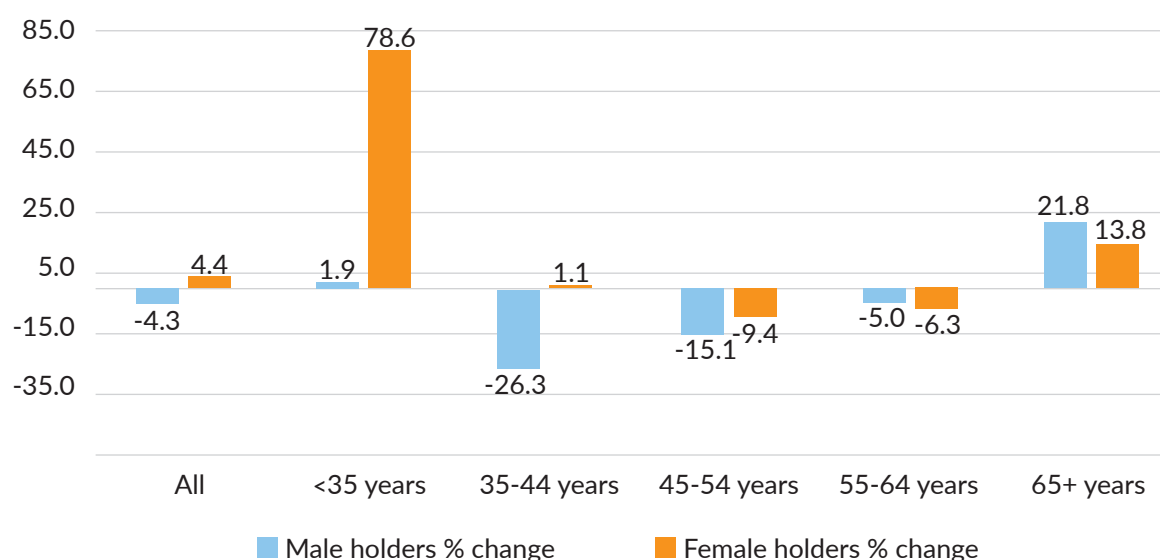
Between 1991 and 2020, the proportion of male farmers fell from 90% to 87% of all farm holders, reflecting the growing proportion of female farm holders relative to 30 years ago.

Fig 2.18 Gender of Farm Holders 1991-2020

Source: CSO

Figure 2.19 shows the percentage changes in the distribution of farm holders by age and gender between 2010 and 2020. The most significant change is in the 79% increase in female farmers under 35. While this is relatively small in absolute terms, at 501 additional female farmers, it reflects the positive trend of increased gender diversity among young farmers in Ireland. There was also a slight increase (+1%) in the proportion of female farmers in the 35-44 age range. Those aged 45--64 decreased as a proportion of female farm holders over the past decade, with a corresponding 14% increase in those over the age of 65.

Male farmers under 35 saw a two percent increase over the decade, reversing the trend in this age category. There was a decrease in the proportion of all male farmers 35-44, 45-54 and 55-64 by 27%, 15% and 5% respectively, demonstrating the continuing trend of an ageing male farming population in Ireland. This was further reflected in the 22% increase in male farmers over the age of 65.

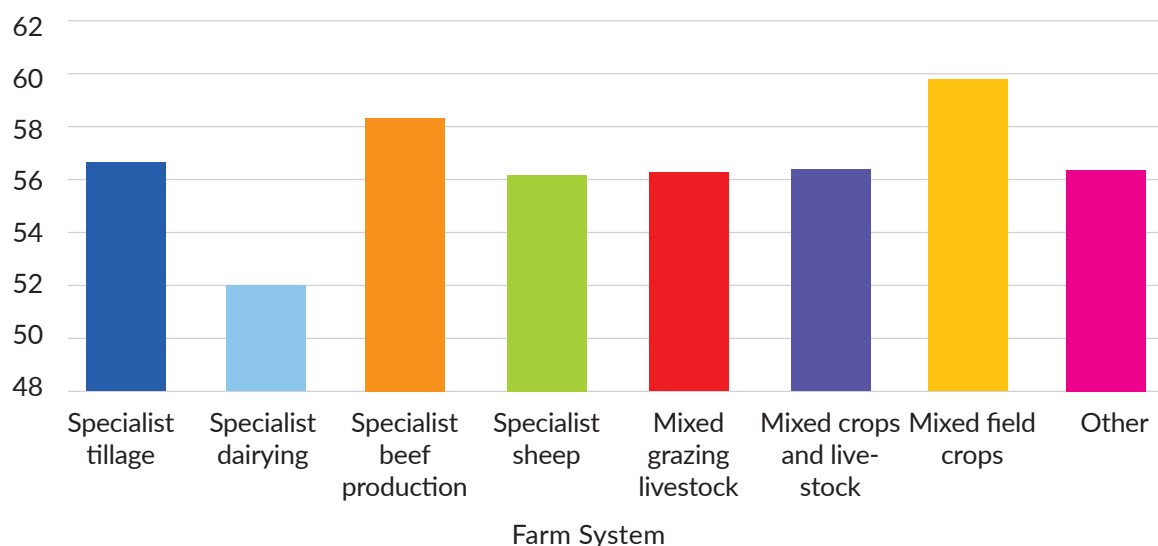
Fig 2.19 Change in Distribution of Farm Holders by Age and Gender, 2010-2020

Source: CSO

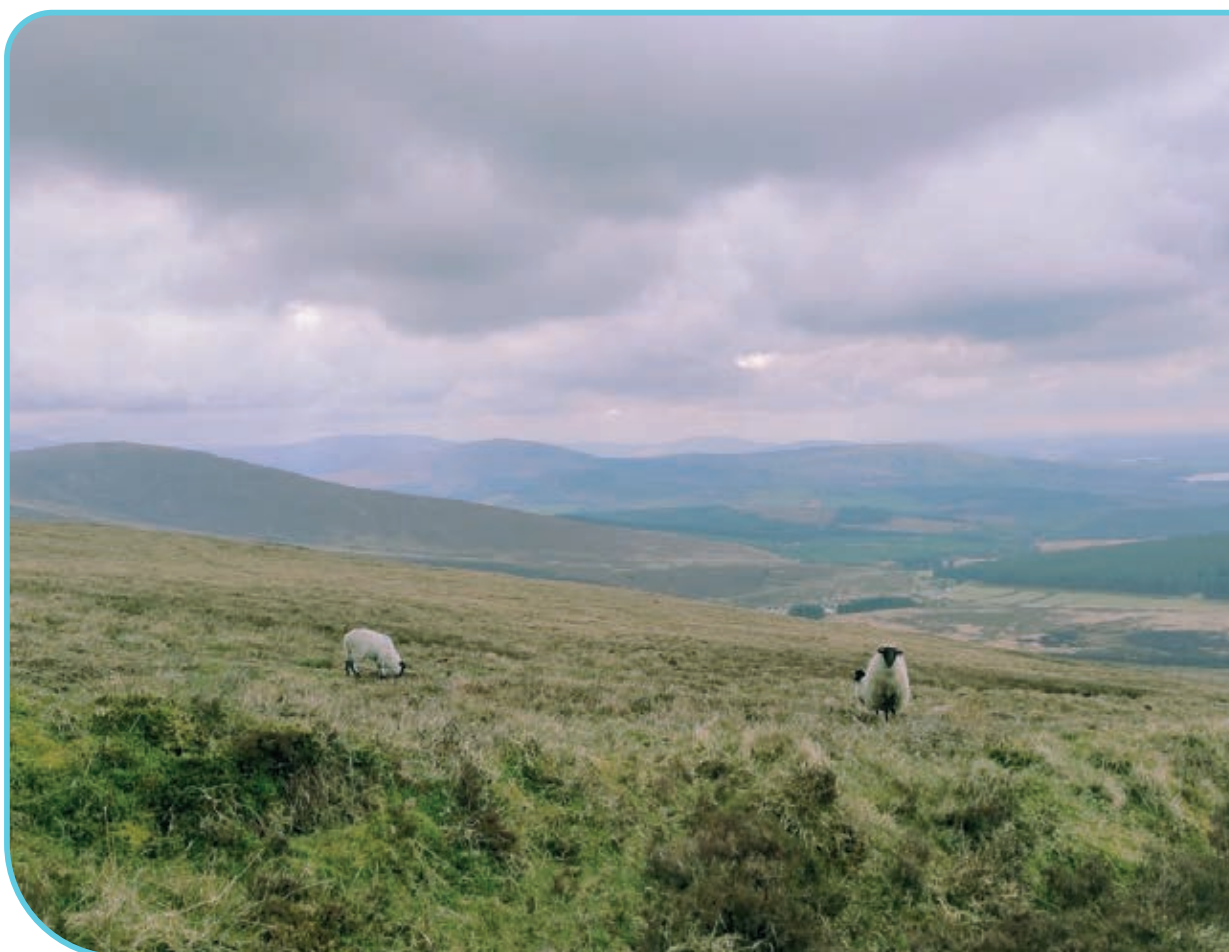
Age profile by farm type

According to the 2020 CoA, dairy farmers tended to be younger than farmers from all other farm systems, with an average age of 52 years old. Farmers from specialist tillage, specialist sheep, mixed grazing livestock, mixed crops and livestock, and other farm systems, all had an average age of 56 years old. The average age of specialist beef farmers is 58, while farmers from mixed field crop systems had the oldest average age at 59 years old.

Fig 2.20 Average Age of Farm Holder by Farm Type, 2020



Source: CSO



2.9 Employment

The agri-food sector is an important employer nationally and particularly in rural and coastal areas. The agri-food sector covers primary agriculture, forestry, fishing, along with the manufacturing of food and beverages and manufacture of wood and products of wood and cork (except furniture). In 2021, the sector employed 170,400 people, or 7.1%, of the total workforce in Ireland, which is made up of 2.4 million people. As outlined earlier in this chapter in the section on labour input in agriculture, not all people who work in agriculture do so on a full-time basis.

The numbers employed in the sector increased by about 7,400 people, in 2021. This reflected growth in the sector in the wake of the recovery from the COVID-19 pandemic, made up of an increase of 3,000 in the manufacture of food & beverages, 1,600 in crop and animal production, and 200 in forestry and fishing. Even accounting for the pandemic, this represents an overall increase in agri-food employment over 2019 figures of 6,350 people.

Table 2.6 *Employment in the Agri-Food Sector 2019-2021*

	2019	2020	2021
Crop and animal production	97,675	96,300	100,875
Forestry & fishing	4,850	6,000	6,125
Manufacture of food & beverages	55,550	54,725	57,400
Manufacture of wood	6,000	6,000	6,000
Total Agri-food employment	164,075	163,025	170,400
Total Employment all sectors	2,318,800	2,253,025	2,389,225
Agri-Food as % of total	7.1%	7.2%	7.1%

Source: CSO

In 2000, the Agri-Food sector employed 196,775 people, representing 11.1% of the total workforce in Ireland, which then stood at 1,772,900. The numbers employed in the Agri-Food sector have reduced somewhat over the past 20 years, while total employment across all sectors has risen. In 2021, the average number of people employed in the Agri-Food sector was 170,400, down 26,350 compared to the year 2000 or by 13%. At the same time, total employment in Ireland increased to 2,294,400, an increase of 616,325, or 35%. As Agri-Food sector employment decreased and overall employment increased, the percentage of people employed in Agri-Food sector has dropped and it now stands at 7.1% of total employment in 2021.

Table 2.7 *Employment in the Agri-food Sector 2000-2021*

Year	Crop and animal production	Forestry & fishing	Manufacture of food & beverages	Manufacture of wood	Total Agri-food employment	Total Employment all sectors	Agri-Food as % of total
2000	122,625	6,250	58,125	9,775	196,775	1,772,900	11.1%
2005	107,175	4,750	58,150	9,850	179,925	2,037,850	8.8%
2010	101,775	8,525	46,375	5,800	162,475	1,925,575	8.4%
2015	103,925	5,525	56,150	3,975	169,575	2,057,350	8.2%
2021	100,900	6,125	57,400	6,000	170,425	2,389,225	7.1%

Source: CSO

The largest drop has been in crop and animal production, which has seen employment levels fall by about 21,725. There is a decrease of 700 jobs in the manufacture of food and beverages from 58,100 to 57,400 and a drop of 3,775 in the manufacture of wood products and products of wood and cork. Employment in the forestry and fishing has remained relatively steady over the past twenty years at just over 6,000, although it did drop below 5,000 in 2005.

Employment in the Agri-Food sector is calculated based on detail in the quarterly Labour Force Survey. Due to the seasonal nature of Agri-Food sector employment, the figures used here are an average of the four quarters for each year. Included are the numbers employed in the following 2-digit NACE codes: 01 crop and animal production, hunting and related service activities; 02 forestry and logging; 03 fishing and aquaculture; 10 manufacture of food products; 11 manufacture of beverages and 16 manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials.

2.10 Women in Agriculture

5 GENDER EQUALITY



Gender equality is a core principle of the European Union and a key objective of the United Nations' Sustainable Development Goals. The pursuit of equal rights, responsibilities, and opportunities for people of all genders is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous, and sustainable world.

The World Economic Forum's (WEF) Global Gender Gap index benchmarks 146 countries on their progress towards gender parity in four dimensions:

1. Economic Participation and Opportunity,
2. Educational Attainment,
3. Health and Survival and
4. Political Empowerment.

The WEF reports gender parity has a fundamental bearing on whether or not economies and societies thrive. Developing and deploying one-half of the world's available talent has a huge bearing on the growth, competitiveness and future-readiness of economies and businesses worldwide.

The 2022 Index, published in July 2022, sees Ireland ranked at number nine of the 146 countries with a score of 80.4%. Ireland did not report significant changes in their overall gender gap score or rank between 2021 and 2022. However, Ireland does recover ground lost since posting its highest score in 2016 of 80.6%. Although no country has yet achieved full gender parity, the top 10 economies have closed at least 80% of their gender gaps, with Iceland at 90.8% leading the global ranking.

The Global Gender Gap Index 2022 identifies gender gaps in the workforce as an emerging crisis. Gender gaps in the workforce are driven and affected by many factors, including long-standing structural barriers, socioeconomic and technological transformation, as well as economic shocks. More women have been moving into paid work and, increasingly leadership positions, yet globally societal expectations, employer policies, the legal environment and the availability

of care continue to play an important role in the choice of educational tracks and career trajectories. Geopolitical conflict and climate change both impact women disproportionately. In addition, the projected deepening of the current cost-of-living crisis is also likely to impact women more severely than men, as women continue to earn and accumulate wealth at lower levels.

Women in Agriculture

According to Eurostat 2016 around 30% of farms across the EU in 2016 were managed by a woman. In Lithuania and Latvia, 45% of all farms are managed by a woman. By contrast, less than 10% of farm managers in Malta, Germany, Denmark, and the Netherlands are female.

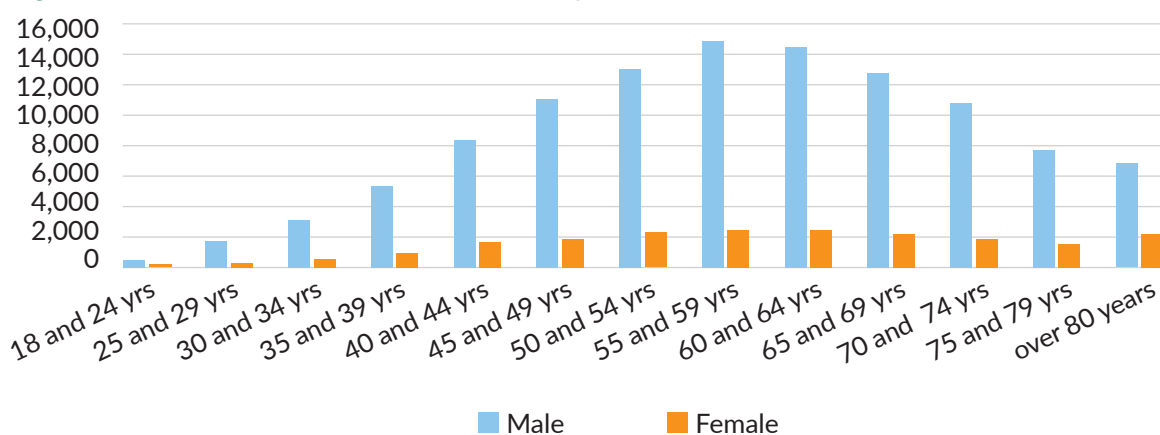
In Ireland the CSO Census of Agriculture 2020 indicates that of the total 135,037 farm holders in Ireland, some 13.4% or 18,101 are women. This number is up from 15,099 in 2000 when they represented 10.7% of farm holders. This trend of more female holders of farms should continue as farm holders who have a succession plan in place indicated the successor was female in 16.2% of cases.

The CSO Labour Force Survey 2021 indicated that an average of 13.6% of the labour force in primary agriculture, forestry and fishing were women. This is down from 14.9% in 2020 but higher than 12.5% in 2019. The trend since 2000 is increasing slightly, with the proportion rising from an average of 12.5% between 2000 and 2004 to 13.9% over the last five years. However, the numbers working in agriculture, forestry and fishing vary from year to year depending on other employment opportunities and events such as COVID-19.

Quality and Qualifications Ireland's Certification Data and Analysis Report 2021 indicates the share of female learners attaining QQI awards has grown year on year, standing at 58% or 59,015 recipients in 2021 compared to 46,739 males. This is up from 54% in 2020 and 52% in 2019. In contrast, according to the Teagasc Education Vision Report 2018, about 11% of the 14,588 QQI further education awards made for Teagasc programmes in the period 2012-2016, were to female graduates. Female participation in agricultural higher education is observed to be greater, in the range of 40% for some university degree programmes. By contrast, female participation in veterinary education in Ireland is much higher and can range from 70% to 80%.

According to the DAFM's client database, 16% (or 20,543) of active individual herdowners in 2021 were women, while 110,143 were male. Just under 10% were under 40 as compared with nine percent in 2020. Similarly, 10% of male herdowners were under 40. Almost 50% of female farm owners were over 60 in 2021, which is similar to the figure of 51% for 2020. Just over 47% of male herdowners were over 60. For herdowners over 80 years, 10% of females are in this category as compared with six percent of males. According to the CoA 2020, 27% or 75,113 of those working on farms were female.

Figure 2.21 Individual Active Herd Owners by Age and Gender, 2020



Source: DAFM

Women occupy various roles in farming as independent producers, business managers, agriculture helpers and farm homemakers but in common with the EU overall, there is unequal participation by women and men in agriculture in Ireland and the work done by women on farms continues to be largely invisible and without status as farm holder or registered herdowner.

Ireland's agri-food strategy, *Food Vision 2030* recognises the importance of gender balance to the long-term sustainable future for primary producers and includes actions to promote and improve gender balance at all levels, including at senior management and board level. It also includes a commitment to hold a National Dialogue on Women in Agriculture and recommends the establishment of female farmers' networks and other supports to better understand and meet the needs of Irish women farmers, fishers and rural female entrepreneurs.

Ireland's *CAP Strategic Plan 2023-2027* marks a milestone for women in farming as for the first time, measures have been developed with a gender aware perspective. The CAP Regulations place particular focus on promoting the participation of women in the socio-economic development of rural areas, with special attention to farming, supporting women's key role. The CAP 2023-2027 includes the objective to promote gender equality under CAP Specific Objective number eight, namely Vibrant Rural Areas. Ireland is proposing the following package of measures on gender equality in the CAP Strategic Plan:

- Increased rate of grant aid to 60% for women aged 41-66 years under the Capital Investment Scheme
- Knowledge Transfer Programme - Women only KT Groups
- European Innovation Partnerships –a call for proposals to incentivise women's participation in agriculture.
- Improved recording, collection and reporting on gender data across all CAP schemes.
- All CAP interventions will be developed with a gender aware perspective to ensure there are no inherent barriers to women's participation.
- The National CAP Network established in the CAP Strategic Plan will be leveraged to increase the involvement of all women in the implementation of CAP.

The CAP Strategic Plan was submitted to the European Commission in December 2021 and formally adopted in August 2022 with a targeted delivery date of January 2023. In the interim work continues in DAFM to develop the proposed schemes and build the underpinning online systems.

ACORNS (Accelerating the Creation of Rural Nascent Start-ups)

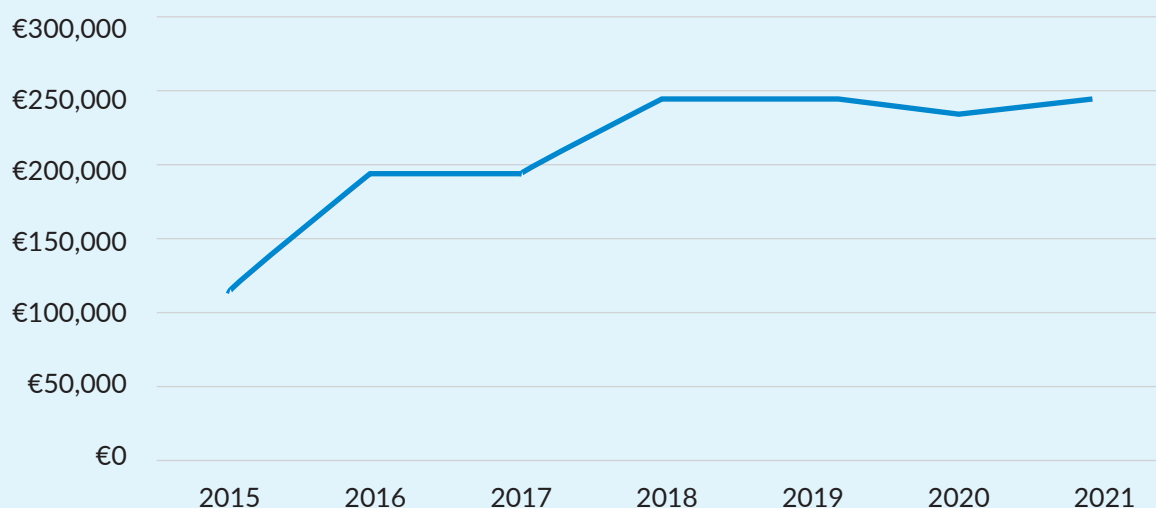
The ACORNS programme was developed to support female entrepreneurs who live in rural Ireland and have new business. Based on a belief that entrepreneurs learn best from each other, the ACORNS initiative is focused on interactive round table sessions that are facilitated by female entrepreneurs who have started and successfully grown businesses in rural Ireland. They are known as ACORNS Lead Entrepreneurs and have practical, first-hand knowledge on the trials and tribulations of owning a successful business in rural Ireland. Each Lead Entrepreneur works with a group of approximately eight participants. They address enterprise challenges and support participants in considering how best to start, develop and position their businesses for sustainability and growth.

To qualify, participants must have, or intend to have, a new business located outside the city boundaries of Dublin, Cork, Galway, Limerick and Waterford. The programme is open to early-stage female entrepreneurs who have recently started a business, which has less than two years sales, or who are at an advanced stage of setting up a business. The aim is to provide up to 50 entrepreneurs on each cycle of the programme with the knowledge, support and networking opportunities to meet and even exceed their current aspirations. Past participants report increased sales, exports and employment creation. The programme is currently in its

seventh cycle and runs part-time over six months. Business can be in any sector and applicants who expect to grow their business and employ others are given special consideration.

As this programme is funded by DAFM through the Rural Innovation and Development Fund, there is no cost to the participants. In 2021, ACORNS received €244,093.5 from DAFM. This brings the total investment in ACORNS to €1,484,072.80 since its inception.

Figure 2.22 DAFM funding year for Acorns 2015-2021.



Source: DAFM

ACORNS 7 ran from November 2021 to April 2022 and had 49 participants. At the end of the cycle, all participants reported that participation in ACORNS was of value to their business.

- The combined turnover of the overall group doubled over the six months of the cycle.
- There were five participants that became exporters for the first time. Eleven participants now have export experience.
- There were 22 additional employees hired during the period.

The ACORNS 7 participants were very positive in their feedback in terms of their experience of the initiative. Ninety-four percent reported that they made decisions for their business during the round table sessions. Ninety-six percent said that their participation brought about practical change within their business. All participants said that they would recommend taking part in ACORNS to others and that they would welcome a means of staying in contact with the ACORNS network.



Case Study

Grá Chocolates

When Gráinne Mullins won The Euro-Toques Young Chef of the Year in 2019, it opened up a host of new opportunities that involved a job in a high-end restaurant in Indonesia and plans to travel around the world.

But when the COVID-19 pandemic hit, like many others, Gráinne's plans were cancelled and she found herself back at home in Kilchreest, Co Galway.



The pastry chef embraced the turn of events and seized the opportunity to create an exciting new business venture, Grá Chocolates.

To keep busy in the pandemic, Gráinne designed and created individual Easter eggs for her family and friends. The hand-painted, abstract designs were a hit on Instagram and it wasn't long before people started enquiring where they could buy them. Having worked as head pastry chef around several high-end restaurants across Ireland, Gráinne's expert pastry knowledge allowed her to experiment and create luxurious, quality chocolates in five different flavours.

While working on the chocolates, she enrolled in two online courses: one with the Digital School of Food and a local start-your-own business programme with classes on Zoom. Operating from her certified kitchen in the family home, Grá Chocolates officially launched in July 2020.

Before joining ACORNS, Gráinne was running everything herself. She credits ACORNS with helping her define her business plans and enabling her to take on employees. While she enjoyed crafting new recipes in different restaurants, Gráinne loves being able to express herself and her creativity through her own venture.

Gráinne now plans to move her chocolate factory into a larger production unit and continue to build Grá Chocolates' brand. She now has a team of 14 and has recently launched two concessions in Brown Thomas Grafton Street and the new Brown Thomas Dundrum. Grá Chocolates still has a focus of selling directly to its consumer through its website, www.grachocolates.com, but the opportunity to meet with their consumer in person is very important to build brand relationships.

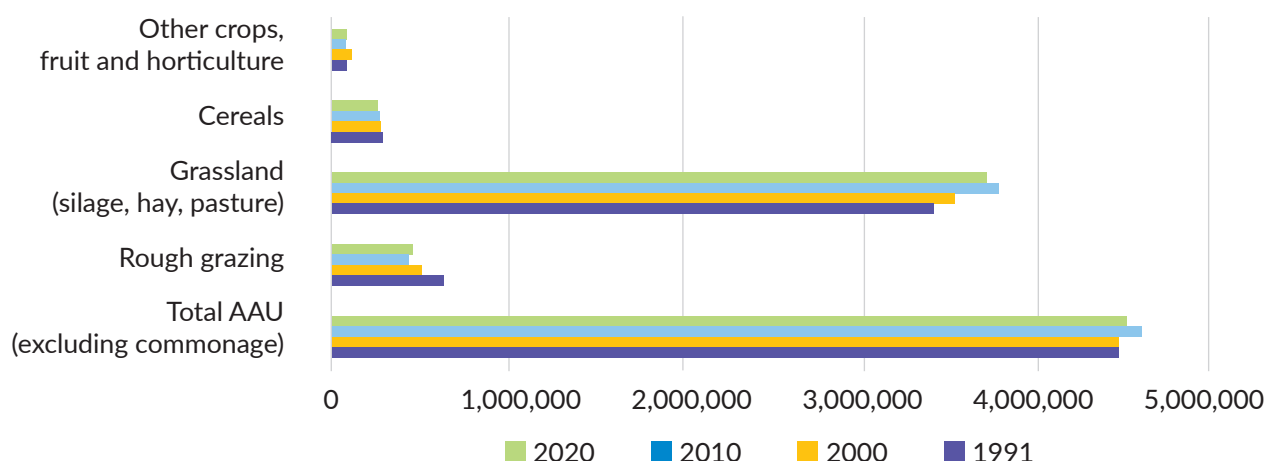
Gráinne is constantly working on new avenues and sees endless possibilities within the world of chocolate.

2.11 Land Utilisation

According to the CoA, the total Area Under Agriculture (AAU), excluding commonage, was 4,509,256 hectares, made up of 3,699,919 hectares under grassland, 451,537 hectares under rough grazing, 265,592 hectares under cereals and 92,208 hectares under other crops, fruit and horticulture uses.

Table 2.23 shows the area under grassland has increased from 77% of total AAU in 1991 to 82% in 2020. There has been a substantial reduction in rough grazing by 30% on 1991 figure, as well a 12% decrease in area under cereals over the same time period.

Fig 2.23 Distribution of Land Utilisation 1991-2020



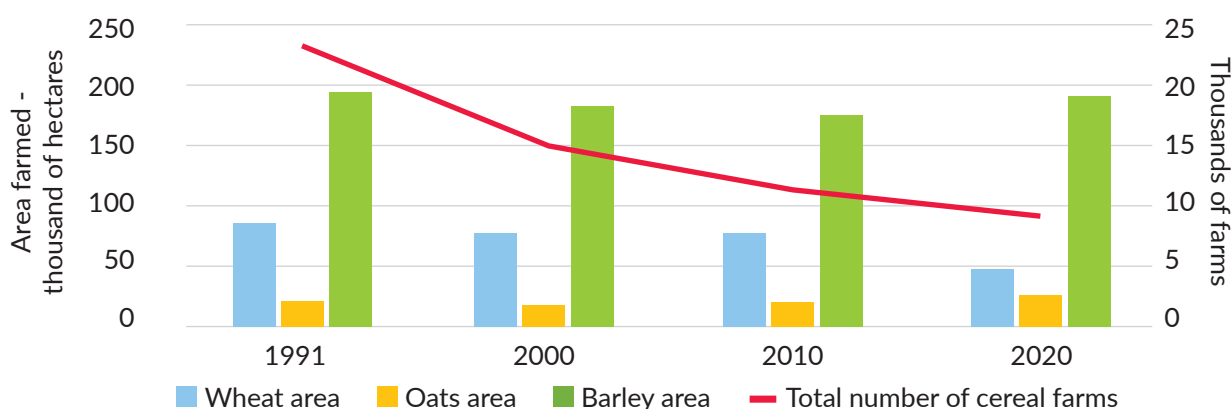
Source: CSO

There has been a decline in the total area under cereals over the past ten years, with a three percent decrease in total area under cereals between 2010 and 2020. The change in area under different cereals varied substantially. There was a 40% decrease in wheat area over this time, from 77,824 hectares to 46,970 hectares. Over the same period there was an 11% increase in the area under barley, from 174,800 hectares to 193,186 hectares. There was also a 29% increase in the area under oats, from 19,707 hectares to 25,408 hectares.

This is broadly in line with trends over the past 30 years, whereby the area under wheat has fallen, while the area under oats managed to reverse its decline between 1991 and 2010.

It is also worth noting that while the total area under cereals has declined by 12% between 1991 and 2020, the total number of cereal farms has fallen from 23,183 to 9,401 (59%), indicating that there is an increase in the average farm size for cereal farmers.

Fig 2.24 Total Number of Cereal Farms and Cereal Area by Type (1991-2020)



Source: CSO

2.12 Land Prices and Land Mobility

CSO Agricultural Land Prices

In February 2022, the CSO released the Agricultural Land Prices 2020 report. The report included a revision to the results for previous years 2013 to 2019. These revisions reflect a more complete picture of agricultural land sales. When the series was introduced in 2017, the analysis was confined to transactions which were confirmed as completed on the Property Registration Authority (PRA) system. Transactions marked as “pending” at the end of the relevant year were not included in the calculations. On further examining data relating to pending transactions, the CSO has decided to include both completed and pending transactions in the yearly analysis. While the number of transactions included in the revised calculations has increased, in turn resulting in higher value and area of land included in the series, the median price of land has remained relatively stable compared to the previous releases.

According to the CSO in 2020, there was 29,031 acres of agricultural land sold in Ireland. The median price was €6,992 per acre and the total value of land sold was €176.1 million. This land sold represented 0.25% of all the available agricultural land in Ireland. It also marked a 53% decrease in the overall volume of land sold when compared with 2019.

The mean price for agricultural land in 2020 was €6,066 per acre with a mean transaction size of 18.1 acres. The median price or the middle value when the transactions are sorted in order of price per acre has remained relatively stable in recent years, close to €6,950. The mean value of land or the total money spent on agricultural land in the year divided by the total area of land sold has also remained relatively stable at €6,262 over the past three years. The volume of transactions dropped by half from close to 62,000 in 2019 to about 29,000 in 2020; presumably COVID-19 is at least partially responsible for that.

Table 2.8 Volume and Value of Land Sales, 2018 – 2020

	Median Price	Average Price	No. of Transactions	Volume of Transactions	Mean Transaction Size	Value of Transactions
Year	€ / ac	€ / ac		Acres	Acres	€ Million
2018	€6,951	€6,455	3,050	55,145	18.1	€355.95
2019	€6,906	€6,267	3,289	61,997	18.8	€388.56
2020	€6,992	€6,066	1,602	29,031	18.1	€176.09

Source: CSO

The CSO give a breakdown of sales by land type which are determined by the CSO's Census of Agriculture. The two classifications they use are “Arable Land” and “Permanent Grassland” and these differ greatly in price. The median price for arable land in 2020 was €10,338 per acre while the median price for permanent grassland was €6,791 per acre. The number of transactions also varies by land type with just 88 arable land transactions in 2020 compared to 1,514 permanent grassland transactions.

Table 2.9 Volume and Value of Land Sales by Land Type, 2018 – 2020

	Median Price	Average Price	No. of Transactions	Volume of Transactions	Mean Transaction Size	Value of Transactions
Year	€ / ac	€ / ac		Acres	Acres	€ Million
Arable Land						
2018	€11,896	€12,866	164	3,642	22.2	€46.85
2019	€11,241	€11,402	153	3,107	20.3	€35.43
2020	€10,338	€10,256	88	1,366	15.5	€14.01
Permanent Grassland						
2018	€6,670	€6,002	2,886	51,503	17.8	€309.10
2019	€6,686	€5,996	3,136	58,890	18.8	€353.13
2020	€6,791	€5,859	1,514	27,665	18.3	€162.09

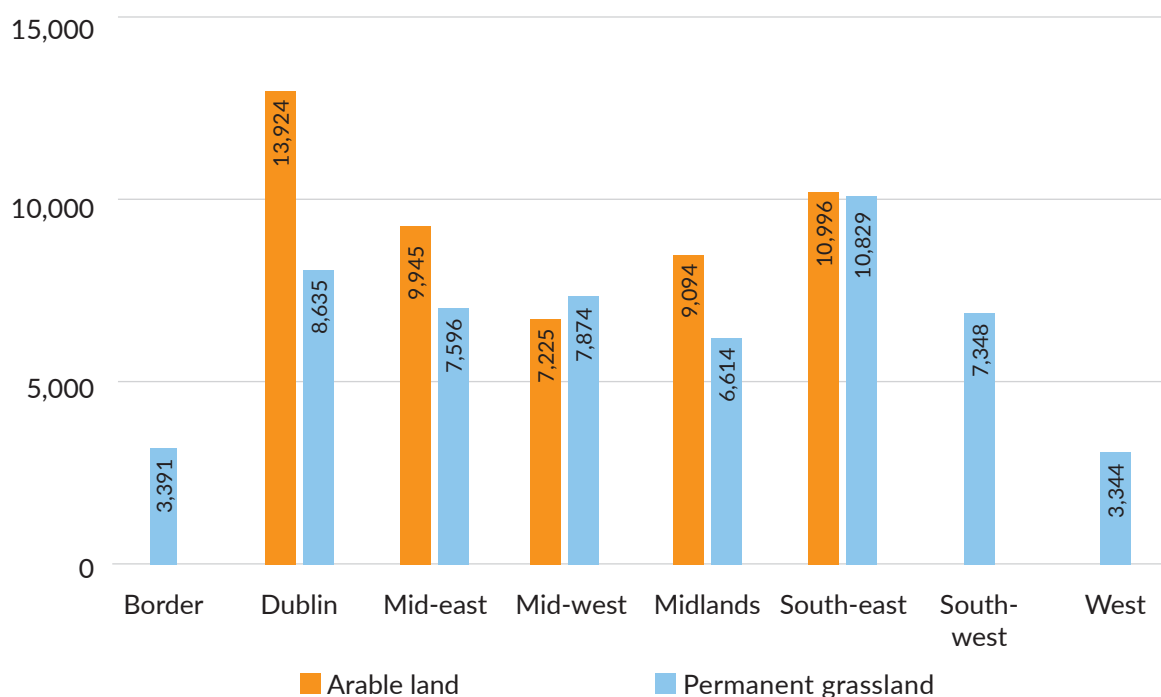
Source: CSO

Apart from Dublin, where there are very few transactions (just 14 in 2020), the South-East (Carlow, Kilkenny, Waterford and Wexford) was the most expensive place to purchase land in 2020, with a median price of €10,645 per acre. In contrast in the West (Galway, Mayo and Roscommon) was the least expensive region, with a median price of €4,625 per acre. Land in the Border region (Cavan, Donegal, Leitrim, Monaghan and Sligo) was slightly more expensive at €5,003 per acre. Land in all other areas, apart from Dublin, was between €7,300 and €10,645.

Figure 2.25 Median Price per Acre of Agricultural Land by Region**Source:** CSO

The South-East had the highest mean price per acre for both arable land and permanent grassland with a price of €10,996 per acre and €10,829 per acre respectively. The lowest price per acre for arable land was in the Mid-West (Clare, Limerick and Tipperary) with a mean price of €7,225. The lowest price per acre for permanent grassland was in the West region with a mean price of €3,344 per acre.

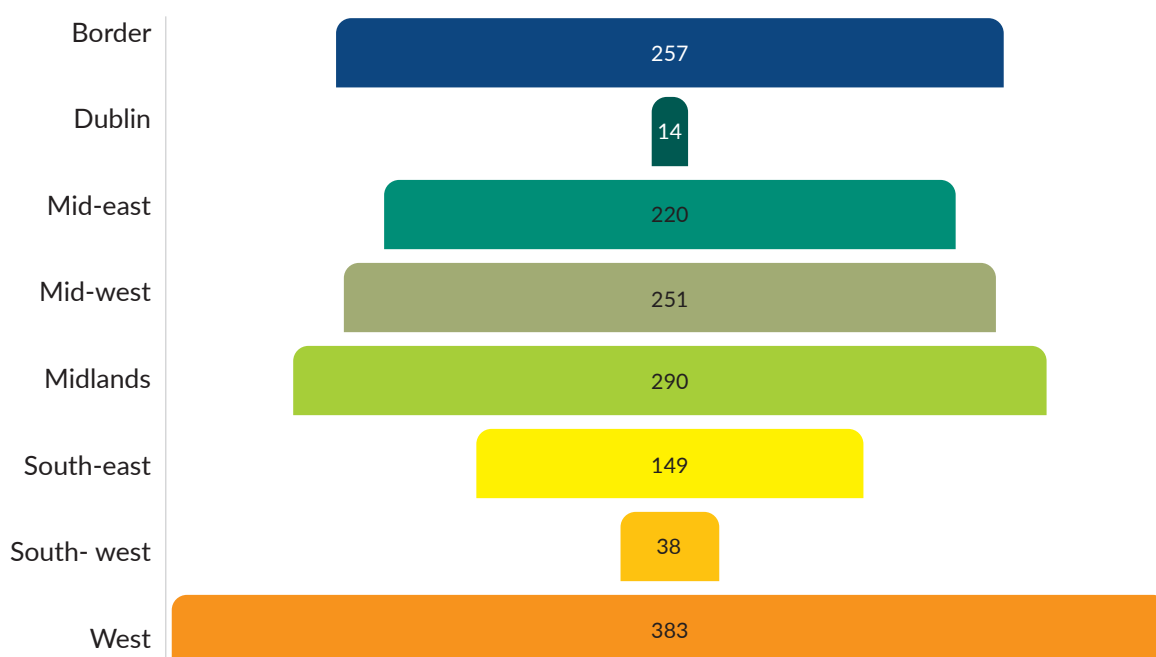
Figure 2.26 Mean Price per Acre of Agricultural Land by Region and Land Type 2020. (Some prices unavailable due to insufficient transactions in that region)



Source: CSO

The largest number of sales, 383, were in the West. Apart from Dublin, the South-West (Cork and Kerry) had the least sales in 2020 at just 38.

Figure 2.27 Number of Transactions of Agricultural Land by Region



Source: CSO

Other Land Sales Data

Along with the land price statistics published by the CSO, the Society of Chartered Surveyors Ireland (SCSI) and Teagasc publish an agricultural land market review and outlook each year, while the Farmers Journal publish an agriculture land price report each year.

The SCSI/Teagasc review classifies land sales into two categories: poor quality or good quality land. It outlined that in 2021, poor quality land prices were down by 10% while good quality land was up by 17%. They also reported that in 2022 national land values are expected to increase by six percent. The Farmers Journal reported that prices were stronger in 2021 compared to 2020, but there were fewer farms for sale.

Leasing and Rental Data

The CSO notes that only 0.25% of agricultural land is sold annually. This means that leasing plays an important role in the agricultural land market. Due to the high demand for land, coupled with a low turnover of land via market sales, the leasing and letting markets are a competitive marketplace. This results in land rental prices aligning with the economic profitability of farming, compared to the sales market, where prices for land sold regularly exceed levels that would be justified by the returns from farming.

According to the SCSI/Teagasc review, on average, Leinster saw an increase in rents of between 18% and 29% for all land types. Munster saw single digit rent inflation across cereals and grazing/silage land with land for beet, maize and beans dropping in rental value. Cereal land was €244 per acre with silage land making €231 per acre in 2021. The review outlined that Connacht/Ulster reported increases in rental values for both grazing and silage in excess of 10%. Silage land was €168 per acre.

Table 2.10 Land Rental Values Per Acre

Year	Grazing/ meadowing / silage	Grazing only	Cereal crops	Beet, Maize, Beans	Potatoes
LEINSTER (excluding Dublin)					
2020	€193	€175	€220	€266	€359
2021	€245	€215	€259	€323	€463
% Change	27%	23%	18%	21%	29%
MUNSTER					
2020	€215	€209	€242	€299	€330
2021	€231	€221	€244	€256	€326
% Change	7%	6%	1%	-14%	-1%
CONNACHT/ULSTER					
2020	€153	€142	€158	€242	€173
2021	€168	€161	no data	no data	no data
% Change	10%	13%	N/A	N/A	N/A

Source: SCSI/Teagasc

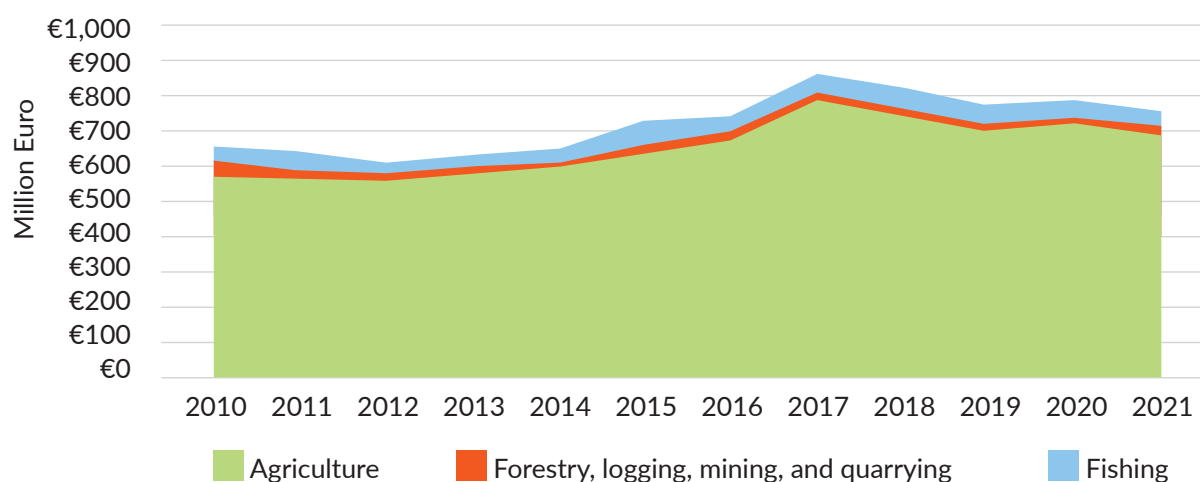
2.13 Expenditure, Investments, Borrowings and Interest

Borrowing

Central Bank data shows that credit advanced to Primary Industries (agriculture, forestry, logging, mining & quarrying and fishing & aquaculture sectors) in 2021 at €757 million, a drop of around three percent from €781 million in 2020. Credit advanced over the past decade tended to increase up until 2017 when €790 million was advanced but the trend is down slightly in recent years.

Further analysis shows that new lending to primary agriculture accounts for 91% (€686m) of this total, forestry, logging, mining and quarrying accounts for almost four percent (€29m) and fishing and aquaculture almost six percent (€43m).

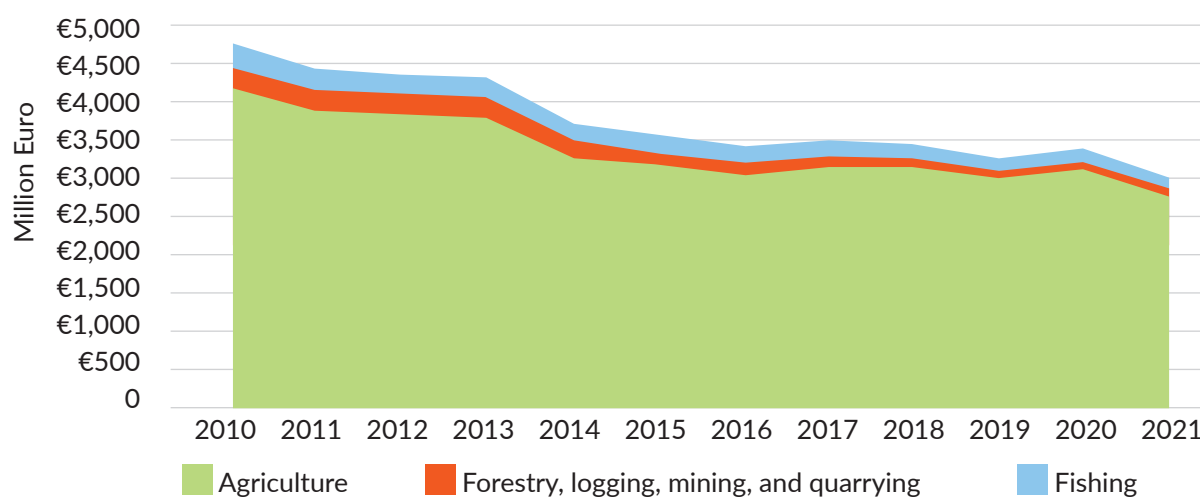
Fig 2.28 Credit Advanced to Agriculture, Forestry & Fishing 2010 - 2021



Source: Central Bank of Ireland

Credit outstanding at the end of 2021 is just over €3 billion, slightly lower than the €3.3 billion in 2020, but down from €4.7 billion at the end of 2010. Based on the data on credit advanced and credit outstanding, it would suggest that the primary agriculture sector is well placed to repay outstanding debt. Primary Agriculture accounts for 15% of the €18.3 billion outstanding debt held by Irish SMEs, or 26% when Financial Intermediation and Property Related Activities are excluded.

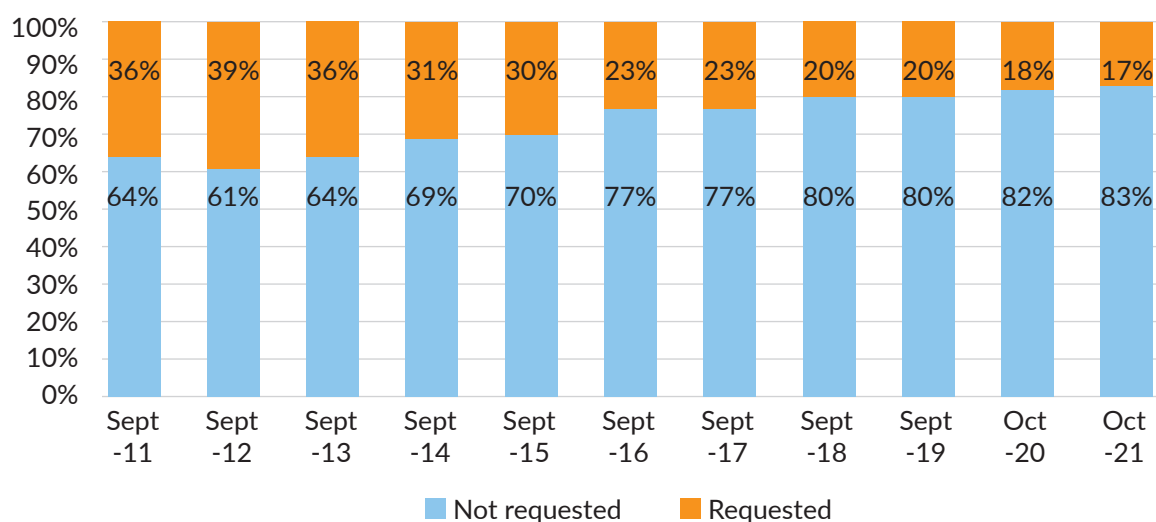
Fig 2.29 Credit Outstanding to Agriculture, Forestry & Fishing 2010 - 2021



Source: Central Bank of Ireland

The Department of Finance Credit Demand Survey April – September 2021 conducted by B&A and published in February 2022 shows demand for credit remained relatively unchanged in the six months to September 2021. When this is broken down by firm size, credit demand decreased by five percent among micro companies and increased by four percent in respect of medium companies versus the position in October 2020.

Figure 2.30 SMEs Seeking Bank Finance in the Past 6 Months



Source: Department of Finance and B&A

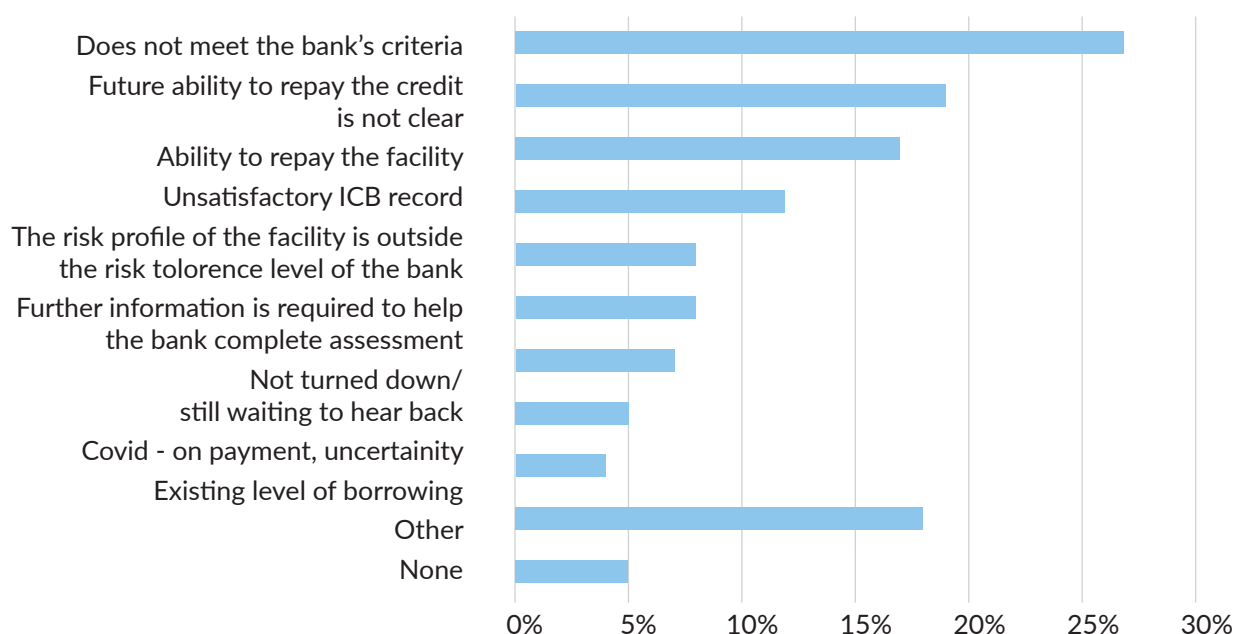
The main reasons stated for not seeking credit during this period were

- (a) no requirement for credit (63%),
- (b) sufficient internal funds in place (40%) or
- (c) a preference not to borrow (14%).



New Loans and leasing/hire purchase were the most requested finance products, followed by renewal/restructuring of existing debt and new overdrafts. The average reported cost of credit on outstanding loans was 4.59% - a decrease from 5.88% report in October 2020. Five percent of SMEs reported having missed repayments of bank loans during the period. The main stated reasons for credit decline were an inability to meet the bank's criteria, inability to repay the facility and unsatisfactory operation of the company's current account in the past.

Figure 2.31 Reasons for Bank Declining Application for Loan



Source: Department of Finance and B&A

The decline rate for all credit applications in the period April to September 2021 stood at nine percent, down from 15% in October 2020. About 86% of all applications were approved in full over the six months – an increase from 77% when compared to October 2020, but similar to the level recorded in September 2019. A further four percent stated that their credit applications had been partially approved, leaving 90% of all credit applications fully or partially approved.

The Credit Review Office was established in 2010. Its role is to help SME or farm borrowers who have had an application for credit of up to €3 million declined or reduced by participating banks, and who feel that they have a viable business proposition. The Credit Review Office also looks at cases where borrowers believe that the terms and conditions of their existing loan, or loan offer, are unfairly onerous or have been unreasonably changed to their detriment. Currently the participating institutions are Bank of Ireland, AIB, Ulster Bank and Permanent TSB.

In the 21st report of the Credit Review Office published in Spring 2021 it indicated that it has received 1,165 formal applications and of those 788 have reached final conclusion. In 451 cases the Credit Review has upheld in favour of the SME or farm borrower while in 337 cases it has upheld in favour of the bank.

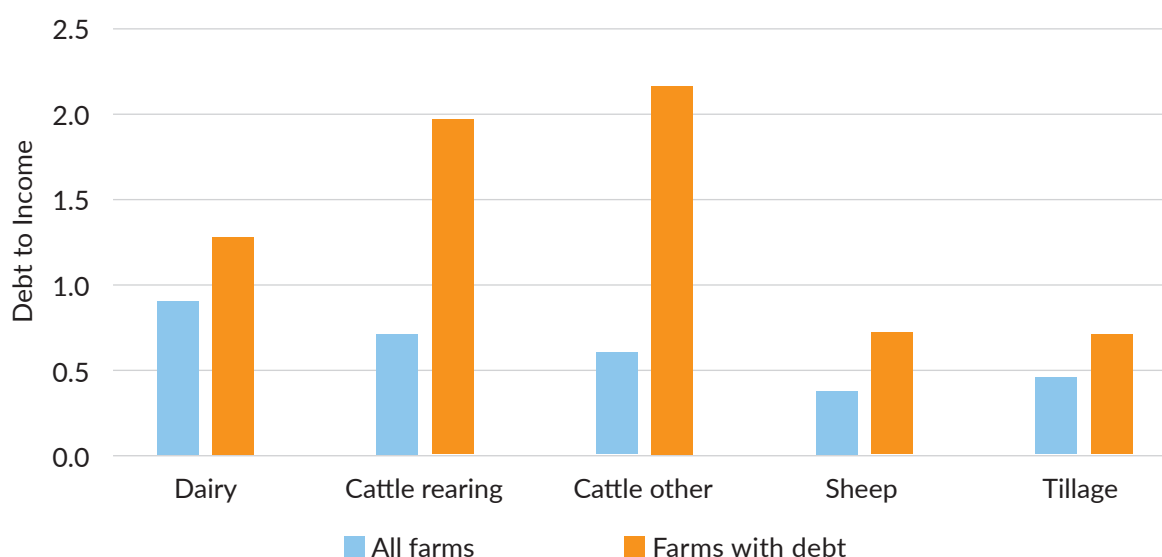
Investments

According to the Teagasc National Farm Survey (NFS) 2021 preliminary results, gross new investment on Irish farms increased by 36% in 2021 to over €1.39 billion. The levels of investment vary significantly by farming system. Investment on dairy farms was highest with an average spend of €45,000 per farm. This was an increase of 36% on 2020 levels and accounting for almost half of total on farm investments for 2021. Investment on tillage farms, increased significantly in 2021 to an average of €25,714 per farm.

Investment increased across drystock systems in 2021 but remained far below that of the average dairy farm, with cattle other farms increased to €8,419, up eight percent from €7,797 in 2020 and up 59% on the 2019 average investment of €5,287. Investment in cattle rearing farms increased to €5,939 on average, up 32% from €4,490 in 2020 and representing an increase of 70% on the figure for 2019 of €3,489. Gross new investment in sheep farms also increased in 2021 to an average of €8,156, as compared with €6,851 in 2020 and a representing a significant increase of 114% on €3,803 in 2019.

Across all farming sectors the NFS found that overall debt on Irish Farms increased in 2021 in line with increased investment. In addition, the NFS recorded that two thirds of farmers have no farm business related debt. Considering only those farms with debt, it noted that dairy farm debt levels increased by four percent in 2021 to €136,902. Average debt increased by three percent to €27,971 among cattle rearing farms. The figure for cattle other farms remained relatively unchanged at €38,161, with sheep farm debt falling 32% to €20,366 in 2021. Debt on tillage farms increased substantially to an average of €55,767 per farm enterprise, up 28% on 2020. The below bar chart shows the debt-to-income ratio for all farms.

Figure 2.32 Farm Debt-to-Income Ratios for All Farms and Those with Debt 2021

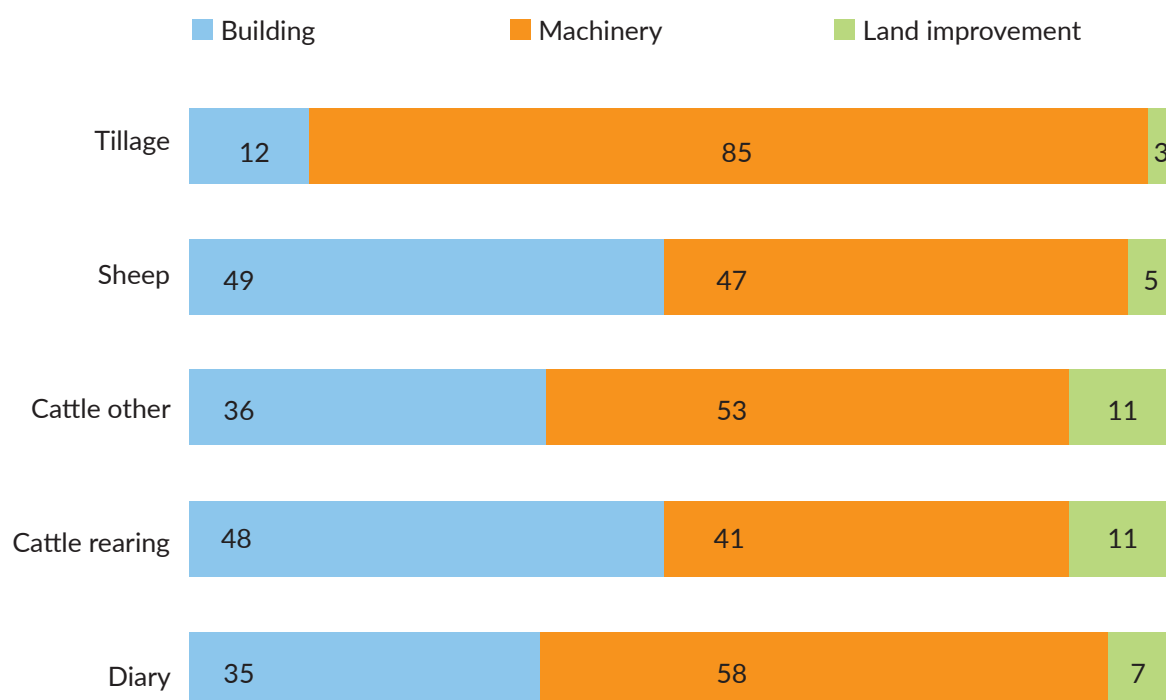


Source: Teagasc

Although only 25% of cattle other farms reported having debt in 2021, the debt-to-income ratio of those with borrowings remains relatively high compared to other farm systems, at 2.15. The comparative figure on cattle rearing farms was also relatively high, at 1.97.

Although, more sheep farms tended to have outstanding borrowings, at 38%, the debt-to-income ratio continued to be significantly lower, at 0.71 in 2021. The debt to FFI ratio reported on tillage farms in 2021 was 0.69 on average. Dairy farms were more likely to have debt than other farm types and were also more likely to have substantially higher levels of debt. However, given their comparatively higher income levels, the average debt to income ratio was relatively low on dairy farms at 1.28. Reductions in the debt to FFI for dairy farms generally occur as a result of elevated income levels in particular years. More recently, this has resulted in the funding of investment through increased use of earnings.

The composition of investment across farm systems shows that building and machinery still account for the majority of on-farm investment in 2021, with the remaining investment allocated to land improvement.

Figure 2.33 Average Composition of Farm Investment by Farm System 2021

Source: Teagasc

Interest Rates

Interest rates for the primary agriculture sector remain at similar levels to 2020 and are higher than the average across all SME sectors. The average rate on outstanding amounts in the primary agriculture sector for 2021 was 4.28%, compared to 4.42% for 2020, while the average for all SMEs was 3.49%. Some of the difference may be attributable to the profile of the loans, as loans to the agriculture sector tend to be lower in value and higher in volume with fixed costs therefore spread over smaller amounts.

The average rate for new lending in the primary sector for 2021 was 4.43%, down from 4.67% in 2020. This compares with the average rate of 3.8% for all SMEs in 2021. The Department of Finance's SME Credit Demand Survey provides further insight into interest rates charged in Ireland.

The Central Bank of Ireland's *Trends in SME and Large Enterprise Credit and Deposits*, published in June 2022, reports that new loans to SMEs by Irish resident credit institutions was €959 million in Q1 2022, down six percent compared to the same period last year. New lending trends differ substantially across SME economic sectors with lending to hotels particularly strong in Q1 demonstrating the highest new lending volumes since the onset of the COVID-19 pandemic. In contrast, lending to SMEs in the primary agriculture industries was 26% lower in Q1 2022 relative to the previous year.

Outstanding SME credit on the balance sheets of Irish banks, at €18.3 billion, increased by 0.4% over Q1 2022. This included €5.4 billion relating to property and €12.7 billion of core SME credit.

2.14 Financial Instruments

The Department of Agriculture, Food & the Marine (DAFM), in partnership with the Department of Enterprise, Trade & Employment (DETE) and the Strategic Banking Corporation of Ireland (SBCI), delivers loan schemes which support SMEs, including farmers and fishers, in Ireland. Economic disruption arising from the COVID-19 pandemic and the unfolding impact of Brexit has increased the need for these supports to SMEs. The current suite of financial instruments available to Irish farmers, fishers and food companies include a range of financial products such as investment finance and working capital finance.

COVID-19 Credit Guarantee Scheme

Launched in September 2020, the COVID-19 Credit Guarantee Scheme (CCGS) facilitates up to €2 billion in lending to eligible businesses that have been negatively impacted by COVID-19 in Ireland. The CCGS offers a partial Government guarantee (80%) to participating finance providers against losses on qualifying finance agreements to eligible SMEs, small Mid-Caps and primary producers (businesses engaged in farming and fishing) and is designed to incentivise participating finance providers to continue their role in supporting the availability of additional liquidity to Irish businesses. The CCGS is delivered under the Temporary Framework for State Aid Measures to support the economy during the COVID-19 outbreak and is operated by the SBCI, through participating finance providers.

Loans under the scheme range from €10,000 to €1 million, for terms of up to five-and-a-half years. Financing is offered through a range of products, including term loans, working capital loans and overdrafts. Loans of up to €250,000 are available unsecured, except where this is a requirement of the product feature, as for example in the case of asset finance and invoice discount facilities.

Brexit Impact Loan Scheme (BILS)

The BILS was launched in October 2021. It has €315 million in funding available to help businesses, including those engaged in primary production (agriculture and seafood sectors), as they respond to the impacts of Brexit and/or COVID-19. Finance provided under the scheme is competitively priced and offered at favourable terms. Loans range from €25,000 to €1.5 million per eligible business, with loans up to €500,000 available unsecured. Lending is available for terms of one to six years and some elements of refinancing are supported through the scheme.

The BILS is supported by a guarantee through the European Guarantee Fund (EGF), which is being implemented by the European Investment Fund (EIF) on behalf of the European Commission. BILS is operated by the SBCI, in conjunction with the DAFM and the DETE and is delivered via approved participating lenders, including Bank of Ireland, AIB, PTSB and five Metamo Credit Unions.



DAFMag: Michael Gormley

Future Growth Loan Scheme (FGLS)

The FGLS was developed by DAFM and the DETE, in partnership with the Department of Finance, the SBCI and the EIF. It is delivered through participating finance providers and makes up to €800 million of investment loans available to eligible Irish businesses, including farmers and the agri-food & seafood sectors.

The FGLS was established to address a market failure for longer-term unsecured lending. The unique features of the scheme facilitated access to finance for young and new entrant farmers, especially the cohort who do not have high levels of security. It also aimed to serve smaller-scale farmers, who often do not have the leverage to negotiate for more favourable terms with their banking institution. The loans are competitively priced with an initial maximum loan interest rate of 4.5% for loans less than €250,000. They are for terms of 8-10 years and support strategic long-term investment in a post-Brexit environment. A minimum loan amount of €25,000 applies up to a maximum of €3,000,000 per applicant.

Following on from the initial €300 million tranche of funding for the scheme, and as a result of the significant and sudden financial impact of the COVID-19 pandemic on businesses, a second tranche of €500 million, with up to 40% available to the agri-food sector, was launched in July 2020. FGLS has seen very strong demand for investment loans and is currently at capacity.

CHAPTER 3

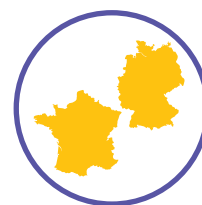
Agricultural Commodities and Inputs



There are 62 million sheep in the EU27 countries, with **3.99 million** (6.4%) in Ireland.



In December 2021, there were **75.65 million** cattle in the EU27 with 6.65 million (8.8%) in Ireland.



France and Germany account for more than **one third** of the EU27 cattle, with 28.4 million between them.

3.1 Overview

The CSO release Output, Input and Income in Agriculture, Final Estimate 2021 provides the numerical detail on the various elements which have an impact on farm income in 2021. The Output, Input and Income (OII) in Agriculture has been produced since 1990 and provides valuable data on farm outputs, inputs and the overall level of farm income through the years. Chapter two looked at the estimated value of goods output at producer prices for livestock, livestock products and crops. It also examined the cost of intermediate consumption or inputs, including the value of subsidies and estimated the operating surplus or aggregate farm income.

Here we will look at the change in volume and price which impacted how the value of gross output at producer prices and intermediate consumption changed in 2021, along with the change in gross value added at basic prices. According to the OII, agriculture's gross value added at basic prices in 2021 was €3.98 billion, a 21.5% increase on 2020 figure, which in itself was a 9% increase on the 2019 figure. This increase was almost entirely due to increased prices of 22.3%, with volume remaining almost static with an increase of just 0.2%.

Gross output at producer prices totalled €9.71 billion, up 15.0% in value. Again, the price increase of 11.1% was the main driver of this increase, with volume up by 4.0%. Intermediate consumption at €6.23 billion was up 9.4% on 2020, with both volume and price up by about 4.75% each.

Cattle and calves are the largest livestock category, responsible for 27% of gross output. The estimated value of cattle and calves increased by 12.7% in 2021 to €2.58 billion. This increase was generated by a price increase of 13.4% while volume was down slightly at 0.6%. The gross output value of milk was up 23.3% in value to €3.40 billion and a volume increase of 5.5%. Milk represents more than one third of total agricultural output at 35%.

The gross output of sheep increased by 19.7% in 2021, following an increase of 15.5% in 2020, a combination of a 21.1% increase in price and a drop of 1.3% in volume. Cereals and potatoes saw the largest increases in gross output at producer prices, with an increase of 50% in value of cereals and 47.8% in potatoes. However, this follows a decrease in value in 2020 of 28.8% in cereals and of 12.5% in potatoes. The pig sector had a difficult year with gross output at producer prices, down by 7.7%, primarily due to a drop in prices of 9.4%.



Intermediate consumption in 2021 cost €6.23 billion, up 9.4% on 2020. Animal feed, which accounted for 29% of intermediate consumption, saw a 10.3% increase in price and a 6.8% increase in volume used, resulting in an overall increase of 17.9%. Fertilisers and energy & lubricants each dropped in price by 9.7% and 8.0% respectively in 2020, but rebounded in 2021, increasing by 13.7% and 20.9%, mainly as a result of price increases but with some volume increases also.

Table 3.1 Gross Output at Producer prices, Intermediate Consumption and Gross Value Added 2021

	Value	% Change 2021 over 2020			Share of GO/Inputs
	€m	Value	Volume	Price	%
Gross output at producer prices	9,710.2	15.0	4.0	11.1	100%
Cattle and Calves	2,580.7	12.7	-0.6	13.4	27%
Pigs	555.4	-7.7	1.9	-9.4	6%
Sheep and Lambs	362.9	19.7	-1.3	21.1	4%
Poultry	188.1	0.6	0.2	1.5	2%
Milk	3,395.4	23.3	5.5	17.0	35%
Cereals	434.2	50.0	25.9	19.1	4%
Potatoes	174.9	47.8	41.1	9.0	2%
Fresh Vegetables and Fruit	305.6	n/a	n/a	n/a	3%
Forage Plants	1,221.6	1.3	5.1	-2.9	13%
Other	491.4	n/a	n/a	n/a	5%
Intermediate Consumption (Inputs)	6,230.8	9.4	4.8	4.7	100%
Animal Feed	1,798.4	17.9	6.8	10.3	29%
Fertilisers	605.5	13.7	6.3	6.4	10%
Energy and Lubricants	455.7	20.9	5.0	15.2	7%
Maintenance and Repairs	545.6	4.4	2.3	2.1	9%
Forage Plants	1,217.2	1.1	5.0	-2.9	20%
Contract Work	464.0	7.7	-1.0	8.9	7%
Others	1,144.4	n/a	n/a	n/a	18%
Gross value added at basic prices	3,980.5	21.5	0.2	22.3	n/a

Source: CSO

Stock Changes on Farms

Table 3.2 outlines the estimated value and volume of stock changes on farms in 2020 and 2021. Cattle and crop values on farms, which decreased in value in 2020, saw increases in 2021, along with volume increases. Pig values at farm level decreased slightly in 2021 while sheep values increased.

Table 3.2 Estimated Value (€m) and Volume¹ ('000s) of Stock Changes on Farms 2020/2021

	2020		2021	
	Value	Volume	Value	Volume
Cattle	-€43.42	-30	€96.09	120
Sheep	€7.93	68	€14.54	114
Pigs	€7.94	65	-€0.64	35
Poultry	€3.93	1,321	€0.00	0
Crops	-€22.38	-101	€29.84	117
Total	n/a	1,323	n/a	386

¹ Volume of Livestock is in heads ('000s), volume of crops is in tonnes ('000s).

Source: CSO

Livestock Numbers Ireland

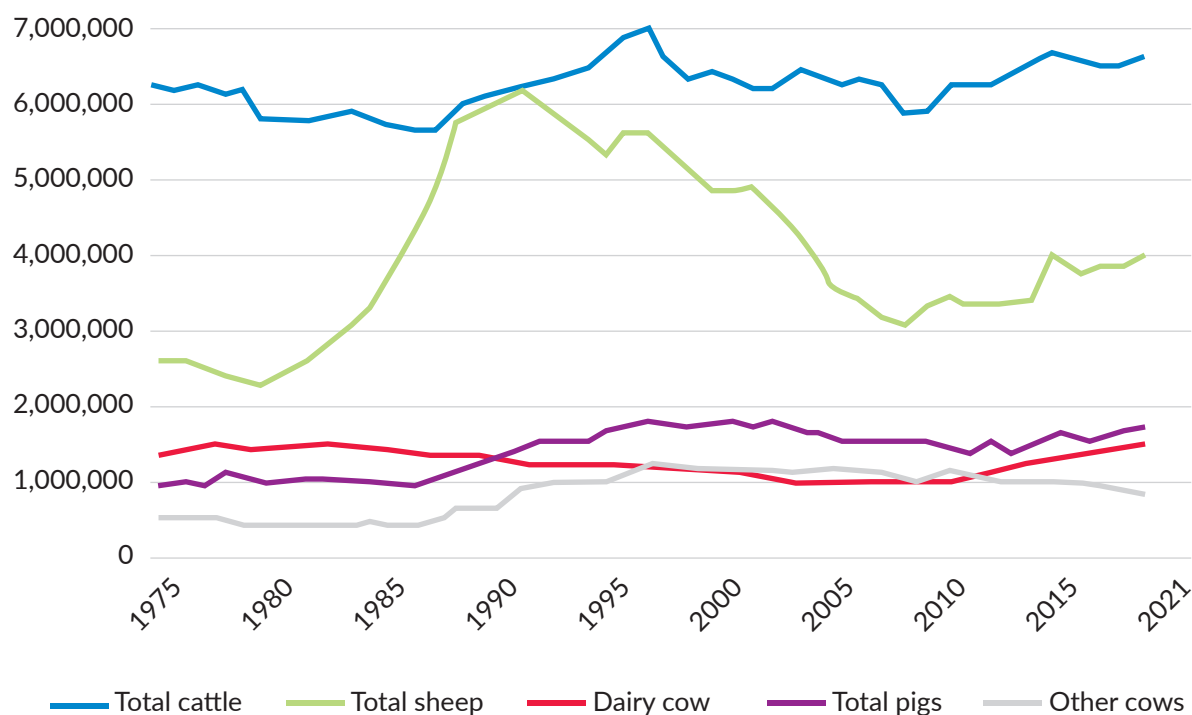
The results of the CSO December 2021 Livestock Survey indicate that the total number of cattle increased by 1.8% compared to December 2020. This reversed a decline in numbers over the previous three years. Cattle numbers in December 2021 were 6.65 million, up by almost 120,000 from December 2020, but down by over 24,000 from December 2017, which had the highest number of cattle in recent years.

About 30% of the cattle herd are male and 70% female. Of the 4.69 million female cattle, a little over half (2.4 million) are cows, with the remainder mostly calves and females under two years of age. Dairy cows account for 1.5 million cattle with other cows, mainly suckler cows, accounting for some 890,000 cattle. Bulls used for breeding purposes account for less than 1% of all cattle at 48,200.

In December 2021, there were almost four million sheep, up by 114,000 on the December 2020 figures, an increase of 2.9%. The sheep flock comprises 2.7 million ewes, 86,000 breeding rams and 1.2 million other sheep. Pig numbers have also increased in 2021 by 35,000 or 2.1%. In December 2020, there were 1.71 million pigs comprising 145,900 breeding pigs and the remainder growing and fattening pigs.

Looking at the size of the animal herds over the past 45 years, since 1975, the numbers of each type of animal have increased. The cattle herd has increased by 7%, or over 430,000 animals, but the increase has not been distributed evenly across the years. The cattle herd was at its largest in 1998 at 6.95 million cattle. Since then, numbers have dropped by close to 300,000 and in 2021, stands at 6.65 million. The cattle herd was at its smallest in the late 1980s, when it was 5.63 million in 1987. Just three years earlier, in 1984, the dairy cow herd had reached its largest point at 1.52 million cows, and this had dropped to 1.50 million in 2021. The other cow or suckler cow herd was highest in 1998 at 1.2 million cows and 23 years later, this has dropped by 306,500 to 0.89 million.

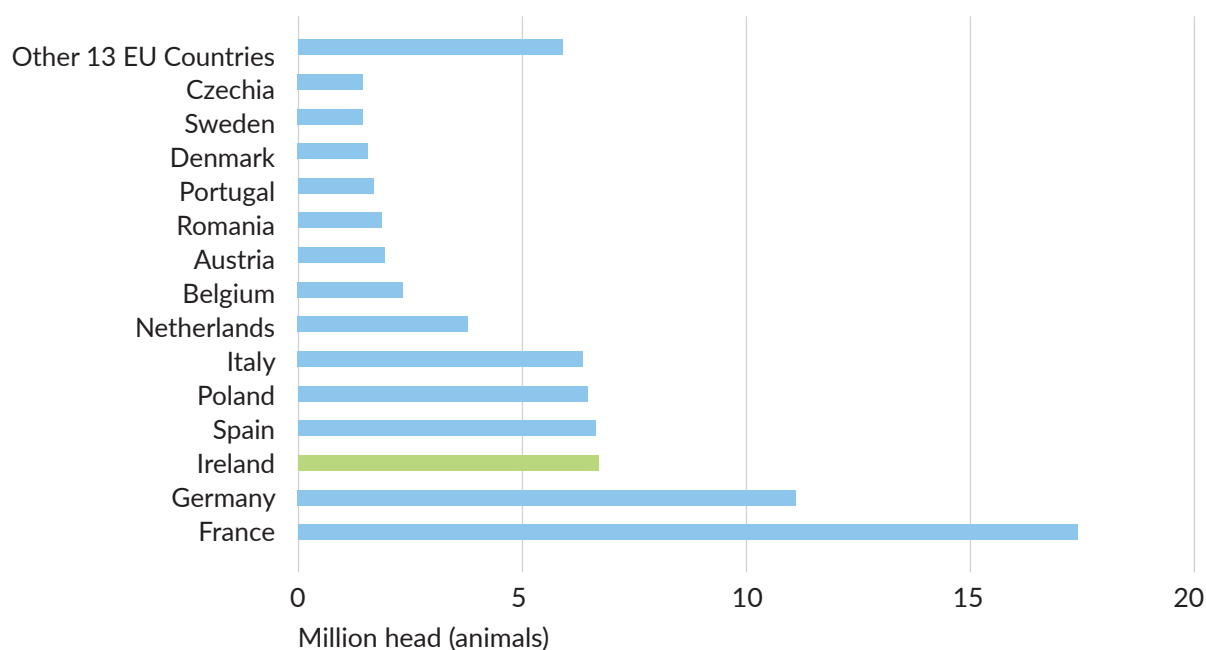
The sheep flock has fluctuated in size considerably over the past 45 years. There were 2.6 million sheep in 1975 and this rose to 6.1 million sheep in 1992. It fell back to 3.1 million in 2010 before increasing to 3.99 million in 2021. Meanwhile, the number of pigs were at their lowest in 1975, at 880,200, increasing to 1.8 million in 1998, before falling back to 1.71 million in December 2021.

Figure 3.1 Cattle, Sheep and Pig Livestock numbers, 1975 – 2021

Source: CSO Livestock Survey

Livestock Numbers EU

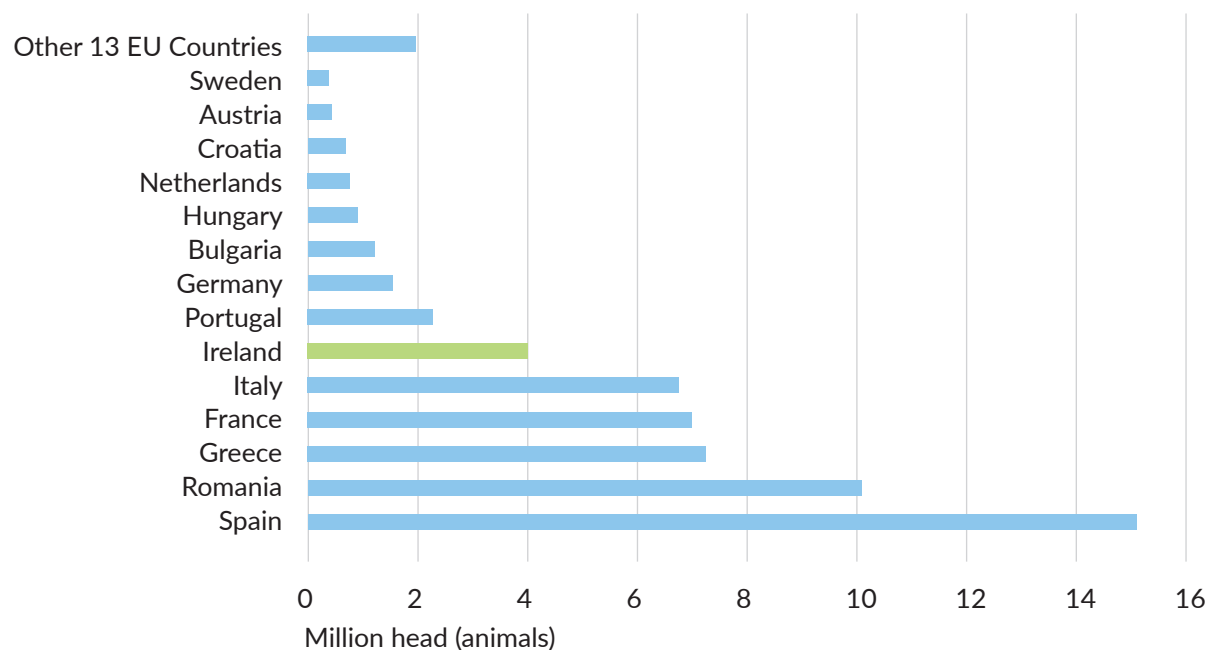
According to Eurostat data, there are 75.6 million cattle in the 27 EU countries in 2021, down almost one million since 2020. France has the largest herd at 17.3 million or 23% of the EU herd. Germany has 11 million cattle or 15% of the EU herd, with Ireland and Spain on close to 9% each, followed by Poland and Italy on slightly over 8% each. These top six countries account for 54.3 million cattle or 72% of cattle population in the EU27 countries.

Figure 3.2 Comparison of Irish and EU Cattle livestock numbers, 2021

Source: Eurostat, Agriculture, Forestry and Fisheries

Eurostat data indicates that the EU27 sheep flock is about 62 million sheep. Spain has the most sheep of any EU country with 15 million or close to one quarter of the EU flock, followed by Romania with 10 million sheep or 16%. Ireland ranks in 6th place in the EU 27 with 3.99 million sheep or 6% of the EU27 flock. Greece, France and Italy make up the other top six countries with about 11% of the EU flock each.

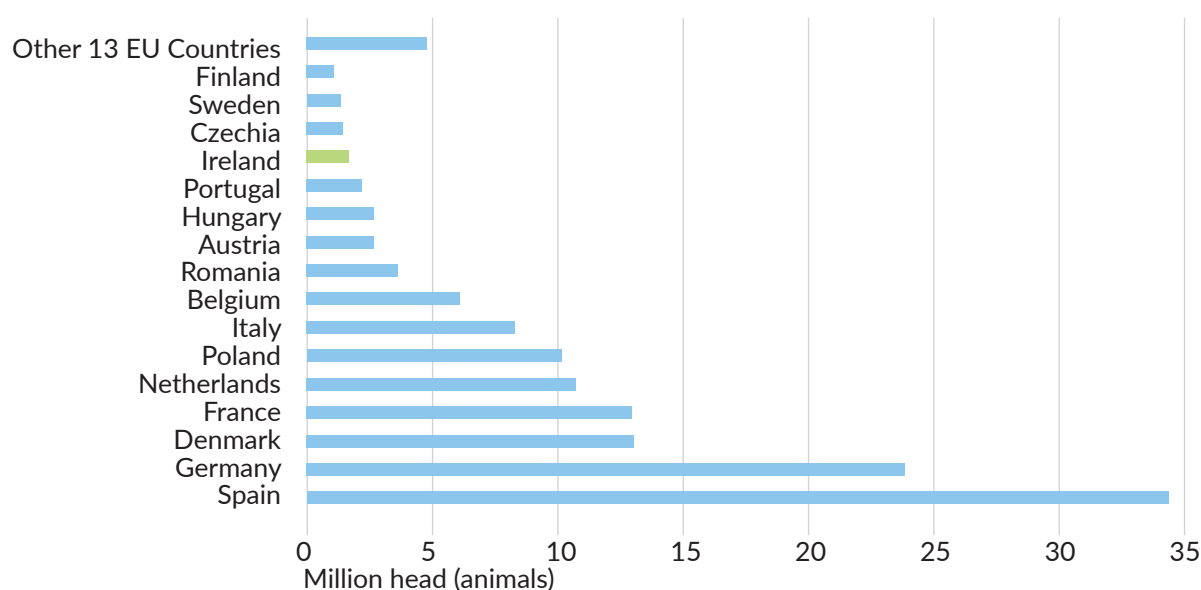
Figure 3.3 Comparison of Irish and EU Sheep livestock numbers, 2021



Source: Eurostat, Agriculture, Forestry and Fisheries

There are about 142 million pigs in the EU27, almost one quarter of them in Spain with 34.5 million, followed by Germany with 24 million or 17%. The top six countries account for about 75% of all the EU pigs with Denmark, France, Netherlands and Poland completing the top six countries. Ireland has a relatively small pig herd, with 1.7 million pigs, representing just 1.2% of the EU27 herd or the 13th largest herd.

Figure 3.4 Comparison of Irish and EU Pig livestock numbers, 2021



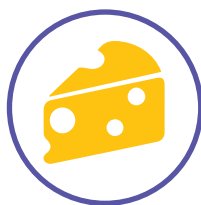
Source: Eurostat, Agriculture, Forestry and Fisheries

3.2 Dairy



The average milk price paid to Irish farmers in 2021 was

40.6 cent
per litre, up 18% on
the 2020 price.



Ireland exported

€712 million
worth of cheddar
in 2021.



50%

of all dairy exports are
destined for markets

outside
the United Kingdom
and the EU27

General Market Situation Ireland and EU Ireland

Irish dairy exports performed positively in 2021, with exports exceeding €5 billion for the third year in a row. Despite the difficulties caused by the Covid-19 pandemic, there continues to be robust demand for Irish dairy products and exports of dairy products continued to more than 130 countries around the world. Destinations outside of the EU and United Kingdom exceeded 50% of all exports by value for the first time.

Strong market returns across the core categories of butter, cheese, and powders, coupled with a diversified market mix sustained demand. This demand, particularly in North America and Africa which saw exceptional growth, countered the dampening effect of softer demand for specialised infant milk formula in Asia.

Exports of cheese were worth more than €1 billion, with cheddar being the main driver, valued at €712 million in 2021. The value of butter exports increased by 8% in 2021 to €1.1 billion, in spite of a 6% decrease in volume. It was driven by sustained demand in the EU market and continued growth in exports to the US.

Dairy accounted for 56% of Ireland's total of €778 million agri-food exports to China in 2021. Reduced demand for infant milk formula in China saw exports of this product drop from €392 million in 2020 to €275 million in 2021. However, this decline was more than offset by the strong performance in ingredients for manufacturing to China and wider Asia, as well as increased exports of traditional dairy products. The EU accounted for 31% of dairy product exports by value, while the United Kingdom accounted for 19%, with China and the United States both at 9%.

The prospects for Irish dairy in the early part of 2022 remain positive as buyers seek to secure product amid weaker European and Oceania milk output, a factor which has also assisted in sustaining high dairy prices.

Table 3.3 Top 5 Dairy Export Destinations 2021

Country	Jan-Dec 2021	
	Exports	
	€000	Tonnes
United Kingdom	960,014	470,166
Netherlands	710,049	244,418
China	436,777	99,434
United States	431,197	65,306
Germany	345,345	97,489
Top 5 Total	2,883,382	976,811

Source: CSO

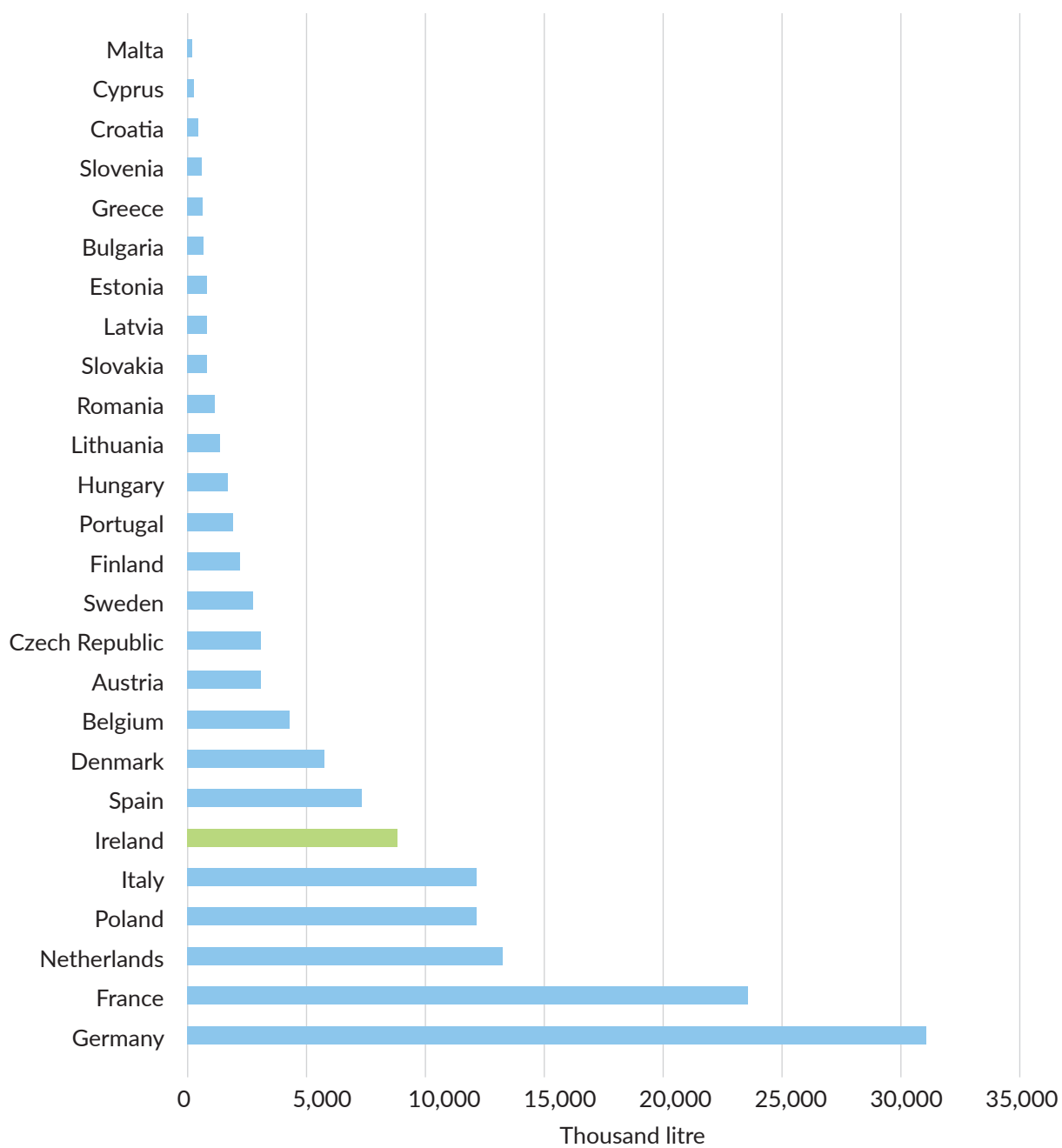
EU

Total EU27 milk collection in 2021 was around 140,000 million litres. EU average milk prices were around 41 cent per litre in December 2021. The US was top destination for EU butter exports and was also the main destination for EU cheese exports. China was the main destination for EU skim milk powder (SMP) exports in 2021.

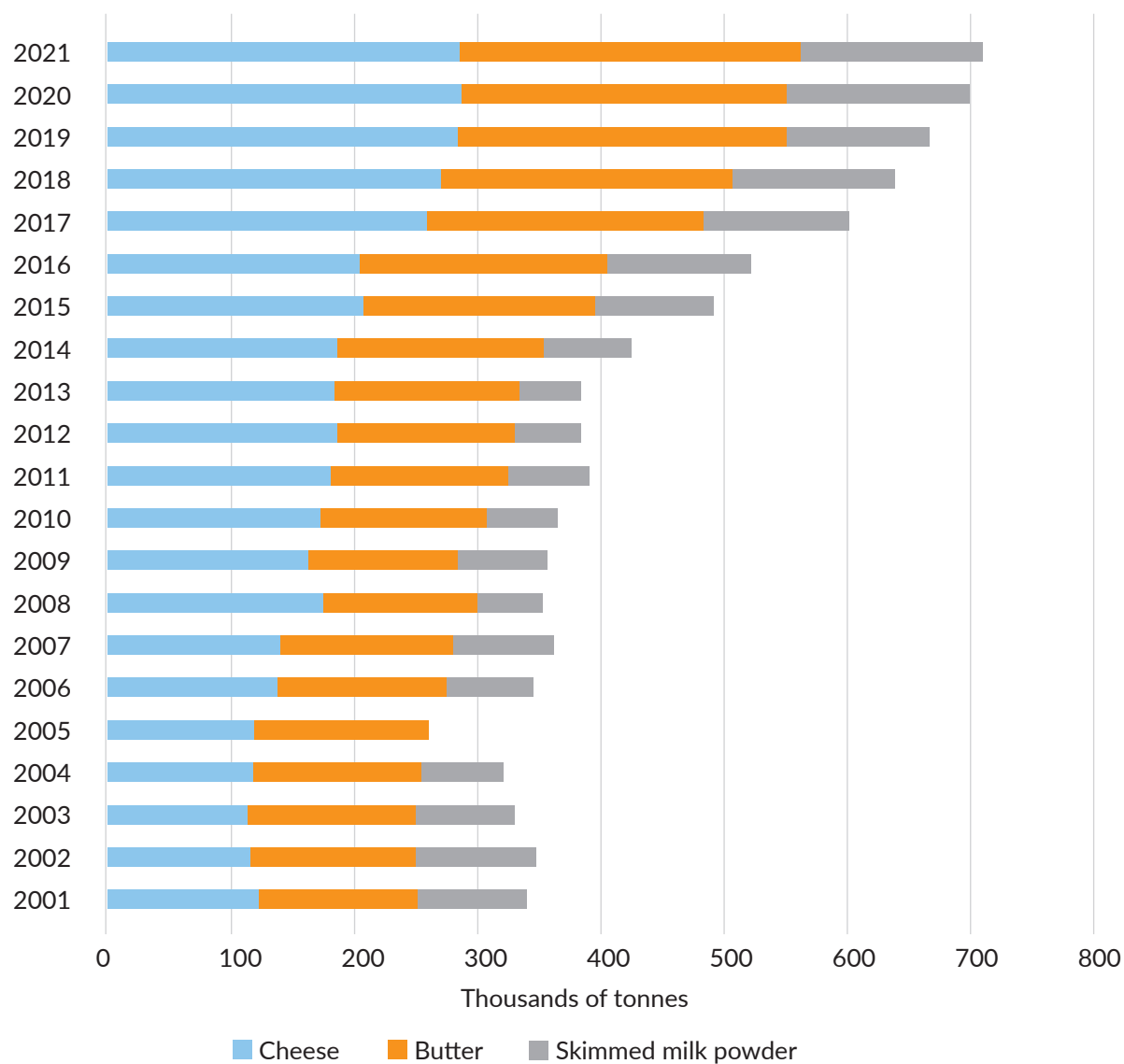
Exports of Irish dairy to the EU declined by 10%, to a value of €1.6 billion in 2021, or 31% of all exports. Butter and cheese performed strongly with exports of these categories exceeding €1 billion worldwide. Heading into 2022, prospects for growing Irish dairy exports to the EU remain positive. Lower output forecasts in France, Germany and the Netherlands will reduce supply available within the EU and stimulate demand for butter, cheese and powders.

Production

In Ireland milk production increased by 5.5% in 2021, slightly higher than the increase of 3.8% in 2020. This continues the increased milk output since the removal of milk quotas in 2015. Domestic milk intake by creameries and pasteurisers was estimated at 8,754 million litres, representing 6% of EU27 milk intake, which was approximately 140,000 million litres.

Figure 3.5 EU Milk intake by creameries and pasteurisers, 2021

Source CSO

Figure 3.6 Production of Irish Dairy products (000 Tonnes), 2001 - 2021

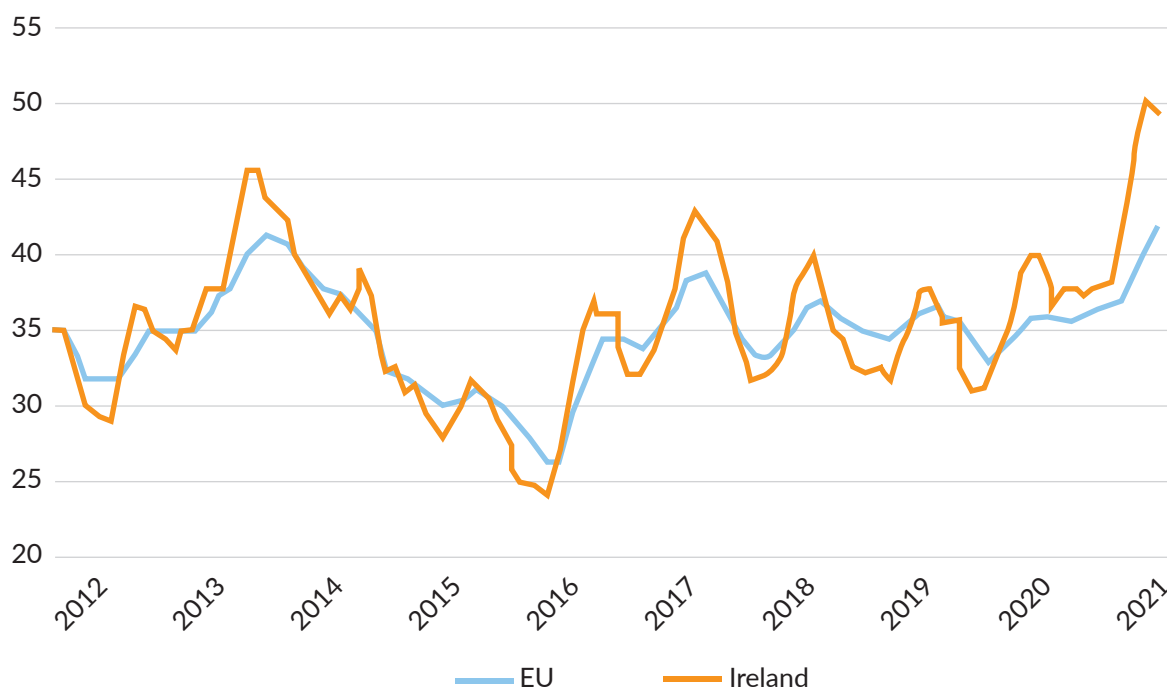
Source: CSO



Prices 2021

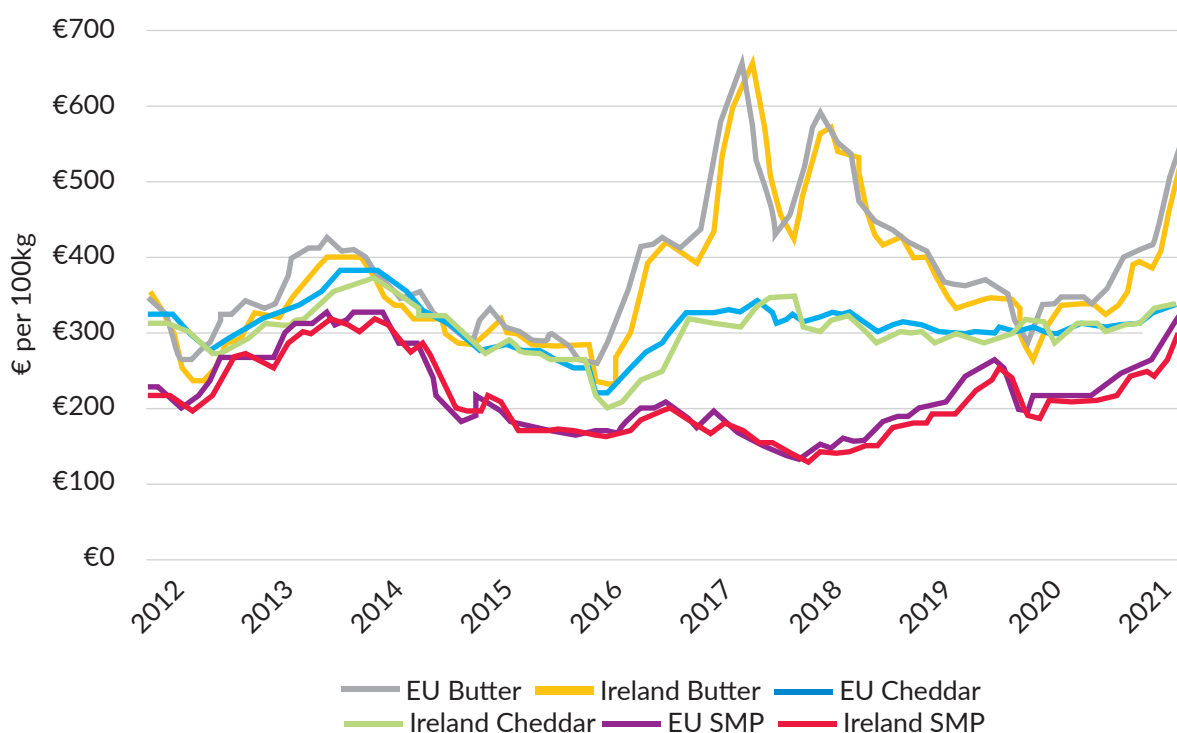
The average price paid to Irish farmers in 2021 based on actual fat and protein according to the CSO was 40.6c/litre, an increase of 18% from the average 2020 price, which was 36.8c/litre. In 2021, EU commission figures show that the EU average raw milk price was 37.6c/litre, an increase of 7% from the average 2020 price of 35.1c/litre.

Figure 3.7 Raw Milk Prices, Ireland and the EU, 2012 – 2021 (cent/litre)



Source: EU Milk Market Observatory

Figure 3.8 Dairy Commodity Prices Ireland and EU, 2012 – 2021 (Prices € per 100kg)



Source: DG AGRI - Monthly Market Prices

New Markets 2021

Irish dairy produce benefits from being the most diversified category of Irish food and drink exports by destination, with over 50% of all dairy exports destined for markets outside the United Kingdom and the EU27. North America and Africa saw exceptional growth, which countered the dampening effect of softer demand for specialised infant nutrition in Asia. The Irish dairy industry once again demonstrated its resilience throughout 2021 by delivering this positive performance against a backdrop of ongoing global supply chain disruption, as well as soaring input, processing, and logistical costs.

Sustainability

Under the Climate Action Plan 2021, published in November 2021, challenging targets have been set for the agriculture and land use sectors. Agriculture must achieve a 25% reduction in GHG emissions by 2030, based on 2018 levels, which equates to a 5.75 Mt CO₂ reduction by 2030 from the 23 Mt CO₂ 2018 baseline. Dairy farming offers the highest return per hectare compared to other farm enterprises, improving the economic and social sustainability of many farm families and rural areas. There is an urgent need, however, to address the negative environmental impacts associated with dairy expansion. To this end, throughout 2021, dairy sector stakeholders were engaged on key issues identified in Ag Climatise, Ireland's roadmap for climate neutrality in agriculture, and Food Vision 2030, and will continue to engage into 2022.

Highlights

- In 2021, Ireland exported dairy products to more than 130 countries with a value of €5.1 billion, exceeding €5 billion for the third consecutive year.
- Top 5 exports by value in 2021 were Cheeses, Butter, Food Preparations, Infant Milk Formula and Skim Milk Powder.
- Top 5 export destinations by value in 2021 were the United Kingdom at 19%, Netherlands at 14%, United States at 9%, China at 9% and Germany at 7%.
- Butter exports exceeded 1 billion for the third consecutive year, despite the financial impact of dairy tariffs, closure of foodservice outlets and subsequent commodity price decline. While the value of butter exports has increased from 2020 by 8%, the volume of butter exports has decreased by 6%.
- There were significant increases in the value of exports of Food Preparations (+20% in value from the previous year) and Caseins (+26% in value from the previous year).

Challenges

- Increased input costs throughout the dairy supply chain were a key feature of 2021. Costs at farm level including feed, fertiliser, and energy, all increased strongly during the year in line with global trends. This is intensifying in 2022, exacerbated by the Russian invasion of Ukraine. Similarly, processors and exporters faced significant cost increases from pallets to freight, with freight forwarders quotes approximately 80% above 2020 prices.
- Procurement of haulage and freight equipment proved a challenge throughout 2021, with China's strong economic recovery cited as a significant contributor to global demand for shipping containers in the first half of the year. Congestion at ports around the world, in part due to labour shortages owing to Covid-19, exacerbated the challenges as costs associated with delays and jammed sea lanes accrued. The cyclical movement of containers through international sea lanes was also impeded resulting in elongated lead times for loadings and by default, a reduction in export volumes. This was particularly evident in the first half of the year where export volumes were back almost 20% or 160,000 tonnes in comparison to the same period in 2020.

Ireland Outlook

The outlook for 2022 remains positive as buyers seek to secure product amid weaker European milk output, a factor which has also assisted in sustaining high dairy prices. The anticipated recalibration of the foodservice channel is also a key factor in the supply demand dynamic, which will continue to be guided by the level of Covid-19 restrictions in place globally. Chinese demand levels will be a key influencer, as will the extent to which global economic activity, consumer demand and consumption levels recover, particularly as the foodservice channel recalibrates after the Covid-19 Period.

At farm level, rising input costs have had an effect on margins, and these have been exacerbated by the Russian invasion of Ukraine. Both Russia and Ukraine are important suppliers of fertiliser to the EU farming sector, shortages of which will impact agricultural production and commodity prices

As input, processing, and route to market costs continue to move in step with general commodity increases, food inflation remains a concern.

Prevailing strong and sustained high pricing have been counterbalanced somewhat by increases in costs throughout the supply chain. Taking the assumption that no change in the quantity of inputs at farm, Teagasc estimates that fertiliser costs alone could double in 2022 compared to 2020 and this, along with other costs taken into consideration, could require an increase in milk price of 3.5 – 4.0c/l to offset.

EU Outlook

Global milk output for 2022 is forecast to reach 850 million tonnes. On a geographical basis, the EU is forecast to grow by 0.7%, North America by 1.4%, Latin America by 1.3%, China by 3% and Oceania forecast to remain flat in 2022.

Nutritional aspects and functionality will drive EU dairy demand. The growth in EU consumption of cheese, fresh dairy products and butter will remain relatively low and any expanding production will be absorbed by growing exports. Organic production will be supported both by global and EU demand, not only for traditional dairy products, but also for milk powders.

The EU will retain its position in the global milk powders trade. While the stimulus for SMP production will come from export growth, domestic use will drive production increases in whey powders and WMP. Overall, the EU should remain the largest dairy exporter. By 2031, greater demand for milk proteins and the anticipated sustained strong valorisation of milk fat are expected to drive an increase in the EU raw milk price.

3.3 Cattle



Beef worth over
€2.4 billion,
or 451,540 tonnes, was
exported in 2021.



Ireland was the
**8th largest
exporter**
of boneless beef and veal
in the world in 2020.



The average price
for R3 Steers in
2021 was
408 c/kg.

General Market Situation in Ireland 2021

Beef worth over €2.4 billion, or 451,540 tonnes, was exported in 2021. This represented a decrease in volume of 14%, but an increase in value of 3% on the previous year. The latest global figures from FAO (2020) indicate that Ireland was the 8th largest exporter of boneless beef and veal in the world.

In value terms approximately 46% of beef exports went to countries within the EU, a further 44% to the United Kingdom and the remaining 10% to other third country markets. In terms of volume, 42% of beef products were exported to countries within the EU, 42% to the United Kingdom and 16% to other third country markets.

Table 3.4 Top 5 Beef Export Destinations 2021

Country	Jan-Dec 2021	
	Exports	
	€000	Tonnes
United Kingdom	1,053,221	190,211
France	238,327	48,779
Netherlands	201,625	38,170
Italy	178,950	22,886
Germany	153,585	19,942
Top 5 Total	1,825,708	319,988

Source: CSO

Live exports in 2021 were 247,200 head of cattle, a decrease of 7% on 2020 figures. Live exports to Northern Ireland were up by 13% to 72,700, while exports to EU27 countries were down by 6% to 163,650. In 2021 a total of 10,800 animals were exported to third markets apart from the United Kingdom, which was less than 40% of the numbers exported in 2020.

General Market Situation in EU 2021

EU beef production decreased slightly in 2021, by 0.3%. In the EU-wide December 2021 livestock survey, the number of suckler cows in the EU decreased by 245,000 (-2.3%). At the same time, the dairy herd decreased by almost 320,000 (-1.5%). While the number of male bovine cattle for slaughtering between 1 and 2 years increased, and these will come to the market in 2022, EU beef production is expected to decrease by 0.9%. Irish bovine slaughtering

accounted for 8.7% of total EU27 slaughtering in 2021. The top 5 countries, France, Germany, Italy, Spain and Ireland, accounted for 67% of total EU slaughtering in 2021.

Since the beginning of 2021, the EU beef price increased strongly to reach almost 500c/kg in May 2022, due to low supply at EU & global level and improving demand after COVID-19. EU beef exports declined by 4.4% in 2021. EU consumption of beef declined to 10.3 kg per capita in 2021 (-0.3%).

According to the EU Commission Short Term Outlook, EU beef production is expected to decrease in 2022 by 0.9%, due to continuing structural adjustments in the beef and milk sector. This decrease will take place despite the relaxation of COVID-19 measures in many EU countries, an increasing demand from foodservice and resulting higher prices. Live exports declined by almost 9% in 2021, to all main destinations. A further decline is foreseen in 2022 (-3%) as trade with Russia is closed.

The Output value of the cattle sector in 2021 was €2,581 million, an increase of 13% on the previous year.

Table 3.5 Output Value (€m) and Numbers ('000s) of Cattle and Calves, 2020/2021

	2020		2021	
	Value €m	Number	Value €m	Number
Live Exports	103.13	264	104.57	247
Slaughterings	2,220.20	1,882	2,370.31	1,792
Levies	17.43		16.57	
Total Disposals	2,340.77	2,146	2,491.46	2,040
Imports	6.85	9	6.82	8
Changes in Stocks	-43.42	-30	96.09	120
Total	2,290.50	2,106	2,580.72	2,152

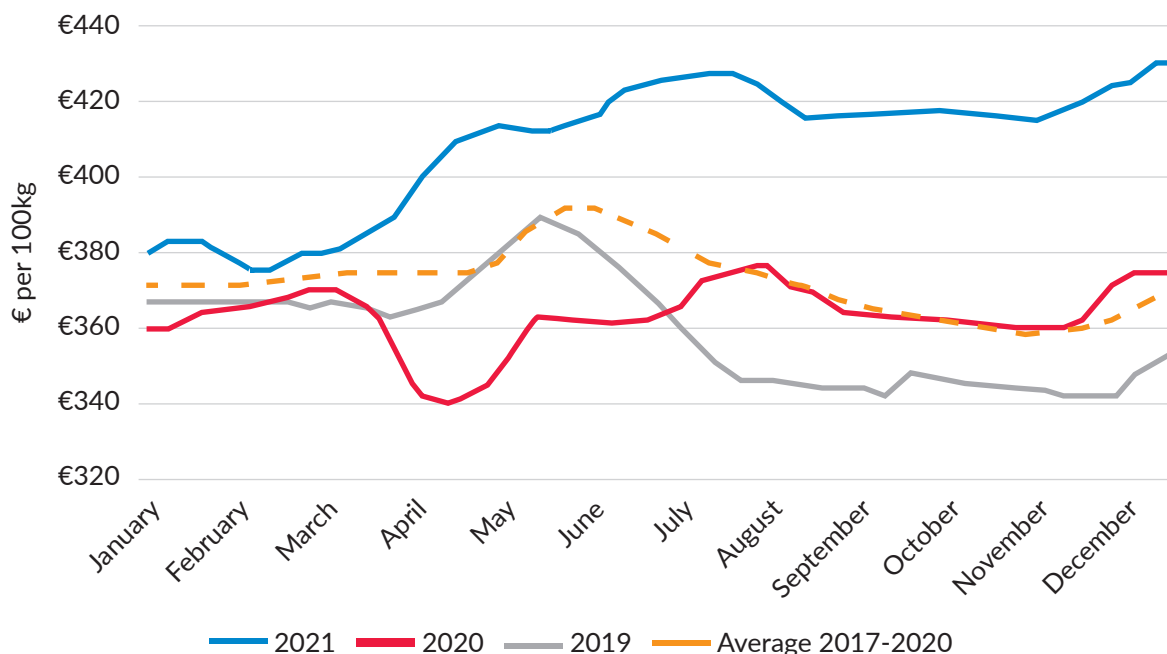
Source: CSO



Prices 2021

The average 2021 deadweight price for an R3 steer of 407.95c/kg was 12.5% above the 2020 average price of 362.71c/kg. This is a significant improvement in the prices compared to the previous two years. This also compared positively to an EU average price of 392c/kg for the same period.

Figure 3.9 Deadweight Steer (R3) Prices, 2017 – 2021 (€ per 100 kg)

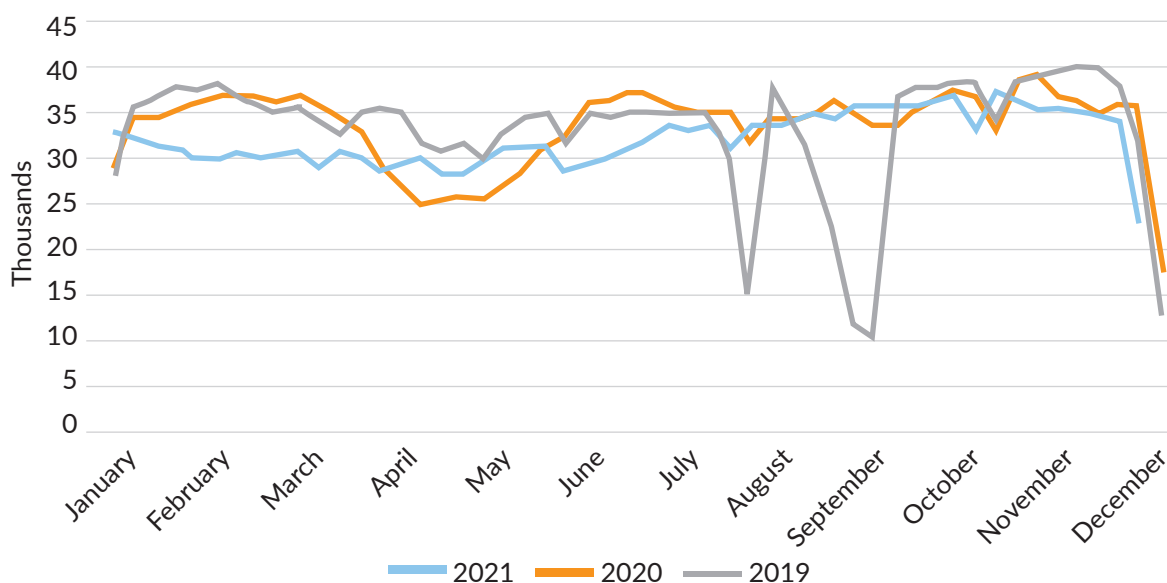


Source: DAFM, Meat Market Report

Slaughterings 2021

The total number of cattle slaughtered at DAFM approved slaughter plants in 2021 was 1.66 million, which represents a 5% decrease on 2020 levels of 1.75 million. This was in line with the projection of tightening supplies at the start of year. An additional 128,000 cattle were slaughtered at Local Authority approved abattoirs bringing the total number of cattle slaughtered in 2021 to 1.79 million. This was down on the 2020 number of 1.88 million and the 2019 number of 1.85 million.

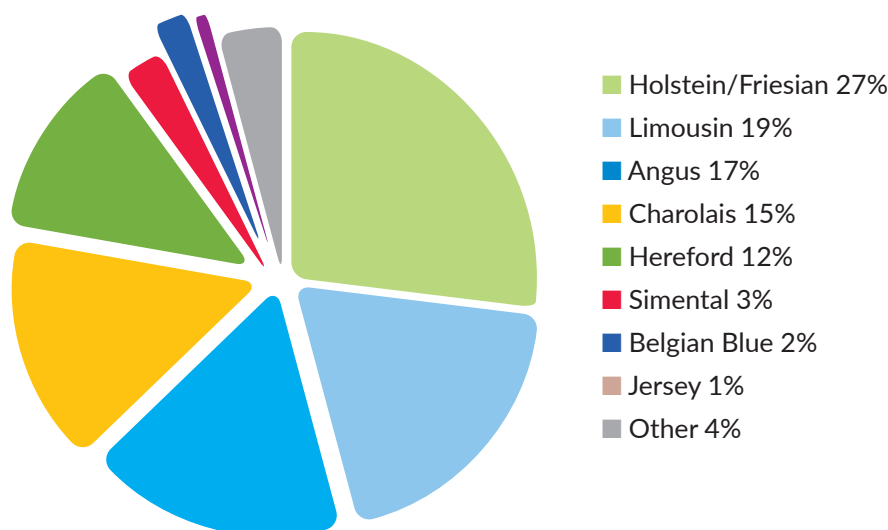
Figure 3.10 Weekly Cattle Slaughtering at DAFM Approved Slaughter Plants, 2019 - 2021



Source: DAFM, Meat Market Report

One quarter of all bovines slaughtered during 2020 were holstein friesian breed at 450,000, with limousine breed accounting for one fifth of slaughterings at 316,000. Angus (17%), Charolais (15%) and Hereford (12%) made the up the vast majority of other cattle breeds slaughtered at DAFM approved slaughter plants last year.

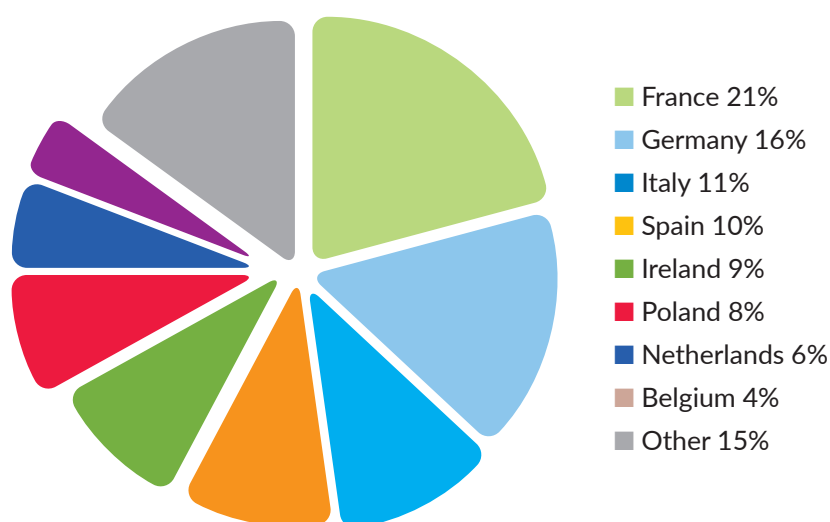
Figure 3.11 Cattle Slaughterings at all DAFM approved Slaughter Plants by Breed 2021



Source: DAFM AIM Bovine Statistics Report 2021

According to Eurostat, 594,910 tonnes of Irish bovine meat was produced in 2021, accounting for 9.3% of total EU27 slaughtering. France slaughtered the largest quantity of bovine meat, at 1.4 million tonnes, accounting for 21% of EU27 total, followed by Germany at 16%, Italy at 11% and Spain at 10%, just ahead of Ireland. The average dead weight for bovines slaughtered was 295kg across the EU27, with Luxembourg slaughtering the heaviest with an average bovine dead weight of 367kg, followed jointly by Austria and Ireland at 332kg.

Figure 3.12 Bovine Slaughtering by EU Country, 2021



Source: Eurostat, Slaughtering in Slaughterhouses Annual Data



New Markets 2021

Enhancing access for Irish beef in third country markets remains a key component of DAFM's market access goals. In March 2021, beef access to Japan was enhanced to allow for the export of Irish minced meat and beef burgers to the Japanese market for the first time. According to the CSO, the value of Irish beef exports to Japan increased by over 75% (nearly €12 million) between 2020 and 2021.

In July 2021, DAFM got access to Papua New Guinea for Irish beef exports following the agreement of veterinary health certificates with the relevant competent authorities.

In late May DAFM welcomed the recognition of Ireland's negligible BSE risk status by the World Animal Health Organisation (OIE). The recognition, given legal effect in EU law in August, will allow DAFM to pursue reduced certification restrictions from importing countries. For example, a revised veterinary health certificate (VHC) with enhanced beef access was agreed with Singapore in February 2022.

Sustainability

Sustainability is key for the efficient growth of the agri-food sector in Ireland with the move towards a more sustainability conscious consumer gaining traction. There are several schemes aimed at increasing the sustainability of the Irish beef sector including:

The Beef Data and Genomics Programme (BDGP) which provides for six years of payments to participating farmers for completion of actions which deliver accelerated genetic improvement in the Irish national herd and improvement of its environmental sustainability. This Scheme was extended to include the transition period to the new CAP in 2023.

The Beef Environmental Efficiency Programme (BEEP) in 2021 built on previous iterations of BEEP schemes and had two measures, the Beef Environmental Efficiency Programme – Suckler (BEEP-S) with an allocation of €40 million and a Dairy Beef Calf measure with a budget allocation of €5 million in 2021.

BEEP and Beep-S targeted the weaning efficiency of suckler cows and calves by measuring the live weight of the calf at weaning as a percentage of the cow's live weight. In recognition of the crucial role of animal health and welfare in economic and environmental efficiency, applicants to the scheme could also select from several optional health and welfare measures including meal feeding or vaccination of weanlings and/or faecal egg testing of suckler cows.

The objective of the Dairy Calf Measure was to increase the economic and environmental efficiency of beef from the dairy herd, and to facilitate further the integration of the dairy and beef sectors by providing support for farmers who are rearing progeny from the dairy herd. The core action was the weighing of eligible calves.

Over 30,000 farmers carried out the required weighing and recording and received payments of over €40 million under the Beef Environmental Efficiency Programme in 2021.

Case Study

The Beef Taskforce

The Beef Taskforce was established in 2019 to monitor the implementation of the actions under the 2019 beef sector agreement. In November 2021, Minister McConalogue published a report on the work of the Beef Taskforce submitted to him by the Independent Chairperson Mr. Michael Dowling.

The report detailed the progress made by the Beef Taskforce in fulfilling its remit of monitoring the implementation of the actions under the September 2019 agreement.

The implementation of the agreement provided immediate financial benefits and improvements to conditions of sale for farmers. The subsequent strategic actions for the benefit of the sector, included:

- The establishment of a suckler brand development oversight group; and the allocation by Bord Bia of up to €6 million over a three-year period to progress the development of a suckler brand proposition.
- Significant input into the application for PGI status for 'Irish Grass Fed Beef', which was submitted to the European Commission in November 2020.
- Three substantial market transparency reports were published.
 - Price composition along the supply chain
 - An Independent Review of Market and Customer Requirements of Irish Beef
 - Competition Law in the Beef Sector
- Additional price transparency through: enhancement of the Beef Pricewatch App, development of the Bord Bia benchmark price tracker; and S.I. Number 449 of 2021 – European Union (Market Transparency) Regulations 2021
- A scientific review of the effect of prices on the Quality Payment system and a review of the hot and cold weighing systems by Teagasc.

The Taskforce also engaged with key stakeholders including the EU Commission on price transparency, the Competition and Consumer Protection Commission on its role, as well as meeting Irish retailers and processors.

In submitting the report, the Beef Taskforce Chair advised that it was his view, and the shared view of most of the members of the Taskforce, that the group had fulfilled its remit of monitoring the implementation of the Actions under the 2019 Beef Sector Agreement. Mr. Dowling highlighted the importance of the continuation of stakeholder engagement on ongoing strategic issues and recommended a new forum to drive this. These recommendations were accepted by the Minister.

Highlights

- The Beef Taskforce concluded its work and published a final report.
- Increase in value of beef exports by 3%.
- Payments of close to €30 million were made under the Beef Data and Genomics Programme
- Payments of €42 million were made under the Beef Environmental Efficiency Programme (BEEP) and the Dairy Beef Calf Programme

Challenges

- Ireland is significantly dependent on exports for its beef with domestic consumption only accounting for circa 10% of production. The United Kingdom is still by far Ireland's largest beef export destination accounting for 46% of beef exports. Throughout 2021 Brexit continued to present a range of challenges for the agri-food sector. While the EU-UK Trade and Cooperation Agreement maintains tariff-free trade, extra regulations and procedures have created challenges for Irish food companies trading with Britain.
- The key challenge facing the sector in 2022 will be the ongoing escalation in input costs. Direct costs of beef production are dominated by purchased feed and pasture costs. The war in Ukraine has led to large increases in fertiliser prices and in costs of purchased feed and forage production relative to 2021. Feed prices, fuel prices and particularly fertiliser prices are forecast to be substantially higher than in 2021. Total costs of production on single suckling and cattle finishing enterprises are forecast to increase by 24% and 30% respectively in 2022, with knock-on effects on family farm incomes and profit margins.

Ireland Outlook

- Despite the strong improvement in cattle prices throughout 2021 the escalation in input costs driven mainly by feed, fertiliser and energy mitigated against improved margins for the producer. The landscape will remain challenging for beef farmers.
- The latest Teagasc forecast indicates that for 2022 relative to 2021, Irish finished cattle prices are forecast to increase by 16%, weanling prices are forecast to increase by 8% and store cattle by 12%.
- For 2022 Irish prime beef production is forecast to increase by 3% compared to 2021.
- Average gross margin on the single suckling enterprise is forecast to decrease by approximately 13%, but on cattle finishing farms the forecast is for performance similar to 2021.
- The outlook for Irish beef exports to EU27 and the United Kingdom remains generally positive for 2022 according to Bord Bia. Global market demand seems set to remain good as global supplies look to be tight as result of pressure on output from both North and South America due to drought conditions in both regions in 2021. A strong factor in market demand for Irish beef will be sustained demand from key British customers.

EU Outlook

- EU beef production is forecast to decrease by 0.5% in 2022, mainly because of a structural adjustment in the beef and dairy sector, despite high prices. EU exports should increase to existing high-value markets but will be constrained by record-high domestic prices.
- The longer-term outlook according to the EU agricultural outlook 2021-31 is that EU gross beef production is expected to fall by 0.6 million tonnes (-8%) between 2021 and 2031. The suckler cow herd is set to decrease to 10.1 million by 2031 (-665 000 head), due to low profitability and increasing environmental concerns.
- EU beef consumption is expected to continue its downward trend and by 2030 it could drop by 0.9 kg per capita from current levels of 10.6 kg per capita. However, global demand for beef is increasing although in a very competitive market space. While EU exports of live animals are expected to decline gradually (-3.6%) per year, EU meat exports are expected to grow marginally (+0.6% per year).
- While current restocking in Brazil and Australia will put some pressure on prices in the short term, in the more medium-term EU prices are expected to stabilise.



3.3 Sheep and Lambs



The national average sheep price in 2021 was

€6.64/kg,
up 28% on the
previous year.



In 2021

2.97 million
sheep were slaughtered in Irish
meat plants and abattoirs.



The value of
sheepmeat exports
increased by 9% or by

€30 million
in 2021.

General Market Situation Ireland and EU 2021 Ireland

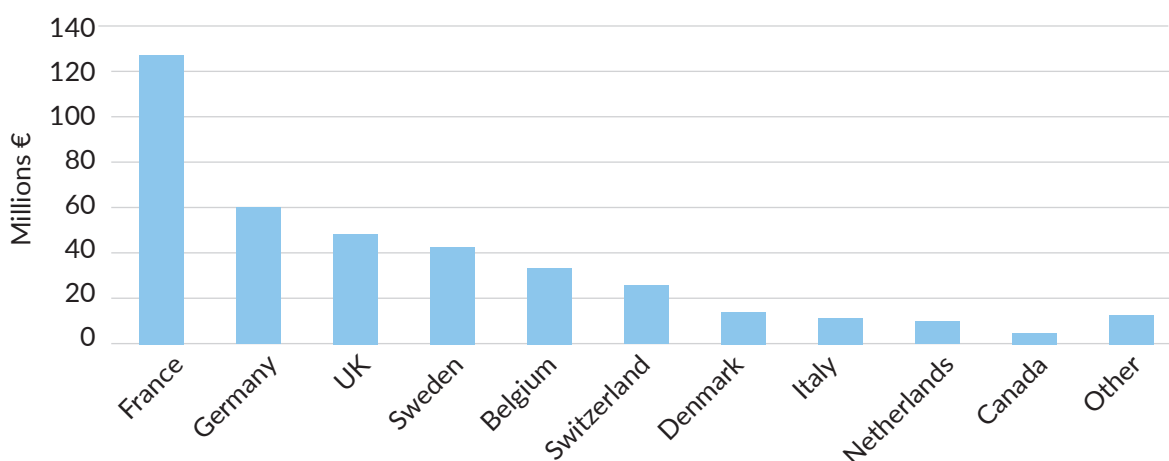
Sheepmeat exports valued at €386 million, or 58,110 tonnes, were exported in 2021, up 9% in value but down 9% in volume on 2020. The top five destinations accounted for 74% of sheepmeat exports with France the number one destination, accounting for one third of exports. In 2021, Ireland exported sheepmeat to around 30 international markets. The value of Irish sheep meat exports in 2021 increased to over €386 million, a €31 million increase from 2020 and a €68 million increase from 2019. Coupled with the 10% reduction in volume of Irish sheepmeat exports from 2020, the unit price of Irish sheepmeat at the international level was greatly enhanced in 2021.

Table 3.6 Top 5 Sheepmeat Export Destinations

Country	2021	
	€000	Tonnes
France	126,265	17,992
Germany	59,180	9,077
United Kingdom	47,656	8,631
Sweden	42,342	6,074
Belgium	32,808	3,474
Top 5 Total	308,251	45,248

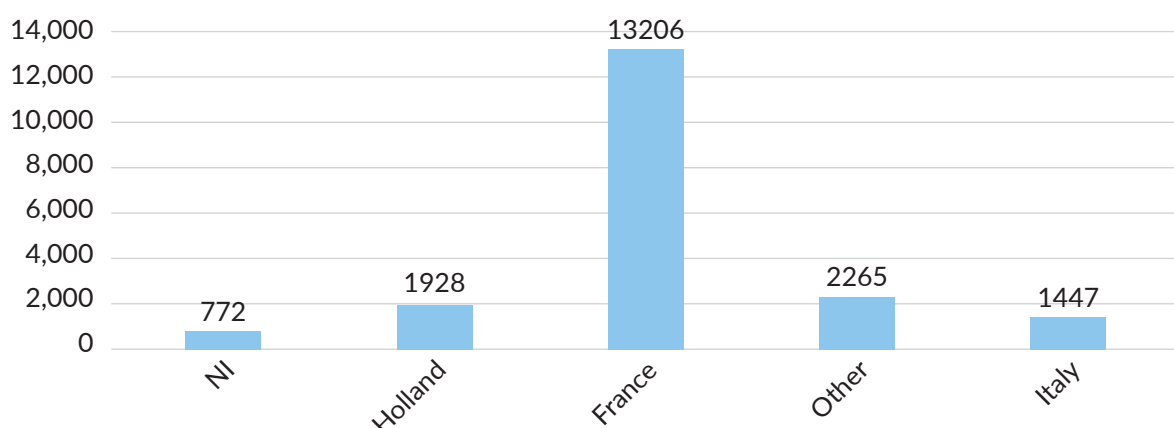
Source: CSO

Tighter supplies of sheepmeat globally and an improvement in demand in key EU markets drove this increase. In value terms, over 78% of sheepmeat products were exported to countries within the EU, with France as the largest destination accounting for a total of €126 million or just under 18,000 tonnes. Exports to the United Kingdom declined by 21% in value from the previous year, with under 9,000 tonnes exported during 2021.

Figure 3.13 Sheepmeat Exports by Value (€ Million) and Country 2021

Source: CSO

In terms of the live sheep trade, a total of 367,936 animals were imported, of which, 99.9% originated from Northern Ireland. The number of live imports fell by 16.7% in 2021. Live sheep exports decreased by 30% in 2021, with a total of 19,618 animals exported, in comparison to 27,962 animals in the previous year. The largest export market in 2021 was France, with 13,206 animals exported.

Fig 3.14 Live Sheep Exports by Country 2021

Source: DAFM, Meat Market Report

Sheep slaughtering at DAFM approved slaughter plants for 2021 was down 5% on the 2020 figure with a total of 2,720,467 head slaughtered. In terms of categories, a total of 1,670,295 spring lambs, 698,136 hoggets, and 352,036 ewes and rams were slaughtered. A further 255,000 sheep were slaughtered at Local Authority approved abattoirs.

In 2021, total direct costs of production on the mid-season lowland lamb enterprise are estimated to have increased by just over 20% on 2020 levels. However, payments from the Sheep Welfare Scheme and higher market output values are estimated to have resulted in significantly higher margins on the average mid-season lowland lamb enterprise in 2021. The average gross margin earned is estimated to have increased by over 26% to €748 per hectare.

The output value of the sheep and lamb sector in 2021 was €363 million, a 20% increase on 2020 output figures, while export values increased by 16%.

Table 3.7 Output Value (€m) and Numbers ('000s) of Sheep and Lambs, 2020/2021

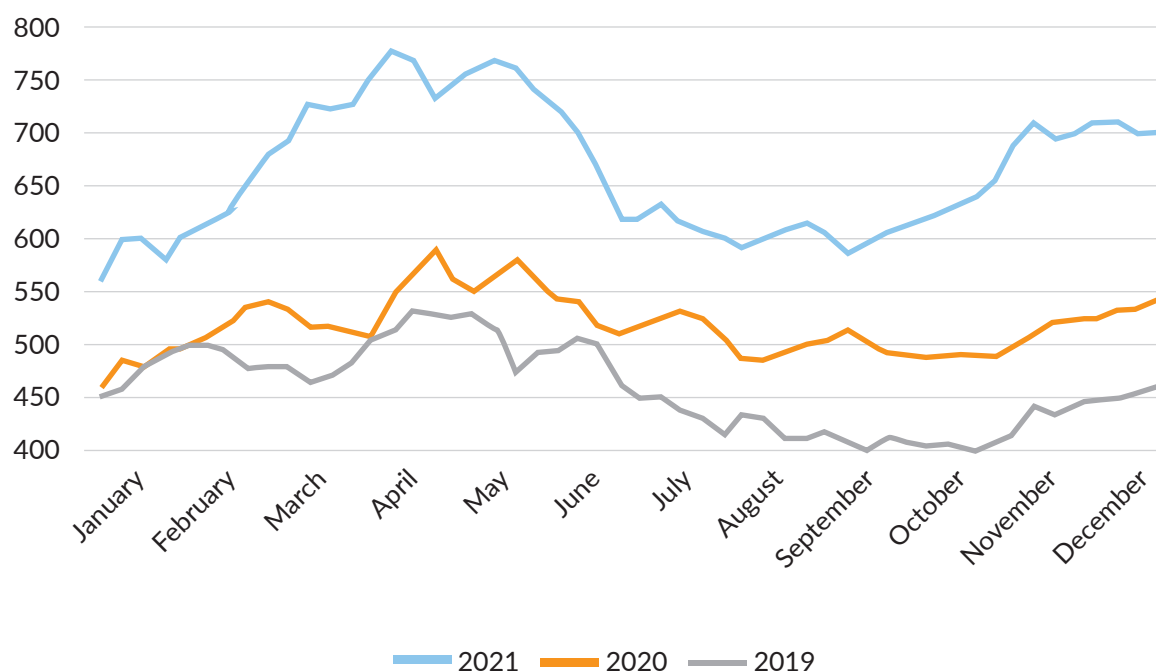
Sheep	2020		2021	
	Value	Number	Value	Number
Live Exports	2.89	28	2.46	20
Slaughterings	338.15	3,112	391.83	2,972
Total Disposals	341.03	3,140	394.3	2,991
Imports	45.69	446	45.92	368
Changes in Stocks	7.93	68	14.54	114
Total	303.27	2,761	362.92	2,737

Source: CSO

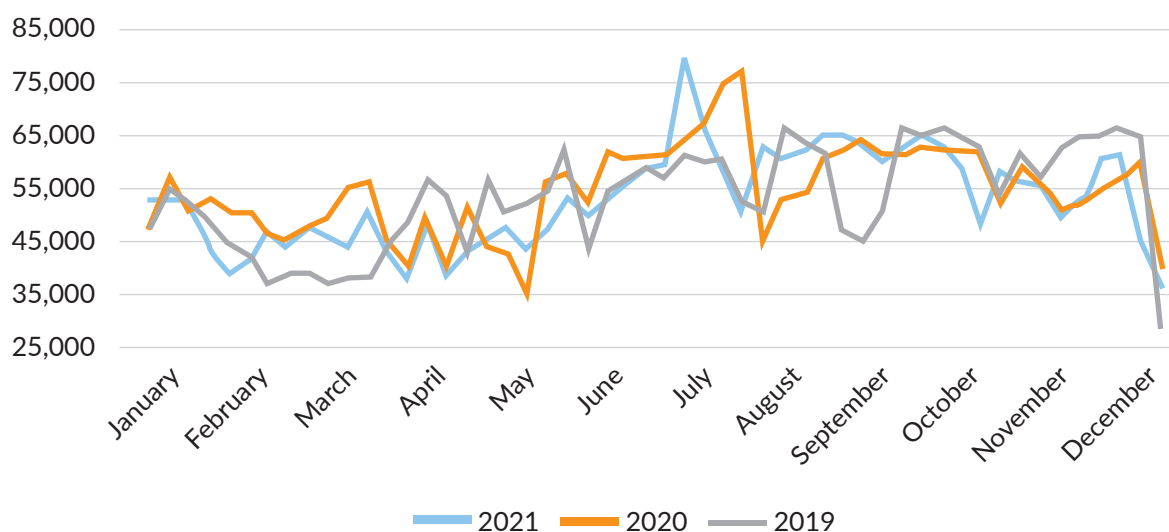
Prices

The average 2021 sheepmeat price at slaughter of 664.49c/kg was 28% above the 2020 average price of 519.27c/kg. Prices on the European lamb market in 2021 were also significantly higher than in 2020, with prices for heavy lamb up on average 22% in the year to the beginning of November 2021.

Teagasc estimate that total direct costs of production for Irish mid-season lowland lamb enterprises have increased by 20% in 2021. However, gross margins per hectare for Irish mid-season lowland lamb producers are estimated to have increased in 2021 by over 26%, owing to much higher market output values. These margins were supported by payments under the Sheep Welfare Scheme.

Figure 3.15 Weekly Sheep Prices c/kg 2019 – 2021

Source: DAFM, Meat Market Report

Figure 3.16 Weekly Sheep Slaughter Levels at DAFM Approved Slaughter plants 2019-2021

Source: DAFM, Meat Market Report

Sustainability

It has been recognised that working towards improvements in animal welfare is compatible with sustainability in the context of the UN Sustainable Development Goals.

The Sheep Welfare scheme provides support for farmers undertaking actions targeted at making a positive contribution to the welfare of their flock. Under this scheme, sheep farmers with breeding ewes can apply for payment based on 2 actions they choose to undertake from a menu of options appropriate to their flock type, for example whether hill or lowland, in order to improve animal welfare. The fifth year of the scheme opened on the 1st of February 2021. The scheme was extended for a sixth and final year in Budget 2022. Year six of the scheme commenced on the 1st of February 2022 and will run until the 31st January 2023. The scheme



allows for the collection and generation of valuable data on welfare statistics and practices in sheep farming in Ireland.

Sheep farming contributes to both economic and environmental sustainability, particularly on more marginal land, with sheep grazing being an important land management tool in parts of the country where land usage options are relatively limited.

The 2021 National Farm Survey preliminary results, published by Teagasc, identified a number of economic sustainability issues across the sector, with 26% of sheep farms having a Family Farm Income below €5,000, an increase of 5% on the previous year.

New Markets 2021

Enhancing access for Irish sheep meat in third country markets remains a key component of DAFM's market access goals and last year saw progress in this regard. Agreement on a veterinary health certificate for fresh meat and meat products of ovine origin was finalised with the New Zealand authorities. The certificate, published in August 2021, was sought on foot of enquiries from Irish industry.

In December, DAFM welcomed the announcement from the United States that its ban on EU sheepmeat exports has been lifted, thus removing a major impediment to accessing that market. This opened the way for agreement of a veterinary health certificate in early 2022.



Highlights

- The value of sheep meat exports increased by 8.3% or by €31 million in 2021.
- The average weekly sheep price increased by 28% to €664.49/100 kgs in 2021.
- The average gross margin earned by sheep farmers in 2021 is estimated to have increased by over 6% to €748 per hectare.

Challenges

- Throughout 2021 Brexit continued to present a range of challenges for the agri-food sector. While the EU-UK Trade and Cooperation Agreement maintains tariff-free trade, extra regulations and procedures have created challenges for Irish food companies trading with the United Kingdom.
- Of note, 2021 saw a significant reduction in imports of live sheep from Northern Ireland compared to 2020. In addition, there had been a reduction in exports from the United Kingdom to EU markets during this period, largely because of increased regulations and logistics associated with exporting to Europe from Great Britain.
- Increasing global competition generally will be a challenge in the longer term as countries such as New Zealand and Australia continue to hold the majority share in the global market. A significant gap between the EU prices and the prices in New Zealand and Australia will remain, reflecting the lower production and labour costs of these two countries. In an environment of increasing inflationary pressures in the Eurozone area, due to rising feed, grain and energy prices, margins will remain tight.
- The 2021 National Farm Survey results published by Teagasc identified that incomes continued to increase in 2021, up 14% to €20,451 on average. Sheep farm incomes have been on an upward trajectory for several years, with the 2021 figure the highest on record. Higher prices for farm inputs were offset by high lamb and ewe prices, leading to an overall improvement in sheep farm incomes. However, the average income remains low relative to the dairy and tillage sectors.
- Finally, due to the large, expected increase in fertiliser and feed prices, the total costs of production for sheep farms are forecast to increase substantially relative to 2021. The average family farm income from sheep farming is forecast to decline by 20% in 2022

Outlook for the EU

- EU sheep meat production is expected to increase slightly by 0.3% per year over the period 2021-2031.
- EU per capita consumption of sheep meat is expected to increase slightly by 2031, reaching 1.4 kg per capita, thanks to the diversification of the meat diet and consumption patterns in the EU population.
- EU prices are expected to remain strong following developments in world market prices.

Outlook for Ireland

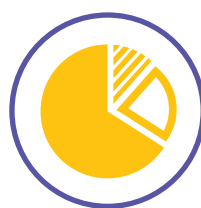
- The outlook for Irish lamb prices remains positive.
- With both higher prices and increased output volume, sheep output value is forecast to increase strongly in 2022. However, costs of production on Irish sheep farms are forecast to increase substantially in 2022 due to the escalation in fertiliser and purchased feed costs.
- Higher lamb and sheep prices will be insufficient to offset increased costs of production and thus margins are forecast to decline from the record levels estimated for 2021.
- Average gross margin per hectare in 2022 is forecast to decline by over 5%.
- The average Family Farm Income on sheep farms is forecast to decline by 20% in 2022.

3.5 Pigmeat



Exports of pigmeat reached a record value of

€932m
in 2021.



Third Country markets apart from the United Kingdom have grown to

40% of the total share
of pigmeat exports in 2021.



There was an increase of 4%, to

3.69 million,
in the number of pigs slaughtered in 2020.

General Market Situation Ireland and EU 2021 Ireland

Pigmeat is the fourth most valuable export of the Irish agri-food industry after dairy, beef and beverages. The pigmeat sector has shown remarkable growth in recent years, with the value of exports more than doubling in the past ten years to be worth €932 million in 2021, up 4.4% on 2020. The United Kingdom and China are the destinations for almost two-thirds of pigmeat exports, with the remaining one-third going to a further 50 countries across the five continents. While exports to the United Kingdom fell in 2020 to €407 million, they recovered slightly to €412 million in 2021. Exports to China fell by 5.5% in 2021 but it still accounts for 21% of all pigmeat exports valued at €191 million.

Table 3.8 Top 5 Pigmeat export destinations

Country	Jan-Dec 2021	
	€000	Tonnes
United Kingdom	€412,308	81,993
China	€190,884	92,626
Denmark	€51,642	17,596
Japan	€50,531	14,911
Australia	€46,577	15,184
Top 5 total	€751,943	222,311

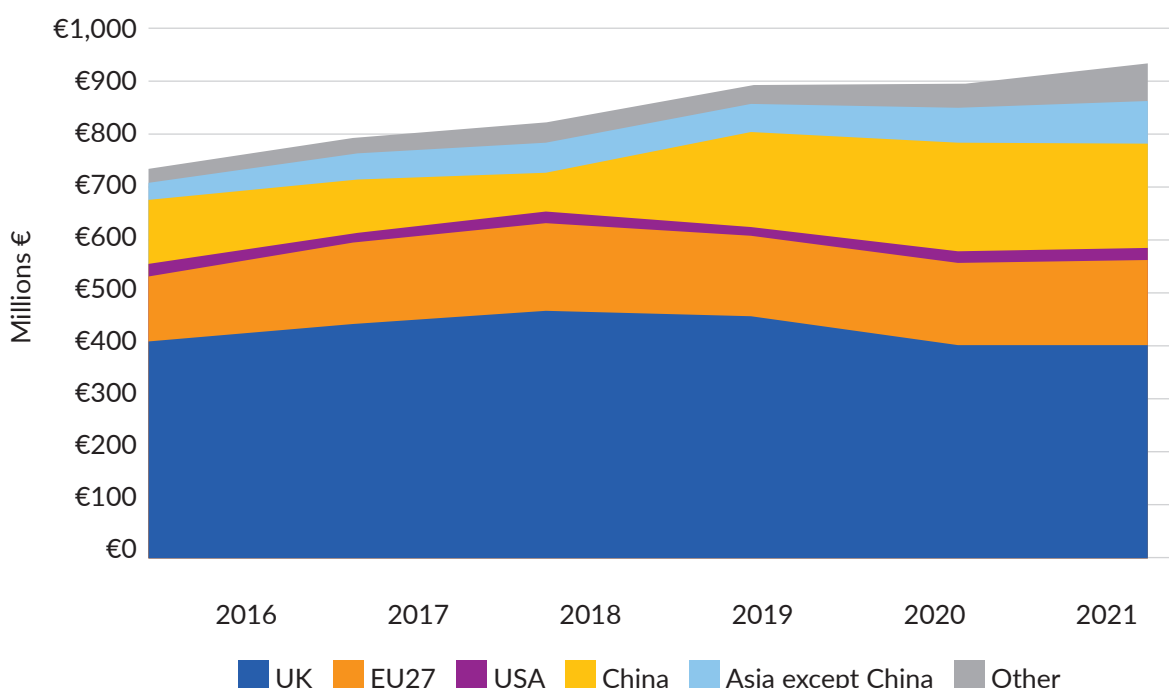
Source: CSO

The Irish pigmeat sector supports approximately 8,000 jobs spanning production, slaughter, processing, feed manufacture and services. Exports have continued to grow year-on-year. According to the Central Statistics Office (CSO), total value of exports in 2021 was €932 million, up €39 million on the previous year and close to 290,000 tonnes, up 13,400 tonnes on 2020.

Third country exports have continued to grow and despite the slight growth in exports to the United Kingdom in 2021 pigmeat exports to there are on the decline in recent years. The share of total value of exports to the United Kingdom have fallen from 56% in 2016 to 44% in 2021, with China's share growing from 17% to 21% over the same period. Diversification and growth are evident in other markets, notably Denmark (worth €52m in 2021), Japan (€51m), Australia (€47m), United States of America (€28m) & South Korea (€20m).

In addition to the export of pigmeat, 444,660 live pigs were exported in 2021, down 8.7% on 2020. The main destination for these pigs were Northern Ireland and Great Britain. Exports to other markets are smaller in number and primarily for breeding purposes.

Figure 3.17 Value of Pig Meat Exports, 2016-2021



Source: CSO

The output value of the pigmeat sector in 2021 was €555.4 million, down from €601.9 million in 2020, which is a 7.7% decrease.

Table 3.9 Output Value (€m) and Numbers ('000s) of Pigs 2019/2020

	2020		2021	
	Value (€m)	Number	Value (€m)	Number
Live Exports	67.11	492	57.52	465
Slaughtering	529.60	3,546	502.47	3,690
Total disposals	596.71	4,038	559.99	4,155
Imports	2.77	21	3.94	32
Changes in stock	7.94	65	-0.64	35
Total	601.88	4,083	555.41	4,158

Source: CSO

EU

EU pigmeat production increased by 1.8% in 2021. As in 2020, Spain remains the largest pigmeat producer in the EU for 2021, with an increase of 4.2% in production. Eurostat's December 2021 livestock census indicated a negative change in the EU pig population, with the overall EU breeding herd almost 4% lower at 10.9 million. The German breeding herd fell by 7% to 1.59 million, reflecting the fallout from restricted international market access following the detection of African swine fever. Other member states such as Poland, Belgium, Czech Republic, France and Denmark also show declines in pig breeding herds. Overall, the EU pig breeding herd fell by seven percent or 384,000 during 2021 census.

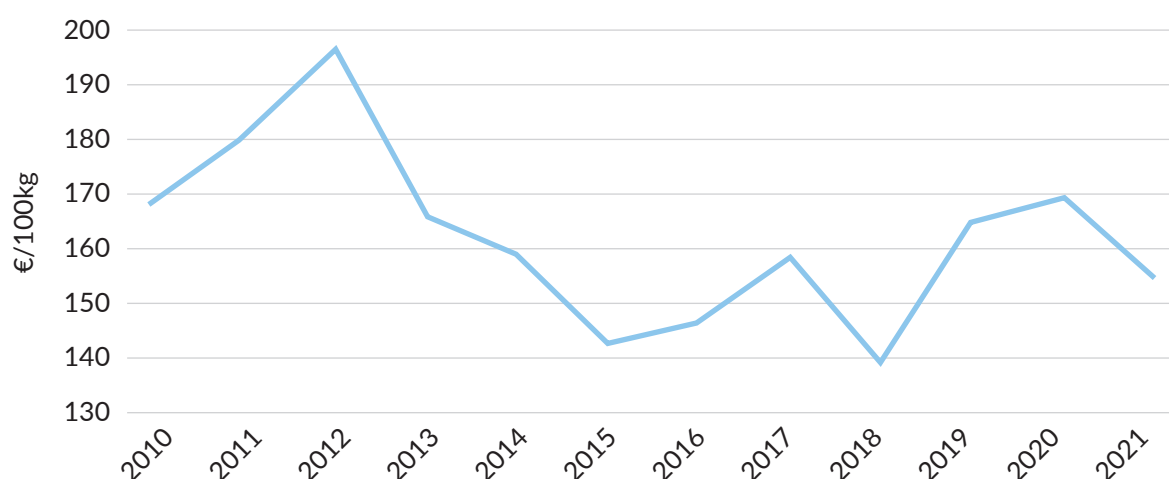
In Q1 of 2021 EU pig prices rose gradually, hitting a high of €166.13 /100kg. A significant decline was observed from Q3 until the end of 2021 with export orientated nations such as Germany, Poland and the Netherlands enduring stubbornly low prices. 2021 was a year of two halves for EU pigmeat trade, Q1 and Q2 saw growth but this was offset by sharp declines in Q3 and Q4. Overall, exports of pigmeat were down 2.4% on 2020, with a significant decline observed in exports to China, down 25%. However, the EU still remains the largest pigmeat exporter in the world.

Pigmeat Prices 2021

Irish pigmeat prices in 2021 peaked at the end of June, coming in at €167/100kg. By year end there was a drop of €24/100kg, down 14.3% to €143/100kg. Compared to the same week in 2020, there was a decline of 8% in the average price, with a total drop of 8.7% on 2020.

The average price for 2021 was significantly lower than 2020. However, prices were at a historical high coming into 2020. Prices in early 2022 continued on at the low levels seen towards the end of 2021 with many pig producers suffering losses particularly as feed prices rose. Prices began to rise slowly in April 2022 but remained below breakeven prices for producers. Price volatility remains a significant challenge for the pig meat sector emphasising the cyclical nature of prices in that sector.

Figure 3.18 Average Grade E Pigmeat Prices, 2011 – 2021 (Price € per 100kg)



Source: DAFM, Meat Market Report

Financial Assistance

The Targeted Agricultural Modernisation Scheme (TAMS) scheme provides grant aid to the pig sector at a rate of 40% to facilitate investment centred upon improving animal health and welfare. The ceiling for TAMS funding under the Pig and Poultry Investment Scheme (PPIS) was raised from €80,000 to €200,000 in 2021.

The combination of low price and high costs had led to calls across the EU for exceptional aid for the sector in 2021. Such requests had been made by Member States at successive Agri-Fish Councils throughout the second half of 2021. The last market support package for the pig sector at EU level was in late 2015/early 2016.

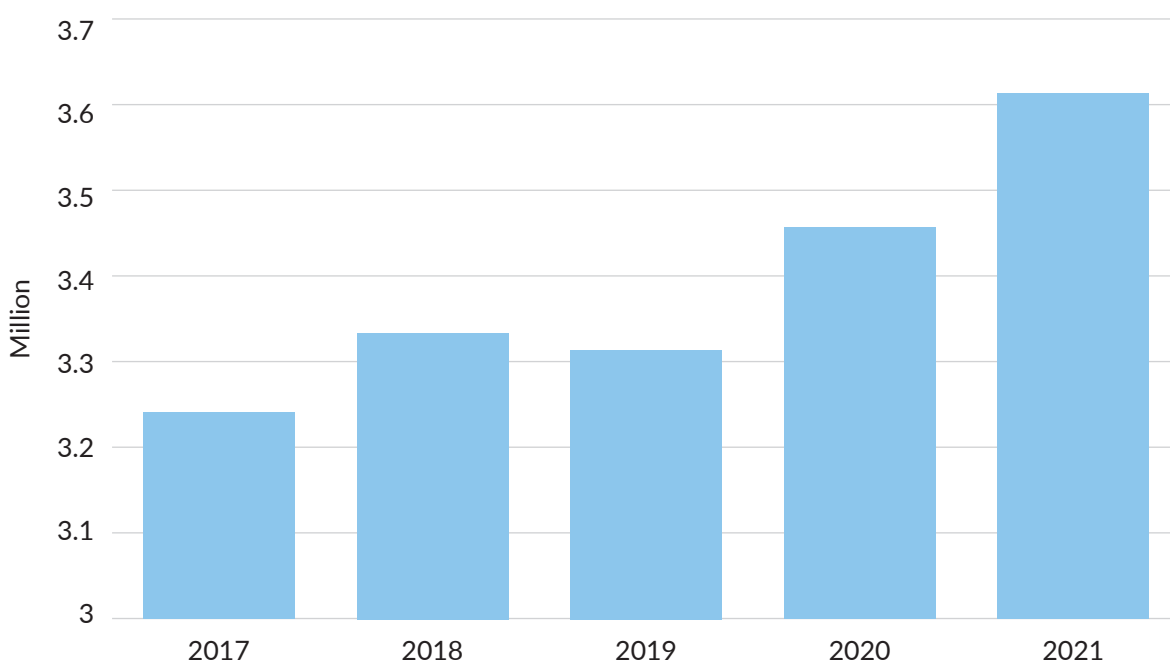
In March 2022 a seven million euro Exchequer funded Pig Exceptional Payment Scheme (PEPS), with payments of up to €20,000 per undertaking, was announced. In April 2022 a further €13m EU exceptional aid package to support commercial pig farmers was put in place to support the sector in the face of existing market disturbances, now considerably exacerbated by issues arising from the Russian invasion of Ukraine.



Production

There was an increase of 3%, to 3.6 million in the number of pigs slaughtered at DAFM Export Approved Plants in 2021, continuing the trend over the past number of years. Over the past five-year period there has been growth of 11.5% in the number of pigs slaughtered at DAFM Export Approved Plants. A further 75,000 head were slaughtered at Local Authority approved abattoirs in 2021, bringing the total number of pigs slaughtered to 3.69 million head.

Figure 3.19 Pigs Slaughtered at DAFM Export Approved Plants 2017 to 2021



Source: DAFM, Meat Market Report



Sustainability

The high-level objective of the Teagasc Pig Programme is to enhance the sustainability of the Irish pigmeat production. The current research programme encompasses a broad range of topics relevant to this area such as nutrition, performance, management, health and welfare.

Highlights

- Export levels reached record levels of €932 million
- Third Country markets (apart from the United Kingdom) have grown to 40% of the total share of pigmeat exports in 2021
- There was an increase of 4%, to 3.69 million, in the number of pigs slaughtered in 2020.

Challenges

- The threat of African Swine Fever (ASF), Brexit and rising input costs remain the biggest challenges to the Irish pigmeat sector. Ireland's island nation status has helped to ensure ASF is not as broad a threat as that posed in countries with significant wild boar populations. However, continued vigilance is essential in the maintenance of Ireland ASF-free status.
- The United Kingdom, accounting for 44% of total exports, remains the most important export destination for Irish pigmeat in terms of value and volume, albeit down from 57% in 2018. This highlights the continued growth in alternative markets over the same period.
- The EU-UK Trade and Cooperation Agreement (TCA) removed the immediate risk of tariffs and quotas on Irish Agri-Food products. However, the introduction of Sanitary and Phyto-sanitary checks on product entering Britain is very challenging for agri-food exporters, the start date of which has been delayed several times by the United Kingdom government.
- The greatest immediate challenge has been a rise in input costs in parallel with a drop in pig price resulting in an estimated margin over feed cost (MOF) of 41c per kg in 2021. This is significantly lower than the unusually high 66 per kg achieved in 2020 and lower than the 5-year (2017-2021) and 10-year (2012-2021) average of 51 and 47c per kg respectively. It is estimated that a MOF of 50c per kg is required to meet all production costs, including financial repayments. While the 41c MOF was a low margin, the sector entered into 2021 in financial good health. The high profitability of 2019 and 2020 was broadly used by pig producers to reduce their debt burden. It is estimated that the average level of feed credit terms reduced by 4 weeks (18 weeks to 14 weeks) over the 2018-2021 period. This financial prudence has resulted in the sector being better able to withstand the low level of profitability in 2021.
- The overall decline in pig prices in 2021, in conjunction with the subsequent rise in feed prices has led to a significant fall in pig farm incomes. Teagasc estimate that the average loss on farm for 2021 equals to just over €40,000 per farm.

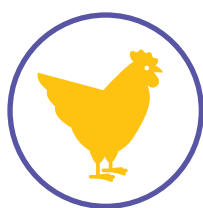
Outlook for Ireland

- According to Teagasc, in 2022 the Irish pig price will be highly influenced by African Swine Fever across Europe and Asia, as well as Chinese demand. Tighter margins are expected overall for 2022, due to significantly higher feed prices outweighing any increase in pig prices.
- It is also anticipated that the size of the Irish sow herd will remain the same, however throughput is expected to breach the 4 million head threshold for 2022.
- Trade expansion into new markets such as Mexico and further penetration of lucrative Asian markets like Japan, South Korea and the Philippines will be crucial. With such a globalised sector, any level of reduced access to key markets will of course have a significant impact regardless of global demand.

Outlook for EU

- The input pressures and low prices have been felt across majority of EU Member States in 2021, with low margin prospects pushing EU pig producers to reduce the number of breeding sows in 2021. It is expected that prices will recover in Q2 of 2022. However, the recovery will not compensate the losses occurred over the preceding months. As a result of those squeezed margins, EU pigmeat production is expected to decrease by 3% in 2022. The production decrease in 2022 is expected to be the strongest in Germany, Poland and Romania because of outbreaks of African Swine Fever.
- EU pigmeat exports to China dropped in 2021 and are expected to continue decreasing. Most Asian countries do not accept regionalisation of exports from EU countries affected by African Swine Fever. Overall, pigmeat exports are expected to decrease by 2.2% in 2022.

3.6 Poultry



The value of poultry exports in 2021 was
€238 million.



Poultry production was down 1.1% with
110.4 million
birds slaughtered in 2021.



Exports of poultry to Netherlands
increased by 60%
in value in 2021 with exports of €15 million.

General Market Situation Ireland and EU 2021 Ireland

Irish poultry exports have been declining for the past two years. The closure of the hospitality industry for long periods during COVID-19 and Brexit have had significant impacts on the industry. In 2021, the volume of poultry exports was 95,000 tonnes, down from record highs of 143,100 tonnes in 2019 and 133,330 tonnes in 2020. The value of poultry exports in 2021 was €238 million, down almost 7% on the 2020 value of €255 million.

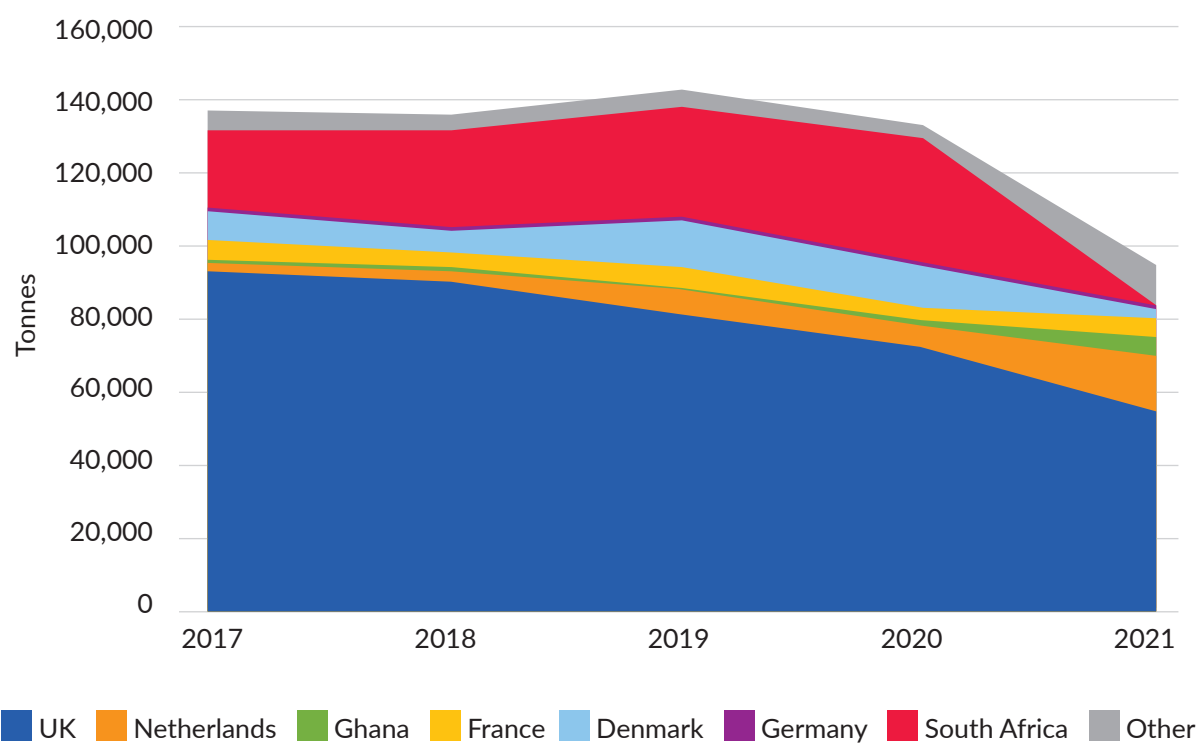
The value of exports to the United Kingdom in 2021 was €182 million or 55,600 tonnes, accounting for 76% of total exports. While the value was up by 2%, the volume to the United Kingdom was down 24%, highlighting the increased cost of poultry meat. South Africa, which had been the second largest market in recent years for poultry meat, accounting for 12% of export value and 25% of export volume in 2020, suspended poultry meat imports from Ireland following an outbreak of Avian Influenza in Ireland in late 2020.

Table 3.10 Top 5 Poultry export destinations

Country	Jan-Dec 2021	
	€000	Tonnes
United Kingdom	181,866	55,608
Netherlands	15,137	15,228
France	8,161	4,522
Germany	6,574	1,234
Ghana	5,006	5,212
Top 5 total	216,744	81,805

Source: CSO

Exports to the Netherlands, which increased by 60% in value in 2021, helped offset the loss of the South African market with exports of €15 million and 15,200 tonnes or 6% of total value and 16% of total volume. France, Germany and Ghana were the other countries that made up our top five export destinations, accounting for combined exports of €20 million and 11,000 tonnes.

Figure 3.20 Poultry Exports by Destination and Volume, 2017-2021

Source: CSO

Ireland has access to 61 countries, including the EU Member States, for the export of poultry meat.

DAFM is currently negotiating access to the Japanese, South Korean and Malaysian markets for poultry meat.



In 2021, the output value of the poultry sector was €188 million, up marginally on the previous year.

Table 3.11 Output Value (€m) and Numbers (million heads) of Poultry 2020/2021

	2020		2021	
	Value (€m)	Number	Value (€m)	Number
Poultry	186.98	141	188.06	140

Source: CSO

EU

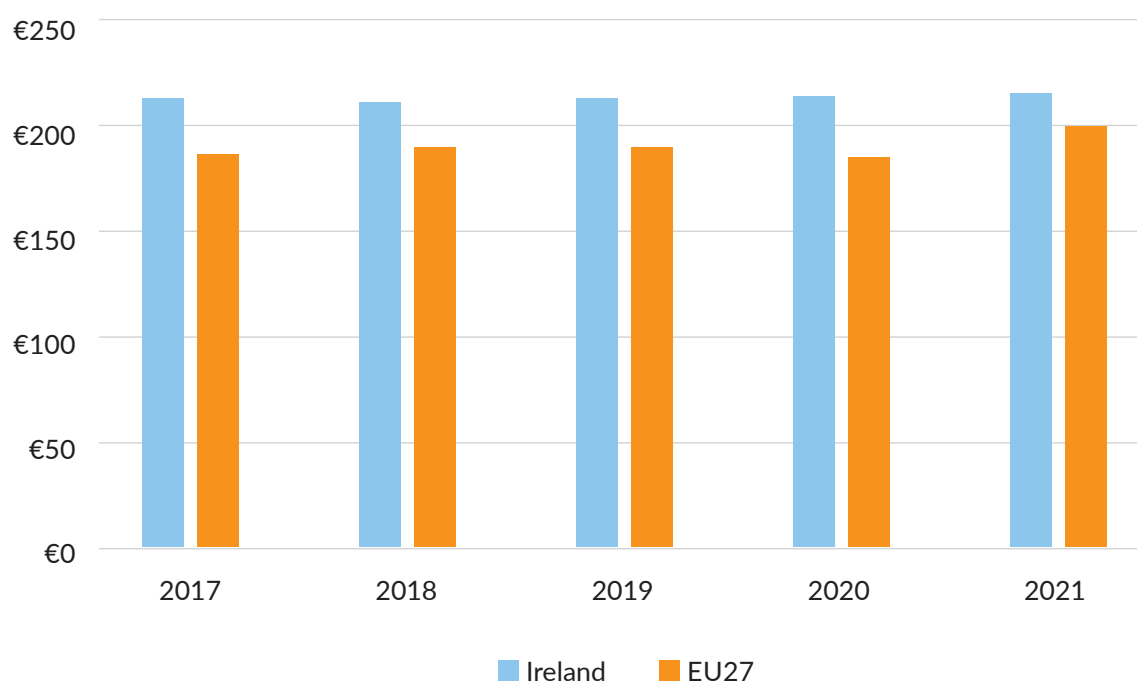
The European Union is one of the world's largest poultry meat producers and a net exporter of poultry products, with annual production of around 13.4 million tonnes. The EU imports high value poultry products, including breast meat and poultry preparations, mainly from Brazil, Thailand and Ukraine, while the EU exports poultry products of lower value.

EU Commission figures show that EU exports for 2021 decreased by 7.8% in volume terms to just over 2 million tonnes. However, the value rose from €3.76 billion in 2020 to €3.97 billion in 2021. The Netherlands, Poland and France are the largest exporting member states, with a combined 61.3% of the market share. Compared to 2020, the value of exports to most of the main export destinations rose in 2021, United Kingdom (11.7%); Ghana (29.7%); Switzerland (10.3%); Ukraine (19.4%); and the Democratic Republic of Congo (43.8%). However, exports to Saudi Arabia declined by 11.7%.

Poultry Prices 2021

Prices remained steady throughout 2021. Poultry is normally reared under contract to processors, for a pre-agreed price, and therefore poultry producers are not typically subject to the same price fluctuations as other farmers. According to the EU Commission, prices of broilers have remained relatively steady over the past five years with broiler prices in Ireland about 10%-15% above EU27 prices. In 2021 the price gap narrowed with EU prices increasing by almost 9% while Irish prices rose by less than half a percentage point.

Figure 3.21 Market Prices per 100kg for Broilers in Ireland and EU27, 2017 to 2021



Source: DG Agriculture and Rural Development

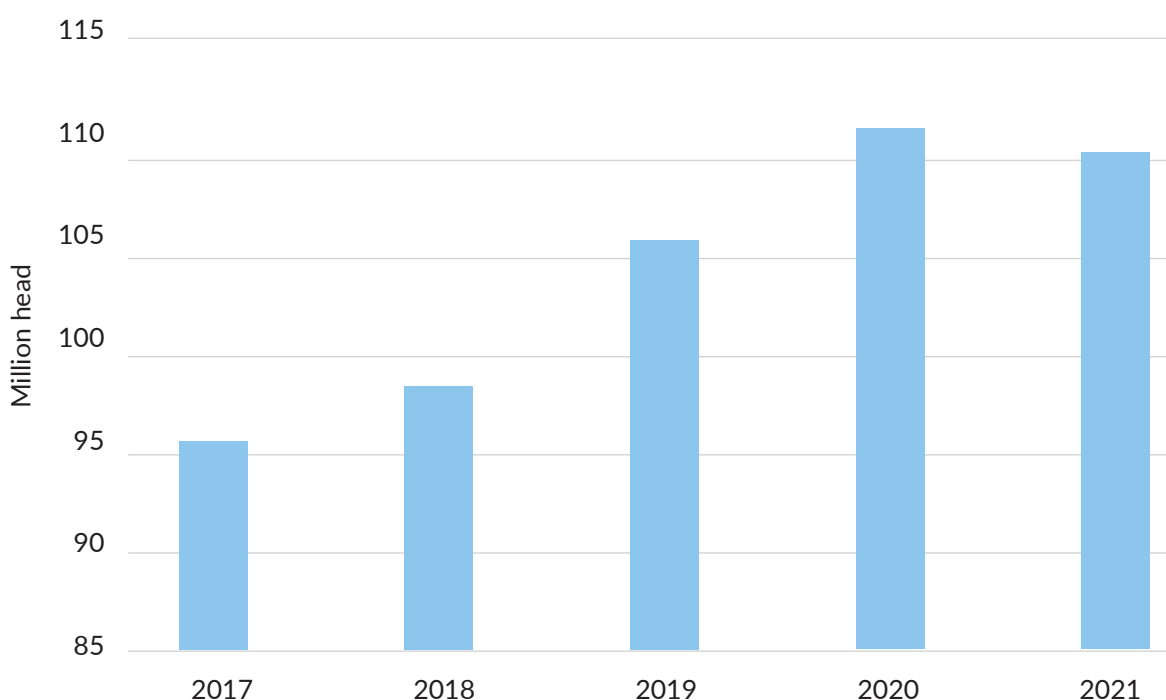


Financial assistance is available to poultry producers under the TAMS II measures which provide grants for capital investment to assist poultry producers to develop their businesses in 2021. The ceiling for grant assistance has been raised to €200,000 for the Pig and Poultry Investment Scheme recently.

Production 2021

Irish production had been on an upward trend for the past number of years. A record total of 111.7 million birds were slaughtered in DAFM approved slaughter plants in 2020. This figure saw a slight decline in 2021. Poultry production was down 1.1% with 110.4 million birds slaughtered in 2021, with chickens accounting for just over 90% of birds slaughtered.

Figure 3.22 Poultry Slaughtering at DAFM Approved Slaughter Plants, 2017 – 2021



Source: DAFM Meat Market Report

Sustainability

Sustainability is key for the efficient growth of the poultry industry in Ireland with the move towards a more sustainability conscious consumer gaining traction. Compared to other livestock sectors, poultry has a lower carbon footprint, however as an intensive industry, greenhouse gas emissions, water and energy consumption are still environmental issues for the poultry and egg sector.

There are a number of options for poultry farmers to avail of in order to move to a more environmentally conscious business, including various initiatives by the Sustainable Energy Authority of Ireland (SEAI).

First launched in 2015, the DAFM Pig & Poultry Investment Scheme provides 40% grant funding aimed at improving energy efficiency at farm level. There are a number of eligible investments that can be taken up by poultry farmers and producers, these include energy efficiency measures such as water meters, boilers and solar panels, as well as upgrades to poultry housing such as roof and wall insulation, LED lighting and disease reduction facilities for existing poultry houses.

The need to respond to growing consumer expectations on welfare and sustainability, as well as keeping up with global demand are key to the continued development of the sector.

Highlights

- Poultry price has remained high in 2021, the average price coming in at over 1c/kg higher than that of 2020.
- Key markets for Irish poultry meat such as the United Kingdom and Netherlands saw an increase in the value of exports on 2020.

Challenges

- The United Kingdom is Ireland's largest poultry export destination, accounting for 76% of total exports. Post Brexit requirements have presented significant challenges for both importers and exporters of poultry meat to the United Kingdom, with increased regulations and complexities.
- 2021 exports were impacted by an Avian Influenza outbreak in December 2020, which disrupted access to several third country markets, one of which, South Africa, has yet to allow trading to recommence. South Africa was Ireland's second largest export destination in 2020 for poultry meat, accounting for €31.6 million in exports.
- The impact of further Avian Influenza outbreaks in late 2021, has yet to translate into export figures. On the positive side, in 2021, officials finalised agreements with a number of third countries, including regionalisation, to mitigate expected negative impacts. However, the 2021 outbreak occurred in the Cavan/Monaghan, area where the poultry industry is concentrated, and the full impact will only become apparent into 2022.
- The ongoing threat of Avian Influenza remains a risk to the poultry industry on the entire Island. The continued collaboration and sector's due diligence in regard to disease is to be recognised.

Outlook for Ireland

- The recovery of the Irish poultry sector is multifactorial, with the global trade environment remaining pivotal in determining the outlook for the poultry industry in Ireland. Irish production is anticipated to continue to grow on the back of a strong consumer demand at a domestic retail level.
- Spiralling input costs, with high and extremely volatile feed prices, will continue to affect the sector's profitability in 2022. The average broiler price is expected to continue to rise in 2022, this will partially compensate the exceptionally high input costs. However, input costs are expected to further increase due to the grain markets.
- Continued market access negotiations will play a key part in the sector's prospects for 2022.

Outlook for the EU

- The outlook for the global poultry industry shows some signs of recovery as economies have re-opened following the closures due to COVID-19. The food-service channel traditionally accounts for around one third of global poultry consumption.
- Overall, EU poultry production is expected to increase marginally by 0.5% in 2022, not yet recovering to pre-pandemic levels.
- After a drop of 1.3% in 2021, EU poultry consumption is expected to return to 2019 levels in 2022.
- The EU Short Term Outlook predicts a smoothening of trading relations with the United Kingdom which should allow EU exporters to return their trade towards pre-Brexit levels. This, together with increased exports to Switzerland and some other destinations, could compensate for the reduction of exports to traditional markets, some of which are applying Avian Influenza related countrywide bans. Overall, EU poultry exports are expected to increase by 2.6% in 2022

3.7 Cereals



Production of cereals in Ireland increased to

2.3 million

tonnes in 2021.



An additional

10,000 hectares

of cereals were planted in 2021.



There were

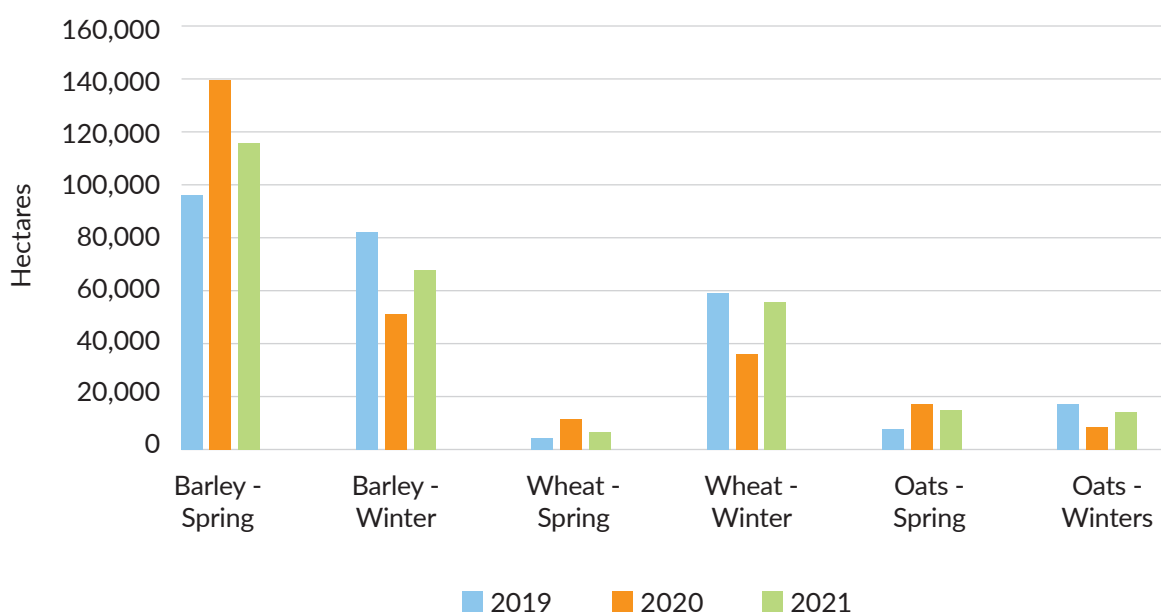
14,365 hectares

of maize grown in Ireland in 2021.

General Market Situation Ireland and EU 2020

Ireland: The cereal sector in Ireland is relatively small in comparison to our EU counterparts, accounting for only around 6% of agricultural area. Ireland's agricultural land base is overwhelmingly in grass/livestock production, and this is unique in European terms. Nonetheless, tillage is an important cog in the agri-food sector and is a key supplier of high-quality grain to the feed industry. Ireland's tillage sector produces approximately 30% of the feed materials required by the feed industry to supply the livestock sector. It is increasingly targeting production to the higher-value human food markets, particularly malting and distilling but also the breakfast cereal market. The sector is also an important producer of seed to service its own needs and has a small export market with the potential to increase. It also supplies straw to the livestock sector for feeding and primarily bedding.

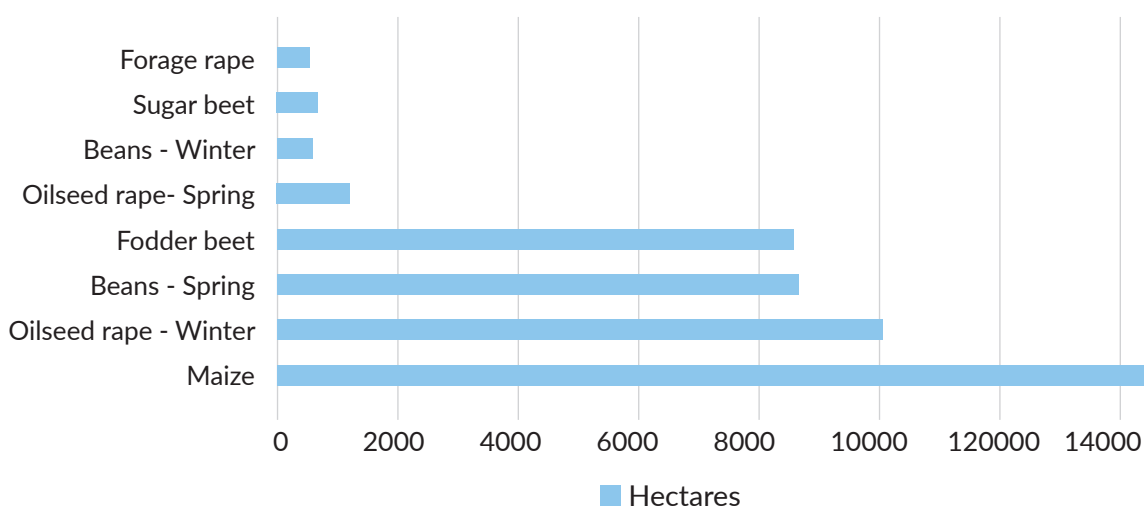
Overall cereal area in Ireland was 273,784 hectares in 2021. This compares with 264,628 hectares in 2020, which is an increase of 9,156 hectares and reflects the continuing stabilisation in area since 2019 following a decline between 2012 and 2018. Spring barley remains the main cereal crop at 116,077 hectares followed by winter barley and winter wheat. Sowings of winter crops in autumn of 2020 for harvest in 2021 increased significantly due to a return to normal winter sowing levels with good sowing conditions, which were not present in autumn 2019. As a result, spring cereal sowings decreased significantly to more normal levels. Cereal output increased significantly in 2021 compared to 2020 primarily due to increased areas of higher-yielding winter crops and lower areas of lower-yielding spring crops.

Figure 3.23 Area of Spring & Winter Wheat, Barley and Oats 2019 to 2021 in Hectares

Source: DAFM Basic Payment Scheme-Crop Areas

Areas of non-cereal crops in 2021 decreased slightly to 44,523 hectares from the 47,790 hectares sown in 2020. This decrease was primarily down to a decrease of 4,025 hectares in the area of protein crops, primarily spring beans. The decreased area was driven by a return to normal levels of spring beans which were high in 2020 due to the low sowings of winter crops the previous autumn, resulting in a shortage of seed for spring crops in general. Maize and beet area remained stagnant at 14,365 hectares and 9,231 hectares respectively, while oilseed rape area increased by 870 hectares to 11,218 hectares.

Straw production was strong in 2021 again due to a higher area of higher straw yielding winter crops. Despite good uptake of the newly introduced Straw Incorporation Measure (SIM) and little carryover of straw from 2020, straw availability was not affected with supplies meeting demand throughout the winter and into spring 2022. Straw prices in 2021 ranged between €15-€20 per bale and were slightly up on 2020 prices, which were between €14-€18 per bale when supplies were tighter.

Figure 3.24 Area of selected non-cereal crops 2021

Source: DAFM Basic Payment Scheme-Crop Areas

The value of cereals reduced in 2020 by 29%, while volume dropped by 46%.

Table 3.12 Output Value (€m) and Volume of Cereals ('000 tonnes) 2020/2021

	2020		2021	
	Value €m	Volume	Value €m	Volume
Barley	215.93	1,264	282.88	1,360
Wheat	45.56	245	108.40	524
Oats	28.06	171	42.91	224
Total Cereals	289.54	1,681	434.19	2,108

Source: CSO

EU (27)

Ireland is a small player in cereal production and accounts for approximately 1% of total EU production. The EU cereals area in the 2021/22 marketing year is forecast at 51.96 million hectares, down 0.6% on the previous year. This decrease is mainly due to a reduction in the area of soft wheat sown. Production of cereals in the marketing year 2021/22 is forecast at 293 million tonnes, up 4.3% on the previous year.

For the most part weather conditions in 2021 were favourable for the cereals sector in many EU countries. As a result, some of the main producing countries are expected to see output up considerably year-on-year for the 2021/22 production year, such as France (+17.5%) and Romania (+39.6%). However, some EU countries did experience drought and excessive cold & wet conditions at varying times, resulting in a decrease in production in Germany (-2.5%), Poland (-3%), Spain (-6.4%), Hungary (-10.3%) and Italy (-3%).



Table 3.13 Estimates for the EU Main Crops for the 2021/22 Marketing Year

Crop	Area (million hectares)	Production (million tonnes)	Production 2021/2022 V 2020/2021
Soft Wheat	21.7	131.0	10%
Durum Wheat	2.2	8.0	5%
Barley	10.3	52.6	-4%
Rye	2.2	7.8	-11%
Maize	9.2	72.5	7%
Oats	2.6	7.6	-11%

Source: EU – DG AGRI

In relation to cereals trade, the EU remains a net cereal exporter. Figures for January 2022 show that for the previous twelve months, imports of cereals were 10.3 million tonnes, while exports were 25.6 million tonnes.

Prices:

Grain prices have displayed significant price volatility in recent years and 2021 continued that trend. 2021 grain prices increased significantly when compared to 2020 with green (20% moisture content) feed barley trading at approximately €210/tonne, up from €160/tonne in 2020 (inclusive of input trading bonuses). Malting barley prices also showed a significant increase with the largest purchaser in the Irish market paying €238/tonne. This was an increase of €78/tonne since 2020. The gap between feed barley and malting barley in 2020 narrowed to approximately €20/tonne on average but has almost been restored to 2019 levels at approximately €28/tonne in 2021.

Feed wheat traded at €220/tonne up from €181/tonne in 2020 (inclusive of input trading bonuses). Feed oats made €195/tonne up from €150/tonne in 2020 (inclusive of input trading bonuses). The price volatility was primarily due to swings in supply on international markets that had been primarily linked to weather conditions during the growing season. Beans traded at approximately €255 per tonne, again inclusive of input trading bonuses.

In general, 2021 was an excellent year for tillage farmers with high yields, good prices, favourable weather conditions at sowing and at harvest, and most input costs incurred in growing the 2021 harvested crop purchased at relatively low prices.

Financial Assistance

A number of measures in support of the tillage sector are available. These include:

- The Straw Incorporation Measure (SIM) is an agri-environmental initiative that was introduced to encourage tillage farmers to increase soil organic matter levels and consequently increase carbon sequestration levels in tillage soils. This is achieved by chopping and incorporating the straw from cereal crops and oilseed rape back into the soil, thereby reducing GHG emissions in a sector that already has by far the lowest emission profile of all agricultural sectors. The incorporation of straw will also have positive impact on soil biology, soil workability and water retention capability. A budget of €10 million was set aside for this measure and approximately €8.2 million was drawn down in 2021. Despite, concerns expressed by some, supplies of straw mainly for bedding to the livestock sector were not affected.
- The continuation of the coupled EU Protein Aid Scheme for the remainder of the current CAP. This coupled payment is worth approximately €3 million per annum to tillage farmers.

- The Tillage Capital Investment Scheme (TCIS) under TAMS II covers specific areas of investment, including minimum disturbance tillage equipment, sprayers, fertiliser spreaders and increasing grain storage and drying capacity. There has been a significant level of interest in investments under this measure. To date over €21.1 million has been paid to 1,375 farmers under the TCIS. In addition, over €7.5 million has been paid to 258 farmers for tillage investments under the Young Farmer's Capital Investment Scheme as part of TAMS II, bringing the total expenditure to end of 2021 to €28.6 million.
- In supporting the sector, DAFM also runs a number of important initiatives including a Crop Variety Evaluation Programme and Seed Certification Schemes.
- In relation to CAP 2023-2027, analysis has shown that the tillage sector may be affected somewhat more than other agricultural sectors due to convergence. Tillage farms, by their nature, are large in scale and draw down larger basic payments. However, Ireland's draft CAP Strategic Plan (CSP) which has been submitted and formally adopted by the EU Commission, includes some measures such as a continuation of the Straw Incorporation Measure (SIM) and enhancement of the Protein Aid Scheme. While not eliminating losses it should lessen the financial impact to the sector. The draft CSP includes significant funding put aside for organic production which includes tillage.
- Following the Russian invasion of Ukraine, the Tillage Incentive Scheme (TIS) was launched as a support measure for farmers to encourage them to sow additional eligible tillage crops in 2022. The additional crops are to utilise land that was in grassland and other non-tillage crops in 2021. The measure help to reduce the dependency on imported animal feed materials. €12 million was made available for this scheme in 2022.

Production levels 2021

Cereal production in 2021 stood at 2.3 million tonnes and matches the 5-year average production. According to the [Teagasc Harvest Report 2021](#), production in 2021 saw an increase of some 0.4 million tonnes from 2020. The area sown to cereals has increased for the third consecutive year. The stabilisation of cereal areas has firmly overturned the year-on-year decreases in cereal areas from 2012 until 2018. The main changes in individual crops were a decrease in spring barley area of 25,131 hectares to 116,077 hectares, an increase in winter wheat area of 20,732 hectares to 56,064 hectares and an increase in winter barley area of 15,976 hectares to 67,307 hectares.

The primary contributing factors for the increase in production in 2021 when compared with 2020 were:

- (1) Increased areas of higher-yielding winter crops,
- (2) Higher overall cereal area of approximately 10,000 hectares since 2020, and
- (3) An increase in yields of both winter and spring crops compared to 2020.

Straw yields were excellent due to larger areas of higher straw yielding winter crops and the Straw Incorporation Measure (SIM) did not result in straw scarcity with ample supplies to meet demand, despite concerns raised in some quarters.

Winter sowings in autumn 2021 for harvest in 2022 are estimated to have remained at normal levels, with a slight increase of 5% mainly in oilseed rape and hybrid rye, with good sowing conditions evident.

Sustainability – economic and environmental

Family Farm Income (FFI) on tillage farms was a record €846/hectare in 2021, up over 60% on 2020 when it was €518/hectare. Similar to the trend in recent years, FFI on tillage farms is second but significantly behind FFI on dairy farms, which was €1,526/hectare in 2021. However, when expressed as an income per labour unit basis, tillage improved significantly but was still behind dairying (€65,126 vs €72,990). 2021 was the third straight year an increase in area of cereals was recorded since the low of 2018. Ireland only accounts for 1% of EU production and is competing with grain from lower cost production systems, a price taker

dependent on the commodity markets. However, to counteract competing on the commodity markets, diversification into producing for higher-value markets has significantly increased and is aiding the viability of the sector. These outlets include the food and beverage sector, with barley for brewing and distilling and food grade wheat and oats, along with an important seed production sector.

From an environmental sustainability point of view, the tillage sector is a low emission farming system with 1.18t CO₂eq of Agricultural GHG per hectare when compared to livestock farms at 3.3-8.7t CO₂eq.

Ireland's draft CAP Strategic Plan proposes a continuation and enhancement of the Protein Aid Scheme with the aim of increasing native protein production. This would reduce but not eliminate the dependence on imported sources of protein, further enhancing Ireland's sustainability credentials. There are added advantages of leguminous protein crops as they do not require any form of nitrogenous fertilisers because they fix nitrogen from the atmosphere to meet their own requirements. The crop also leaves residual nitrogen in the soil, reducing the amount of chemical Nitrogen required in the subsequent crop. The Scheme will therefore aid the sector in meeting ambitious targets for reduction in chemical nitrogenous fertiliser usage by 2030, also mitigating the effects of unprecedented high fertiliser prices in 2022. Legumes also have biodiversity benefits for pollinators because they provide a food source at a time when few other crops are flowering.

The Farm to Fork proposals as part of the Green Deal under the next CAP have set ambitious targets of a 20% reduction in the use of nitrogenous fertilisers, a 50% reduction in nutrient losses and a 50% reduction in the use and risk of plant protection products by 2030. There are also objectives in the next CAP for enhanced measures for improving soil, air and water quality and biodiversity while reducing emissions contributing to climate change. While the carbon footprint of the tillage sector is the lowest of all agricultural sectors by some margin, there are still opportunities to reduce this footprint even further and contribute to improving its sustainability credentials even further.



Highlights

Production of cereals in the sector increased to 2.3 million tonnes, which was an increase of 0.4 million tonnes since 2020. This was brought about by another increase in the cereal area for the third year in a row of approximately 10,000 hectares when compared to 2020. Yields for all cereal crops increased which contributed to increased output. Also, a return to more favourable weather conditions aided yields and sowing conditions of winter crops sown in late 2020 for harvest in 2021. Autumn 2021 cereal sowings were also at normal levels with favourable weather conditions prevailing.

Prices increases on 2020 were another positive for the sector and despite input price increases later in the year, the majority of inputs for 2021 were bought in advance. This resulted in a record average Family Farm Income of €58,995 for tillage farmers in 2021.

Another positive in the sector in 2021 was a return to higher demand from the drinks sector for malting and distilling which were matched by prices increases. The demand for grain to service the high-value food sector continues and Irish producers are striving to meet increased demand for organic oats and substituting imports.

While Brexit is generally seen as having negative impacts on the sector, it does provide some opportunities in the form of increased seed production of crops, such as potatoes, to supply the home and foreign market. It may also provide some opportunities for import substitution of cereal-based foods with home-produced cereals.

Challenges

Teagasc have predicted that there are potentially significant negative effects on tillage income as a result of Brexit. There will be challenges in trading crops with the implementation of Brexit, including the importation of milling wheat from the United Kingdom for baking. There are varying effects for other crops and for the tillage sector in areas such as seed potatoes and the long established business of importing second-hand machinery from Britain.

Towards the end of 2021, input prices, particularly fuel and fertiliser, increased significantly and the war in Ukraine has amplified the effects of these price increases. Fertiliser has approximately tripled in price in the space of a year and while output prices for grain have also increased significantly, it is difficult for farmers to plan ahead for their businesses with such a degree of uncertainty in the market.

The outcome of the next CAP 2023-2027 will affect tillage negatively and various analyses has shown that convergence and capping will disproportionately affect tillage farmers. The European Green Deal and particularly the targets set out in Farm to Fork will be challenging to the sector and will result in significant shifts in systems of production if these targets are to be met. The continuous loss of Plant Protection Products (PPP's) and minimal number of new PPP's coming onto the market to deal with plant pests and diseases poses a significant challenge for the sector also in the years ahead.

Outlook for Ireland

The immediate concern for Irish tillage farmers is the effects of increasing commodity prices, particularly inputs such as fuel and fertilisers on their businesses. The war in the Ukraine has further exacerbated the input price increases and, while commodity grain prices have also significantly increased, the amount of uncertainty for tillage producers in assessing the profitability of crops they plan to sow makes forward planning difficult.

As part of DAFM's response to the Russian invasion of Ukraine and wider global price volatility, the Tillage Intervention Package was announced on 22nd March 2022. The package is framed around three pillars and will cost in the region of €12.2 million.

The first pillar of the package is the Tillage Incentive Scheme. The purpose of this scheme is to support farmers to grow more tillage crops in 2022 and to reduce Ireland's dependency on imported feed material. Eligible crops include the cereal such as barley, wheat, oats, rye, oilseed rape, maize, and beet. A budget of €10 million is aimed at encouraging an additional 25,000 hectares of tillage crops, which would be a significant increase in tillage area. This level of increase will not achieve self-sufficiency in terms of animal feed due to the high protein requirements of our pig and poultry sector, but the extra tonnage of grain will reduce our reliance on imports to some degree.

An additional allocation (second pillar) of €1.2 million has been added to the €3 million available under the EU funded Protein Aid Scheme to guarantee a payment of €300 per hectare for beans, peas and lupins and €150 per hectare for combi crops (cereals/protein mix).

The Multi Species Sward Scheme, including support for the Red Clover, will promote environmentally sustainable methods of farming, greatly reducing the requirement for nitrogen fertiliser while maintaining forage yields. Both Multi Species Swards and Red Clover silage can save farmers money while maintaining production levels and reducing the farm carbon footprint. The measure will be delivered by the Department in co-operation with participating Agri-retailers and Co-operatives throughout the country. It will support the establishment of approximately 12,000 hectares of Multi Species Swards and approximately 4,000 hectares of the Red Clover silage mix.

There has been a sustained growth in demand for Irish malt which was driven by increased demand for whiskey and distilling grade malt. This demand was supported by the investment in construction works to expand the production capacity at the country's largest maltings in 2020. While the distilling malt market was not generally affected by the COVID-19 pandemic, beer sales were severely reduced and hence demand for malting barley decreased from maltsters from 2020 and continued into 2021. It is believed that there will be a significant increase in demand from the beer sector in 2022 following continued removal of restrictions on bars and restaurants.

A small number of rations of Irish-only ingredients have been produced for animal feed. There are issues with having sufficient protein from native sources in some high protein rations and Irish production will not be able to negate the need for imported protein or indeed of the quality required for some rations in order to meet native demand. However, for these rations to be successful they must deliver a premium price from the marketplace for tillage growers. This may be difficult to achieve from the lower profitability livestock sectors and in the absence of premiums for meat/milk produced after being fed these rations.

There is an ongoing strong demand for organic oats and Irish organic tillage growers are filling the gap with imports until this point. There are other opportunities for expansion in the value-added food products.

Outlook for the EU

Similar to the Irish situation, it is challenging to predict the outlook for the EU because of the continuing COVID-19 pandemic, the invasion of Ukraine and uncertainty around any potential economic fall out in the short to medium term. The Russian invasion of Ukraine on 24th February 2022 has sparked further energy and fertiliser price rises, on top of unprecedented price rises in 2021. Given the current situation in Ukraine and other contributory factors, it is reasonable to expect that cereal supplies will be tight, and prices will remain high and continue to increase throughout 2022.

The cereals area forecast for the 2022/23 marketing year is 52.9 million hectares, up 0.9m hectares (+1.8%) from the 2021/22 marketing year. Production for the 2022/23 marketing year is forecast at 298 million tonnes, up five million tonnes (+1.5%) on the 2021/22 marketing year. This will be mainly driven by an expected recovery in soft wheat, barley and maize production.

Table 3.14 Forecasts for the EU Main Crops for the 2022/2023 Marketing Year

Crop	Area (million hectares)	Production (million tonnes)	Production 2022/2023 Vs 2021/2022
Soft Wheat	21.9	131.3	1%
Durum Wheat	2.1	7.5	-2.7%
Barley	10.8	53.6	3.2
Rye	2.0	8.1	3.9
Maize	9.4	74	2.2
Oats	2.5	7.5	0.1

Source: EU Commission and International Grains Council

On the global front, latest forecasts for the 2021/22 season show total grains production at an all-time high of 2,284 million tonnes (+2.9%). Global total grains consumption is expected to grow to a sixth peak in a row at 2,278 million tonnes (+1.9%). However, this figure could be lowered following supply chain disruptions from the Black Sea and high prices. Broken down, the main usages will be 748 million tonnes for food, 1,029 million tonnes for feed and 371 million for industrial use. Ending stocks were raised by 10 million tonnes to 607 million tonnes, mostly reflecting a build-up of stocks in Ukraine.

3.8 Horticulture and Potatoes



In 2021 exports of mushrooms were worth **€162 million**, an increase of 37% in value.



In 2021, payments of over **€7 million** were paid out to Producer Organisations (PO) in the fruit and vegetable sector.



In 2021 the potato sector saw a strong increase in yields, **rising 24%** compared to the poor harvest recorded in 2020.

General Market Situation Ireland 2021

For the second year in a row, late frosts in spring affected the apple and potato crops and this translated into poor yields for apple growers and caused localised issues with potatoes. Overall, the potato sector was back to a better yield and price after a poor 2020. Honey production was also affected by the inclement weather, with beekeepers reporting only marginal yield increases from a poor return in 2020. Production in the mushroom sector was down slightly but this was compensated by modest price increases, mainly resulting from currency variation.

The foodservice market was still affected by COVID-19 restrictions for large parts of 2021, leading to a difficult year for growers supplying this market, but overall, the demand for fresh produce from retailers was still strong. Growers reported that they had few issues selling to the market and no waste.

Amenity horticulture had another good year. The market was exceptionally strong early in the season but softened in July/August as COVID-19 restrictions on hospitality were lifted.

The rising cost of inputs were felt by growers across the industry during the last quarter of the year. Some sectors managed to negotiate price increases, but these were quickly eroded by rising energy, fertiliser, packaging, labour, and growing media/casing costs. Teagasc estimated that total input costs have increased by between 10.5% and 17.7% in 2021, depending on enterprise type. Growers who required energy for late season production in glasshouses were particularly affected. Issues surrounding the supply of peat for use in the industry was also an important concern raised by growers.

Table 3.15 Horticulture Output Estimates Value at Farm-gate, 2020 - 2021

Summary	2020 €000	2021 €000	% Change 2021-2020
Edible Protected Crops	76,676	80,038	4.4%
Field Crops	79,611	84,372	6.0%
Outdoor Soft Fruit	748	755	0.9%
Top Fruit	8,210	7,037	-14.3%
Amenity	91,285	97,633	7.0%
Potatoes	82,424	116,920	41.9%
Mushrooms	123,838	127,715	3.1%
Honey	2,144	2,223	3.7%
Sprouted Seeds	4,500	4,500	0.0%
Total	469,436	521,193	11.1%

Source: DAFM

Prices 2021

Modest increases in prices were achieved across a number of subsectors, however these gains did not increase profit margins due to rising input costs. The price of potatoes recovered significantly from the decline observed in 2020.

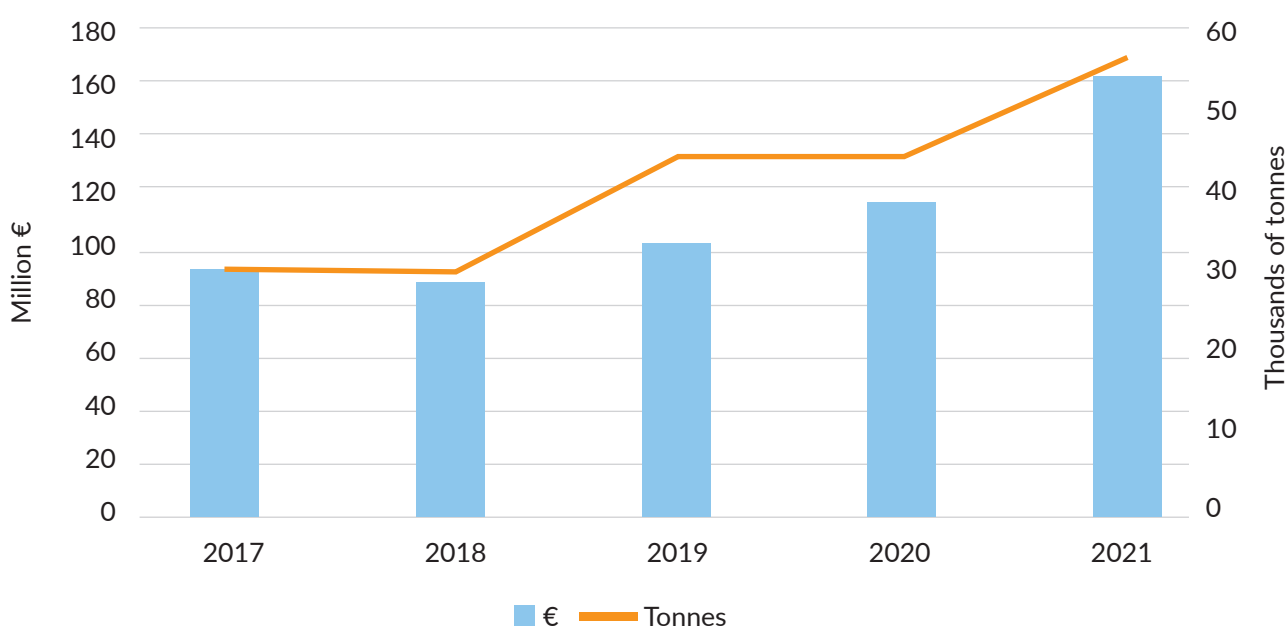
Grower Investments were supported with over €7 million paid out through the EU Producer Organisation Scheme and nearly €8 million paid out through the Scheme of Investment Aid for the Development of the Commercial Horticulture Sector.

Production 2021

Mushrooms

Production was down slightly compared to 2020 but output value increased slightly due to the strengthening of sterling over the course of the year. Rising input costs could have a bearing on production in 2022 as profit margins are already very tight.

Figure 3.25 Value and Volume of Mushrooms exported 2017- 2021



Source: CSO

Protected Crop

Both prices and production were up slightly in 2021. Demand was strong from the market but rising input costs, especially in relation to the energy required for early and late season production in glasshouses, could have a damaging effect on production in 2022. Growers may even scale back production to limit losses.

Field Vegetables

Yield in 2021 was slightly up from 2020 due to favourable growing and harvest conditions. Prices, in the main, remain unchanged with growers reporting difficulties in negotiating a price increase despite the rise of their input costs.

Soft Fruit and Top Fruit

In 2021, the situation with soft fruit was similar to 2020, with small price gains realised for raspberries. Late frosts in May significantly affected the yield of both dessert and culinary apples but this was compensated to some extent by the rise in prices achieved for the produce.

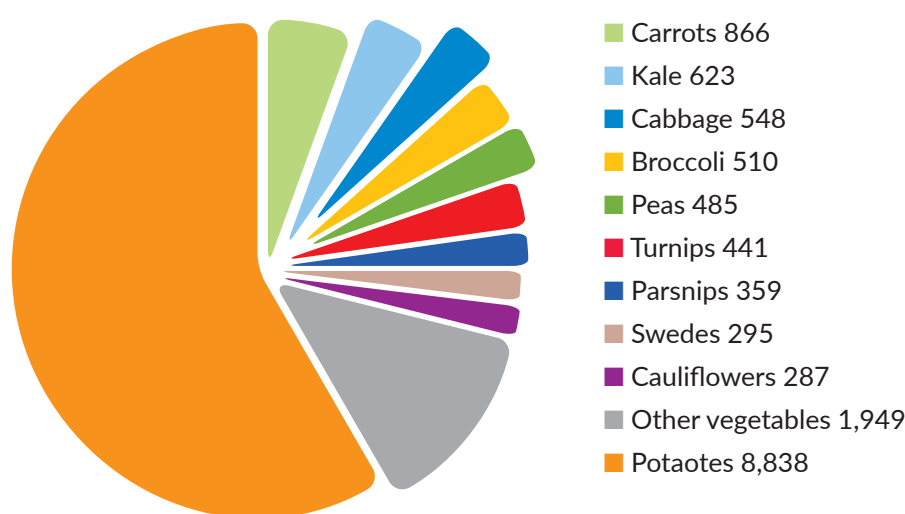
Nursery Stock

The nursery sector overall had another strong year in 2021. Continuing restrictions due to COVID-19 resulted in demand for products across hardy nursery crops, bedding plants and hedging & trees. The bulb sector benefitted from increased demand in the United Kingdom. Price increases were achieved in several areas.

Potato sector

Acreage under production increased slightly, with yields rising by 24% compared with the poor harvest recorded in 2020. Late frosts lead to localised issues and uneven emergence was observed in many crops. Rooster remains the most common potato grown in Ireland, representing 59% of the total potato area.

Figure 3.26 Area of Vegetables Planted in Hectares 2021



Source: DAFM Basic Payment Scheme - Crop Areas

Sustainability

Investments in climate action measures were significant again this year, especially due to the rising input costs associated with energy. Conversion to more efficient lighting systems; increasing insulation on mushroom tunnels; commissioning of photovoltaic systems; and the purchase of equipment to facilitate precision agriculture, were just some of the projects undertaken at farm level. Producers have also conducted energy audits on site with a view to future-proofing their operations by highlighting areas where targeted investments can be made in order to reduce their energy inputs.

The mushroom sector continued to invest in research and development of alternative growing media to identify solutions that are affordable, sustainable and meet quality and environmental requirements.

The development of carbon calculators for use specifically in the horticultural industry is underway. These would allow growers and policy makers to understand where improvements can be made to make the sector more sustainable and boost its environmental credentials. Growers see this as an important selling point for produce with some pursuing carbon neutral production systems with a view to offering this as a unique selling point to customers.

Brexit effects on the sector 2021

Following the end of the Brexit transition period on 1st January 2021, all plants, plant products and other objects regulated under the existing EU Plant Health Regulation and imported into Ireland/EU from Great Britain are now subject to SPS import controls. Notwithstanding the

significant challenges posed, the trade has adapted to this new trading environment and import regime.

Exports to Great Britain of regulated plants and plant products included in the United Kingdom's High Priority list require a phytosanitary certificate and pre-notification since 1st January 2021. The phased introduction by the United Kingdom of the requirement for a phytosanitary certificate for all other regulated plants and plant products as from 1st April 2021 was initially deferred to 1st January 2022. This requirement was subsequently deferred until 1st July 2022. In April 2022 the United Kingdom indicated that they would publish a Target Operating Model in autumn 2022. This Target Operating Model will set out the new regime of border import controls and will target the end of 2023 as the revised introduction date for the controls. Controls that have already been introduced will remain in place.

Since 1st January 2021, the import of seed potatoes from Great Britain into Ireland/EU is prohibited as a direct result of EU plant health law in force. A sufficient quantity of seed had been imported from Great Britain prior to the end of the Brexit transition period to plant the 2021 crop.

COVID-19 effects on the sector in 2021

COVID-19 impacted the food service industry in Ireland for large periods of the year. Growers supplying produce to the food service industry were affected due to the closed or restricted opening hours of their market. However, this had a positive impact on the amenity horticulture market as many people continued the trend of investing in their gardens while restrictions were in place.

Sourcing adequate labour during the pandemic continued to be very challenging as international travel was restricted. High levels of COVID-19 in the population also had an effect on labour at farm-level as employees had to take time off to isolate in line with health guidelines



Case Study

The EU Producer Organisation Scheme



The EU Producer Organisation Scheme continues to be a vital support for the fruit and vegetable sector. By becoming part of a larger supply base, it provides an important mechanism for producers to improve their position in the supply chain through collaboration and enhanced bargaining power.

In 2021, payments of over €7m were paid out to Producer Organisations (PO) in the fruit and vegetable sector. These payments provided support to help increase competitiveness, improve market development, and support innovation and environmental sustainability. Actions implemented by POs that supported competitiveness included investments in new technology that assist improvement in productivity and labour-efficiency and the provision of best technical advice from industry-leading consultants. Also included are investment in enterprise resource planning software that allows organisations to forecast production and ensure that the market outlets can be serviced with the quantities and qualities required.

Market development actions included specialist marketing staff to market produce on behalf of the PO, cost of quality assurance schemes, as well as on farm investments that help improve product quality.

On the innovation and environmental sustainability, support was provided to actions where POs collaborated with specialist research institutions to undertake research in areas such as finding peat alternatives or reduction in the use of peat as growing medium. POs engaged in further environmental actions that supported climate action such as investment in photovoltaics, precision agriculture systems and the modernisation of lighting and cold chain storage with a view to reducing energy input requirements.

Highlights

- The potato sector saw a strong increase in yields, rising 24% compared to the poor harvest recorded in 2020. Coupled with a slight increase in acreage, potato production increased substantially in 2021.
- The momentum in the amenity sector continued throughout 2021, with strong demand and higher prices resulting from people spending more time at home during COVID-19 public health restrictions.
- Demand from the foodservice sector remained relatively low in 2021 due to public health restrictions, but this was replaced by strong demand in the retail sector.
- While production in the mushroom sector was down slightly, this was compensated by modest price increases, mainly as a result of currency fluctuations.

Challenges

- Input costs have increased for labour, energy, fertiliser, packaging, casing/growing media and plant protection products. Based on information collated by Teagasc, input cost increases will in many cases exceed grower margins, and growers will be unable to absorb increased costs without an increase in what they are paid for their produce. Growers may be forced to leave the market, with a number already choosing to reduce their operations to limit their exposure.
- The sourcing of labour is a perennial challenge for growers, with the potential to become even more of an issue as the labour market tightens.

3.9 Intermediate Consumption



Over
50,000 tonnes
of protected urea were sold in
2020/2021 compared to just
7,100 tonnes in 2017/2018.



Ground limestone usage was
up 50%
in 2021 compared to 2020
at 1,333,100 tonnes.



Compound feed
production in
Ireland for 2021 was
**5.5 million
tonnes.**

General Situation Ireland 2021

Intermediate consumption is the value of all goods and services used as inputs in the production process. It excludes the cost of acquiring new or existing fixed assets, e.g. tractors, agricultural machinery etc. They are recorded as gross fixed capital formation (GFCF). Intermediate consumption includes expenditure on contract work and forage plants, even if consumed within the same agricultural holding. Detailed data on intermediate consumption is included in the CSO release “Output, Input and Income in Agriculture”.

Intermediate consumption expenditure in agriculture was the same in 2019 and 2020 but in 2021 it increased by 9.4% to €6.23 billion, up €537 million on 2020. The drivers of this increase were feeding stuffs, which were up €273 million or 18%, energy and lubricants up €79 million or 21% and fertilisers up €73 million or 14%. It should be noted that while the price of fertiliser increased by close to 90% during 2021, a considerable portion of the fertiliser was bought early in the year before prices increased significantly.

Table 3.16 Expenditure on Intermediate Consumption in Agriculture, 2019 - 2021

	2019	2020	2021	2021 Vs 2020	
	€ Million	€ Million	€ Million	€ Million	Percentage
Feeding stuffs	€1,489.9	€1,525.2	€1,798.4	€273.2	17.9%
Fertilisers	€578.3	€532.3	€605.5	€73.2	13.7%
Energy and lubricants	€429.1	€377.0	€455.7	€78.7	20.9%
Forage plants	€1,126.3	€1,203.6	€1,217.2	€13.5	1.1%
Contract work	€444.0	€430.8	€464.0	€33.2	7.7%
Other expenses	€1,624.1	€1,625.5	€1,690.0	€64.6	4.0%
Total Intermediate Consumption	€5,691.8	€5,694.4	€6,230.8	€536.4	9.4%

Source: CSO

Animal Feed

The industrial compound feed production in Ireland for 2021 was 5.5 million tonnes, which is 6.4% higher than in 2020. There was a 3% decrease in feed imports compared to 2020 levels.

Feed prices have risen consistently since the beginning of 2020 and the cost of feed ingredients in Ireland is €60 – €100 per tonne higher than last year. Following the Russian invasion of Ukraine in February 2022, the price of animal feed has continued to increase. Globally feed supply and demand are roughly in balance, resulting in any event impacting supply and affecting prices. Between Russia and Ukraine, they account for around 30% of the world's wheat and maize exports and the disruption caused by the conflict have reduced the supply of grains on the world market pushing prices higher. On average over the past three years Ireland has imported about 10% of its animal feed from Ukraine, Russia and Belarus.

Table 3.17 Compound Feedingstuffs Production 2019-2021 (tonnes)

Year	2019	2020	2021
Cattle	3,115,864	3,120,186	3,350,269
Pigs	705,701	768,675	781,889
Poultry	630,838	651,753	669,046
Sheep	187,160	202,093	236,950
Other	459,831	471,218	483,557
Total	5,099,394	5,213,925	5,521,711

Source: DAFM

Ireland imports over five million tonnes of animal feed each year with close to one million tonnes originating in the United Kingdom. About 750,00 tonnes comes from United States with over 700,000 coming from Argentina. Other major sources of animal feed are Canada 600,000 tonnes and France 300,000 tonnes, with around 200,000 tonnes coming from each of Ukraine, Netherlands and Russia.

Ireland also exports about one million tonnes of animal feed, with over 80% going to the United Kingdom but also to more than 60 countries worldwide. There has been a gradual upward trend in both consumption and prices for animal feed.

Table 3.18 Agricultural Input Price Indices (Base 2015=100), 2019 - 2021

Agricultural Input Price Indices	2019	2020	2021	2021 Vs 2020
Energy	106.5	98.0	112.9	15.2%
Lubricants	105.8	104.9	109.2	4.0%
Fertilisers	90.9	81.3	101.8	25.1%
Plant protection products	103.8	104.1	104.9	0.8%
Veterinary expenses	107.5	109.0	110.3	1.2%
Feeding stuffs	110.4	108.3	119.5	10.3%
Maintenance of materials and buildings	104.7	105.7	106.3	0.6%
Other goods and services	104.1	105.1	107.3	2.1%
Agricultural input price index	105.0	102.2	111.6	9.2%

Source: CSO



There has been an upward trend in fertiliser prices since the start of 2021 and this trend has continued in 2022. While there are a number of factors contributing to these price increases, the major driving factors are significant increase in price of natural gas, the invasion of Ukraine by Russia and increased global demand. In 2021, Ireland imported over 20% of its chemical fertiliser from Russia. It should be noted that the price of fertiliser varies considerably over the years and according to the CSO index it was almost 19% cheaper in 2020 than it was in 2015. All other agriculture inputs had increased since 2015 by between 2.2% and 9% apart from energy.

The main upward movement in the agriculture input price index in 2021 were fertilisers which increased in price by 25.1%, energy up by 15.2% and feeding stuffs up by 10.3%. This upward movement in costs increased in 2022 with input price increases in fertiliser up 133.8%, energy prices up by 51.3% and feed prices up 34.2% in the 12 month period up to July 2022. These three inputs account for over 45% of total input costs in agriculture.

EU Animal Feed

The industrial compound feed production for farmed animals in the EU 27 for 2021 is estimated at 149.9 million tonnes, a decrease of 1.2% on 2020 due to issues such as COVID-19, African swine fever (ASF) and high raw material prices. In 2021, high energy prices and logistics disruptions resulted in feed price increases. Feed prices have risen consistently since the beginning of 2020. The world consumed more grain in the last year than it produced, and world grain demand is growing at a rate of 1.8% annually. The factors influencing price increases are global demand, competition from green energy production, freight costs and availability and increased energy costs. The situation in Ukraine has added to these factors pushing prices upwards.

Fertiliser

Total fertiliser sales in 2021 were 1,685,412 tonnes, which was up 8.6% from the previous year but down 1.7% compared to 2017/2018. Overall product sales are presented in table below, this shows the sales volumes for the products sold. These are broken down into straight fertilisers, i.e. products which contain a single essential plant nutrient (NPK), and compound products i.e. products which contain two or more essential plant nutrients (NPK).

Table 3.19 Fertiliser Product Sales - 2017/2018 to 2020/2021

Fertiliser Sales (Tonnes)	2017/ 2018 Oct – Sept	2018/ 2019 Oct – Sept	2019/ 2020 Oct – Sept	2020/ 2021 Oct – Sept	2020/2021 Vs 2019/2020	2020/2021 Vs 2017/2018
Total Fertiliser	1,714,729	1,547,082	1,552,376	1,685,412	8.6%	-1.7%
Compound Fertiliser	1,015,447	935,931	965,274	992,118	2.8%	-2.3%
Straight Fertiliser	699,282	611,151	626,944	693,294	10.6%	-0.9%
CAN	549,459	453,715	456,498	523,630	14.7%	-4.7%
Urea	113,920	98,629	95,899	88,708	-7.5%	-22.1%
Protected Urea	7,120	26,799	49,284	50,442	2.3%	608.5%
Nutrient Nitrogen	408,495	367,364	379,519	399,164	5.2%	-2.3%
Nutrient Phosphorous	46,387	42,672	44,259	46,068	4.1%	-0.7%
Nutrient Potassium	120,267	114,288	118,016	122,922	4.2%	2.2%

Source: DAFM

Protected urea is normal urea coated with a urease inhibitor to reduce ammonia emissions and this assists to reduce greenhouse gas emissions on grassland farms and help achieve ammonia reduction targets. Over 50,000 tonnes of protected urea were sold in 2020/2021 compared to just 7,100 tonnes in 2017/2018.

With regard to fertiliser nutrients, sales of Nitrogen (1,635,073 tonnes), Phosphorous (978,892 tonnes) and Potassium (999,132 tonnes) in 2021 were up on 2020's figures by 5.33%, 3.31%, and 2.95% respectively.

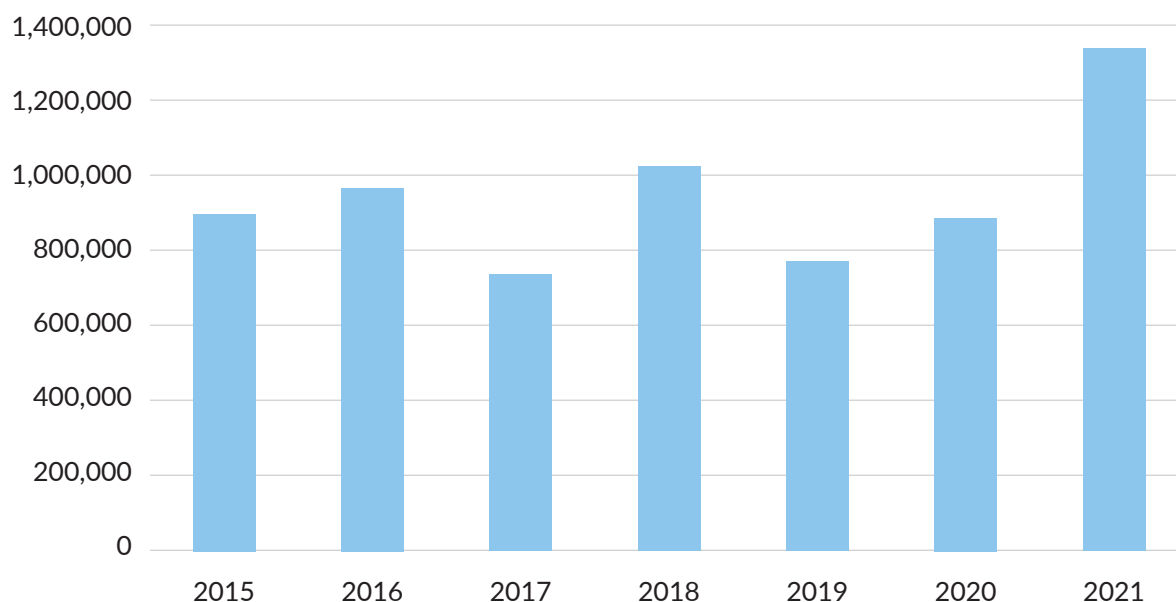
Table 3.20 Fertiliser Nutrients Sales - 2017/2018 to 2020/2021

Year	2017/18	2018/19	2019/20	2020/21	2020/2021 Vs 2019/2020	2020/2021 Vs 2017/2018
Nitrogen	1,670,799	1,500,701	1,552,376	1,635,073	5.3%	-2.1%
Phosphorous	1,005,689	921,818	947,543	978,892	3.3%	-2.7%
Potassium	1,019,805	941,501	970,468	999,132	3.0%	-2.0%
TOTAL	1,714,729	1,547,082	1,592,218	1,685,412	5.9%	-1.7%

Source: DAFM

The sale of fertiliser and lime in Ireland is regulated by both EU and Irish legislation. This legislation provides for labelling and minimum nutrient requirements. As part of the DAFM control programme for fertiliser and lime in 2021, a total of 171 fertiliser samples and 101 lime samples were taken at manufacturer's premises. Five hundred and thirty four individual analyses were carried out for fertilisers and an out-of-tolerance was recorded for 4.68% of these. Three hundred and eight individual lime analyses carried out for lime and 8.44% of these were out of tolerance. Fertiliser manufacturers were informed of all out of tolerance results.

Figure 3.27 Ground Limestone Sales 2015-2021 (tonnes)



Source: DAFM

Ground limestone usage was up 50% in 2021 compared to 1,333,100 tonnes in 2020. There was a total of 49 active quarries in 2020.



Sustainability

DAFM is working closely with the relevant industries to actively progress the actions from all-of-Government Climate Action Plan relating to fertilisers and animal nutrition.

Specialised input has been provided into the broader DAFM policy areas of sustainability including CAP, environment policy and mechanisms to achieve 2030 climate change targets.

The implementation of the new Fertiliser Product Regulation (Regulation (EU) No. 2019/1009) is progressing. The main impact of the Regulation from a climate perspective is that EU fertiliser regulations will now include products which are not currently covered by harmonisation rules, such as organic and organo-mineral fertilisers, soil improvers, inhibitors, plant biostimulants, growing media or blends. It harmonises EU rules for products derived from recycled or organic materials and by-products and provides rules to recover nutrients from such materials for fertilising purposes. This, together with clear rules set out on quality, safety and efficacy, will help to contribute to the more sustainable use of fertilisers into the future.

DAFM is engaging with the feed industry body - Irish Grain and Feed Association - to examine how to reduce crude protein in livestock rations including determining the scope for further reduction in dairy cow and pig diets, and the actions required to achieve proposed crude protein reductions where this is possible. DAFM carried out a comprehensive industry survey in early 2020 establishing current protein levels in all livestock rations and trends in protein levels overtime and will repeat this survey in 2022.

There is ongoing engagement with the fertiliser industry in regard to the use of protected urea products at farm-level. The adoption of protected urea is an integral part of our national strategy for the reduction in GHG emissions from the agriculture sector. The quantity of protected urea sold in 2021 was 45,025 tonnes.

Highlights

- Over 50,000 tonnes of protected urea were sold in 2020/2021 compared to just 7,100 tonnes three years earlier.
- Ground limestone usage was up 50% in 2021 compared to 2020 at 1,333,100 tonnes.

Outlook for Ireland

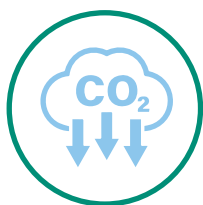
- The continued gradual upward trend in both consumption and prices for animal feed is anticipated to continue based on current and projected growth patterns.
- An overall decrease in fertiliser use nationally is expected in 2022 due to cost and possible supply issues. The outlook for fertiliser prices is that they will continue to remain at the current high cost and may even increase further in the short to medium term. The situation will largely be determined by external factors including reduced global supply of fertiliser, due to sanctions imposed on Russia reducing supply, and costs of production which have increased due to increased raw material and energy costs.

Outlook for the EU

- Uncertainties resulting from the Russian invasion of Ukraine, rising cost of energy, difficulties with freight, Brexit, Avian Influenza, African Swine Fever and COVID-19 will result in market conditions for animal feed remaining difficult. Increased focus on sustainably sourced feed ingredients will inevitably result in price increases.
- There will also be legislative changes that will impact the European feed sector, e.g. the revision of the feed ban to permit the feeding of poultry processed animal protein (PAP) to pigs and pig PAP to poultry and insect PAP to all animals; the introduction of maximum limits for mycotoxins in animal feed; the new medicated feed regulation under which animals can no longer be treated with antibiotics in feed as a preventive measure, except in exceptional circumstances; and the impending ban on the use of zinc-oxide in feed, will have an impact on pig producers.
- The outlook for fertiliser prices is that they will continue to remain at the current high cost and may even increase further in the short to medium term. The situation will largely be determined by external factors including reduced global supply of fertiliser, due to the impact of sanctions, export quotas etc., reducing supply, and costs of production, which have increased due to increased raw material and energy costs.

CHAPTER 4

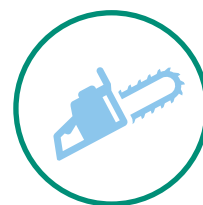
Forestry



Ireland's forests removed close to
3 million tonnes
of carbon dioxide equivalents
in 2020.



In 2021,
€69.4 million
of capital expenditure
was invested in forestry
development.



In 2021 exports of all
forest and wood-based
products totalled
€682 million

4.1 Overview

In Ireland, the area under forestry is estimated to be 808,848 hectares or 11.6% of the total land area, according to data collected for the fourth National Forest Inventory, which is currently in progress. This compares to an EU-27 average of 35%. Forest cover is estimated to be at its highest level in over 350 years. Of the total forest area, 50.9% is in private ownership, with public forests occupying the remaining 49.1%. The forest estate is comprised of 69% conifers and 31% broadleaves. The promotion of afforestation and the mobilisation of the private timber resource continue to be key objectives of DAFM. In December 2020, the European Commission approved an extension of the state aid approval for the current Forestry Programme (2014-2020) to the end of 2022, in accordance with timeframes that apply to the CAP transition period.

The Department and stakeholders are currently working together to deliver Project Woodland with a view to resolve the current difficulties in the forestry sector and revitalise the creation of forests in Ireland. Through extensive consultation with stakeholders, Project Woodland will develop a new forest strategy which will underpin a new Forestry Programme for the period 2023-2027.

Source: DAFM Forest Statistics

4.2 General Forestry Situation in Ireland and EU

In 2020 it was estimated that 35% of the land area in the 27 EU countries, including United Kingdom, was covered by forests compared to 11.6% in Ireland. Despite Ireland lagging behind its EU partners, significant progress has been made over the past half century. Between 1950 and 2021, an average of 9,050 hectares of forestry was planted each year. In recent years however, the level of planting has been declining and in 2021, 2,016 hectares of new forests were created, well below the current target of 8,000 hectares per year under the Climate Action Plan.

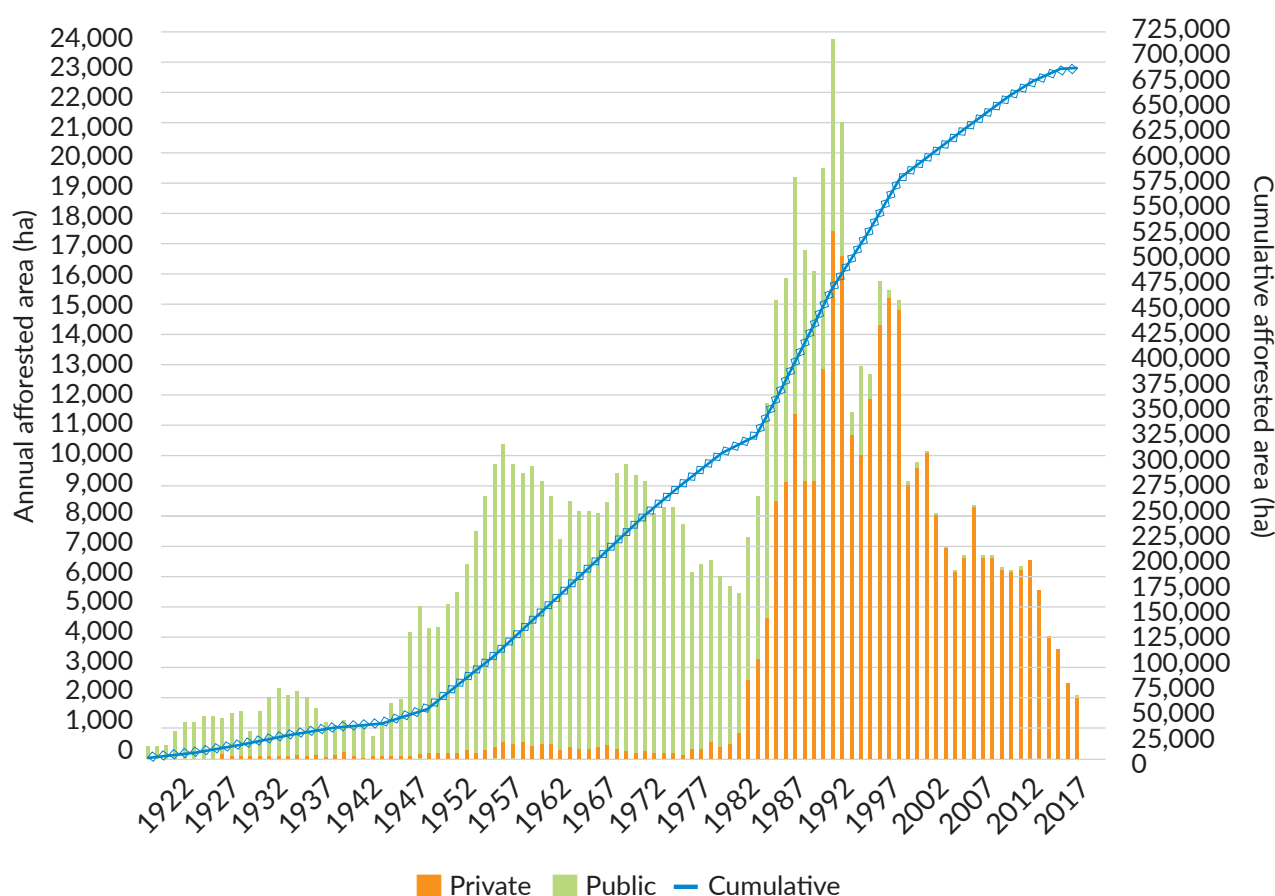
Table 4.1 Afforestation in Ireland 1918 to 2022

Year	Area (hectares)	% Of Total Land Area Covered
1918	100,717	1.4
1928	89,000	1.2
1942	87,066	1.3
1950	96,047	1.4
1965	254,350	3.7
1973	323,654	4.6
1985	411,529	5.9
2006	697,730	10.1
2012	731,650	10.5
2017	770,020	11.0
2022	808,848	11.6

Source: DAFM Forest Statistics

Long-term afforestation trends, such as the change from state-led to private-led afforestation in the 1980s and 1990s, and the level of annual afforestation, are shown in Figure 4.1. Private afforestation came to the fore in the mid-1980s following the introduction of grants and, particularly, an annual premium scheme for afforestation. Farmers have accounted for 81% of private lands afforested between 1980 and 2021.

Figure 4.1 Annual state and private afforestation 1922-2021



Source: DAFM Forest Statistics, July 2022

Key Statistics from Forest Statistics 2021

- In 2021, €69.4 million was spent by DAFM on forest activities including afforestation, maintenance grants, annual premium payments and grants for forest road infrastructure.
- During 2021, 2,016 hectares of new forests were created. Cork had the highest afforestation area at 343 hectares, followed by Roscommon at 190 hectares.
- Nationally, conifers are the dominant species at present, representing 69% of forest area, while broadleaved species accounted for 31%.
- The proportion of broadleaves in new forests created during 2021 was 41%, which was up from 34% in the previous year. A similar increase occurred in the Native Woodland Establishment scheme operated by DAFM, from 19% in 2020 to 30% in 2021.
- Nearly 600 hectares of native woodlands were created during 2021, compared to 460 hectares in 2020. The creation of new native woodlands under the Woodland Environment Fund amounted to 480 hectares during 2021.
- Farmers have accounted for 81% of private lands afforested between 1980 and 2021. Since 1980, over 23,500 private landowners have received grant aid to establish forests. The average size of private grant-aided afforestation since 1980 is 8.4 hectares.
- In 2021 the volume of roundwood removals was at 4.33 million cubic metres. This is an increase of 11% compared with 2020 roundwood removals of 3.89 million cubic metres.

- The construction of 72km of private forest roads was funded during 2021. This reflects the projected increase in timber and wood to be harvested, which is expected to double by 2030.
- Felling licences were issued during 2021 for the thinning of 12,494 hectares and the clearfelling of 20,709 hectares.
- Approximately half of Ireland's forest estate is certified by international non-governmental organisations to promote good forest practice. The vast majority of this area is in the public forest estate, with 11,631 hectares of private forest currently certified.
- Forests and forest products play an important role in mitigating climate change by sequestering and storing atmospheric carbon dioxide. In 2020, Ireland's forests removed close to 3 million tonnes of carbon dioxide equivalents.

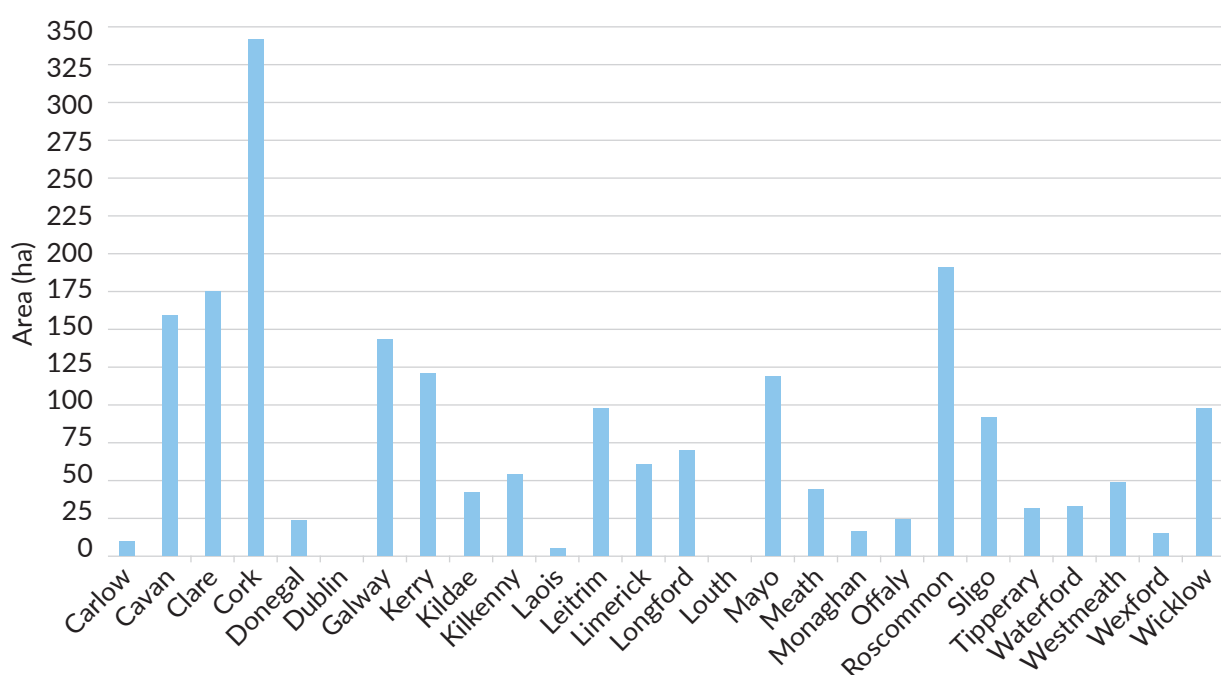
National Forest Inventory

The fourth National Forest Inventory (NFI) cycle commenced in 2020 and fieldwork progressed well during 2021. The NFI is due for completion in 2022 and data analysis will then commence. The purpose of the NFI is to record and assess the extent and nature of Ireland's forests, both public and private, in a timely, accurate and reproducible manner. Reliable, current and consistent information is required to inform domestic forest policy, to support forest research and fulfil national and international reporting commitments. The fourth NFI will facilitate the on-going monitoring of the national forest estate, including the assessment of change over time. In particular, the evaluation of volume increment and harvesting volume will facilitate the monitoring of Sustainable Forest Management (SFM).

Afforestation in 2021

Payments were made by the Department in 2021 in relation to the afforestation of 2,016 hectares of land. Broadleaf planting, which includes the planting of native woodlands, accounted for 41% of this figure. Seven counties Cork, Roscommon, Clare, Cavan, Galway, Kerry and Mayo had the highest levels of afforestation during 2021, with between 119 and 343 hectares afforested in each. Louth and Dublin had no new afforestations while Laois, Carlow, Wexford and Monaghan had less than 20 hectares each planted.

Figure 4.2 Afforestation by County in 2021



Source: DAFM Forest Statistics

Table 4.2 2021 Planting Grants per County

County	Grant Value	Hectares Grant-aided
Carlow	€37,993	9.2
Cavan	€525,277	160.3
Clare	€536,071	174.2
Cork	€1,232,035	343.4
Donegal	€74,652	22.2
Dublin	€0	0.0
Galway	€474,285	144.2
Kerry	€482,522	121.3
Kildare	€166,065	41.7
Kilkenny	€165,454	54.6
Laois	€14,568	4.8
Leitrim	€314,105	98.2
Limerick	€211,247	60.1
Longford	€191,433	70.2
Louth	€0	0.0
Mayo	€380,635	119.0
Meath	€141,278	43.9
Monaghan	€69,354	16.6
Offaly	€92,681	24.6
Roscommon	€593,640	190.4
Sligo	€313,775	91.9
Tipperary	€91,545	31.5
Waterford	€124,590	33.1
Westmeath	€192,827	49.0
Wexford	€65,092	14.6
Wicklow	€521,819	97.5
TOTAL	€7,012,944	2,016.5

Source: DAFM

The level of planting of native woodlands in 2021 was 598 hectares, compared to 460ha in 2020, which is the highest level under the Forestry Programme so far and slightly exceeds the target. The percentage of broadleaf planting as a percentage of total planting also exceeded the 30% target set out in the Forestry Programme, with 41% of broadleaves planted in 2021.

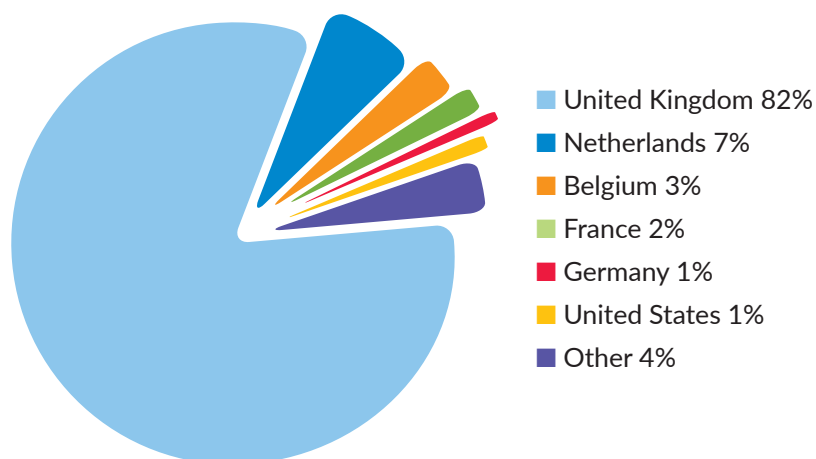
Since 2015, 7,305 hectares of broadleaf forestry has been established, which is 24% of the total new forestry established since 2015. Additional measures, such as support for tree guards and fencing to protect crops from deer damage, continuous cover forestry and additional supports for thinning of broadleaf forests was introduced in early 2019. These were important schemes for the support of the industry and contributed to the high level of broadleaf planting in 2021.

4.3 Trade

In 2021, Ireland exported 1,371,700 tonnes of forestry and wood-based products. These exports were valued at €682 million and went to over 50 countries worldwide. This was an increase of 53% in value on 2020 but a slight decrease of 1% in volume, highlighting the increase in value of timber in 2021. In 2012, our exports of 1,105,200 tonnes were valued at €333 million, meaning that in the last ten years, export value has more than doubled. In the same time period, the volume has increased by 24%. Forestry and wood-based products accounted for more than 4% of all Irish agri-food exports in 2021.

The United Kingdom is our largest market by a considerable amount. 82% of our forestry and wood-based products by value were exported there in 2021 and 88% by volume. While the volume of forestry and wood-based products exported to the UK dropped by 2% in 2021 compared to the previous year, the value of exports increased by 60% from €349 million to €558 million. Apart from the United Kingdom, the Netherlands, Belgium, France, Germany and United States were destinations for Irish Forestry and wood-based products.

Figure 4.3: Top Destinations for Irish Forestry and Wood-based Products by Value in 2021.



Source: CSO



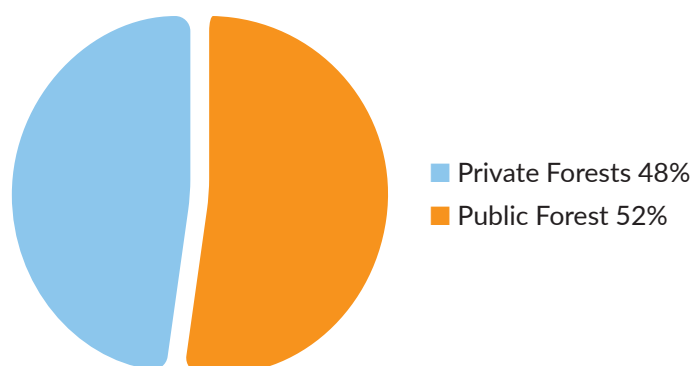
Medium density fibreboard (MDF) accounted for 78% in value of forestry and wood-based product exports in 2021 and was worth €236 million, accounting for close to 300,000 tonnes. Sixty nine percent of Irish MDF exported went to the United Kingdom. Wood of coniferous species, thicker than 6 mm, was the second largest export product. It accounted for 45% of forestry and wood-based products exports and was worth €183 million, also accounting for close to 300,000 tonnes. Almost all of this product went to the United Kingdom.

4.4 Forest Wood Removals 2021

On 30th June 2022, the CSO released their report on Forest Wood Removals for 2021. The survey was designed to collect data on roundwood and biomass removals from privately-owned forests in Ireland. Information from the CSO Business Register, the Forest Service, and from industry experts was used to ensure that all relevant enterprises were included in the sample. The exclusion of publicly-owned forests from the survey was designed to simplify the questionnaire and to reduce the risk of double-counting of removals. This could occur if both contractors and the forest owners submitted data for the same removals. Its key findings were as follows:

- The total value of removals was €227 million in 2021, a 36% increase from 2020.
- Roundwood removals increased 11% from 3.89 million cubic meters in 2020 to 4.33 million cubic meters in 2021.
- Coniferous roundwood accounted for over 99% of removals in 2021.
- In 2021 removals from public forests comprised 52% of total removals volume, compared with 60% in 2020.
- Large sawlog accounted for the highest proportion of roundwood removals volume at 40% in 2021, followed by small sawlog (26%) and pulpwood (25%).

Figure 4.4: Roundwood Removals 2021.



Source: CSO

Table 4.3 Total Removals by Product 2021 ('000 tonnes)

Product	2018	2019	2020	2021	2021 Product as % of Total
Large sawlog	1,151	1,124	1,301	1,538	40%
Small sawlog	1,023	1,016	858	990	26%
Pulpwood	1,006	1,086	896	959	25%
Fuelwood	102	102	198	183	5%
Stakewood	116	132	127	115	3%
Other	83	170	62	39	1%
Total	3,482	3,629	3,442	3,825	

Source: CSO

4.5 Financial Supports 2021

Financial support schemes are provided by the Department to assist in the management of the current forest estate and for the creation of new forests.

In 2021, €68 million of capital expenditure was invested in forestry development, 94% of which went towards afforestation grants and premiums. The balance, of approximately €4 million, was spent on other support schemes such as forest roads for harvesting, woodland improvement, shaping of broadleaves and environmental assessments.

Table 4.4 Annual capital expenditure on forestry schemes 2012 – 2021

Year	Total Expenditure €m	Total Afforestation Programme €m	Forestry Support Schemes €m
2012	€108.2	€101.6	€6.6
2013	€106.5	€100.8	€5.7
2014	€108.1	€102.5	€5.6
2015	€102.7	€98.7	€4.0
2016	€102.2	€98.0	€4.2
2017	€99.6	€93.6	€5.9
2018	€92.8	€86.4	€6.4
2019	€86.8	€80.2	€6.6
2020	€77.6	€71.6	€6.0
2021	€68.0	€64.0	€4.0

Source: DAFM Forest Statistics

Encouraging farmers to consider forestry as part of the farming mix

Key to the success of increasing afforestation rates is to build confidence among landowners of the benefits of forestry as a viable option to complement existing enterprises.

Following the Programme Mid-Term Review, grant and premium rates for agroforestry were introduced to encourage farmers to consider forestry as a possible option for diversification on their farm. Agroforestry is a land-use system in which trees are grown in combination with agriculture on the same land. This system is suited to farmers who are interested in forestry but who also want to avoid taking their land out of agricultural production.

In addition, DAFM is planning to incentivise small-scale tree planting aimed at re-engaging farmers with afforestation. Widening the options for small-scale tree planting measures is considered an important measure to make tree planting more attractive to farmers. This would also allow for greater integration between the measures in the National Forestry Programme and the Common Agriculture Policy.

In this regard, Government approval was sought to amend the Forestry Act 2014, through Part 3 of the Animal Health and Welfare and Forestry (Miscellaneous Provisions) Bill, which was signed into law by the President on the 4th of April 2022. Under this new legislation, Section 2 of the Forestry Act 2014 has been amended to allow for the planting of trees on areas up to 1ha or 20m in width, as part of a scheme, without the requirement for an afforestation licence. The trees planted under this scheme have to be native tree species only, of which not more than 25 per cent are Scots pine. This change will allow forests to be created through initiatives other than the afforestation scheme, thereby contributing to Ireland's target in relation to a wide range of environmental priorities, particularly climate change, biodiversity and water quality.

2020 was designated as the FAO International Year of Plant Health.

As COVID-19 impacted the work of the Forest Health Section and limited capacity to carry out live events, this designation carried through to June 2021.

4.6 Forestry Health & Afforestation Programme

Forest Health Status

Ireland's forest health status overall is relatively good. Ireland does not have the range of forest pests and diseases that are endemic on the continent and further afield and which have been influenced by the impact of climate change in recent years, causing enormous damage. However, Ireland has had a number of outbreaks of organisms harmful to trees and forests, which have had significant impact in recent years. These include the impact of *Hymenoscyphus fraxineus* (Ash Dieback disease) and *Phytophthora ramorum* disease outbreaks in Japanese larch. Both of these harmful organisms continued to have significant impact in 2021.

Following the first finding of the eight-toothed spruce bark beetle *Ips typographus* in Kent in England in 2018, new breeding populations of the beetle were identified in Kent and east Sussex in 2021. Measures have been taken within the impacted areas in England to try to prevent the further spread of the beetle and DAFM continues to closely monitor developments and to carry-out additional risk-based surveys to provide added assurance that the pest is not present in Ireland. In late 2021 a new *Phytophthora*, *P. pluvialis* was detected in Great Britain causing damage to Western Hemlock and Douglas fir. The risk posed by this is still uncertain as the scientific understanding is developing but precautionary surveys are being carried out in Ireland.

The Plant Health Regulation EU 2016/2031 and Official Controls Regulation EU 2017/625

The Forestry Inspectorate of DAFM is responsible for the implementation of the forestry aspects of the EU Plant Health Regulation 2016/2031, which includes requirements for the implementation of traceability systems (Plant Passporting Systems) for the movement of forestry plants, coniferous wood and wood products.

The Forestry Inspectorate also oversees the national implementation of the FAO, IPPC International Standard for Phytosanitary Measures (ISPM) 15, Regulation of Wood Packaging Material in International Trade. Not only is this important in terms of imports and protecting Ireland's forests but also for companies exporting who require compliant wood packaging, thereby facilitating Irish exports of goods of all kinds.

Key activities and events

- Brexit export certification and import control functions became new and significant responsibilities for the Forest Health Section in 2021.
- A new Forest Health webpage was designed and launched, providing information for all forest stakeholders.
- A new system for the assessment of competence of Authorised Operators to issue Plant Passports was developed and rolled-out to the sector and hosted on the webpage.
- There were no findings of any EU priority pests or pests for which Ireland has current EU Protected Zone status in Irish forests during annual surveys in 2021.
- The impact of ash dieback disease caused by the fungus *Hymenoscyphus fraxineus* continues to increase in all 26 counties and in all settings such as forests, nurseries and garden centres, on farm planting, roadside planting, hedgerows and private gardens.
- *Phytophthora ramorum* was first detected in Japanese larch in Ireland in 2010 and at the end of 2021 has been confirmed present at over 60 locations in this tree species across the country. While the impact of *Phytophthora ramorum* remained an issue of significant forest health concern for Ireland (and the United Kingdom) most other EU Member States remained unaffected by its forest impact. Through legislation passed by EU Member States in 2021, the legal status of *Phytophthora ramorum* when found in a forest location will change. It will no longer be mandatory for the landowner to take action in order to control and eradicate this harmful organism.

- 2020 was designated as the FAO International Year of Plant Health. As COVID-19 impacted the work of the Forest Health Section and limited capacity to carry out live events, this designation carried through to June 2021.
- 54 Irish companies are currently registered to produce wood packaging material to the FAO IPPC International Standard for the Regulation of Wood Packaging Material in International Trade (ISPM No. 15), thus facilitating the export of goods worldwide from Ireland on compliant pallets and crates.
- In conjunction with The Tree Council of Ireland, A Landowner's Guide to Managing Roadside Trees was produced and launched in October 2021.
- An on-line presentation to over 100 attendees on the threat of exotic forest pests to Irish forests was made through the Irish Timber Growers Association webinar series in association with the Irish Farmers Journal.

Forest Reproductive Material

The Forestry Inspectorate is responsible for implementing Council Directive 1999/105/EC on the marketing of Forest Reproductive Material (FRM). Forest reproductive material is a collective term to describe seeds, plants and cuttings, which are important for forestry purposes. The aim of the legislation is to ensure that forest reproductive material is from approved suitable sources and is clearly labelled and identified throughout the entire process from tree seed collection to processing, storage, forest nursery production and delivery to the final forest user.

DAFM is also the National Designated Authority in Ireland for the related Organisation for Economic Co-operation and Development (OECD) Scheme for the Certification of Forest Reproductive Material (FRM) Moving in International Trade, otherwise known as the 'OECD Forest Seed and Plant Scheme'. This international scheme encourages the production and use of forest seeds, parts of plants and plants that have been collected, transported, processed, raised and distributed in a manner that ensures their trueness to name. Material covered by the scheme is intended for use in a variety of forestry purposes.

Since 1st January 2021 the OECD scheme is now the certification system required for all imports and exports of forest reproductive material to and from UK. As the UK is no longer an EU Member State, two EU legislation decisions were enacted in early 2021 to recognise the necessary 'equivalence' of OECD certification for imports of FRM from the UK.

Key activities and events

- Registration of seed stands and maintenance of the National Register of Basic Material
- Registration of suppliers of forest reproductive material - seed collectors, nurseries, seed and plant importers and brokers
- Issuing of Seed Collection Permits and Master Certificates of Provenance for seed collections
- Issuing of OECD Certificates of Provenance for exports of FRM
- Oversight OECD Certificates of Provenance for imported FRM and issuing of equivalent EU Master Certificates of Provenance
- Advice on forest seed and plant regulations
- A new FRM webpage was created to provide information to stakeholders on Forest Seed and Plant Marketing Regulations
- An online presentation was made for Woodlands of Ireland titled an *Overview of EU regulations concerning forest seed collection and traceability of planting material*.
- Servicing of European Commission and OECD FRM meetings



4.7 Forests and Sustainable Development Goals

In 2015, the United Nations (UN) established 17 interlinking Sustainable Development Goals (SDGs) with the ambition of seeing these goals achieved by 2030. Forests are home to more than 80% of terrestrial species, including plants, animals & insects. They are crucial to reducing the risk of natural disasters (including droughts, floods & other extreme events) and play a vital role in mitigating climate change through carbon sequestration. The multiple roles and functions of forests, along with other types of forests lands and woodlands must be protected. Due to the important and diverse role that forests play in sustainable development, the UN adopted the first-ever UN strategic plan for forests 2017-2030. This plan provides a global framework for actions to halt deforestation and forest degradation and aims to help contribute to progress across the SDGs.

This demonstrates how a clear forest strategy can help to achieve the aims of not only SDG 15 Life on land but can also help achieve the goals of many other SDGs. Forests are integral to the success for the 2030 agenda in terms of biodiversity, but also the green economy among other areas. Forests can contribute with the production of renewable and sustainable timber products, aligning with SDG12 aim of sustainable use and management of natural resources. Forests can help drive the move to a low carbon and circular economy. While the SDG12 targets and indicators make no outright or direct reference to forests or forest-related communities, forestry can still play a vital role in their achievement. Linkages can also be found, for example between agricultural commodities and sustainable forest management.

4.8 Forests and Climate Change

The Climate Action and Low Carbon Development (Amendment) Act 2021 set out the objective to achieve a 'climate neutral economy'. Its aim is to balance emissions and remove greenhouse gases (GHG) within the State by the end of 2050. Under the Paris Agreement, Ireland has committed to limiting temperature rise to less than 2 degrees above pre-industrial levels. We strive to limit temperature rise to less than 1.5 degrees.

At a whole of economy level, environmental ambition must be stepped up to meet the increased EU target of reducing GHG emissions to at least 55% below 1990 levels by 2030. Ag Climatise is the roadmap for Ireland that has been developed to deliver the 2030 climate ambition in Agriculture. The Climate Action Plan 2021 builds on this roadmap and looks at furthering the targets and bringing forward the measures needed to be consistent with sectoral emissions ceilings.

The Food Vision 2030 strategy was launched during the summer of 2021 and sets out 22 goals under four high-level missions that the agri-food sector must achieve including a “Climate Smart, Environmentally Sustainable Agri-Food Sector”. One of the goals of that mission is to “Develop Diverse Multi-Functional Forests”. There are eight specific recommended actions. This includes the development of a new forestry strategy. It also recognises the important role that farmers can play in the sector. Food Vision acknowledges the crucial role that forestry plays in the Irish economy and environment.

The Land Use, Land Use Change and Forestry (LULUCF) sector will have an important part to play in meeting the ambitious roadmap towards climate neutrality. This is particularly relevant into a future where carbon emissions will be greatly constrained under proposed EU Climate Law, with its emphasis on achieving carbon neutrality across all sectors by 2050. Ireland’s LULUCF sector is currently a carbon source rather than a carbon sink. A 51% reduction in these emissions is very challenging, especially as the age profile of the forest stock matures and harvesting levels increase in line with projected forecasts. To reduce LULUCF emissions and move to being an overall store of carbon, will involve further bog rehabilitation, increased afforestation, improved management of grasslands on mineral soils, increasing the use of cover crops in tillage, and the rewetting of organic soils.

Forests are vital in our fight against climate change as they sequester more carbon dioxide than other land, thereby directly reducing greenhouse gases in the atmosphere. When they are managed sustainably for wood production, carbon continues to be stored in the harvested wood, and forests will continue to remove carbon dioxide when the trees are replanted. This ensures that the level of carbon storage is maintained over the long term.

The role of forestry in climate change mitigation is well recognised as a pathway to reducing greenhouse gas emissions in the land use sector. The Climate Action Plan 2021 lists a range of actions which focuses on three main areas for action in the forest sector including afforestation, increased use of wood in the built environment and increased use of sustainable biomass for energy. A number of key high-level actions for forestry have been highlighted which include:

- 8,000 hectares annual afforestation target
- Double the production of biomass by 2030
- Promote the increased use of wood and continue innovation in timber research
- Mobilise projected timber forecast from 4 million in 2021 to 8 million in 2030
- Increased forest road construction
- Monitor and reduce illegal deforestation
- Forest protection.

Case Study

Woodland Creation on Public Lands Scheme

The Woodland Creation on Public Lands Scheme was launched in August 2020 to actively encourage public bodies to establish new native woodlands on suitable bare land. By encouraging the planting of native species on suitable land, public bodies are given the opportunity to establish permanent, non-commercial woodlands. These will recreate lost native woodlands, enhance biodiversity, sequester carbon, protect water courses, and provide amenity.



There are two grants available, depending on soil type, of €6,220/hectares or €5,880/hectares, including fencing provision. Additional funding for trails, seating and signage is set at €3,800/hectare and amenity funding (playground/recreational facility etc) of €10,000 per application is also provided for.

The benefits to a Public Authority who embark on this initiative include:

Climate Action - The establishment of a native woodland will assist Public Authorities in delivering on targets set out in the United Nations Sustainable Development Goals and in the Climate Action Plan 2019 (8,000 hectares of planting/annum).

Biodiversity Enhancement - Historic clearance of native woodland by people means that the national resource of native woodland is now extremely limited (estimated cover of 1-2% of landmass). Extending native woodland cover, in particular committing land to native woodland cover permanently, will have positive benefits for biodiversity.

Water & Air Quality Enhancement - The establishment of native woodlands can provide protection and enhancement of water bodies and their associated aquatic ecosystems. Furthermore, trees can remove pollutants from the atmosphere thereby enhancing air quality in an area.

Amenity & Aesthetic Value - The establishment of a native woodland can promote health and wellbeing of local communities through the provision of attractive outdoor recreational spaces in addition to providing opportunities for learning.

Interest in the scheme has continued to grow since the launch of the scheme, with 25 applications received by May 2022, accounting for a total area of 93.2 hectares. Participating public bodies include the HSE, Iarnród Éireann, National Park and Wildlife Service, Irish Water and Wexford and Limerick County Councils.

The Climate Action Regional Office (CARO) in the Atlantic Seaboard South Region has carried out a land bank analysis to ascertain the availability of publicly owned lands that may be suitable for creating these new native woodlands and CARO continues to be engaged directly with the promotion of the scheme to Local Authorities.

4.9 Challenges

COVID-19 effects on the sector in 2021

The forest sector was subject to general Government guidelines on social distancing but in general, forestry companies, nurseries and sawmills continued to operate as normal during COVID-19 pandemic, as forestry was deemed an essential service, while the number of visits to forestry sites by the public during the pandemic increased substantially.

Government funding was made available in the form of the COVID-19 pandemic unemployment payment (PUP) for those unable to work in the sector due to the restrictions.

Brexit

Among the implications for the forest sector in Ireland of the United Kingdom leaving the EU has been the introduction of new import and export phytosanitary requirements on forestry plants, coniferous wood and wood products traded between the two countries. Prior to Brexit coming into force on 1st January 2021, these requirements were not in place as both Ireland and the UK were part of the single market. From the 1st January 2021, the EU Timber Regulation & FLEGT-Licensing system no longer applies. New mandatory notification and inspection requirements have been introduced for both imports from the UK and exports to the UK.

Exports

Before the United Kingdom left the EU, Plant Passport requirements applied to a range of forestry plants, wood and wood products moving from Ireland to the United Kingdom. Upon leaving the EU new phytosanitary requirements now apply. These include the requirement for an exporter of a controlled commodity to obtain a Phytosanitary Certificate from DAFM. This involves inspection and the issue of an official document by DAFM to the exporter.

Overall, in 2021 export certification was provided by the Forest Health Section for a range of forestry plants wood and wood products including sawn timber, bulk roundwood exports, bark, Christmas trees and forestry plants. In all, 699 Phytosanitary Certificates were issued to Irish exporters thus facilitating continued access to this key market.

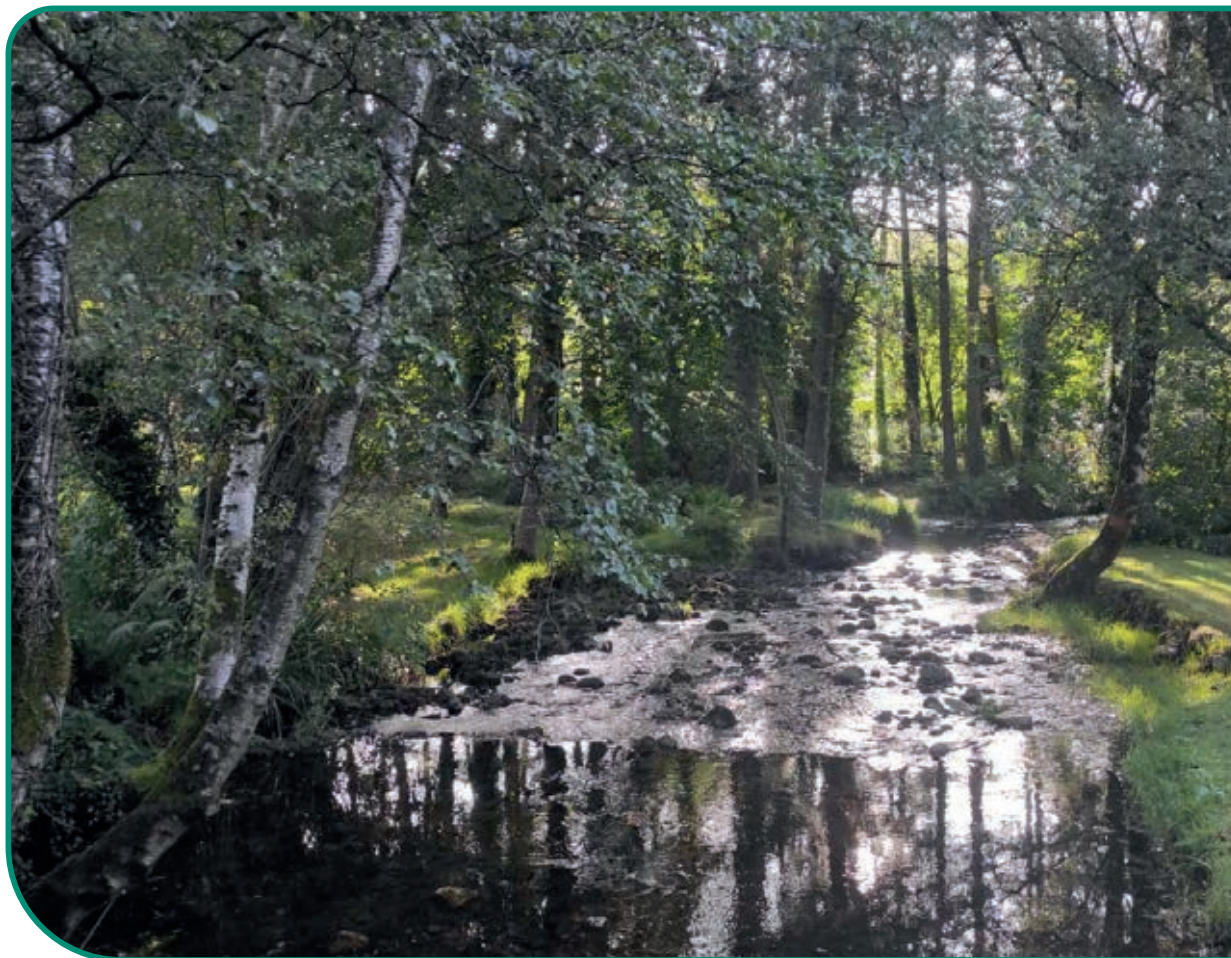
With regard to forest reproductive material during 2021, 67 OECD Certificates of Provenance were issued for exports to Great Britain – this included certification of approximately 8 million trees and additional seed exports (mostly for contract stratification and preparation). There were also significant quantities of seed imports in 2021 from Great Britain, which were certified under the OECD scheme, and from which multi-million numbers of forest plants will be produced. The import of seed in 2021 from Great Britain also included seed for contact growing of forestry seedlings for re-export to Great Britain.

Russian invasion of Ukraine

The ongoing situation in Ukraine will have an impact on the import of timber and timber-derived products from Russian Federation and Belarus.

On 8th March 2022, the Russian Federation enacted a ban on the export of certain goods to a list of countries, including EU Member States. The ban covers four Harmonised System (HS) codes, goods descriptions used throughout the world to classify international shipments and assess which taxes, duties and restrictions may apply. The goods banned under these four HS codes are wood products such as coniferous-dry, nonconiferous-dry, wood in the rough, and veneer sheets. The ban will be in force until 31st December 2022.

On 2nd March 2022, the Council of the European Union adopted sanctions on timber and timber derived products from Belarus. As such, imports falling under Article 1o of Council Regulation 2022/355 cannot be placed on the market and are therefore *de jure* illegal. This ban covers *wood and articles of wood; wood charcoal*.



For all situations not covered by the existing wood export ban or sanctions, operators need to carry out a full risk assessment and unless the risk identified is negligible, effectively mitigate the non-negligible risk of acquiring illegally harvested timber. According to the prevailing views expressed by several EU Timber Regulation (EUTR) Competent Authorities, in the present circumstances it would seem extremely arduous for operators sourcing timber/timber derived products from the Russian Federation or Belarus, to carry out a full risk assessment of illegality or to mitigate the non-negligible risk.

Falling Afforestation levels

DAFM are committed to addressing the current barriers which have contributed to low afforestation rates in the last few years. The rate of afforestation is a function of the number of applications for licences, the rate at which these are processed and the number of licences which are ultimately converted into planting. These elements have been impacted by the complexity of the legal and administrative system, judicial decisions, the efficiency of the forestry licencing system, the appetite among landowners to convert land to afforestation usage and, in some areas, complex societal attitudes and responses to afforestation. All of these issues have to be addressed if afforestation rates are to increase to the necessary levels in the coming years.

Forestry licencing and changes to Appropriate Assessment Procedure (AAP)

There were over 4,000 licences issued in 2021, which was an increase of 56% on 2020 levels. The Forestry Licencing Plan for 2022 sets a target of 5,250 new licences, which would be a year-on-year increase of 30%. DAFM has acquired the services of experienced ecologists who will be entirely focused on afforestation, bringing the total number of full-time equivalent ecologists working on forestry files to 35. The output for Forest Road licencing for the first quarter of 2022 is up 20% on the average quarterly figures for 2021.

4.10 Ireland Outlook

Irish forests continue to supply increasing amounts of wood fibre for sawmilling, panel board mills and the wood energy markets. An updated All Ireland Roundwood Production Forecast 2021-2040 was published during 2021. The forecast predicts that the annual potential roundwood supply will increase from 4.7 million cubic metres in 2021 to 7.9 million cubic metres by 2035. This will be followed by a small decrease to remain constant at circa 7.6 million cubic metres up to 2040. Realising this large increase in potential production will entail significant capital investment in roads, harvesting equipment and wood processing. The Irish sawmilling sector is well placed to process this increased production in supply, with the majority of products exported to markets in the United Kingdom and further afield. The lack of independent forest certification within the private forest estate needs to be addressed, if timber supply is to access existing markets, both home and abroad. Initiatives by DAFM such as knowledge transfer groups and forest road grants will continue to facilitate the mobilisation of timber.

4.11 EU Outlook

The European Commission's publication of the European Union Forest Strategy in June 2021 was a key milestone. It sets out aims regarding several forest-related initiatives rooted in the principles of Sustainable Forest Management (SFM) that seek to balance the social, economic, and environmental benefits of forests. The EU Forest Strategy will feed into the preparation of Ireland's new national Forest Strategy due for publication in 2022. The EU Forest Strategy is aligned with the EU Green Deal published in December 2019 and the EU Biodiversity Strategy for 2030.

The EU Forest strategy also involves protecting remaining EU primary & old growth forests; a roadmap for planting at least 3 billion additional trees in the EU by 2030 and harnessing wood products for economic development. In November 2021 the European Council published conclusions welcoming the publication of the strategy. Ireland fed into the drafting of these conclusions.

Building on the 2019 Communication on Stepping up EU Action to Protect and Restore the World's Forests, the European Commission presented a legislative proposal aimed at minimising the risks of deforestation and forest degradation, associated with certain products placed on the EU market. This proposal and associated impact assessment was published in late 2021. In line with this, the European Parliament has also adopted a resolution with recommendations to the European Commission on an EU Legal framework to halt and reverse EU driven deforestation. During the French Presidency of the European Union in the first half of 2022, they established an ad-hoc working party to examine this legal proposal through which DAFM, along with other Government Departments, is contributing to the Irish position.

4.12 Highlights

Project Woodland

Project Woodland was established in February 2021 as a collaborative effort to address forestry licencing issues and develop a shared nation vision and strategy for forestry in Ireland, through the implementation of the Mackinnon recommendations. The structure of Project Woodland consists of a project board, a dedicated project manager, and four working groups.

The Mackinnon recommendations were allocated across the groups under four work streams as follows:

1. Reducing the backlog in forestry licencing
2. A Shared National Approach (to work on a Forestry Vision and Strategy)
3. Organisational Development and Communications
4. Process Improvement (to look at Forestry licencing procedures)

The main outputs and deliverables achieved through Project Woodland are as follows:

- Successful reduction of the forestry licencing backlog by 50%, from over 6,000 at the start of the project to approximately 3,000 licence applications as of June 2022.
- The development of a new Shared National Vision and Strategy for forestry, involving widespread public consultation. This consultation has included bilateral engagement with key stakeholders, an online public consultation, a deliberative dialogue and surveys. All of this will feed into the new Forestry Programme for 2023-2027, due to be completed by the end of 2022.
- A training needs analysis for forestry licencing and an organisational review of the DAFM's forestry divisions and a communications strategy for forestry, a Forestry Customer Charter and a review of the role of COFORD (Council for Forest Research and Development) will also be finalised.
- The completion of an end-to-end review of the forestry licencing process.
- A comprehensive regulatory review of the legislation around forestry, both national and international.
- The piloting of pre-application discussions on forestry licence applications.
- The proposed introduction of an environmental grant to cover additional costs associated with appropriate assessment under the habitat's directive.



Work under Project Woodland will continue throughout 2022 to deliver on the outstanding Mackinnon recommendations.

Forestry Promotion

An open call for proposals for Woodland Support Projects for 2021/2022 was launched in April 2021. This was aimed at promoting the multi-functional benefits of forestry to landowners, people working in the forestry sector and the general public. Applications were invited under four separate themes to cover the recreational, environmental, community and economic benefits of trees and woodlands. Thirty-nine individual projects were selected for a total funding allocation of €1.4 million over the two years.

Among the broad range of activities being undertaken by the selected projects are

- Forestry webinars and seminars
- Field workshops on continuous cover forestry
- Promotion of the use of home-grown timber for construction and woodwork projects
- The planting of native trees in GAA clubs, schools and communities nationwide
- Woodland open days and field trips

- Ecological restoration
- Awareness raising through local radio and social media
- Targeted promotional/educational initiatives
- The promotion of agroforestry.

Increasing afforestation from the current low levels to the 8,000 hectares per year target, as set out under the Climate Action Plan, presents a significant challenge and it is widely recognised that farmers, in particular, have a critical role to play in achieving this goal. Therefore it is very important that the multiple benefits of forestry are communicated effectively to farmers and other landowners, to help foster a woodland culture in which forestry is seen as complementing existing farm enterprises, both for the benefit of the landowner and the wider community.

CHAPTER 5

Fisheries and Aquaculture



DAFMag: Barry Doherty



The value of Irish seafood exports in 2021 was **€603 million**, a 13% increase on the value attained in 2020.



The EU markets account for 64% of our fish exports in 2021 with a value of **€383 million**.



In 2021, over **16,600 people** were employed directly and downstream in the Irish seafood sector.

5.1 Overview

Fishing has always been of significant social and economic importance to Ireland. Our fresh and natural 7,500 kilometre coastline has always been a source for outstanding seafood. Our seas are some of the most fruitful in the EU and this highly valuable resource is one we need to nurture and protect for our future generations.

The majority of fishery resources fall under the remit of Common Fisheries Policy (CFP). This Policy came into place on 1st January 2014 and a review is due to take place before the end of 2022. The aim of this policy is to establish environmental, economic and social sustainability within our fisheries and aquaculture. This is to be done in a manner that results in a viable and competitive seafood sector for all.

The sector is also a large employer, which is hugely beneficial to remote coastal communities where alternative employment options are in short supply. In 2021, 16,647 people were employed directly and downstream in the Irish seafood sector, according to BIM. This includes on fishing vessels, fish farms, in processing operations and in the distribution of seafood. This industry is essential to these communities and to the greater Irish economy.

5.2 Seafood Exports

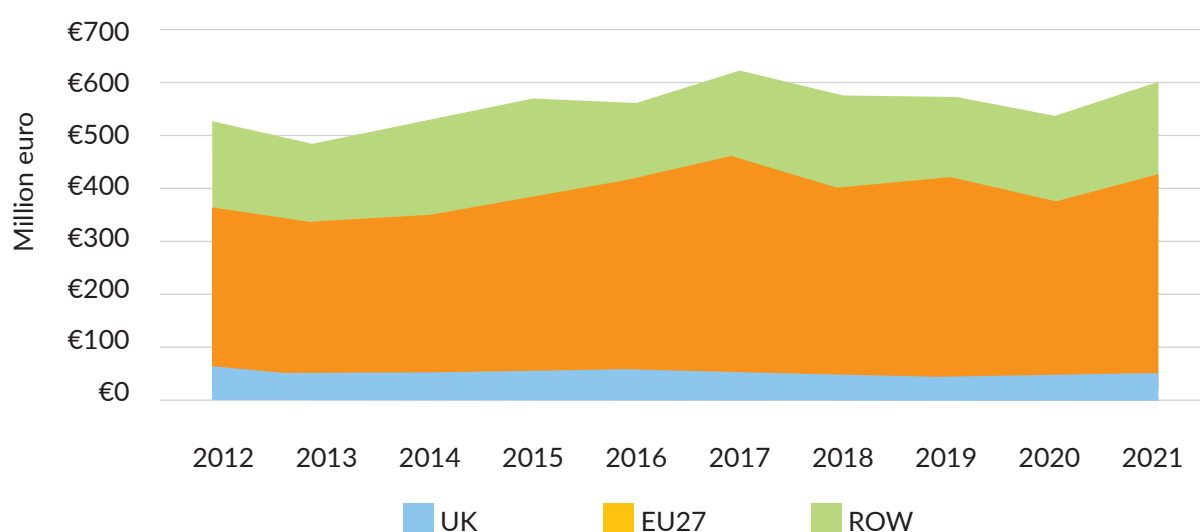
Ireland

According to the CSO the value of Irish seafood exports in 2021 was €603 million, a 13% increase on the value attained in 2020. The value of exports of salmon and mackerel, Ireland's most valuable seafood exports, both increased in 2021 in volume and value terms. Salmon increased by 13% in value to €128 million with a volume increase of 30%, while mackerel exports increased in value by 10% to €109 million with a 16% increase in volume.

EU & UK

EU markets account for 64% of fish exports in 2021 with a value of €383 million or 88,800 tonnes of fish. France was the largest destination with exports to the value of €158 million accounting for 26% of all exports. Spain, Italy and Germany combined accounted for over 24% of exports with a value of €147 million. Fish exports to the United Kingdom were worth €49 million in 2021, representing just over 8% of total exports.

Figure 5.1: Worldwide Fish Exports by Value and Destination 2012-2021



Source: CSO



DAFMag: Tim McCarthy

International

The International market accounted for approximately 28% (€171 million) of total exports in 2021. Exports to two of the three main Asian markets (China and Japan) recovered to some extent in value and volume terms in 2021 compared to 2020, with export volumes and values falling to Republic of Korea by over 30%. These three markets accounted for 10% (€62 million) of total seafood export values, increasing in value by 46% on 2020. The wider Southeast Asian markets (China, Japan, Republic of Korea, Vietnam, Taiwan, Singapore, Malaysia, and Thailand) accounted for over 11% (€69m) of total export values in 2021. Nigeria is also an important market for Irish fish with exports of over 58,000 tonnes in 2021, composed of frozen blue whiting, frozen horse mackerel and frozen mackerel valued at €38 million. While 25% of our fish exports by weight went to Nigeria, the value was closer to 6%. In contrast, 13% of our fish exports by weight went to France with the value representing 26% of total fish exports. Egypt is also an important destination for Irish fish with exports of almost €20 million in 2021.

Trade

In the pelagic sector, where the main commercial pelagic species caught by Irish vessels include mackerel, herring, horse mackerel and blue whiting, quotas decreased for all species. Demand for pelagic species recovered in Asia where export volumes of mackerel increased by 319% to China and by 56% to Japan. The best performing pelagic markets in 2021 were in Asia and the European Union. Demand for Irish mackerel in Africa decreased by 33% in value during 2021, with exports shifting to higher-value opportunities in Asia and the Middle East, where value grew by 147% and 45% respectively.

Exports of whitefish decreased by 32% in volume and 1% in value. Core markets in Europe saw an increase in export values of 16% with volumes increasing 10%. Spain remains the main market for whitefish followed by France and Northern Ireland. The Irish whitefish total allowable catch decreased by around 8% in 2021 compared to 2020.

Export values and volumes of Irish shellfish increased in 2021 after the re-opening of hospitality sectors in its main markets throughout the year.

The Irish oyster sector recovered strongly in 2021 with export values and volumes increasing by 40% and 32% respectively. Exports of oysters to France, China and Hong Kong increased significantly in 2021.

In 2021, salmon export values increased by 13% after a strong increase in volume of 33%, while the price of Irish salmon reduced significantly as increased competition drove the organic salmon sector. Exports of fresh or chilled Atlantic salmon to Poland fell in 2021, after two years of growth, from 3,800 tonnes to 1,800 with value decreasing from €36m to €15m year on year. The French market increased in 2021 by 26% in value and 58% in volume and is by far the main market for Irish salmon. The average price of salmon was down in all the main markets due to the intense competition in the organic salmon sector.

The COVID-19 pandemic continued to cause significant logistical bottlenecks as containers were held in storage. The scarcity of containers also doubled the shipping price of each container (to over €7,000) from Ireland to Qingdao, in China, one of the world's ten busiest ports. These bottlenecks also led to a five-fold increase in the price of containers from China to Europe over the same period.

Table 5.1 *Top Ten Fish Export Destinations by Value 2021*

Country	€000	Tonnes
France	158,410	29,536
Spain	64,071	11,478
Italy	56,516	6,212
United Kingdom	49,026	16,139
Nigeria	37,782	58,293
China	27,834	12,587
Germany	26,481	6,568
Poland	25,228	8,257
Egypt	19,606	14,702
Japan	16,633	7,734

Source: CSO

5.3 Fish Quota Management

In 2021, DAFM was responsible for the management of over 172,000 tonnes of fish quotas. The management arrangements for quotas differ from species to species and are determined by the Minister for Agriculture, Food and the Marine following regular formal consultation with Industry representatives. A key objective of whitefish quota management is the avoidance of very early closure of fisheries through rapid exhaustion of quota. This is important as our whitefish fisheries are mixed, and an early closure may lead to discarding of fish and would undermine the effective implementation of the landing obligation which prohibits discarding of fish at sea.

The nine principal pelagic stocks of mackerel, Irish sea herring, Celtic Sea herring, northwest herring, atlanto-scandian herring, horse mackerel, blue whiting, boarfish and albacore tuna are also managed. The particular management of each is further subdivided between various sectors of the fleet. The fishing of pelagic species is generally confined to spring and the autumn. Since 1st January 2015, pelagic stocks have been subject to the landing obligation.

In December 2017, to align the principles of the landing obligation to Ireland's quota management system, a conservation measure was put in place. The measure, a pilot quota balancing policy for pelagic stocks, was put in at the request and in cooperation with industry representatives. This was expanded to cover key demersal (whitefish) stocks in a policy set down in April 2019. Quota balancing means that when a catch limit allocated to a vessel is exceeded, a balancing adjustment will be made from future allocations of fishing opportunities and will operate independently of any other action being considered by the control authorities.

Pelagic stocks have been quota balanced for all years commencing in 2018. Quota balancing for the five key demersal (whitefish) stocks was implemented in 2020 and 2021. In 2021, a total of 80 tonnes of demersal stocks, with an estimated overall value of €237,300, were recouped and over 6,500 tonnes of pelagic quota were balanced and re-distributed at an estimated value of over €3.5m.

5.4 The Irish Fishing Fleet

The Irish fishing fleet can be broken down into five categories:

Specific Segment

This category covers vessels permitted to fish for bivalve mollusc and aquaculture species. There were 145 vessels registered under this category at year end 2021.

Polyvalent Segment

Polyvalent vessels totalling 1,718 made up the majority of the Irish fishing fleet in 2021. These vessels are multi-purpose and include both smaller inshore vessels and medium or large offshore vessels used to land whitefish, pelagic fish and bivalve molluscs.

Beam Trawler Segment

This category contained 10 vessels dedicated to beam trawling, a simple trawling method used predominantly in Irish inshore waters (except in the southeast), where it is used to catch flatfish such as sole and plaice.

Refrigerated Seawater (RSW) Pelagic Segment

This segment contained 23 vessels engaged predominantly in fishing for pelagic species, primarily herring, mackerel, horse mackerel and blue whiting.

Aquaculture Segment

The 97 vessels in this category must be exclusively used in the management, development and servicing of aquaculture areas and can collect mussel seed subject to an authorisation, as part of a service to aquaculture installations.

Table 5.2: *The Irish Fishing Fleet 31st December 2021*

Segment	Number of vessels	Gross Tonnes	Kilowatts (kW)
Polyvalent	1,718	32,790	116,241
Pelagic	23	26,259	47,397
Beam Trawl	10	1,139	2,818
Specific	145	2,227	11,908
Aquaculture	97	4,280	11,669
Total	1,896	62,415	178,364

Source: gov.ie - Licensing Authority Annual Reports (www.gov.ie)

5.5 Employment

With over 16,000 direct and indirect jobs across fisheries, aquaculture, processing and ancillary sectors, the seafood industry plays a vital role in the sustainable economic viability of many coastal communities across Ireland.

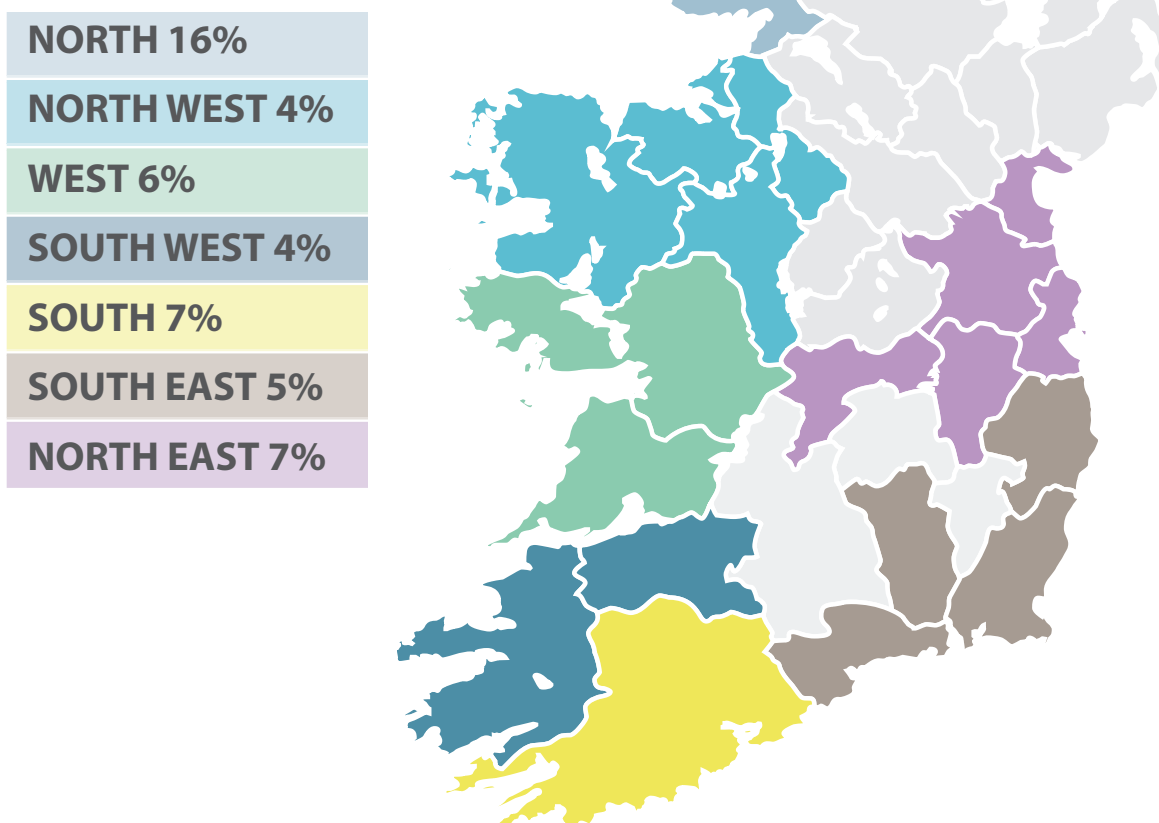
Table 5.3 *Employment in the Seafood Industry, 2020 and 2021*

	2020			2021		
	Full Time	Part Time	Total	Full Time	Part Time	Total
Fisheries	2,271	610	2,881	2,353	495	2,848
Aquaculture	1,033	819	1,852	1,111	873	1,984
Processing	2,961	896	3,857	2,973	900	3,873
Ancillary			7,840			7,942
Total			16,430			16,647

Source: BIM

Figure 5.3: *The Breakdown of Employment by Region*

Breakdown of Employment by Region



Source: BIM The Business of Seafood Report 2021

5.6 Aquaculture Licencing

Since 2012, the Minister has made over 1,250 shellfish and seaweed aquaculture licensing determinations. Eight hundred of these determinations were made since 2017 following the implementation of a two-year programme to eliminate the licencing backlog. Delays due to COVID-19 restrictions led to a reduced number of applications (27) reaching the Ministerial Determination stage in 2021. Despite the difficulties presented by the COVID-19 crisis in 2021, licence applications have continued to be processed and the shellfish industry is on course for a productive and prosperous post-COVID future. Effectively eliminating the shellfish licensing backlog has also had the effect of stimulating interest and activity, evidenced by a significant increase in new licence applications over the past two years.

The processing of applications for finfish licences in the marine environment is significantly more complex than the situation in relation to shellfish aquaculture. This is due to the requirement for operators to produce Environmental Impact Statements/Environmental Impact Assessment Reports (EIS/EIAR) and DAFM and relevant Agencies to analyse these reports in detail. DAFM must then produce an Environmental Impact Assessment in relation to each application. Following a number of extensions, as requested by the aquaculture industry, almost all operators submitted EIS/EIAR documentation by the final deadline of 30th June 2021. However, further work is required in relation to several of the applications, including in respect of the EIS/EIAR documents received. DAFM is currently engaging with those operators concerned in relation to the outstanding documentation. Once the necessary documents are received and the required technical and scientific reviews are completed, the applications will be subjected to both public and statutory consultations, in accordance with the relevant legislation. It should be noted that all operators who have applied for a renewal of existing aquaculture licences are entitled to continue operations at aquaculture sites subject to the terms and conditions of their existing licences as set out in Section 19A(4) of the Fisheries (Amendment) Act 1997. This effectively allows them to continue to operate, after the expiry of their aquaculture licences, subject to the terms and conditions of their original aquaculture licences pending the determination of their renewal applications.

The report of the Aquaculture Licensing Review Group recommended the development of a web-based aquaculture application and monitoring system. In June 2022 the Minister for Agriculture, Food and Marine, announced the launch of Phase 1 of the new state of the art Aquaculture Information Management System (AQUAMIS). The online viewer was developed as part of Phase 1 of this project, which will develop an overall aquaculture management information system for aquaculture licences in Ireland. The online viewer will allow members of the public to freely access and view licensed aquaculture sites and mapping information through a public portal and was developed in collaboration with the Marine Institute.

5.7 Inshore Fisheries

Developing Sustainable Inshore Fisheries

The implementation of the Strategy for the Irish Inshore Fisheries Sector 2019-2023 continued in 2021, with the Strategy Implementation Group driving progress on actions it identified as priorities for the sector. A digital literacy project was approved for funding by the European Maritime and Fisheries Fund to provide for the development of a digital literacy syllabus to upskill the inshore sector. An improved level of digital literacy within the sector will allow it to engage more effectively with the extant structures such as the Regional Inshore Fisheries Forums, but to also better organise and advocate on behalf of the sector.

The extensive participation of the National Inshore Fisheries Forum (NIFF) in the deliberations of the Seafood Task Force resulted in several key elements of the Strategy, notably inshore fleet restructuring, the marketing of inshore sector produce and the provision of infrastructure at small piers and landing places, being recommended for funding schemes. Bord Iascaigh Mhara (BIM) is leading the implementation of the Strategy in partnership with the NIFF and the National Inshore Fishermen's Association.



The NIFF met on seven occasions during 2021. Given the ongoing impact of the COVID-19 pandemic, these meetings were held virtually to discuss and develop proposals concerning inshore fisheries and their interactions with Natura 2000 sites. The NIFF is supported by a network of six Regional Inshore Fisheries Forums (RIFFs), which involve representation from inshore fisheries and other marine stakeholders. A dedicated website provides information on the work of the Forums: www.inshoreforums.ie.

The management of the all-island mussel seed fishery continued in 2021, with the autumn fishing season commencing in the Irish Sea in early September. The fishery in Castlemaine Harbour, Co. Kerry did not open in 2021 as no seed beds were detected during BIM surveys. The mussel seed fishery continues to be certified by the [Marine Stewardship Council \(MSC\)](#). The current certification, which was issued in 2018, is valid for five years.

Impact of Brexit on Voisinage Arrangements

The Voisinage (or “neighbourhood”) arrangements between Ireland and Northern Ireland have provided reciprocal fishing access for more than 50 years in the waters from 0 - 6 nautical miles of each jurisdiction.

The European Commission informed DAFM on 9th July 2021 that the UK authorities had licensed Irish vessels to fish in the United Kingdom 0 - 6 nautical miles zone from 10th July 2021. 205 Irish vessels were licensed by the UK authorities in 2021.

Applications were invited from Irish sea-fishing boat owners in November 2021 for new or continued access to the UK 0 - 6 nautical miles zone for 2022. The European Commission provided confirmation on 30th December 2021 that the United Kingdom Single Issuing Authority (UKSIA) had issued the 2022 United Kingdom foreign vessel licences to EU vessels. 230 Irish vessels have received licences in this regard which are valid until 31st December 2022. DAFM continues to notify the European Commission of Irish vessels seeking access to fish in the Northern Ireland 0 - 6 nautical miles zone which are subsequently referred to the UKSIA for authorisation.

5.8 Sustainability

Clean Oceans Initiative

The Clean Oceans Initiative was launched in January 2019 to address the issue of marine plastic pollution. BIM and the Harbour Masters of the six Fishery Harbour Centres owned and managed by DAFM have been working with the fishing industry in relation to pollution in our marine environment and marine litter. By the end of 2021, there were 244 boats (1,169 crew members), representing 96% of the fleet, officially registered as part of the Initiative at 12 ports. Work is ongoing since that time to maintain the participation rate of 96% and build upon it, where possible. In 2021, marine litter collected and disposed of appropriately by the primary production sector (both aquaculture and catching) amounted to approximately 180 tonnes. As part of the Clean Oceans Initiative and its predecessor, the Fishing for Litter campaign, over 741 tonnes of mainly plastic waste have been collected by the seafood sector since 2015. The Fisheries Producer Organisations, which represent the majority of Ireland's trawling fleet, endorsed the Clean Oceans Initiative and have encouraged their members to sign up and get involved.

The continuing campaign on the Clean Oceans Initiative is around providing the fleet that have signed up with continued facilities to dispose of their passively fished waste into the Clean Oceans ports. Funding to support the Initiative has been made available under Ireland's European Maritime and Fisheries Fund (EMFF) to provide on-board storage facilities and onshore infrastructure for the environmentally friendly disposal of all plastics, waste, ghost fishing gear etc. recovered at sea. Onshore infrastructure is also available to fishers to dispose of unwanted fishing gear and other items with a plastics content.

The recently published Climate Action Plan 2021 includes an action to *"maintain the participation rate of 96% in the Clean Oceans Initiative and bring the Fishery Harbour Centres in line with the Port Reception Facilities Directives."* DAFM continues to support the Clean Oceans Initiative, and removal of litter from the ocean, to protect the marine environment from degradation.

5.9 Biodiversity

DAFM's Statement of Strategy includes actions to support the ecosystem in inshore waters and promote environmental sustainability in Irish waters. This will protect fishers and fish stocks into the future. This involves ensuring that sea-fishing activities, which can include a variety of fishing gears, are conducted in a manner that avoids the deterioration of designated features of Natura 2000 sites and the significant disturbance of protected species within those sites. Management measures can be introduced because of an Appropriate Assessment or Risk Assessment depending on the context of the sea-fishing activity, and particularly where an assessment determines that a fishing activity may pose a threat to a protected habitat and/or species. The conclusion of many assessments to date is that exclusionary measures are only required in very limited circumstances. A suite of management tools can be put in place to facilitate co-existence between commercial sea-fishing activities and protected habitats and species.

In 2021, a report supporting the Appropriate Assessment of a Fisheries Natura Plan for Cockle in the Dundalk Bay Special Area of Conservation (SAC) and Special Protection Area (SPA) was carried out by the Marine Institute on behalf of DAFM. Taking account of the Appropriate Assessment report, public consultation submissions and the Marine Institute responses to any issues raised, the Fisheries Natura Plan for Cockle in Dundalk Bay (2021-2025) was approved and adopted. The Plan sets out a series of management measures with the aim of ensuring both a sustainable fishery and preservation of habitat within Dundalk Bay.

DAFM also engages with the Department of Housing, Local Government and Heritage in relation to the expansion of Ireland's network of Marine Protected Areas (MPAs). Well managed MPAs can foster healthy marine ecosystems and help address biodiversity loss which will be of benefit to the seafood sector. Careful management and collaboration with the seafood sector is required to ensure that the expansion of Ireland's MPA network is successful.

5.10 Ireland and EU Outlook

Following the UK's withdrawal from the EU, a large number of fish stocks that were previously exclusively Union resources are now shared resources under international law. The Commission has the sole competence to negotiate with Third Countries (including the UK) on behalf of the EU on the setting of fishing opportunities. The consultations between the EU and UK on 2023 fishing opportunities for shared stocks will take place between October and December 2022. In the event that agreement with the UK cannot be reached by 20th December 2022, the Trade and Cooperation Agreement provides that each Party shall set provisional Total Allowable Catches (TACs) applying from 1st January 2023.

The Common Fisheries Policy (CFP) Regulation, Regulation (EU) 1380/2013, provides that the European Commission will report to the European Parliament and the Council on the functioning of the CFP by the end of 2022. Ireland is seeking a comprehensive review of the CFP to take into account the impact of the transfer of quota under the EU-UK Trade and Co-operation Agreement. Ireland is also seeking to modernise the legislative framework to better incorporate EU environmental commitments. In December 2021, the European Commission launched an online questionnaire as the first step in its public consultation on the preparation of this report. The Commission closed the public consultation process with a stakeholder event on 10th June 2022.

Common Fisheries Policy Review 2022

In February 2022, Minister McConalogue established a national CFP Review Group to examine the issues that arise for Ireland in the context of the CFP Review, to advise him on priorities for the negotiations and to identify strategies most likely to influence the outcome of the review. The Group is chaired by Mr. John Malone, former Secretary General of the DAFM, and assisted by a steering committee comprising Mr. Micheál Ó Cinneide, former Director of the MI and EPA, and Mr. Donal Maguire, former Director in BIM. Mr. Michael Keatinge, former BIM Deputy CEO, is rapporteur for the Group. The Group involves representatives of key stakeholders, including Producer Organisations, the National Inshore Fisheries Forum, the aquaculture industry, co-ops, the seafood processing industry and representatives of environmental NGOs.

The Group held a public consultation in April 2022, inviting written submissions or observations from the public. There were 108 submissions received covering topics such as aquaculture, climate change, environmental issues, inshore issues, the landing obligation, quota and fisheries management and sustainability. The Group will draft a report for the Minister.

The fishing industry, like all sectors of the economy, has been greatly impacted by the increased energy costs arising from the Russian aggression against Ukraine. The increases in fuel costs are compounding the challenges the industry has already had to contend with from COVID-19 and the impact of the EU-UK Trade and Co-operation Agreement.

CHAPTER 6

Agri-Food Sector Trade



The value of agri-food exports for 2021 totalled
€15.4 billion.



The United Kingdom is our
largest trading partner
with 38% (€5.8 billion) of agri-food products exported there in 2021.



The Prepared Consumer Foods sector accounted for over
€2.7 billion
in agri-food sector exports in 2021.

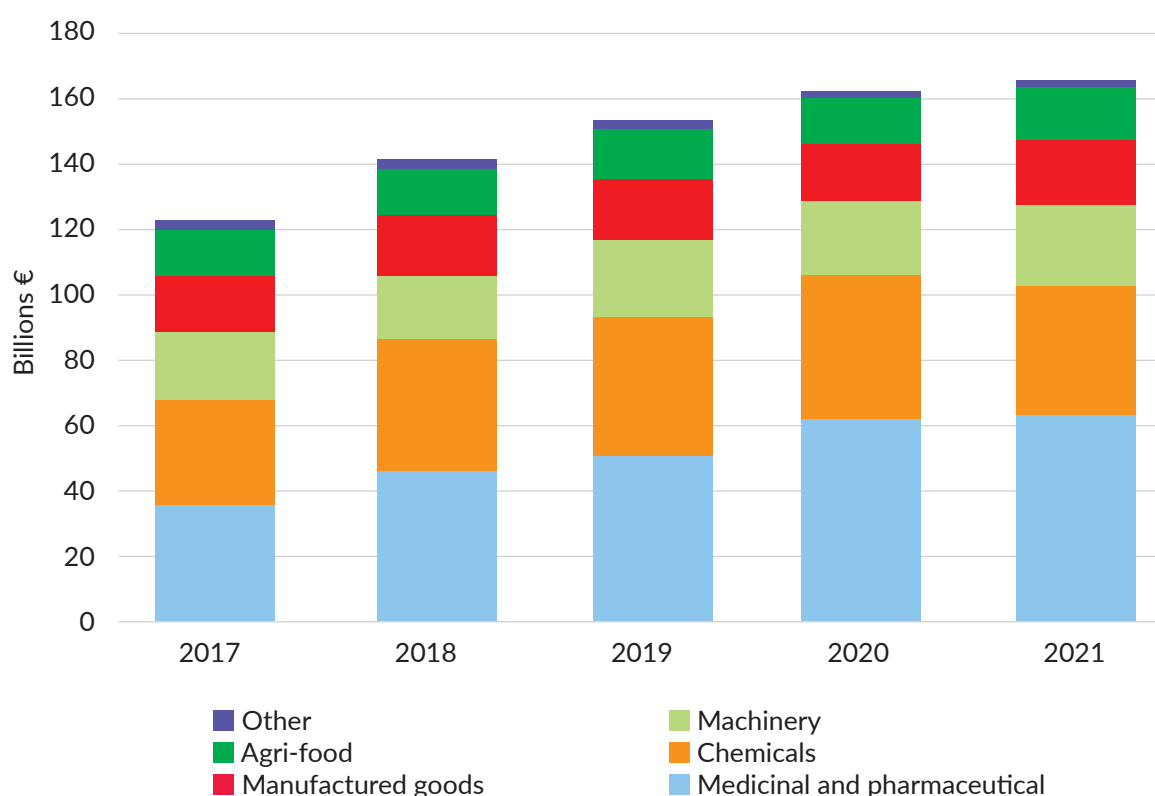
6.1 Overview

Agriculture is Ireland's largest indigenous exporting sector. Irish food and agricultural products are produced by thousands of farmers, fishermen and agri-food companies from the four corners of the island. This locally produced food is exported to over 180 countries around the world, with agri-food exports totalling €15.4 billion in 2021. This supply chain stretches from rural and coastal areas all across Ireland to distant markets in Asia, America and Africa, underlining the sector's pivotal role in the Irish economy.

The €15.4 billion value of agri-food exports for 2021 was up 8% on 2020 figures, and up 51% on 2012 values. Dairy produce was the largest of these exports at €5.1 billion, the third year dairy exports exceeded €5 billion. Beef, the second most valuable export, was up by €72 million to €2.4 billion. There was an increase in the value of export of beverages by €295 million to €1.8 billion (+20%), forestry was up €208 million to €629 million (+50%) and live animal exports were up €116 million to €534 million (+28%). The only significant decreases in export categories were in poultry, down €17 million to €238 million (-7%) and a marginal decrease in dairy by €49 million (-1%). The recovery of the global economy from the worst effects of the COVID-19 pandemic, as well as greater certainty concerning the post-Brexit environment, has likely contributed to the strong growth in agri-food exports.

The Irish agri-food sector is globally orientated, with approximately 90% of Irish beef, sheepmeat and dairy produce exported each year. Ireland is an open economy and exports of all goods for 2021 totalled €165 billion in value, a 2% increase on 2020, and a 77% increase since 2012. Agri-food exports accounted for 9% of total exports.

Figure 6.1 Merchandising exports by value, 2017 – 2021



Source: CSO

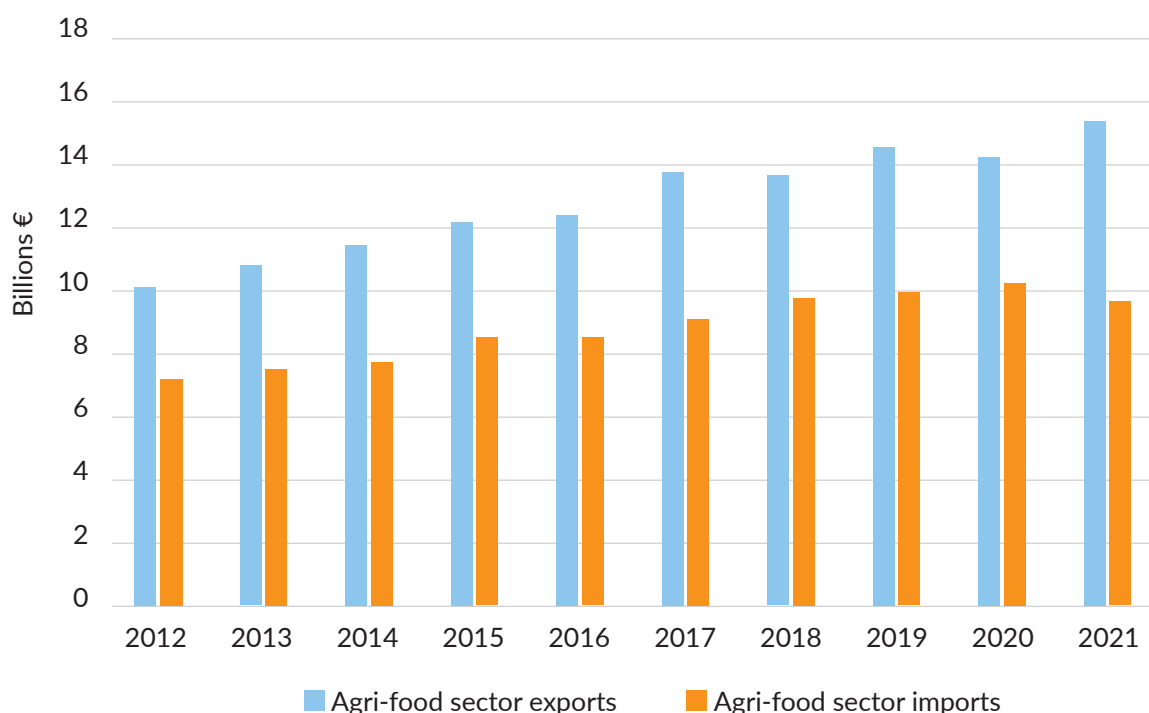
This chapter examines agri-food sector exports worldwide, in terms of both traditional agri-food products, like beef and dairy, and also prepared consumer food products. Further information on trade can be found in the Trade Factsheet on the Department's website.

6.2 Agri-food sector trade

Agri-food sector trade is broken down into 26 categories identified and agreed upon by the Department of Agriculture, Food and the Marine and the Central Statistics Office. Products and Raw Goods are categorised using combined nomenclature (CN) codes, a European harmonised system used to classify goods for customs and trade reasons. These categories include non-edible Agri-food items such as Forestry and Animal Hides and Skins (not included as part of Bord Bia trade statistics), along with traditional Food and Beverage products.

Agri-food exports were almost €15.4 billion in 2021, an increase of 7.6% over 2020 and an increase of 51% since 2012. Imports of agri-food sector products totalled €9.7 billion in 2021, decreasing 5% on 2020, but increasing 35% from €7.2 billion in 2012. There was a trade surplus in agri-food products of €5.6 billion in 2021.

Figure 6.2 Agri-food Trade, 2012 – 2021

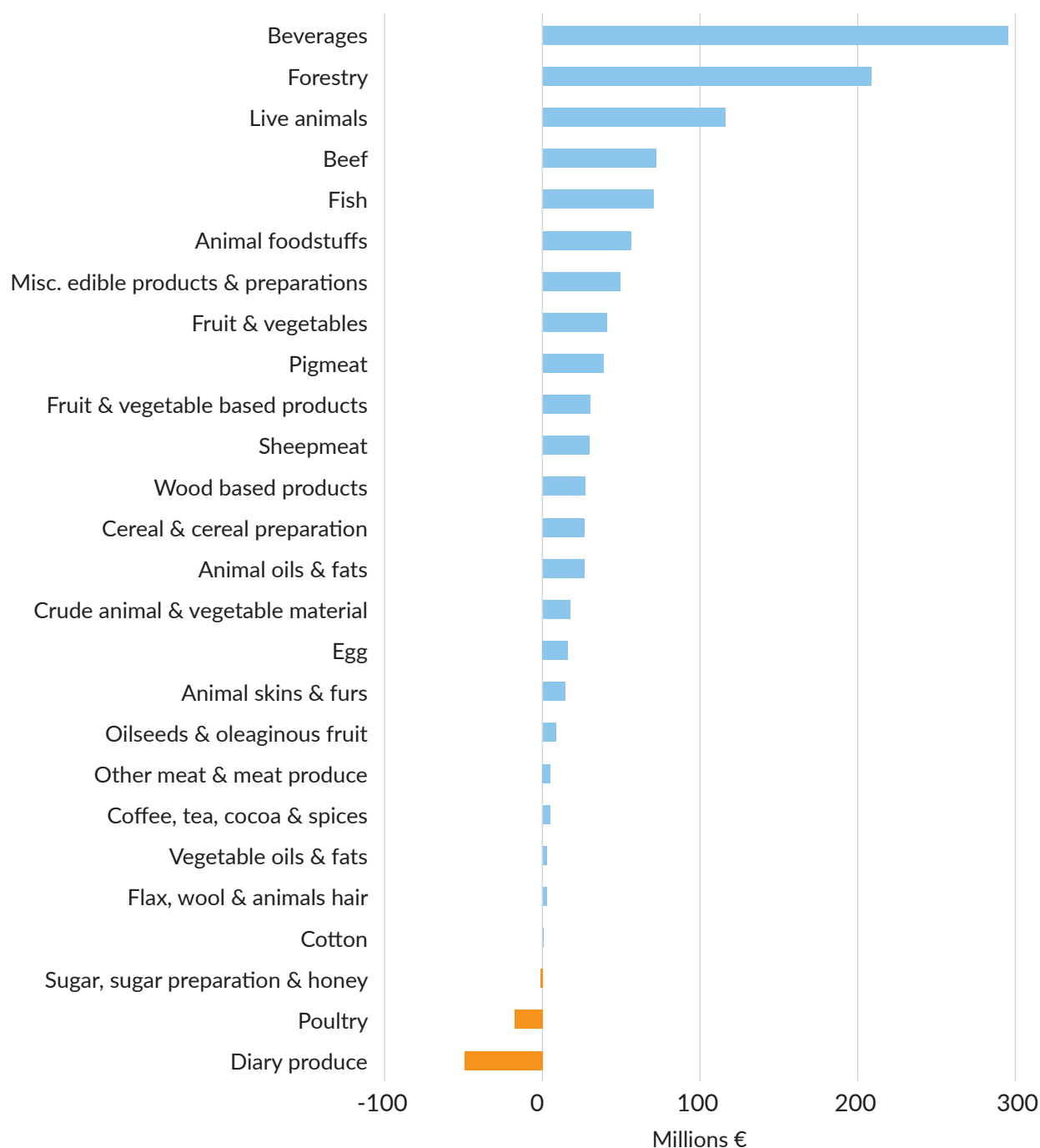


Source: CSO

In value terms the top five agri-food exports were dairy produce, beef, beverages, pigmeat and forestry:

- Dairy exports were valued at €5.1 billion in 2021, a decrease of €49 million on 2020.
- Beef exports increased by €72 million in 2021 to €2.4 billion, a 3% increase on 2020 figures.
- Beverage exports increased by €295 million, or 20% on 2020 to €1.8 billion.
- Pigmeat exports increased by €39 million to €932 million.
- Forestry moved into fifth place in 2021 (replacing cereal & cereal preparation), with exports worth €629 million, a 50% increase on the previous year.

The top five agri-food categories by value, accounted for 70% of total agri-food sector exports in 2021, totalling €10.8 billion.

Figure 6.3 Change in Value of Agri-food Sector Exports, 2021 Vs 2020**Source:** CSO

Between 2020 and 2021, agri-food sector exports increased in value across 23 of the 26 agri-food categories. Agri-food exports by volume decreased by some 1% between 2020 and 2021, indicating a strong performance on growing export value. Overall Ireland exported 7.2 million tonnes of agri-food in 2021 with dairy produce accounting for 1.7 million tonnes and forestry accounting for 1.3 million tonnes. Other significant volumes were beverage exports of 866,000 tonnes and animal feed of 722,000 tonnes.

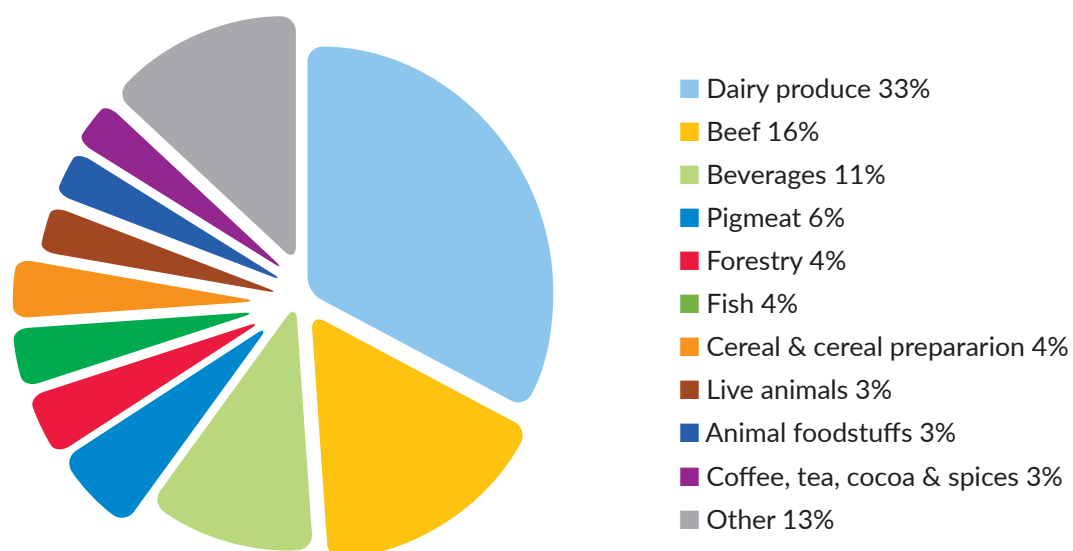
Table 6.1 Value and Volume of Agri-food Exports by Category, 2020 - 2021

Category	2020		2021		2021 Vs 2020	
	€000	Tonnes	€000	Tonnes	Value	Tonnes
Dairy Produce	5,108,914	1,713,568	5,059,581	1,650,933	-1%	-4%
Beef	2,334,846	524,710	2,406,477	451,352	3%	-14%
Beverages	1,458,033	870,026	1,753,318	866,095	20%	0%
Pigmeat	893,261	276,450	931,921	289,823	4%	5%
Forestry	420,437	1,378,668	628,747	1,285,361	50%	-7%
Fish	532,835	201,447	602,998	235,251	13%	17%
Cereal & cereal preparation	538,788	498,803	565,030	505,148	5%	1%
Live Animals	418,661	89,032	533,995	89,167	28%	0%
Animal Foodstuffs	395,125	696,554	451,562	772,082	14%	11%
Coffee, Tea, Cocoa & Spices	420,795	78,208	427,770	75,804	2%	-3%
Miscellaneous Edible Products & Preparations	338,642	108,043	387,998	133,920	15%	24%
Sheepmeat	355,680	64,096	385,230	57,928	8%	-10%
Poultry	254,909	133,339	237,469	94,505	-7%	-29%
Fruit & Vegetables	176,708	89,888	217,454	94,041	23%	5%
Fruit & Vegetables Based Products	151,017	106,128	180,769	109,809	20%	3%
Crude Animal & Vegetable Material	116,563	192,167	133,824	208,613	15%	9%
Sugar, Sugar Preparation & Honey	123,282	53,781	121,762	49,098	-1%	-9%
Animal Oils & Fats	70,486	97,892	96,898	94,737	37%	-3%
Animal Skins & Furs	58,636	79,266	72,616	71,457	24%	-10%
Wood Based Products	26,158	11,547	53,009	33,952	103%	194%
Egg	21,457	9,275	37,409	10,373	74%	12%
Other Meat & Meat Produce	24,547	40,142	29,397	5,383	20%	-87%
Vegetable Oils & Fats	14,534	16,740	17,110	19,987	18%	19%
Oilseeds & Oleaginous Fruit	8,598	12,119	16,919	31,368	97%	159%
Flax, Wool & Animal Hair	4,777	3,601	7,051	4,220	48%	17%
Cotton	12	3	38	6	224%	106%
Grand Total	14,267,703	7,345,494	15,356,351	7,240,413	8%	-1%

Source: CSO

The top eight agri-food categories by value, Dairy Produce, Beef, Beverages, Pigmeat, Forestry, Fish, Cereal & cereal preparation and Live Animals accounted for 81% of total agri-food sector exports in 2021, totalling €12.5 billion. The remaining 18 categories accounted for 19% of exports at a value of €2.9 billion.

Figure 6.4 Agri-food Exports by Category, 2021



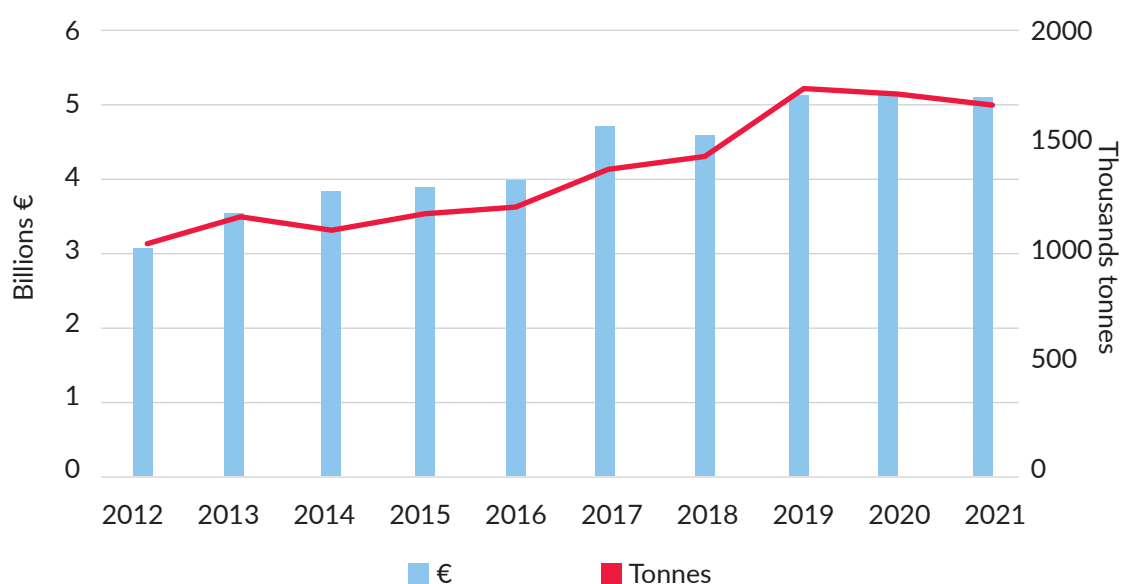
Source: CSO

Case Study

Dairy Produce

2021 marked ten years of strong growth of Irish dairy exports. Exports from this sector were valued at €5.1 billion in 2021, 33% of total Irish agri-food exports. Between 2012 and 2021, this category grew in value by €2 billion (+65%), from €3.1 billion to €5.1 billion. Ireland currently has a €4.2 billion trade surplus in respect of dairy produce, importing €840 million in 2021, a 21% decrease on 2020 figures. Dairy products were exported to 140 countries worldwide last year.

Figure 6.5 Worldwide Dairy Produce Exports 2012-2021



The top 10 export destinations by value for dairy produce in 2021 were the United Kingdom, the Netherlands, China, the United States, Germany, Nigeria, France, Saudi Arabia, Mexico and Belgium, accounting for close to 70% of dairy exports worth €3.5 billion. Ireland's two main dairy exports in 2021 were butter and cheese. Cheddar cheese exports were valued at €712 million with a further €337 million of other cheeses, bringing total cheese exports to €1.05 billion. Exports of butter were valued at €1.04 billion, 91% of which was natural butter.

Ireland's largest dairy export destination in 2021 was the United Kingdom. In 2021 exports to the UK totalled €960 million, a decrease of 3% on 2020 figures. This was made up of €603 million worth of exports to Great Britain and €357 million to Northern Ireland.

Exports of dairy produce to the Netherlands increased by 4% in 2021, from a total of €680 million in 2020 to €711 million in 2021. Dairy produce accounts for 57% of all Irish agri-food exports to the Netherlands.

The 3 top countries by import value for dairy produce in 2021 were the United Kingdom (€468 million), the Netherlands (€109 million) and Germany (€84 million), accounting for 79% of Ireland's total dairy imports. Full fat milk from Northern Ireland accounts for about a quarter of dairy produce imports with various cheeses, including €72 million of fresh mozzarella, accounting for a further quarter of dairy imports.

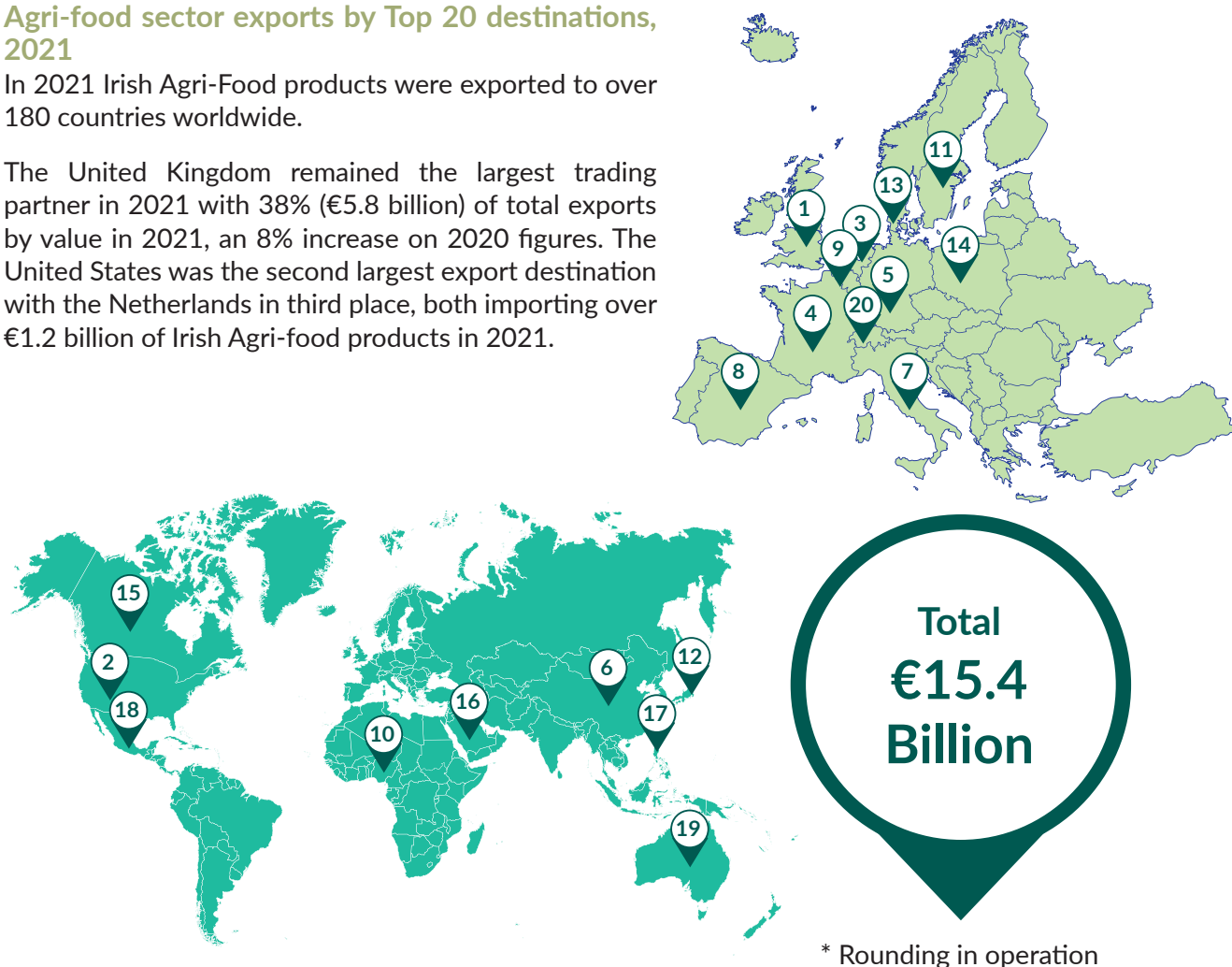
Source: CSO

6.3 Agri-food sector trade by destination

Agri-food sector exports by Top 20 destinations, 2021

In 2021 Irish Agri-Food products were exported to over 180 countries worldwide.

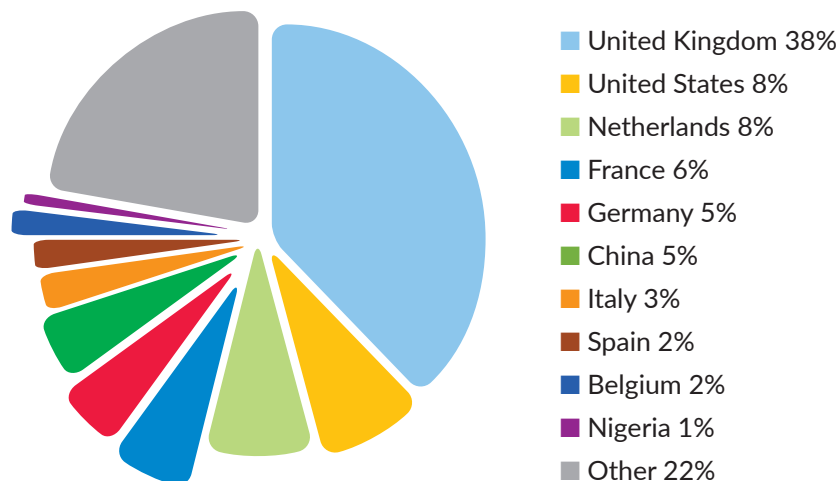
The United Kingdom remained the largest trading partner in 2021 with 38% (€5.8 billion) of total exports by value in 2021, an 8% increase on 2020 figures. The United States was the second largest export destination with the Netherlands in third place, both importing over €1.2 billion of Irish Agri-food products in 2021.



Trade among the top 20 destinations was over €13.3 billion in 2021.

The highest increases in the top 20 were seen in Mexico, with a 34% increase, followed by Sweden and the Philippines, which each increased by 28%.

Figure 6.6 Top 10 Agri-food Destinations 2021



Source : CSO

Table 6.1 Value and Volume of Agri-food Exports by Category, 2020 - 2021

Country	Rank 2020	Rank 2021	Rank Change	2020		2021	
				€000	Tonnes	€000	Tonnes
United Kingdom	1	1	→	5,357,138	4,301,582	5,798,537	4,172,971
United States	3	2	↑	1,073,576	210,247	1,290,502	257,687
The Netherlands	2	3	↓	1,135,727	533,939	1,239,871	530,631
France	5	4	↑	864,556	291,216	858,152	246,349
Germany	6	5	↑	826,328	226,379	819,037	219,726
China	4	6	↓	872,460	298,900	778,013	272,989
Italy	7	7	→	346,029	87,682	395,918	101,490
Spain	9	8	↑	249,216	61,635	295,935	70,123
Belgium	8	9	↓	260,531	95,419	270,583	99,018
Nigeria	11	10	↑	179,565	105,988	211,268	130,889
Sweden	12	11	↑	158,638	43,323	203,629	44,953
Japan	13	12	↑	147,126	48,959	177,124	53,113
Denmark	14	13	↑	145,037	58,870	154,743	65,487
Poland	10	14	↓	197,149	57,679	150,405	49,864
Canada	15	15	→	128,835	28,294	144,166	29,723
Saudi Arabia	16	16	→	99,898	31,867	111,837	30,096
Philippines	20	17	↑	86,027	44,234	110,268	53,802
Mexico	25	18	↑	76,872	11,582	103,146	14,884
Australia	24	19	↑	79,558	34,563	95,729	36,008
Switzerland	18	20	↓	89,089	12,056	90,105	10,474
Egypt	23	21	↑	80,023	32,977	83,428	33,733
South Africa	19	22	↓	87,654	59,670	81,633	30,603
Turkey	31	23	↑	45,454	14,659	73,182	12,783
Senegal	29	24	↑	55,426	30,174	72,985	34,455
Iraq	21	25	↓	85,804	31,628	69,999	26,901
Top 25 Totals				12,727,716	6,753,520	13,680,192	6,628,749

Source: CSO

6.4 Key markets for Irish Agri-Food Exports

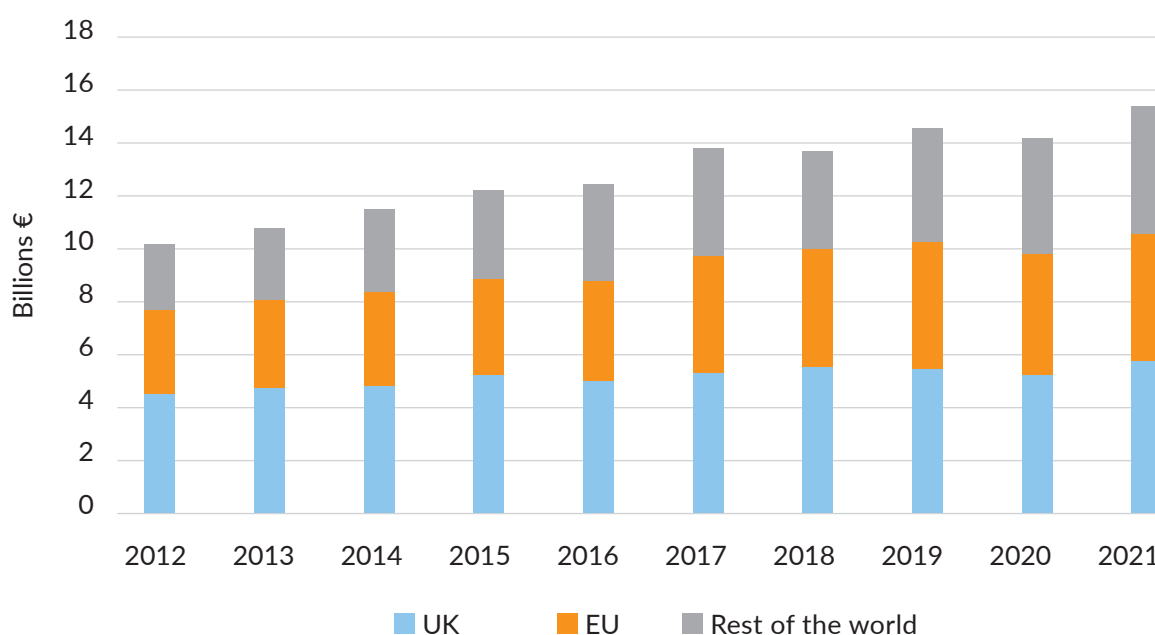
Irish Agri-food products were exported to over 180 countries in 2021. The United Kingdom remains our largest trading partner with 38% (€5.8 billion) of agri-food products exported to this destination. Other EU countries accounted for 31% (€4.8 billion) of agri-food exports in 2021 and the Rest of the World accounted for 31% (€ 4.8 billion).

United Kingdom – Number 1

While the United Kingdom (Great Britain & Northern Ireland) remains Ireland's largest trading partner for agri-food produce with 38% of total products exported to the United Kingdom in 2021, the overall proportion of exports has seen a steady decline, from 44% in 2012.

With exports at €5.8 billion, and imports totalling €3.8 billion, Ireland has an agri-food trade surplus with the United Kingdom of approximately €2 billion.

Figure 6.7 Agri-food Exports by Region



Source: CSO

Table 6.3 Agri-food Trade to the United Kingdom by Category 2021

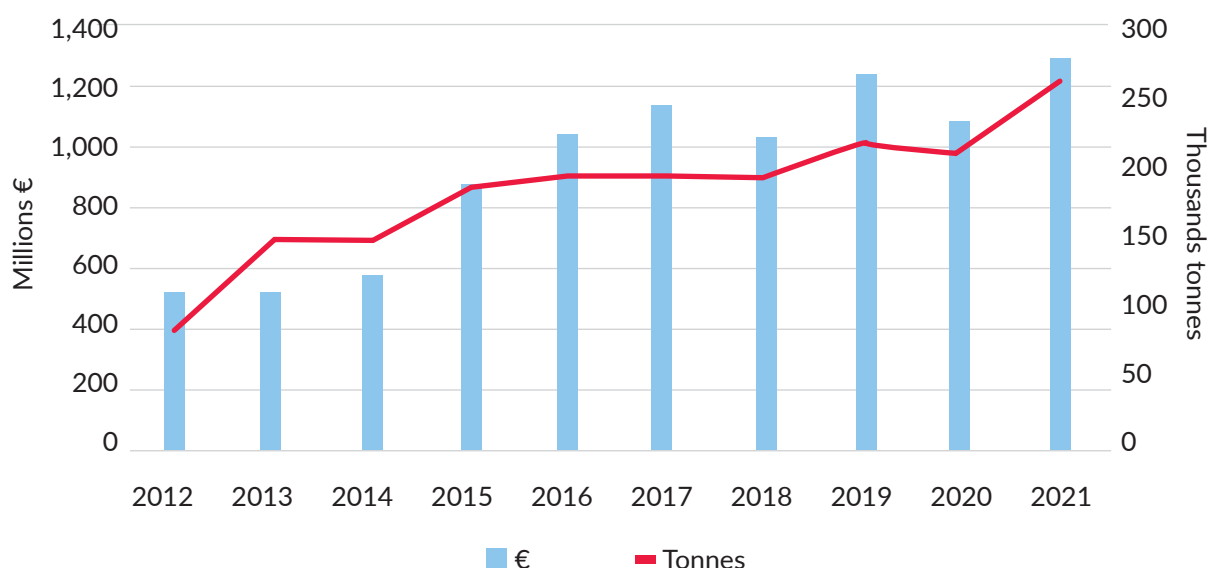
Category	UK		GB		NI	
	€000		€000		€000	
Category	Exports	Imports	Exports	Imports	Exports	Imports
Beef	1,053,291	133,965	857,154	67,478	196,137	66,486
Dairy Produce	959,683	468,081	602,619	142,965	357,065	325,116
Cereal & cereal preparation	526,853	608,973	376,945	452,266	149,909	156,707
Forestry	515,391	130,392	388,482	65,525	126,909	64,867
Live Animals	415,495	251,414	287,623	204,473	127,871	46,942
Pigmeat	412,176	111,277	314,018	64,604	98,158	46,674
Beverages	335,310	429,468	234,982	206,344	100,328	223,124
Animal Foodstuffs	297,431	281,469	152,076	108,810	145,356	172,659
Coffee, Tea, Cocoa & Spices	258,183	346,632	223,556	323,671	34,627	22,962
Miscellaneous Edible Products & Preparations	215,555	293,166	157,256	265,808	58,299	27,359
Fruit & Vegetables	210,372	126,265	159,943	72,562	50,428	53,703
Poultry	181,687	67,731	116,466	40,974	65,221	26,757
Fruit & Vegetables Based Products	103,474	157,283	74,235	122,274	29,239	35,009
Fish	49,014	73,912	23,066	55,395	25,948	18,517
Sheepmeat	47,656	28,638	40,366	21,632	7,290	7,006
Crude Animal & Vegetable Material	46,835	38,387	31,730	23,040	15,105	15,347
Wood Based Products	42,109	67,275	33,002	36,112	9,107	31,163
Sugar, Sugar Preparation & Honey	37,494	84,454	23,342	69,931	14,152	14,523
Other Meat & Meat Produce	25,550	2,626	22,618	798	2,932	1,829
Vegetable Oils & Fats	16,389	52,537	586	33,737	15,803	18,800
Oilseeds & Oleaginous Fruit	15,246	8,328	14,307	3,906	938	4,422
Egg	14,960	6,539	11,478	2,123	3,482	4,416
Animal Oils & Fats	12,690	16,450	9,301	2,612	3,390	13,837
Animal Skins & Furs	3,467	1,340	1,326	1,308	2,141	32
Flax, Wool & Animal Hair	2,202	4,749	2,200	4,625	2	124
Cotton	21	230	20	211	1	19
Grand Total	5,798,537	3,791,582	4,158,699	2,393,183	1,639,838	1,398,399

Source: CSO

United States – Number 2

The United States is Ireland's second largest market in terms of total agri-food exports, moving up one place compared to 2020. The United States accounted for €1.29 billion in exports in 2021, a 20% increase on 2020 and a 147% increase since 2012.

Figure 6.8 Value of Agri-food Exports to the United States by Year, 2012-2021

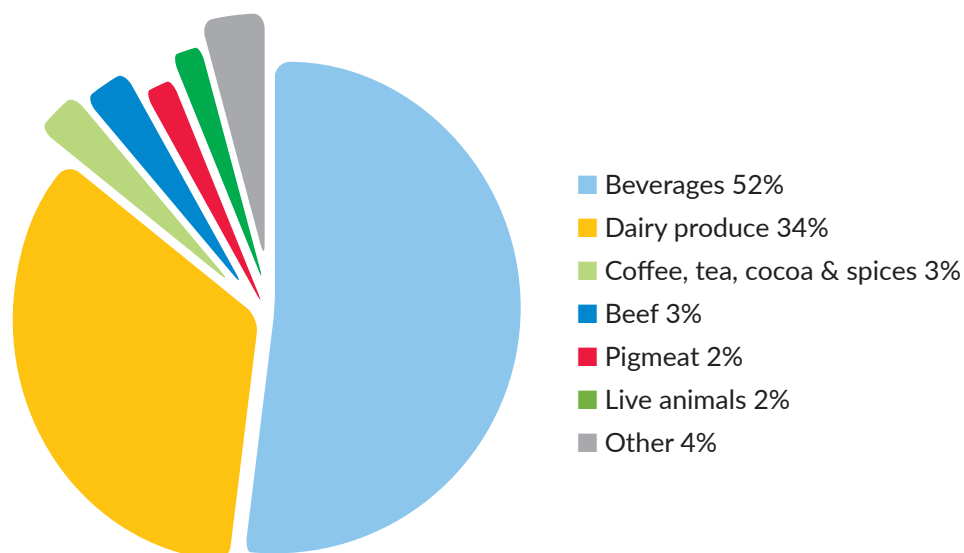


Source: CSO

The top two agri-food categories exported to the United States in 2021 were beverages, which accounted for 52%, and dairy produce, which accounted for 34% of the total. The 17% growth in export of beverages, to €657 million, can be largely attributed to the easing of COVID-19 restrictions. Irish whisky accounted for two thirds of beverage exports, with Irish cream liqueurs accounting for one fifth.

Dairy produce was Ireland's second largest export category to the United States; exports were valued at €431 million, with natural butter accounting for 45% of dairy exports. Coffee, Tea, Cocoa & Spices was the third largest export category, totalling €46 million, or 3% of total agri-food exports.

Figure 6.9 Agri-food Exports to the United States by Category 2021

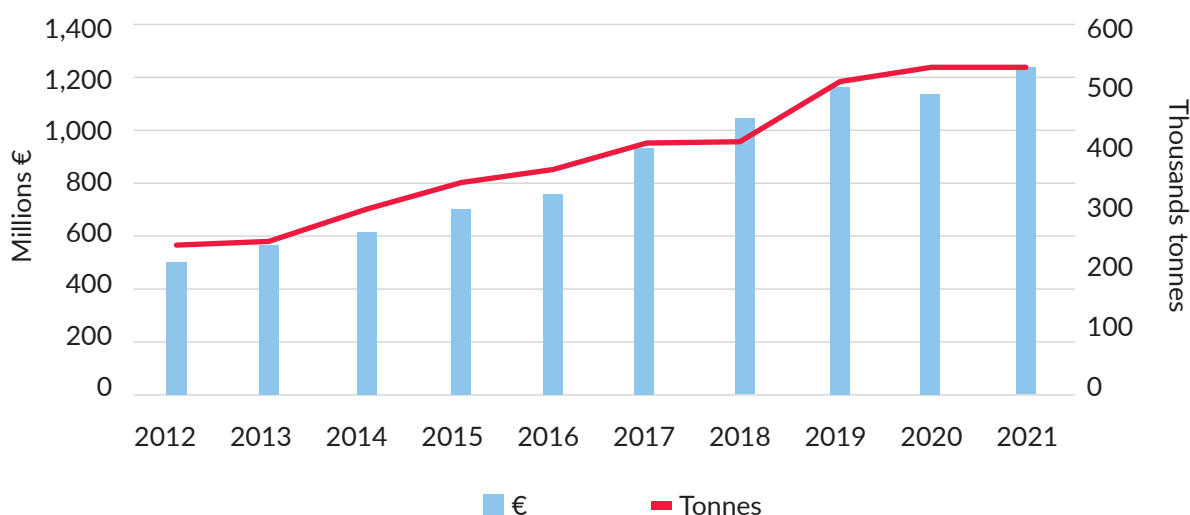


Source: CSO

The Netherlands – Number 3

In 2021 the Netherlands moved down one spot to be ranked as Ireland's third largest market in terms of total agri-food exports. In 2021 exports to the Netherlands totalled €1.24 billion, a 9% increase on 2020 figures. However, total agri-food exports to the Netherlands have increased by 146% since 2012.

Figure 6.10 Value of the Netherlands Agri-food Exports by Year, 2012-2021



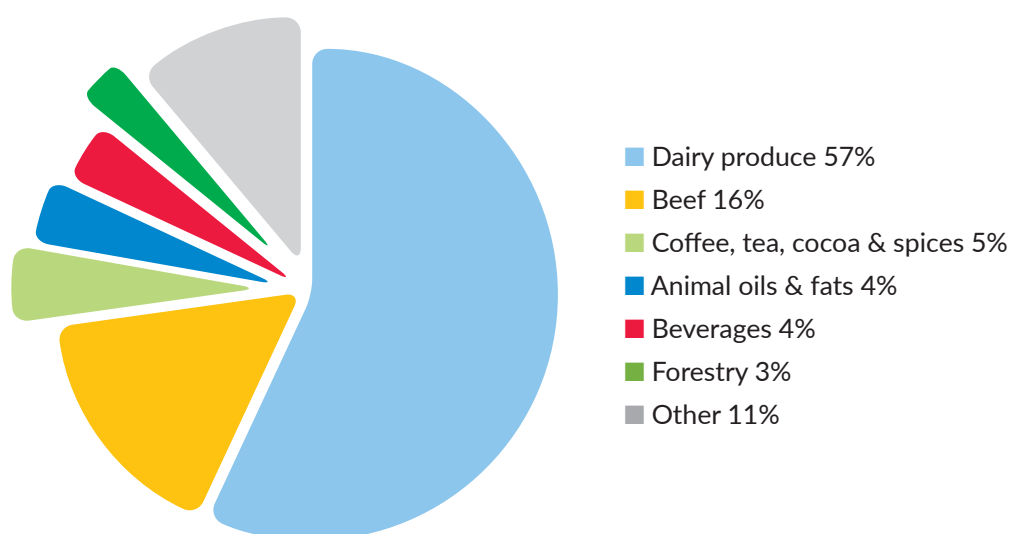
Source: CSO

The top two agri-food categories for export to the Netherlands are Dairy Produce and Beef, accounting for 74% of total agri-food exports.

In 2021 Dairy produce exports totalled €711 million, an increase of 4% on 2020 figures. Natural butter exports totalled €308 million in 2021 and were 43% of total dairy produce exports to the Netherlands.

Beef exports totalled €201 million in 2021, an increase of 1% on the previous year. 'Fresh or chilled bovine meat, boneless' is the main beef export worth €161 million in 2021, making up 80% of total beef exports to the Netherlands.

Figure 6.11 Agri-food Exports to the Netherlands by Category 2021



Source: CSO

Case Study

The Philippines

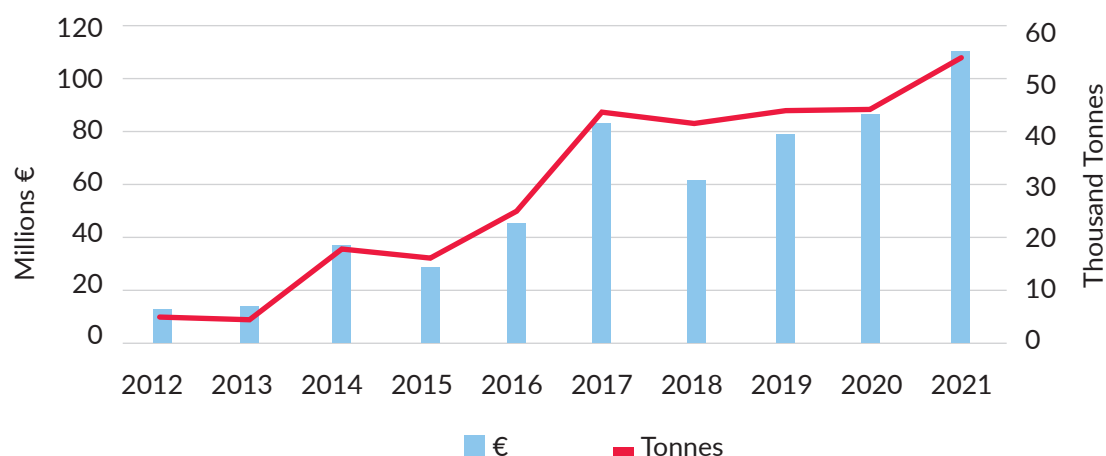
The Philippines is one of the most dynamic economies in the East Asia Pacific region. Average annual growth increased to 6.4% between 2010-2019 from an average of 4.5% between 2000-2009. With increasing urbanization, a growing middle class, and a large and young population, the Philippines' economic dynamism is rooted in strong consumer demand supported by a vibrant labour market and robust remittances.



The Philippine economy has also made progress in delivering inclusive growth, evidenced by a decline in poverty rates and its Gini coefficient. Poverty declined from 23.3% in 2015 to 16.6% in 2018, while the Gini coefficient declined from 44.9 to 42.7 over the same period.

Ireland has been participating in this growing market, evidenced by Irish agri-food exports to the Philippines reaching €110 million in 2021, an increase of 28%, or €24 million, on the previous year. Since 2012, agri-food exports to the Philippines have increased eight-fold in value, from €13 million to €110 million today. Beef exports were the largest category of agri-food exports to the Philippines in 2021, accounting for €46 million or 42% of total exports. Exports of dairy produce were valued at €34 million, while pigmeat (€14 million) and animal oils and fats (€12 million) were also valuable exports.

Figure 6.12 Agri-food Exports to the Philippines, 2012 – 2021



Source: CSO

Imports of agri-food products from the Philippines totalled €7.7 million in 2021, an increase of 150% or €4.6 million on the previous year. Ireland's top imports from the Philippines are crude animal & vegetable materials, miscellaneous edible products, and fruit & vegetable-based products. These top three categories amounted to €5.1 million or 66% of total imports from the Philippines.

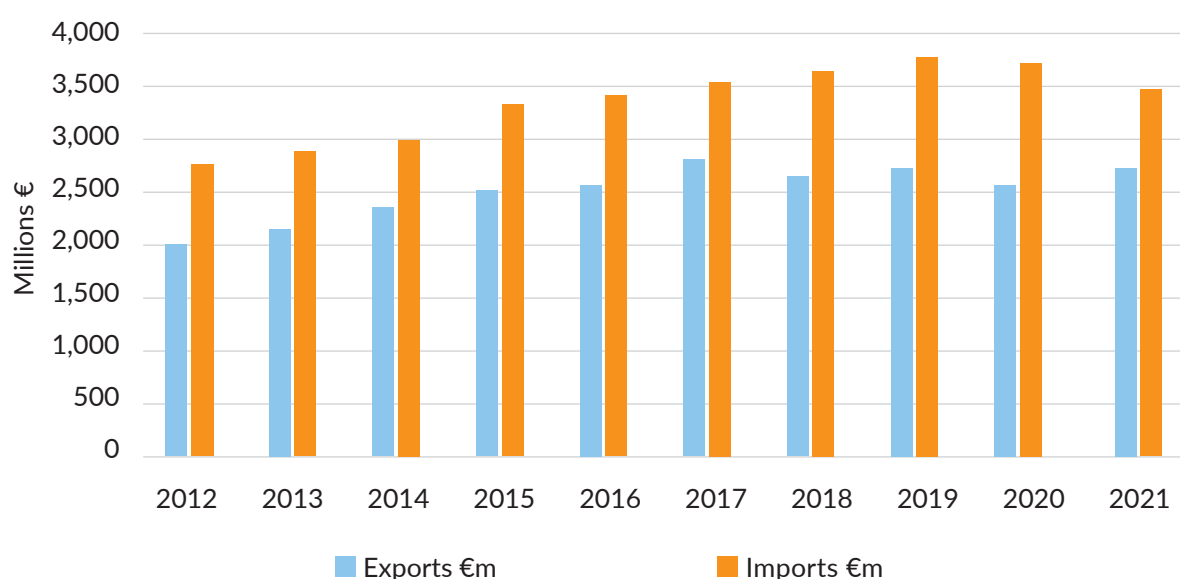
Sources: FAOSTAT, Gross Domestic Product (indicator)
The Philippines Overview (worldbank.org)
CSO Agri-stats – Agri-food Trade Data

6.5 Prepared Consumer Foods

Prepared Consumer Foods (PCF) are value-added food and beverage products, which sell both domestically and internationally to retail, food service or other food companies. These goods are categorised into 15 areas identified and agreed by industry stakeholders, the Department of Agriculture, Food and the Marine and the Central Statistics Office.

The Prepared Consumer Foods sector accounted for over €2.7 billion in agri-food sector exports in 2021, and €3.4 billion in imports. This resulted in a trade deficit of €733 million. Between the period 2012 – 2021, prepared consumer food exports increased by 35% from €2 billion to over €2.7 billion.

Figure 6.13 Global PCF Exports & Imports by Value, 2012-2021



Source: CSO

While overall exports of Irish Prepared Consumer Foods increased by 6% between 2020 and 2021, variances are evident depending on the category. Meat Preparations, the largest category by far, saw an increase of 10% in value terms on the previous year, accounting for €890 million or 33% of PCF exports in 2021. Other Food Preparations increased 11% from €276 million to €305 million, the second largest export category. There was also a significant increase in Breads exports, which grew from €78 million to €161 million, a 106% increase on the previous year, both due to price increases as well as a 61% increase in volume.

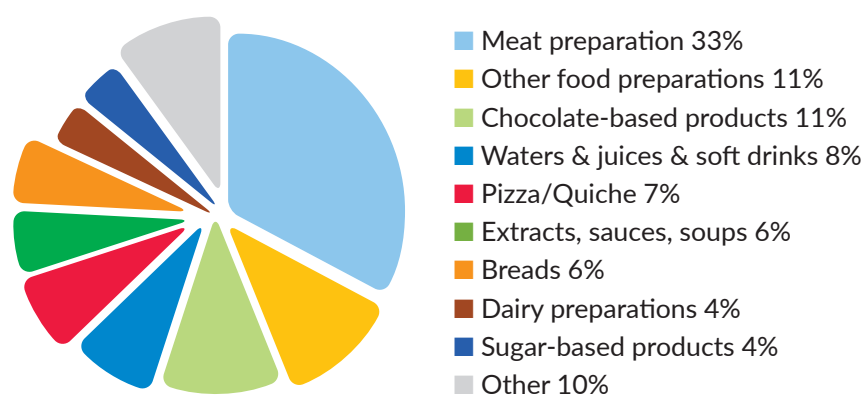
The largest decrease was seen in the Dairy Preparations category, with a 33% decrease on 2020 figures, decreasing from €159 million to €106 million. There was also a decrease of 13% in Pizza/Quiche exports, a decrease of €29 million in value terms on 2020 exports.

The top five Prepared Consumer Food categories are meat preparations, other food preparations, Chocolate-based products, Waters & Juices & Soft drinks and Pizza/Quiche, accounting for €1.9 billion or 70% of total exports by value in 2021.

Table 6.4 Prepared Consumer Food Exports by Category, 2020-2021

	2020		2021		% € Change	% Tonnes Change
	€000	Tonnes	€000	Tonnes		
Meat Preparations	810,844	145,610	888,406	148,120	10%	2%
Other Food Preparations	276,314	84,747	305,488	102,113	11%	20%
Chocolate-based products	304,384	68,312	305,398	64,922	0%	-5%
Waters & Juices & Soft Drinks	197,389	198,696	211,155	244,057	7%	23%
Pizza/Quiche	222,232	100,050	193,089	85,393	-13%	-15%
Extracts, Sauces, Soups	157,073	21,034	168,264	23,871	7%	13%
Breads	78,320	47,608	161,451	76,658	106%	61%
Dairy Preparations	159,016	40,713	106,296	32,697	-33%	-20%
Sugar-based products	103,269	35,520	104,818	33,651	2%	-5%
Cereal based Products	88,397	108,920	97,958	130,434	11%	20%
Fruit & Vegetable based	39,772	20,620	66,650	29,825	68%	45%
Fruit-based bakery	95,624	42,757	66,070	19,145	-31%	-55%
Frozen Confectionery	13,762	5,795	17,739	7,005	29%	21%
Biscuits	12,964	3,807	12,711	3,635	-2%	-5%
Savoury Snacks etc	1,856	443	6,097	2,648	229%	497%
Grand Total	2,561,217	924,631	2,711,591	1,004,173	6%	9%

Source: CSO

Figure 6.14 Prepared Consumer Food Exports by Category 2021

Source: CSO

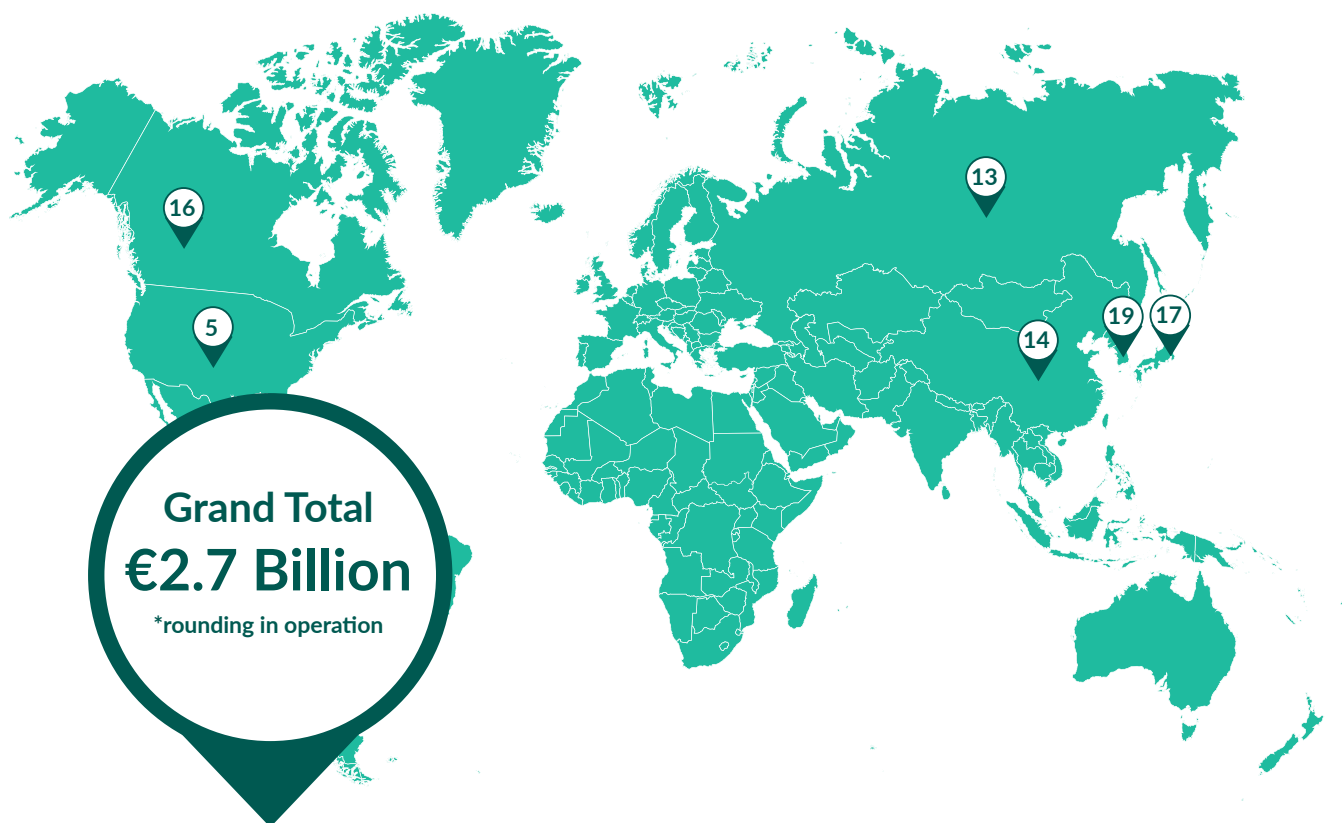
While the majority of PCF products were exported to the United Kingdom in 2021 (65%), other significant markets for Prepared Consumer Foods included Germany (5%), the Netherlands (5%), France (4%), the United States (3%) Spain (3%) and Italy (3%).

Prepared Consumer Food by Top 20 destinations, 2021

Trade among the top 20 destinations accounted for 96% of total Prepared Consumer Food exports in 2021.

PCF exports to the Netherlands increased by 36% on 2020 figures.

Among the top ten destinations, significant increases in export values were also seen in Italy (33%), the US (25%), and Spain (25%).



Grand Total
€2.7 Billion

*rounding in operation

1	United Kingdom	€ 1,766 million
2	Germany	€ 136 million
3	Netherlands	€ 131 million
4	France	€ 107 million
5	United States	€ 84 million
6	Spain	€ 80 million
7	Italy	€ 79 million
8	Belgium	€ 34 million
9	Sweden	€ 28 million
10	Denmark	€ 24 million

11	Poland	€ 23 million
12	Romania	€ 20 million
13	Russia Federation	€ 13 million
14	China	€ 11 million
15	Finland	€ 11 million
16	Canada	€ 11 million
17	Japan	€ 11 million
18	Portugal	€ 10 million
19	South Korea	€ 10 million
20	Hungary	€ 8 million

Table 6.5 Value and Volume of PCF Exports by Top 20 Destinations, 2020-2021

Country	Rank 2020	Rank 2021	Rank Change	2020		2021	
				€000	Tonnes	€000	Tonnes
United Kingdom	1	1	→	1,703,088	755,140	1,765,707	829,639
Germany	2	2	→	132,245	20,649	135,832	20,499
The Netherlands	4	3	↑	98,213	15,084	131,351	18,468
France	3	4	↓	120,755	22,376	107,288	16,018
United States	5	5	→	67,145	18,297	84,193	19,088
Spain	6	6	→	64,525	7,990	80,433	10,109
Italy	7	7	→	59,640	6,422	79,099	14,229
Belgium	8	8	→	31,920	4,129	33,568	4,472
Sweden	9	9	→	28,267	4,714	28,475	4,388
Denmark	10	10	→	25,768	9,928	23,581	10,793
Poland	12	11	↑	16,587	2,762	22,559	5,508
Romania	13	12	↑	15,747	5,003	19,520	6,047
Russia Federation	18	13	↑	9,031	658	12,592	681
China	21	14	↑	7,619	1,202	11,272	1,423
Finland	20	15	↑	8,341	1,215	11,142	1,547
Canada	17	16	↑	9,344	2,512	10,608	2,668
Japan	15	17	↓	12,012	3,800	10,546	3,221
Portugal	11	18	↓	17,021	2,809	9,941	1,376
South Korea	14	19	↓	13,345	1,499	9,836	1,270
Hungary	22	20	↑	6,870	2,228	8,242	2,248
Top 20 Grand Total				2,447,485	888,417	2,595,784	973,692

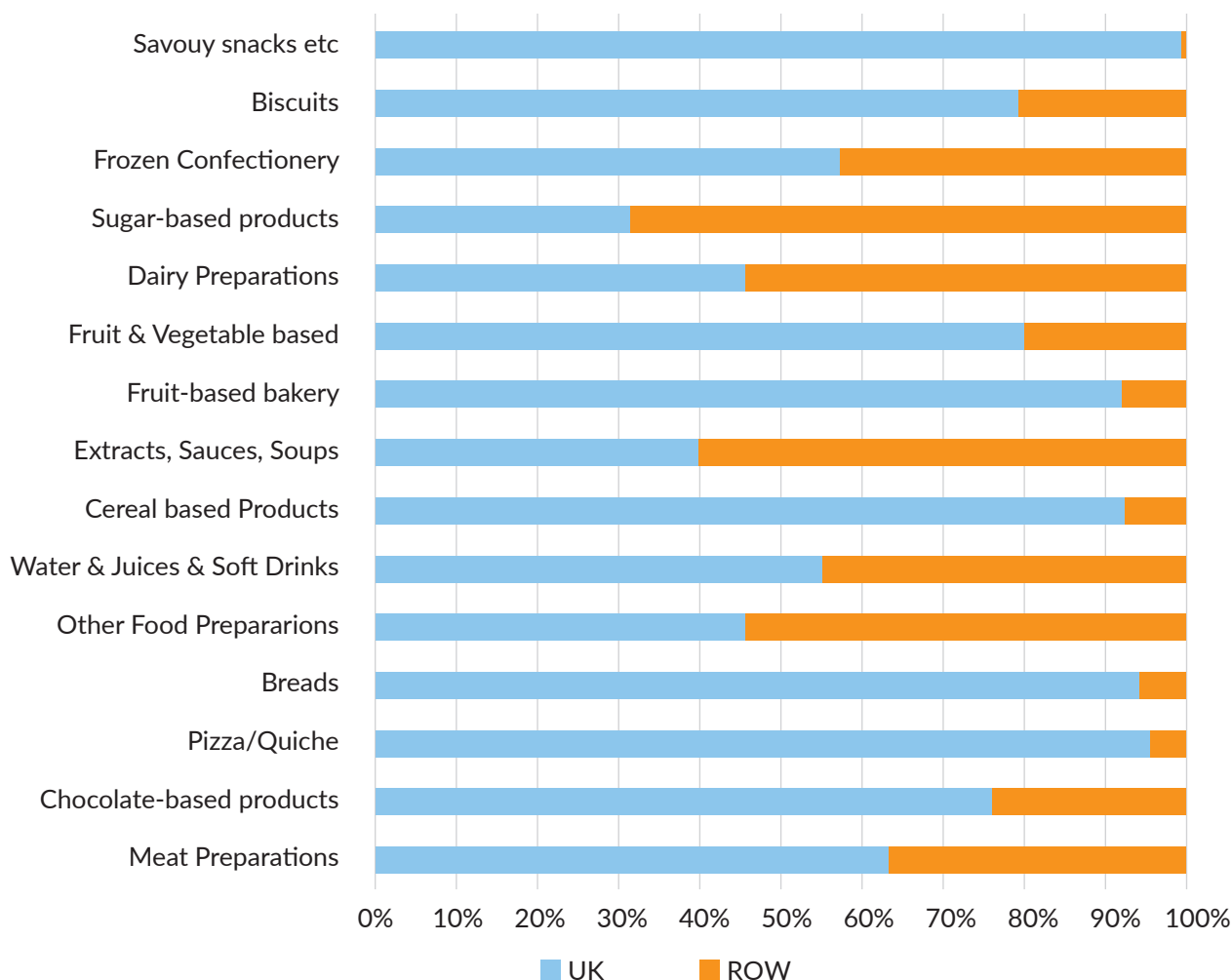
Source: CSO

6.6 Key markets for Irish PCF Exports

The key market for Prepared Consumer Foods (PCF) exports is the United Kingdom. In 2021 65% of PCF exports went to the United Kingdom and this has been relatively constant over the past ten years. While it has varied up to 68% in 2018 and down to 62% in 2017, it has remained the largest export destination.

In 2021 99% of savoury snacks and 95% of pizza/quiches under the PCF heading were exported to the United Kingdom. Figure 6.15 provides a detailed analysis of each category by percentage exported to the United Kingdom in 2021.

Figure 6.15 Prepared Consumer Food Exports by Category and Destination, 2021



Source: CSO

Meat Preparations remained Ireland's highest valued export category to the United Kingdom under the PCF heading, increasing by 16% in 2021 to €562 million. This category accounted for 32% of total PCF exports to the United Kingdom.

Table 6.6 Prepared Consumer Food Exports to the United Kingdom by Category, 2021

	Great Britain		Northern Ireland		United Kingdom	
	€000		€000		€000	
Category	Exports	Imports	Exports	Imports	Exports	Imports
Meat Preparations	433,129	72,890	129,075	48,465	562,203	121,354
Chocolate-based products	205,850	205,583	26,458	16,885	232,308	222,468
Pizza/Quiche	173,318	47,091	11,070	15,261	184,387	62,352
Breads	114,078	40,079	37,763	27,908	151,841	67,986
Other Food Preparations	109,075	156,217	30,930	11,082	140,005	167,300
Waters & Juices & Soft Drinks	79,332	79,793	36,843	143,226	116,176	223,019
Fruit-based bakery	53,768	38,029	6,942	13,288	60,710	51,317
Cereal based Products	51,914	175,552	38,362	48,072	90,275	223,624
Extracts, Sauces, Soups	41,284	160,606	25,640	15,613	66,924	176,219
Fruit & Vegetable based	26,205	121,337	27,198	32,621	53,403	153,958
Sugar-based products	22,727	67,164	10,199	12,573	32,926	79,737
Dairy Preparations	18,613	43,734	29,660	3,232	48,273	46,965
Biscuits	5,635	78,736	4,424	11,432	10,058	90,168
Savoury Snacks etc	4,769	23,373	1,289	7,871	6,057	31,244
Frozen Confectionery	4,235	38,212	5,924	1,832	10,159	40,044
Grand Total	1,343,930	1,348,394	421,776	409,361	1,765,707	1,757,755

Source: CSO

6.7 Agri-Food Sector Imports

Agri-food accounted for 9% of Ireland's total imports in 2021. Between the period 2012 – 2021, agri-food imports increased by 35% from €7.2 billion to over €9.7 billion. Agri-food imports totalled €9.7 billion in 2021, a decrease of €493 million or 5% on 2020, while volume of goods imported decreased by 7% over the year, according to the CSO.

In value terms the highest increases between 2020 and 2021 were:

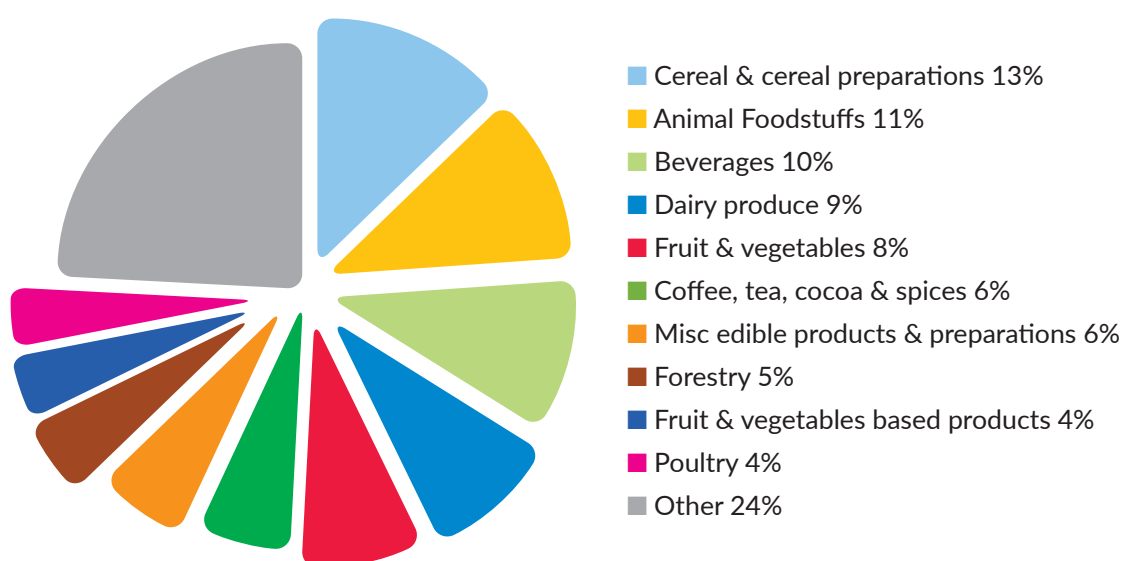
- Animal foodstuffs imports increased by €112 million (12%) to €1.1 billion.
- Forestry imports increased by €106 million (31%) to €449 million.
- Vegetable oils & fats imports increased by €56 million (20%) to €334 million.

The largest decreases in agri-food imports over this period were:

- Dairy produce imports decreased by €224 million (21%) to €840 million.
- Live animal imports decreased by €168 million (35%) to €312 million.
- Fruit & vegetable-based products decreased by €94 million (18%) to €438 million.

The top five agri-food categories by value accounted for 51% of total agri-food sector imports in 2021 totalling over €4.9 billion.

Figure 6.16 Agri-food Imports by Category, 2021



Source: CSO

Table 6.7 Value and Volume of Agri-food Imports by Category, 2020-2021

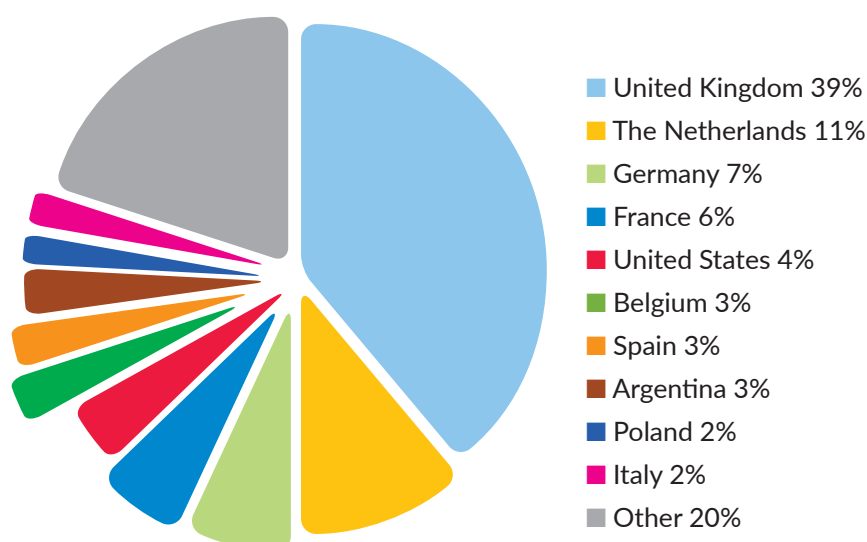
	2020		2021		2021 Vs 2020	
Category	€000	Tonnes	€000	Tonnes	Value	Tonnes
Cereal & cereal preparation	1,246,025	2,465,648	1,223,846	2,154,518	-2%	-13%
Animal Foodstuffs	964,664	3,274,407	1,076,316	3,240,836	12%	-1%
Beverages	1,047,685	1,028,953	987,771	993,903	-6%	-3%
Dairy Produce	1,064,473	997,093	840,431	836,997	-21%	-16%
Fruit & Vegetables	869,939	705,978	810,016	688,900	-7%	-2%
Coffee, Tea, Cocoa & Spices	658,383	159,250	596,595	107,705	-9%	-32%
Miscellaneous Edible Products & Preparations	598,725	256,773	570,488	202,227	-5%	-21%
Forestry	342,620	922,661	448,750	908,067	31%	-2%
Fruit & Vegetables Based Products	531,797	395,246	437,831	294,279	-18%	-26%
Poultry	393,336	121,205	370,965	111,135	-6%	-8%
Sugar, Sugar Preparation & Honey	382,781	479,100	346,588	491,285	-9%	3%
Vegetable Oils & Fats	277,037	339,606	333,502	300,378	20%	-12%
Live Animals	480,015	14,598	311,721	13,836	-35%	-5%
Pigmeat	322,960	86,095	291,158	79,244	-10%	-8%
Crude Animal & Vegetable Material	265,394	249,944	274,037	227,456	3%	-9%
Fish	290,098	79,784	260,059	90,139	-10%	13%
Wood Based Products	229,593	154,061	258,956	138,245	13%	-10%
Beef	129,668	29,921	156,367	34,611	21%	16%
Sheepmeat	36,958	6,631	43,565	6,533	18%	-1%
Oilseeds & Oleaginous Fruit	23,907	41,011	28,179	41,772	18%	2%
Animal Oils & Fats	19,616	20,617	24,249	25,230	24%	22%
Egg	20,767	12,640	17,852	5,867	-14%	-54%
Flax, Wool & Animal Hair	12,893	1,720	15,838	3,300	23%	92%
Other Meat & Meat Produce	17,875	8,650	8,643	4,697	-52%	-46%
Animal Skins & Furs	1,744	348	2,716	134	56%	-62%
Cotton	711	111	566	75	-20%	-32%
Grand Total	10,229,665	11,852,051	9,737,005	11,001,370	-5%	-7%

Source: CSO

6.8 Agri- Food Sector Imports by Country

In 2021, agri-food goods were imported into Ireland from over 150 countries worldwide. Ireland's top five import countries were the United Kingdom, the Netherlands, Germany, France and the United States, which accounted for 66% or €6.5 billion of Ireland's total imports for the year.

Figure 6.17 Top 10 Agri-food Imports by Country 2021



Source: CSO

The United Kingdom (Great Britain & Northern Ireland) remains Ireland's largest import partner with 39% of total agri-food products imported into Ireland from the United Kingdom in 2021.

In 2021, total agri-food imports from the United Kingdom totalled €3.8 billion, down €861 million on 2020. The main category of imports was cereal and cereal preparation accounting for €609 million or 16% of total imports from the United Kingdom. Flour of common wheat or spelt is the highest value cereal and cereal preparation product within this category, accounting for €78 million. Dairy produce was the next highest category of products from the UK at €468 million, 12% of the total.

The Netherlands as the second largest source of our agri-food imports accounts for €1.1 billion of imports or 11% of the total. Ireland imports €150 million worth of vegetable oils & fats from the Netherlands along with €147 million of fruits and vegetables and €126 million of crude animal and vegetable material. Ireland's main import from Germany, our third largest source of imports, is fruit and vegetables worth €87 million, or about 14% of imports from there. Dairy produce worth €84 million is the second largest import from Germany.

Table 6.8 Value and Volume of Agri-food Imports by Top 20 Locations, 2020 - 2021

Category	2020		2021		2021 Vs 2020	
	€000	Tonnes	€000	Tonnes	Value	Tonnes
United Kingdom	4,652,999	4,386,602	3,791,582	3,596,022	-19%	-18%
The Netherlands	914,481	750,906	1,092,167	845,387	19%	13%
Germany	774,896	482,739	638,989	434,027	-18%	-10%
France	558,242	590,881	539,015	670,745	-3%	14%
United States	311,412	652,151	411,896	833,267	32%	28%
Belgium	302,268	327,045	299,519	281,341	-1%	-14%
Spain	290,859	218,689	297,787	240,130	2%	10%
Argentina	218,457	792,119	236,606	725,158	8%	-8%
Poland	214,786	151,698	226,873	221,901	6%	46%
Italy	209,796	132,232	216,648	117,266	3%	-11%
Canada	137,852	552,761	183,976	621,599	33%	12%
China	106,485	54,460	157,043	55,198	47%	1%
Denmark	132,469	138,270	132,266	126,598	0%	-8%
Brazil	125,452	414,674	125,001	275,233	0%	-34%
Malaysia	67,339	109,259	89,871	93,177	33%	-15%
Sweden	70,666	140,482	69,193	105,308	-2%	-25%
Russia Federation	46,087	222,166	60,454	230,387	31%	4%
India	32,088	21,523	60,342	90,871	88%	322%
Chile	72,812	28,765	58,168	23,461	-20%	-18%
Thailand	55,504	23,589	57,317	20,775	3%	-12%
Top 20 Totals	9,294,950	10,191,011	8,744,715	9,607,851	-6%	-6%

Source: CSO

6.9 Prepared Consumer Food Imports

Prepared Consumer Food imports totalled just over €3.4 billion in 2021, a 7% decrease on the previous year. Meat preparations account for €414 million (12%) of PCF imports, with Waters, Juices & Soft drinks accounting for €393 million (11%), with fruit and vegetable-based products accounting for €378 million (11%) of PCF imports.

In value terms, the largest increases between 2020 and 2021 were:

- Other food preparations imports saw an increase in value of €32 million (12%).
- Fruit-based bakery products were worth €84 million, an increase of €15 million (23%).

Given overall PCF imports decreased, there were decreases across the majority of product categories last year, as seen in table 6.9 below.

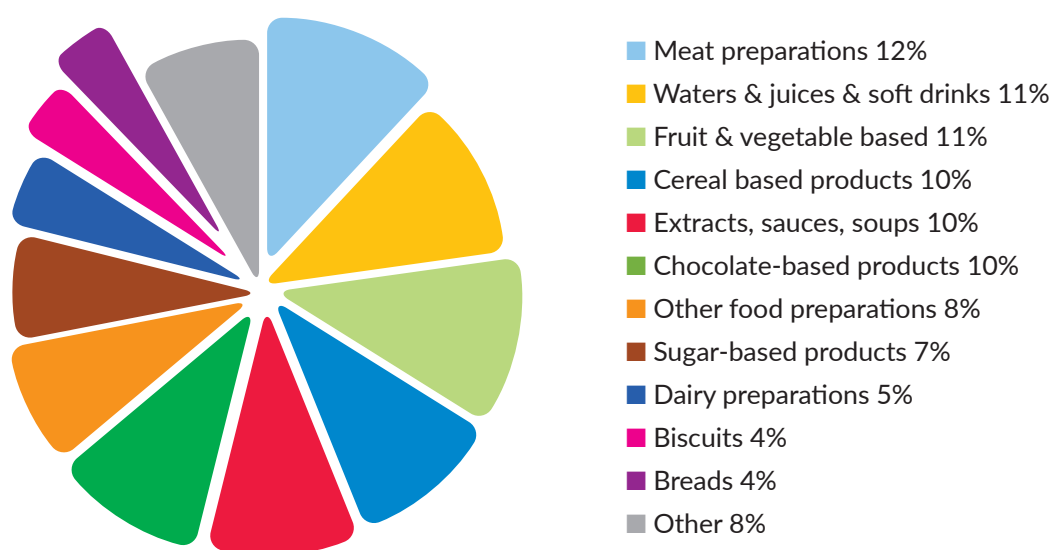
- Fruit and vegetable-based products imports decreased by €74 million (16%).
- Meat preparations imports declined from €474 million to €414 million, a decrease of €60 million (13%).
- Chocolate-based products imports decreased by €46 million (12%) to €327 million.

Table 6.9 Value and Volume of Prepared Consumer Food Imports by Category, 2020 - 2021

Category	2020		2021		2021 Vs 2020	
	€000	Tonnes	€000	Tonnes	Value	Tonnes
Meat Preparations	473,759	111,348	414,088	88,967	-13%	-20%
Waters & Juices & Soft Drinks	390,325	532,209	393,420	533,154	1%	0%
Fruit & Vegetable based	452,652	312,202	378,331	247,483	-16%	-21%
Cereal based Products	381,087	405,868	360,244	350,231	-5%	-14%
Extracts, Sauces, Soups	387,474	144,706	351,641	109,974	-9%	-24%
Chocolate-based products	373,542	88,162	327,227	63,345	-12%	-28%
Other Food Preparations	259,531	82,937	291,761	82,321	12%	-1%
Sugar-based products	220,245	355,100	224,430	370,695	2%	4%
Dairy Preparations	193,974	109,320	164,604	88,200	-15%	-19%
Biscuits	153,364	53,995	134,743	47,187	-12%	-13%
Breads	149,217	69,735	123,963	61,047	-17%	-12%
Pizza/Quiche	89,699	39,793	94,185	27,779	5%	-30%
Fruit-based bakery	68,694	24,471	84,155	24,282	23%	-1%
Frozen Confectionery	78,909	36,785	63,056	24,279	-20%	-34%
Savoury Snacks etc	49,963	16,218	38,554	9,286	-23%	-43%
Grand Total	3,722,436	2,382,849	3,444,403	2,128,231	-7%	-11%

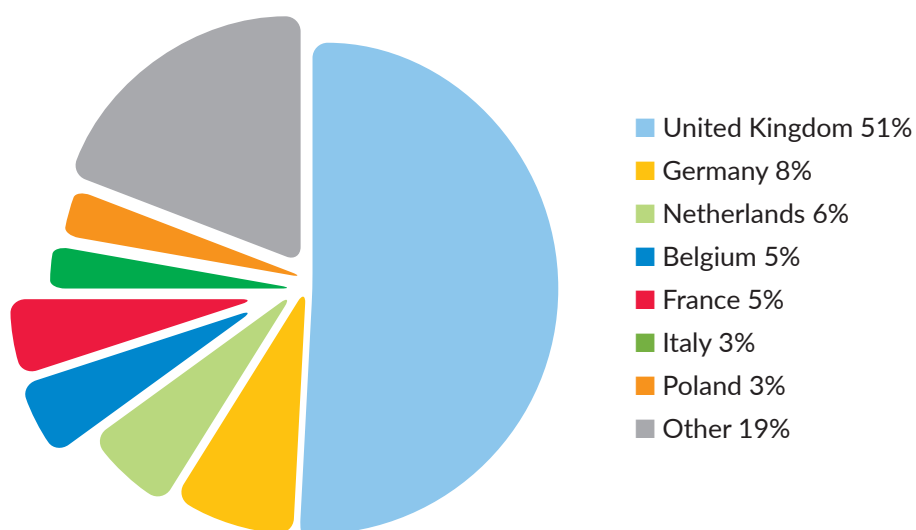
Source: CSO

The top five Prepared Consumer Food categories accounted for 55% of total PCF imports in 2021 and totalled €1.9 billion.

Figure 6.19 Prepared Consumer Food Imports by Category, 2021

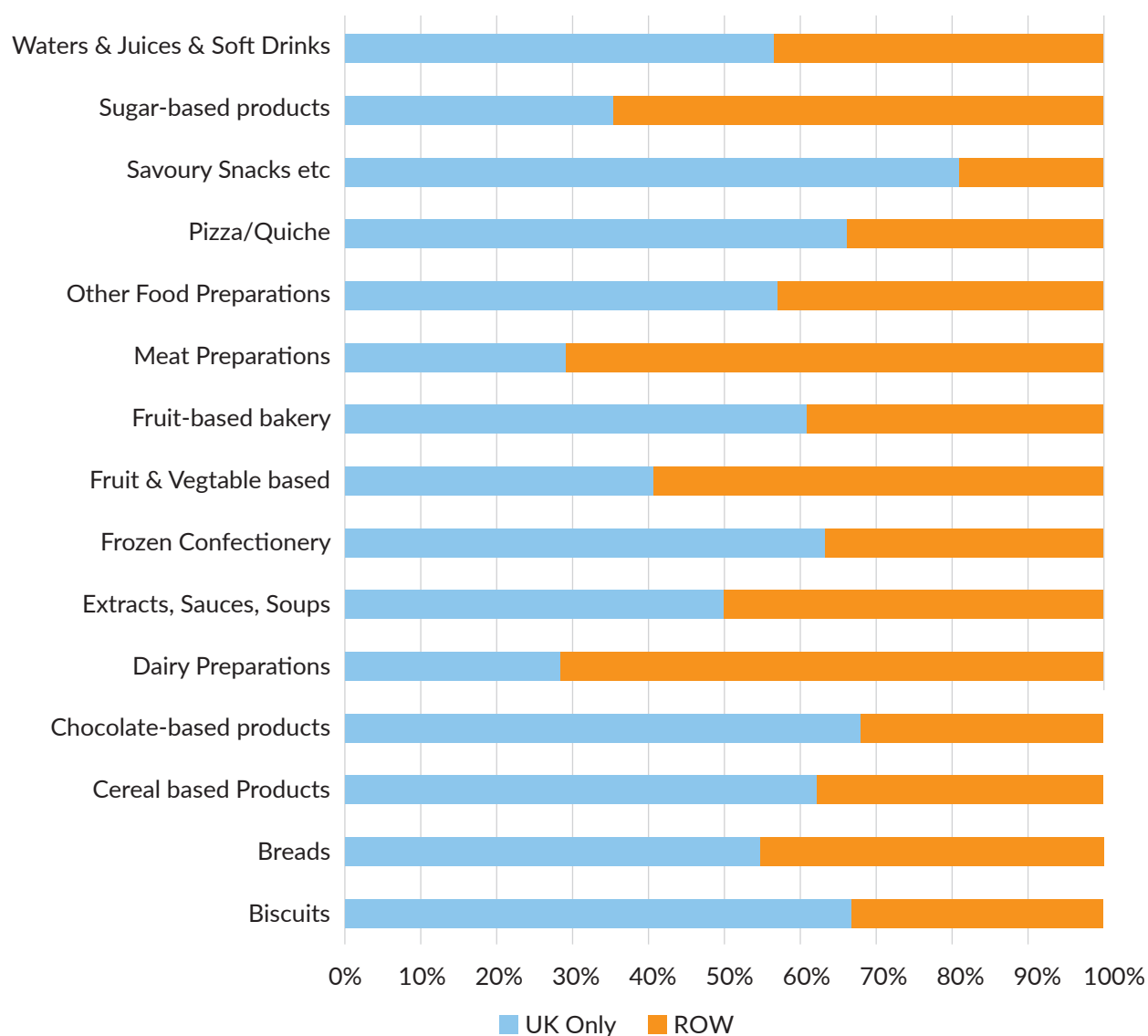
Source: CSO

Ireland's largest trading partner for Prepared Consumer Food Imports is the United Kingdom with 51% of PCF imports totalling €1.8 billion in 2021. Other significant trading partners include Germany (8%), the Netherlands (6%), Belgium (5%), France (5%) and Italy (3%).

Figure 6.20 Prepared Consumer Food Imports by Source, 2021

Source: CSO

While Prepared Consumer Foods (PCF) imports from the United Kingdom accounted for 51% of total PCF imports, 81% of Savoury Snacks, 68% of Chocolate-based products and 67% of Biscuits under the PCF heading were imported from the United Kingdom. Figure 6.21 provides a detailed analysis of each category by percentage imported from the United Kingdom in 2021.

Figure 6.21 Prepared Consumer Food Imports by Category and Destination, 2021

Source: CSO

CHAPTER 7

EU and International Policy



Ireland has committed
€25 million
per annum to the World Food
Programme for the period
2022 to 2024, our highest ever
contribution to the WFP.



The EU has raised its 2030
climate ambition, committing
to cutting emissions by
at least 55%
by 2030.



Ireland's draft CAP
Strategic Plan allocates
€9.83 billion
in total funding for the
period 2023-27.

7.1 Overview

The EU and International Agricultural Policy Chapter offers an overview of the international factors impacting Irish Agriculture, including the influence of EU agricultural policy and Brexit. This chapter also incorporates data generated by the Organisation for Economic Cooperation and Development (OECD), which monitors and advises on international trade and agriculture policy.

7.2 Brexit

Brexit – EU

The EU-UK Trade and Cooperation Agreement (TCA) signed in December 2020 was ratified by both UK and EU during 2021. Special committees to monitor implementation were provided for in the agreement and throughout 2021, these were established across each sectoral and policy area. They included committees to monitor implementation of the Trade, Sanitary and Phytosanitary (SPS) and Fisheries provisions of the TCA

Northern Ireland Protocol

The Protocol on Ireland/Northern Ireland means that no new procedures apply to goods moving between Northern Ireland and Ireland or the other Member States of the European Union. It is the joint EU-UK solution to mitigate against the disruption that Brexit causes for citizens and businesses on the island of Ireland. Although it has been operational since the start of 2021, a series of UK unilateral actions have impeded the full implementation of the Protocol. In July 2021, the British Government published a Command Paper seeking substantial revisions to how the Protocol operates.

While rejecting moves to renegotiate the text, the EU has continued engaging with the UK to find solutions for issues affecting people on the ground in Northern Ireland. Following significant engagement with political representatives, business and civil society in Northern Ireland, in October 2021 the European Commission published a package of proposals responding directly to the concerns raised. These bespoke solutions aim to make it easier for goods and medicines to move from Great Britain to Northern Ireland and propose a greater role and engagement for Northern Ireland stakeholders in the Protocol's governance. In mid-December, the Commission published a legislative proposal to ensure the continued long-term supply of medicines in Northern Ireland, but progress in other areas, especially customs and health checks on agri-food goods, has been limited.

In May 2022, following a pause in discussions between the EU and UK due to elections for the Northern Ireland Assembly, the UK Government indicated in Parliament that they propose introducing new legislation. This would have the effect of unilaterally disapplying some of the provisions of the Protocol, as they do not believe the EU is prepared to meet their demands for further compromise to address issues which they suggest are destabilising society in Northern Ireland and impacting on the Northern Ireland economy.

Across Member States, support for the Commission approach and for minimising disruption in Northern Ireland remains strong. Any moves to disapply the Protocol would amount to a serious breach of the Withdrawal Agreement and a violation of international law. The EU Commission remains committed to engaging with the UK Government to find solutions that address the concerns of the people and businesses of Northern Ireland.

Brexit - Ireland

Since the end of the Brexit transition period, (from 1st January 2021), there were initial difficulties adjusting to the new trading environment. These have now largely settled down.

In general, businesses have done a good job adjusting to new import control requirements applicable to commodities coming from Great Britain. This reflects the flexibility and adaptability

of businesses in Ireland as well, as the very effective collaboration that took place between business operators and the State players responsible for implementing what has been the single biggest change to import controls since the Single Market was first created in 1990. Investment by DAFM and other state agencies in new infrastructure and staff resources to control imports of agri-food products from Britain has minimised any disruption to IE-UK supply chains.

DAFM carried out approximately 4,500 import checks in the years leading up to 2021, but that number increased to over 99,500 last year on consignments imported through the ports and airports. This reflects the very significant impact arising from the UK being outside of the EU Single Market and Customs Union. DAFM was obliged to carry out these checks under EU law.

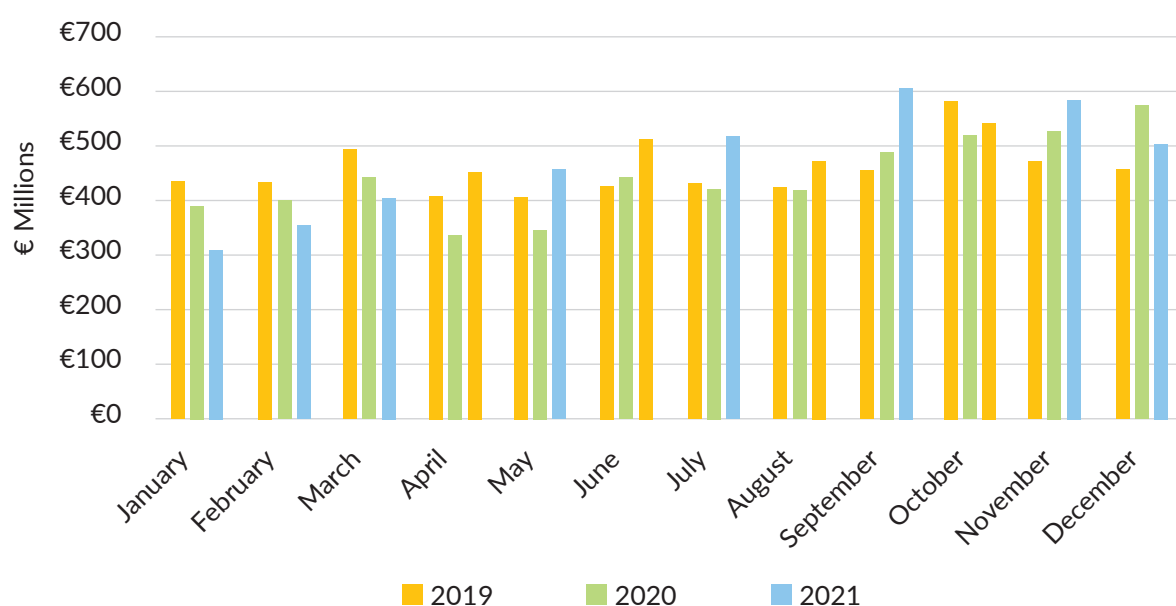
IE-UK Agri-food Trade

The impact of Brexit and the UK being outside of EU Single Market and Customs Union on IE-UK trade patterns is still evolving. These repercussions will take some more time to stabilise, as issues such as the implementation of the Northern Ireland Protocol and the introduction of new UK import controls are due to take place in 2022 have not been fully implemented.

Exports

Exports of agri-food products to the United Kingdom in 2021 were up by €447m or 8.3% compared to 2020 and up by €300m or 5.5% compared to 2019. See Fig 7.1 outlining monthly export levels to UK 2019, 2020, 2021. This growth was in spite of a decrease in the volume of exports in 2021 of 70,620 tonnes or 1.6%, compared to 2020, and a decrease of 283,221 tonnes or 5.3% compared to 2019.

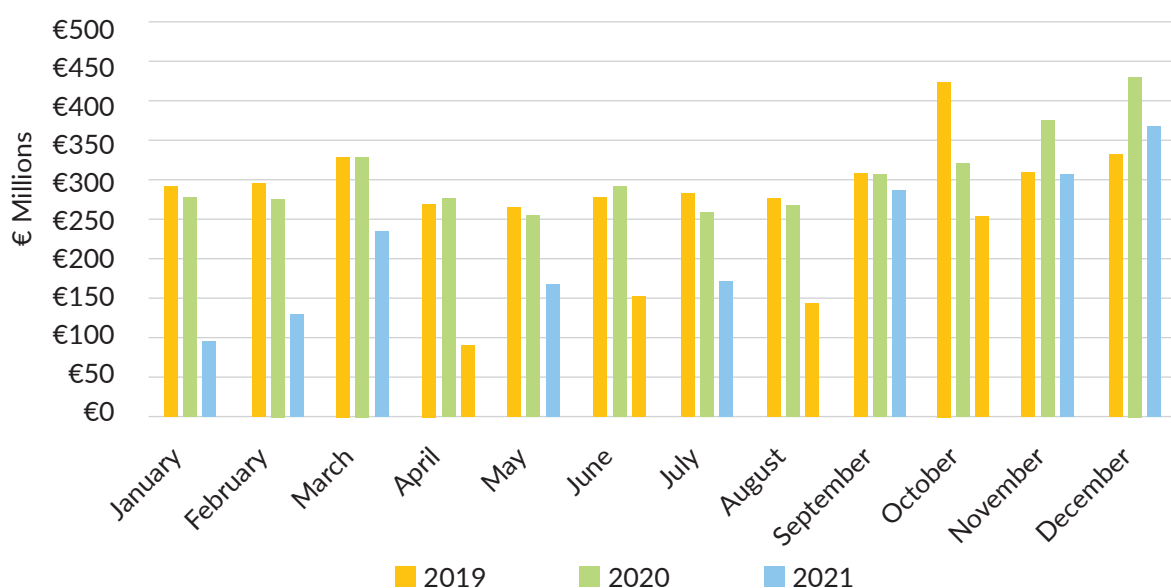
Fig 7.1 Irish Agri-food Exports to the UK by Month 2019-2021



Source: CSO

Imports

There were significant decreases in imports from UK in early 2021, presumably due to the introduction of EU customs and SPS controls on imports of agri-food products from Britain to Ireland. These recovered as the year progressed but imports for 2021 from UK were down €856m or 18.4% compared to 2020 and down €847m or 18.2% compared to 2019. While imports from Northern Ireland were up in 2021, the increase did not compensate for the reduction in imports from Great Britain. See Fig 7.2 outlining monthly import levels from Great Britain 2019, 2020, 2021.

Fig 7.2 Irish Agri-food Imports from Great Britain by Month 2019-2021

Source: CSO

Outlook

The impact of Brexit and the UK being outside of the EU Single Market and Customs Union on IE-UK trade patterns is still evolving and these impacts will take some more time to stabilise. The UK Government postponed the introduction of its new SPS import controls to be applied to import of EU agri-food products on three occasions in 2021, including requirements for export health certification. These new requirements were then due to be applied from 1st July 2022 but on 28th April 2022, the UK Government announced a further deferment of the introduction of the import control measures, to at least end of 2023.

Throughout 2021 and in 2022, DAFM and industry have been fully focused on preparing for these changes to UK import control requirements to ensure we minimise any disruption to our exports to the UK and to ensure the resilience of these exports is maintained into the future. Following UK Government announcement of a further deferral of these controls, these preparations have been scaled back and will be intensified once UK provide more information on when they will be applied.

The current issues and divergence of approach between UK and EU on the implementation of the Northern Ireland Protocol does create further uncertainty for businesses trading North-South and East-West. DAFM is closely monitoring these issues and is ready to support the agri-food sector as the situation develops.

7.3 CAP Strategic Plan 2023-2027**Overview**

Ireland's draft CAP Strategic Plan (CSP) for the period 2023-2027 was submitted to the EU Commission on the 31st December 2021. An updated plan taking account of the observations received from the European Commission in March, and reflecting the outcome of extensive discussions with the European Commission at official and Ministerial level, was submitted at the end of July. The European Commission formally adopted Ireland's draft CAP Strategic Plan for the period 2023 – 2027 on 31 August 2022.

The CSP will underpin the sustainable development of Ireland's agriculture sector in line with the EU objectives by:

- (i) supporting viable farm incomes and enhancing competitiveness

- (ii) contributing to the achievement of environmental and climate objectives at national and EU levels and
- (iii) strengthening the socio-economic fabric of rural areas.

The CSP will represent a change in the approach to CAP planning and implementation compared to previous programming periods. Instead of the familiar compliance-based approach followed previously, a new performance-based approach will be adopted. This will be underpinned by a 'New Delivery Model', under which all EU Member States' performance will be judged on outputs and results, and on how their plans contribute to CAP objectives at EU level.

The CSP will also take a more holistic approach, incorporating interventions under both Pillar I (Direct Payments and Sectoral Interventions) and Pillar II (Rural Development) into one overall plan. There is a particularly strong emphasis on the achievement of a higher level of climate and environment ambition through a new "Green Architecture" that will operate across both pillars. All of this is supported by the cross-cutting objective on agriculture, knowledge, and innovation systems (AKIS).

Figure 7.3 CAP Key Objectives Focusing on Social, Environmental and Economic Goals



Ireland's draft plan has been developed over the last two years through public consultation and engagement with stakeholders, including through the national CAP Stakeholder Consultative Committee and in close cooperation with other relevant Government Departments and state agencies.

The draft CSP reflects the EU objectives on achieving fairer distribution of Direct Payments, through convergence, capping and redistributive payments, and to support generational renewal, female farmers and rural communities. It also has a strong focus on environmental sustainability through the Green Architecture.



In this Green Architecture, which is underpinned by an appropriate definition of the eligible hectare, we will see 3 building blocks for how Ireland proposes to achieve the higher level of ambition:

- (i) Enhanced conditionality, which contains many of the elements currently included in cross-compliance and greening.
- (ii) Eco-Schemes, a voluntary measure open to all farmers, in which participating farmers will be paid per eligible hectare for completing practices on their holding that are beneficial to the climate, environment, biodiversity and water quality.
- (iii) Environmental interventions in Pillar 2, led by our flagship Agri-Environmental Climate Measure (ACEM). This is a voluntary, measure in which farmers will be rewarded to undertake more targeted actions to benefit the climate, environment, biodiversity and water quality. There will be a combination of co-operation project actions in some high-priority areas taking place at landscape level with support of local project teams, and farm-level actions in the rest of the country.

Financial Allocation

The EU budget agreement in 2020 provided for total CAP funding for Ireland of €7.53 billion over the five-year period from 2023 to 2027. This funding is split between Pillar I (Direct Payments and Sectoral Interventions - €5.97 billion) and Pillar II (Rural Development - €1.56 billion).

The allocation from the national exchequer to co-fund the Rural Development element of the CSP was agreed between the Minister for Agriculture and the Minister for Public Expenditure and Reform, at €2.30 billion. This funding includes carbon tax funding of €723m. This will bring the total budget for the rural development aspects to €3.86 billion, with an effective national co-financing rate of almost 60%.

The total funding for the CSP for the period 2023-2027 is €9.83 billion.



Measures

Pillar I and Pillar II Interventions, and the CAP Green Architecture

In addition to providing a basic income support to primary producers and achieving a higher level of environmental ambition, Pillar I (direct payments) interventions are aimed at achieving a fairer approach to the distribution of payments in Ireland. The convergence of payment entitlements will continue, so that all entitlement values reach a minimum level of 85% of the average national entitlement value by 2026. In addition, capping and the reduction of payments over €60,000 by 85% will result in an effective cap of €66,000 per beneficiary - down from an effective cap of €150,000 under the previous RDP. Finally, redistribution of 10% of the value of the Pillar I budget (€118 million per annum) through the Complementary Redistributive Income Support for Sustainability (CRISS), which will front-load payments on the first 30 hectares of a holding, will have the effect of transferring payments from larger farms to medium and smaller-sized farms.

Economic sustainability will also be further secured through wider measures designed to enhance market orientation and to increase competitiveness. These include support for Producer Organisations under Pillar I (sectoral support for the fruit and veg sector), and sectoral and on-farm investment supports under Pillar II (beef, sheep and other sectors), all of which will also be characterised by a significantly increased environmental dimension.

Pillar I and Pillar II interventions are critical to the achievement of increased environmental and climate ambition. Ireland's CSP will have a particularly strong emphasis on realising this ambition, through an effective and coherent deployment of the tools available under the CAP's new Green Architecture.

Conditionality sets the baseline requirements for farmers in receipt of CAP payments. Ireland intends to implement a system of enhanced conditionality through the CSP. For example, under GAEC 8 (crop rotation in arable land), Ireland intends to go well beyond the legislative requirement to have a minimum share of 4% of arable land devoted to non-productive areas and features by applying this threshold to all agricultural areas.

Ireland's Pillar I **Eco-Scheme** will strengthen the environmental and climate outcomes achieved by Pillar I payments, by building on the baseline improvements achieved through conditionality. In the first instance, it is intended that 25% of the Pillar I budget will be used to fund the Eco-Scheme, and that the rebate mechanism will not be used, despite Ireland's high environmental expenditure in Pillar II. In terms of the agricultural practices that will be supported under the Eco-Scheme, there will be a particular focus on reducing chemical nitrogen use, which will go beyond the requirements of conditionality. In addition, the already increased level of ambition under GAEC 8 will be further built upon by rewarding farmers who increase the agricultural area devoted to non-productive areas and features from 4% to 7%, and to 10%.

The improvements achieved through enhanced conditionality and the Pillar I Eco-Scheme will be further built upon, and complemented by, ambitious, environmentally focused Pillar II interventions that will deliver significant long-term gains in relation to, for example, water quality and biodiversity, as well as contributing to greenhouse gas emissions reduction targets.

A new flagship **Agri-environment and Climate Measure (AECM)** will be underpinned by a greater focus on results-based actions and on collective actions aimed at achieving landscape- and catchment-scale benefits. It will also draw directly from the experience gained from the GLAS programme and from the implementation of European Innovation Partnerships under the previous RDP. The higher level of ambition is reinforced by a 50% increase in funding, to €1.5 billion over the 2023-2027 period, compared to GLAS funding under the previous RDP. Minister McConalogue announced in June that the new Agri-Climate Rural Environment Scheme (ACRES) will help address biodiversity decline, while delivering an important income support for up to 50,000 farm families.



Increased support under the **Organic Farming Scheme** (€256 million) aims to increase the area under organic production from 2% to 7.5%. The €260m Suckler Carbon Efficiency Programme will reduce absolute emissions by improving the environmental sustainability and genetic merit of the suckler herd. The **On-Farm Investment Scheme** will be reoriented to support investments that contribute to environmental, farm safety and animal health/welfare objectives. The **Straw Incorporation Measure** will encourage tillage farmers to increase soil organic carbon levels by chopping and incorporating straw from cereal crops and oilseed rape. And the Areas of Natural Constraints Scheme will continue to ensure that landscapes and habitats can be maintained through appropriate farmland management and the avoidance of land abandonment.

It is also important to note that the higher level of environmental ambition will be underpinned by extensive training of farmers and advisors, which will strengthen the capacity to deliver optimal climate and environment outcomes from the various measures. Dedicated environmental training for farmers will be provided under the Agri-Environment Training Programme and will be a central component of the Continuous Professional Development Programme for Advisors, as well as the Knowledge Transfer Programme.

All of these will be complemented by a strong Agriculture Knowledge and Innovation System (AKIS) that will drive behavioural change by ensuring that the latest research and technologies are available to farmers and their advisors, and through European Innovation Partnership (EIP) projects that will continue to address the innovation gap between research and best practice.

Interventions under both Pillars will also contribute to the social sustainability of the agriculture sector. Generational renewal will be supported through the allocation of 3% of the direct payments envelope to the **Complementary Income Support for Young Farmers** (CIS-YF), as well

as through the continued prioritisation of young farmers and new entrants for allocations from the National Reserve. In Pillar II, the **Collaborative Farming Grant** will provide support towards the professional costs of establishing farm partnerships and obtaining advice in relation to succession and/or retirement, and the **On-Farm Investment Scheme** will provide increased rates of aid for young farmers. **Gender balance** will also be addressed through higher rates of aid for investments by female farmers, as well as through female focused Knowledge Transfer groups and inclusion as a theme to be addressed by European Innovation Partnerships.

LEADER will also continue to be an effective tool for supporting the economic and social development of rural communities, and for strengthening the socio-economic fabric of rural areas, by providing the resources necessary for communities to support their own sustainable development.

Table 1: Indicative breakdown of Ireland's 2023-2027 CSP by Pillar 1 interventions

Pillar 1 intervention	€million
Basic Income Support for Sustainability (BISS)	€3,642.5
Complementary income support for young farmers (CIS-YF)	€177.9
Complementary redistributive income support for sustainability (CRISS)	€593.1
Eco-Scheme	€1,482.9
Sectoral Intervention for the Apiculture sector	€0.6
Protein Aid	€35.0
Sectoral Intervention in the Fruit and Vegetable Sector	€39.0
Total Pillar 1	€5,971.0

Table 2: Indicative breakdown of Ireland's 2023-2027 CSP by Pillar 2 interventions

Pillar II Intervention	€million
Areas of Natural Constraint (ANC)	€1,250.0
Agri-environment climate measure (AECM)	€1,500.0
AECM Training	€21.5
Straw Incorporation Measure	€50.0
Organic Farming	€256.0
On farm investments	€100.0
Suckler Carbon Efficiency Programme incl. training	€260.0
Early-Stage support for Producer Organisations	€1.5
Continuous Professional Development for Advisors	€1.9
European Innovation Partnerships (EIPs)	€36.1
Knowledge Transfer Groups	€71.1
Dairy Beef Welfare Scheme	€25.0
Sheep Improvement Scheme	€100.0
Collaborative Farming Grant	€2.0
Technical Assistance	€6.3
LEADER	€180
Total Pillar 2	€3,861.6

Chapter eight provides details of the Rural Development Programme 2014- 2022.

7.4 EU Policy Developments

Overview

Portugal and Slovenia shared the role of the President of the Council of the European Union in 2021 – Portugal from January to June and Slovenia from July to December. The key issue discussed by Member States, including Ireland, and of particular focus during the Portuguese Presidency, was the finalising of the CAP Reform Package. Agriculture Ministers reached political agreement on the CAP legislative proposals at the Agri-Fish Council in Luxembourg in June 2021.

Other key issues discussed during 2021 included: trade-related agricultural issues in light of the effects of the COVID-19 pandemic and the potential challenges relating to Brexit; EU Forest Strategy 2030; the Organic Action Plan; Fit for 55 Package; Communication on a contingency plan for ensuring food supply and food security in times of crisis.

Organics and Environmental

Organic Action Plan

The Commission set out its Communication on the Action Plan for the Development of the Organic Production in March 2021. This Organic Action Plan is part of the Commission's efforts to support the Organic Sector, which plays a key role in achieving the goals of the Farm to Fork and Biodiversity Strategies, including the target of reaching 25% of agricultural land under organic farming by 2030.

The approach of this plan is comprehensive; incorporating consumption, production and sustainability and is demand-driven, encompassing the entire food chain. The plan assigns importance to research and innovation and mobilizing CAP and other programmes, for example agriculture promotion policy and other tools, such as Green Public Procurement.

The Council Conclusions on the Communication was adopted at the Agri-Fish Council in July 2021. The Council Conclusions on the Action Plan reiterate the importance of supporting Member States in their efforts to achieve progress on the ambitious targets set by the Farm to Fork Strategy.

Fit for 55 Package

As part of the European Green Deal, with the European Climate Law, the EU has set itself a binding target of achieving climate neutrality by 2050. This requires current greenhouse gas emission levels to drop substantially in the next decades. As an intermediate step towards climate neutrality, the EU has raised its 2030 climate ambition, committing to cutting emissions by at least 55% by 2030.

The Commission presented the 'Fit for 55' package on 14th July 2021. The package represents a set of proposals to revise and update EU legislation and to put in place new initiatives with the aim of ensuring that EU policies are in line with the climate goals agreed by the Council and the European Parliament.

The package of proposals underpins the EU's position as leading the way in the global fight against climate change and aims to provide a coherent and balanced framework for reaching the EU's climate objectives that is fair and just socially. This must be done while maintaining and strengthening the innovation and competitiveness of EU industry, and ensuring a level playing field vis-à-vis third country economic operators.

Food Security

Ireland is among the most food secure countries in the world. In that context it is important to recognise that Ireland is part of the EU single market and participates in the Common Agriculture Policy (CAP), which is the key mechanism for ensuring food security throughout Europe. The EU is largely self-sufficient for many agricultural products and a net exporter of

wheat. However, the EU is a considerable net importer for specific products which may be difficult to substitute.

Communication on a contingency plan for ensuring food supply and food security in times of crisis

In November 2021, the Commission presented its Communication on the Contingency Plan for ensuring food supply and food security in times of crises. The Contingency Plan for ensuring food supply and food security in times of crisis is intended to help the European Commission and Member States to coordinate the response to crises affecting, or threatening to affect, food supply and food security in the EU. Achieving food supply and food security is an objective set out in Article 39 of the Treaty on the Functioning of the European Union, while the resilience of the EU's food system precluded a food crisis during the COVID-19 pandemic. Contingency planning is focused on the preparedness phase of the crisis management disaster cycle. The development of the Contingency Plan is an action in response to the Farm to Fork Strategy stated objective, to “*step up coordination of a common European response to crises affecting food*”, which emphasises the necessity of resilient food systems and food security. In December 2021, the Agri-Fish Council approved the Council Conclusions on the Contingency Plan for ensuring food supply and food security in times of crisis.

Following the invasion of Ukraine by Russia in February 2022, the Commission published a communication on 23rd March 2022 “Safeguarding food security and reinforcing the resilience of food systems”, which sets out actions in the three areas of security, stability, and sustainability:

1. Immediate actions to safeguard food security in Ukraine and around the world.
2. Addressing the challenge of food stability in the EU's food system, with a range of measures to support farmers and maintain affordability for citizens.
3. Confirmation of the agenda to make food system sustainable and resilient in the years to come.

Forestry Sector

EU Forest Strategy Post 2020

An open public consultation on the EU Forest Strategy Post 2020 was conducted between January and April 2021. The EU Forest Strategy was adopted in July 2021. It was prepared as part of the European Union Green Deal and is also inextricably linked to the goals of the EU Biodiversity Strategy 2030. It aims to provide a policy framework that coordinates and ensures coherence of forest-related policies and allows synergies with other sectors that influence forest management and climate change mitigation.

The Council Conclusions on the New EU Forest Strategy for 2030, prepared by the Slovenian Presidency, were approved by the Agri-Fish Council in November 2021.

United Nations Forums on Forests (UNFF)

Due to the COVID-19 pandemic, the 16th session of the UN Forum on Forests (UNFF16) was held virtually on 26th-30th April 2021. Ireland contributed to the common EU position during the run up to the event via the Working Party on Forestry. The Portuguese presidency presented the statements and represented the EU as a bloc during UNFF.

The UNFF16 was a technical session, and the outcome was a Chair's summary of discussions, which indicates that global forest goals (GFG) 1 and 2, along with three cross cutting GFGs (GFG4, GFG5 and GFG6) should be the main thematic priorities for UNFF16 and UNFF17. Accordingly, the thematic priorities for UNFF16 and UNFF17 are:

- (i) Reversing the loss of forest cover
- (ii) Enhancing forest-based economic, social and environmental benefits; and



DAFMag: Teresa Catarme

- (iii) Mobilising financial resources and strengthening scientific and technical cooperation; promoting governance frameworks to advance implementation; and enhancing cooperation, coordination and coherence for sustainable forest management.

UNFF17 was held at UN Headquarters in New York from 9th-13th May 2022.

Ministerial Declaration and the Ministerial Resolution on the occasion of the 8th Ministerial Conference on Protection of Forests in Europe

The pan-European Ministerial Conference on the Protection of Forests in Europe (known as 'Forest Europe') held its 8th Ministerial Conference virtually on 14th and 15th April 2021. Ireland signed the Ministerial Declaration "The Forest We Want" and the Ministerial Resolution "Adapting Pan – European Forests to Climate Change". Ireland also provided a video statement during the Ministerial Roundtable segment Adapting Forests to Changing Climate.

7.5 Food Systems & International Development

UN Food Systems Summit

2021 was the year of the UN Food Systems Summit, with sustainable food systems and Food Vision 2030 being the central themes of Ireland's engagement. Between April and May 2021, DAFM convened four National Dialogues on the future of Ireland's food system. The dialogues were designed to be as open and inclusive as possible, providing an opportunity for all stakeholders, from producers to consumers, to learn about Ireland's food system and contribute to the sustainability dialogue. The dialogues were:

- Dialogue 1: Sustainable Food Systems and Ireland's 2030 Agri-food Strategy
- Dialogue 2: Health and Wellbeing of People and Society
- Dialogue 3: Promoting an Inclusive Food System for the Future
- Dialogue 4: Aligning Domestic and Foreign Policy towards Sustainable Food Systems

The National Dialogues series had in excess of 1,500 registrations and more than 8,900 people viewed the events either live or on playback. The national dialogues can be watched in full on the DAFM [YouTube](#) channel.

The Food Systems Pre-Summit, held in July 2021 in Rome, set the stage for the Food Systems Summit. Minister McConalogue led Ireland's delegation to the Food Systems Pre-Summit and addressed a number of sessions in addition to delivering Ireland's national statement. Link: [gov.ie - Minister McConalogue delivers Ireland's National Statement in Rome at the UN Food Systems Pre-Summit \(www.gov.ie\)](https://www.gov.ie/en/news/2021/07/minister-mcconalogue-delivers-ireland-s-national-statement-in-rome-at-the-un-food-systems-pre-summit/). President Michael D. Higgins delivered Ireland's National Statement at the Summit itself ([Media Library](#) | [Speeches](#) | [President of Ireland](#)).

Ireland's experience of inclusive, multi-stakeholder dialogue has shown that systemic change, while challenging, is possible but that it requires the willingness of all stakeholders to engage and cooperate, and at times to accept difficult compromises. Ireland is committed to working multilaterally, to advance and to advocate for food systems transformation in the two-year period where the Summit ambition and outcomes will be advanced.

International Development

DAFM has responsibility for some of the elements of Ireland's international development programme and works closely with Irish Aid in the Department of Foreign Affairs and Trade in this regard. 2021 was a significant year with major developments in WFP and FAO engagement.

UN- Food and Agriculture Organisation (FAO)

The Food and Agriculture Organisation of the United Nations is mandated to help eliminate hunger, food insecurity and malnutrition, make agriculture, forestry and fisheries more productive and sustainable, enable inclusive and efficient agricultural and food systems and increase the resilience of livelihoods to threats and crises. DAFM leads on the Irish Government's relationship with the FAO and ensured that Ireland's position on agricultural and development matters was well represented at various FAO meetings throughout the year. Ireland's partnership and support of FAO was reinforced by entering a first Framework Agreement, an administrative agreement between both organisations. Minister McConalogue joined the FAO Director General, QU Dongyu, to virtually launch a new publication, [FAO + Ireland: Partnering for a peaceful, equal, and sustainable world \(gov.ie - Food and Agriculture Organisation of the UN \(FAO\) + Ireland: Partnering for a Peaceful, Equal and Sustainable World\)](#). The Report outlines the partnership between Ireland and the FAO in tackling the root causes of hunger and poverty, and to help achieve our common goal of improving food security and nutrition for all, and in reaching the furthest behind first. Taking a food systems approach, Ireland and FAO are finding new and better ways to promote sustainable agriculture. Some €3.95 million was provided to FAO in 2021, including membership of €1.56 million and project funding in areas of strategic importance.

Case Study

The World Food Programme

The World Food Programme (WFP) is the United Nation's body charged with the delivery of food assistance to the poorest and most vulnerable people in the world. It is the largest humanitarian agency saving lives in emergencies and using food assistance to build a pathway to peace, stability and prosperity for people recovering from conflict, disasters and the impact of climate change. Its approach to food assistance programmes and policies helps bridge the gender gap in food security and nutrition throughout the world. The Department of Agriculture, Food and the Marine leads on Ireland's engagement with the WFP.



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Their operations are entirely funded through the generous voluntary contributions of donor governments, institutions, corporations and individuals. A total 93.5% of all government contributions go directly to supporting life-saving and life-changing operations. Their funding requirement for 2022 stands at US\$22.2 billion to reach 152 million people. Agenda 2030 clearly states that sustainable development will only be possible through effective partnerships. True to its spirit, WFP works with governments, other UN agencies, NGOs, private companies and others to mobilise resources, find innovative solutions and reach vulnerable communities with the assistance they need, when they need it.

On 15th November 2021, Minister McConalogue together with Mr. David Beasley, WFP Executive Director and Minister of State for Overseas Development Colm Brophy TD signed a three-year Strategic Partnership Agreement with the WFP, committing Ireland to a contribution of €25m per annum to the WFP for the period 2022 to 2024. This represents Ireland's highest ever contribution and confirms Ireland's commitment to fighting world hunger and contributes to WFP's capability to plan its interventions and better address the growing humanitarian needs we are currently facing.

The partnership between Ireland and WFP began in 2011, with DAFM being the lead Department for the Irish Government's relationship with the WFP. The core funding of €75m for the Strategic Partnership Agreement over the period 2022 to 2024 includes a €5 million per year allocation to WFP's trust fund for hunger-related climate change; and an €8 million annual allocation to the WFP Syrian emergency response.

7.6 Organisation for Economic Cooperation and Development

Introduction

The OECD Committee for Agriculture oversees OECD work on agriculture and food policy. It provides the evidence base and analysis to support governments in improving policy performance and creating an enabling environment for the sector to thrive. They produce two quality publications annually that are of particular use to policy makers, the OECD FAO Agricultural Outlook and the Agricultural Policy Monitoring and Evaluation report.

OECD-FAO Agricultural Outlook 2022-2031

The Outlook provides a consensus assessment of the ten-year prospects for agricultural commodity and fish markets at national, regional, and global levels, and serves as a reference for forward-looking policy analysis and planning. The report is a collaborative effort between the OECD and FAO, prepared with inputs from Member countries and international commodity organisations. It highlights fundamental socio-economic trends driving the global agri-food sector assuming no major changes to weather conditions or policies. In this year's Outlook, a scenario was run to assess the level of productivity growth required to achieve the Sustainable Development Goal 2 (SDG-2) on Zero Hunger, as well as a considerable reduction in agricultural greenhouse gas emissions by 2030.

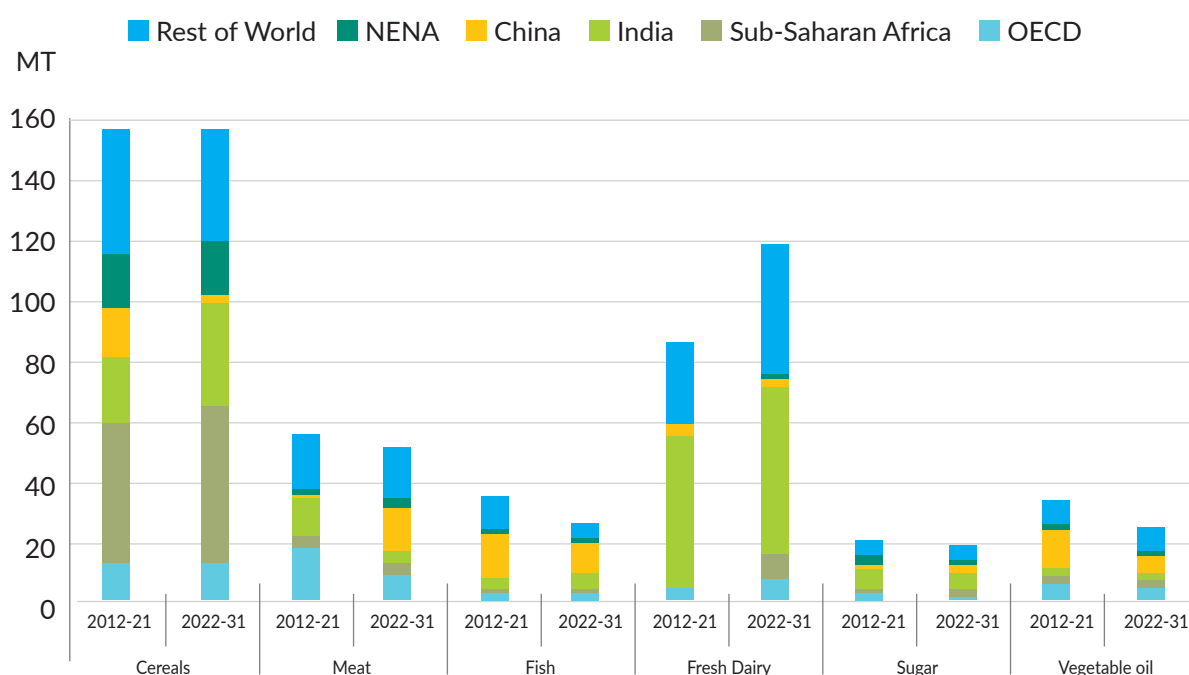
Current international prices are high for most agricultural commodities due to the recovery in demand following the COVID-19 pandemic, and the resulting supply and trade disruptions. The Russian aggression in Ukraine in 2022 exacerbated these pressures, especially for grains and oilseeds. The Outlook projections assume reduced production prospects in Ukraine and reduced export availabilities from both Ukraine and Russia only in the first years of the Outlook. Under these assumptions, the impact on the 10-year prospects for agricultural commodity and fish markets are minimal. The short-term negative impacts, however, may persist if the impacts on Ukrainian and Russian exports are more severe and of longer duration than assumed in the report. Persistently higher agricultural commodity prices, under such a scenario, would have negative consequences for global food security. This would fall particularly on poor households, especially in low- and middle-income countries.

Macroeconomic Outlook and Population Trends

For the coming decade, real per capita income growth of 1.8% per annum is expected in the EU and the World overall. This will be accompanied by a slowdown in Global per-capita income growth in 2022/2023 when compared with the strong year-on-year recovery growth of 4.4% seen in 2021. Global GDP is expected to grow at an annual average rate of 2.7% over the next decade, although the rate of growth will be lower in OECD countries at 1.8%. Equally, poorer socio-economic groups in developing countries may lag overall trends in real income growth. The World population is expected to grow to 8.6 billion people by 2031, corresponding to a growth rate of 0.9% per annum, and population growth will be concentrated in developing regions.

Consumption

It is expected global demand for agricultural commodities will grow by 1.1% per annum over the coming decade, well below growth of approx. 2% per annum over the previous decade. Population growth will be the main determinant of overall demand for most commodities, driving the expected average year-on-year growth in Global food demand of 1.4% in the coming decade.

Figure 7.4 Regional Contributions to Food Demand Growth, 2012-2021 and 2022-2031

Note: Each column shows the increase in global demand over a ten-year period, split by region, for food uses only. NENA stands for Near East and North Africa

Source: OECD-FAO Agricultural Outlook

While consumers in middle-income countries are expected to increase their food intake and diversify their diets in the coming decade, diets in low-income countries will remain largely unchanged. Therefore, the projections suggest that it will be challenging to meet the UN Sustainable Development Goal 2.1 on Zero Hunger by 2030.

Meanwhile, changes in dietary patterns in recent decades have contributed to a double burden of malnutrition. While more than 1.9 billion people were overweight in 2016 (over 650 million of these obese), nearly 768 million people were undernourished in 2020. Current dietary and population growth trends will exacerbate risks to both people and the planet. A shift toward healthier diets and more sustainable food systems could contribute to achieving many of the 17 UN SDGs.

Per capita food consumption will level off in high-income countries over the next decade, while consumers in middle-income countries are expected to increase their food intake and diversify their diets; diets in low-income countries will remain largely unchanged. As such, convergence in diets across regions and income groups will be limited.

Consumption of dairy products is projected to expand by 1.2% per annum, while meat proteins consumption is expected to increase by 1.4% per annum over the medium term with much of this attributed to Asia.

The Triple Challenge

Humankind faces a triple challenge over the next 30 years:

- ensuring food security and nutrition for a growing population; while
- staying on track to keep global warming below 1.5°C and reversing biodiversity loss; and
- supporting livelihoods in the food supply chain.

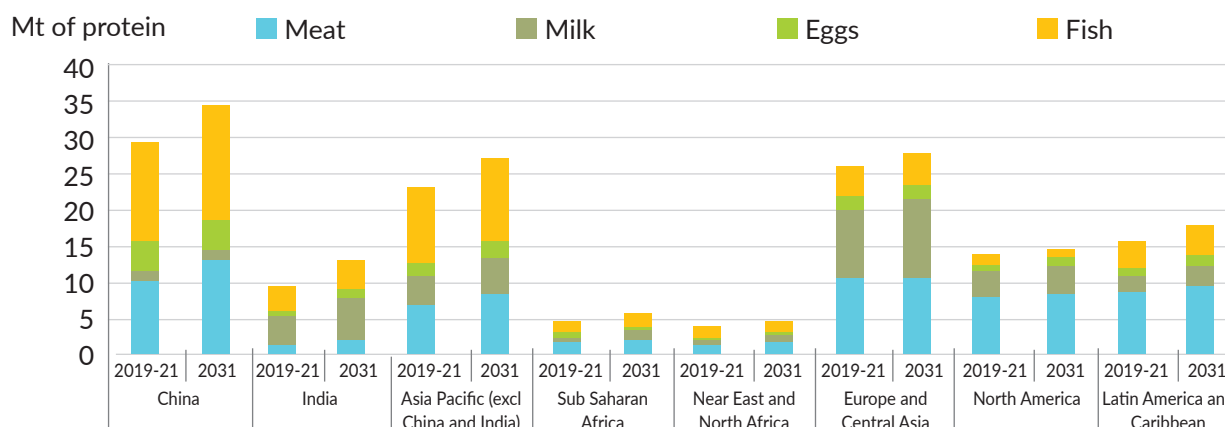
Two scenario analyses documented in the Outlook highlight the scale of the triple challenge which must be addressed by food systems Globally in the decade ahead. First, an evaluation of implementing WHO Dietary Guidelines presented in the Outlook highlights the trade-offs and synergies of addressing the triple challenge. These guidelines would reduce the consumption of free sugars and fat to a maximum of 10% and 30% of appropriate caloric intake, respectively. Compared to the baseline, GHG emissions from the Agriculture, Forestry and Other Land Use (AFOLU) sector would be 10% lower. On the health side, global obesity and overweight rates would decline by 46% and 28%, respectively, and undernourishment would be 3% lower. This would also, however, result in strong declines in food commodity prices, resulting in a 30% reduction in agricultural revenues overall.

Secondly, another scenario analysis in the Outlook suggests that a substantial acceleration in productivity growth would be required. This would be necessary to eliminate global hunger, and to put agriculture on track to contribute to reach the Paris Agreement reduction in GHGs. The required productivity growth, particularly for livestock, is significantly higher than either that experienced over the last decade or projected in the Outlook. Thus, achieving both targets in less than ten years only through productivity improvement would be very challenging, suggesting that other actions need to be taken in parallel. These include direct policy measures to mitigate GHG emissions from the sector, reduce food loss/waste and to limit excess calorie and protein intake in higher income countries. Providing social safety nets and food distribution programmes for undernourished people, especially among the most vulnerable, will also play a role. Investing in R&D and infrastructure can also help by fostering the adoption of new technologies.

Production

Global agricultural production is expected to expand by 17% over the coming decade. Production growth in agriculture will be mainly located in emerging economies and low-income countries. This will be driven by productivity-increasing investments in agricultural R&D; increased access to agricultural inputs; and improvements in management skills. A majority of this growth will stem from crops, generally due to increased yields, although most of the growth in Europe and Central Asia will arise from increased land use for crops. Livestock will also contribute to this growth, although to a lesser extent.

Global livestock & fish production is expected to expand by 16% in the coming decade, while milk and poultry outputs are anticipated to increase by 23% and 16%, respectively; dairy will be the fastest-growing livestock sector to 2031. Overall meat production is set to expand by 15% due to higher animal numbers and productivity improvements, arising from superior fertility and weight gain rates, due to genetic gains as well as better herd management.

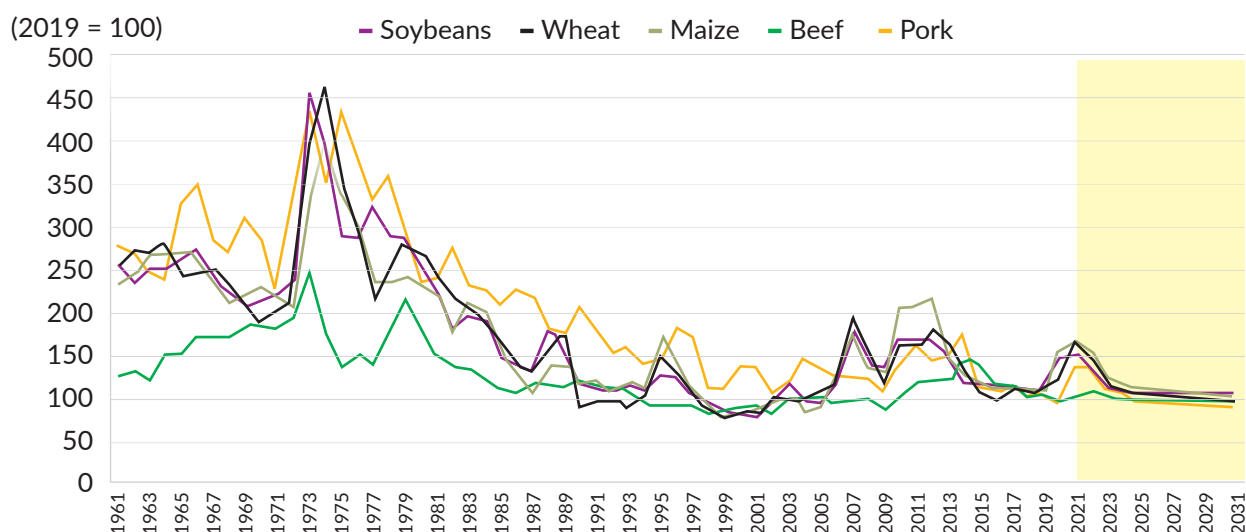
Figure 7.5 Global Livestock and Fish Production on a Protein Basis

Source: OECD-FAO Agricultural Outlook

Increases in dairy production will be driven by expanding yields due to optimization of milk producing systems, improvements in genetics, better animal health and feeding efficiencies. The EU will, however, account for 30% of the 13% global growth in cheese production, as will the USA. Global fish production is expected to grow by 14% over the period, a slowdown compared to the 56% growth over the previous decade. Most of the growth will occur in Asia Pacific, while aquaculture is expected to account for 53% of global fish production by 2031 as it overtakes capture fisheries as the main source of fish from 2023.

Prices

Over the coming decade, most commodities are expected to see real prices stagnate or decline at a low rate. Meat is expected to be the exception to this as prices are projected to decrease more strongly. This is partly as a reflection of its current high levels, with high transportation and packaging costs anticipated to normalise in the medium-term. Meanwhile, crop prices will experience a more modest decline (-0.6% per annum). Real food prices, following a spike induced by market disruptions experienced in 2021/2022, are expected to begin to decline later this year on an overall basis. The rate of decline is expected to moderate in the second half of the decade, however.

Fig 7.6 FAO Long-term Evolution of Commodity Prices, in Real Terms

Source: OECD-FAO Agricultural Outlook

Trade

International agricultural trade plays a critical role in improving the efficiency of food systems. It enables the flow of products from countries that are relatively well-endowed in natural and other resources, to processors and consumers in less well-endowed countries. Agricultural trade is therefore essential to ensure food security in some regions, and an important source of income in others. Over the coming decade, some countries are projected to experience large population and/or income-driven increases in food demand but without sufficient resources to supply that demand. Moreover, socio-cultural and lifestyle-driven changes are transforming consumption patterns in most regions. Trade will also help to smooth food supply fluctuations and share production risks across countries, acting as a buffer in case of shocks to domestic or international markets.

Over the next decade, agricultural trade will expand for most commodities although at a slower pace, mainly because there will be a slowdown in demand growth from China. Europe has moved from being a net importer to a net exporter partly due to a static population and flat per capita consumption, which have limited domestic demand. Net exports from Europe and Central Asia are expected to double in the next ten years, although this may not materialise in practice if production and exports from Russia and Ukraine do not expand at their projected growth rate.

OECD Monitoring and Evaluation Report 2022

This year, the annual Monitoring and Evaluation report discusses the role of agriculture and agricultural policies in global mitigation efforts. It provides a description and overall assessment of agricultural policy developments and support, with a specific focus on changes in support due to the COVID-19 pandemic. The report found that total support to the agricultural sector reached US \$817 billion per year over 2019-21 for the 54 countries covered. This includes OECD members and 11 emerging economies and represents a 13% increase over the US \$720 billion reported for 2018-20.

The report highlights that several countries are implementing policies to alleviate emerging pressures on their producers and consumers arising from Russian aggression in Ukraine in particular. While some measures, such as reducing import restrictions, facilitate food supply, others may be counterproductive. Export restrictions can add to global price and supply pressures. Relaxing environmental restrictions to boost domestic production may also have pro-cyclical effects and come at the cost of reducing sustainability.

The report also finds that agriculture is affected by, and contributes to, climate change. Livestock account for two-thirds of direct emissions from agriculture, through enteric fermentation, manure management and manure left on pasture. A further 20% of Global emissions from the sector accrue to Nitrous Oxide emissions from fertiliser applied to agricultural soils. Agriculture can also, reduce emissions. It is one of the few sectors able to contribute positively to combatting climate change by removing carbon from the atmosphere and sequestering it in soils.

The report highlights that the 54 countries covered contribute about two-thirds of total global agricultural GHG emissions. However, only 15 of the 54 countries have set some form of mitigation target for their agricultural sector specifically, and there is significant scope to intensify and accelerate emissions reduction in the sector. Agricultural mitigation policies tend to focus on innovation-led productivity growth and improved production methods to reduce the emissions intensity of agriculture. While these provide significant opportunities, they are likely not sufficient to achieve the overall emission reductions required. In contrast, use of direct incentives for reducing agricultural emissions, either through carbon pricing or equivalent regulatory measures, remains limited.

Publications

The OECD publish a large number of reports and analyses covering many different aspects of agriculture, food and fisheries, including:

- OECD Agriculture and Fisheries Home page: <http://www.oecd.org/agriculture/>
- OECD-FAO Agricultural Outlook: <http://www.agri-outlook.org/>
- OECD Agricultural Policy Monitoring and Evaluation: <http://www.oecd.org/tad/agricultural-policies/monitoring-and-evaluation.html>

Among the many relevant publications in 2021, Ireland was selected as one of three case studies for a report entitled “Making Better Policies for Food Systems” ([Making Better Policies for Food Systems | en | OECD](#)). The report found that in order to achieve better policies in this area, there is a need to build a shared understanding of the facts, to balance diverging interests and to resolve differences over values. The Irish case study focused on the ruminant livestock sector, the seed sector and the processed food sector noting how each has a key role to play in meeting the triple challenge of food security and nutrition, resource use and climate change and livelihoods and rural development.

In November 2021 DAFM and OECD held a joint webinar on Making Better Policies for Food Systems – OECD-FAO Agricultural Outlook. Food systems challenges were discussed along with how Food Vision 2030 adopts a food systems approach to become a leader in sustainable food systems.

7.7 OECD Support Estimates

Globally, agricultural policies are implemented in different ways and to different extents between countries. In order to measure and compare the extent of those policies, the OECD has developed agriculture support indicators that, despite their diversity, express policy measures with numbers in a comparable way across time and between countries.

The OECD define agricultural support as “*the annual monetary value of gross transfers to agriculture from consumers and taxpayers, arising from governments*” policies that support agriculture, regardless of their objectives and their economic impacts.

Three key indicators are produced:

- The *Producer Support Estimate (PSE)*
- The *Consumer Support Estimate (CSE)* and
- The *Total Support Estimate indicator (TSE)*.

The OECD provide a comprehensive analysis of these indicators and major agriculture and food policy developments across the globe in its annual ‘[Agricultural Policy Monitoring and Evaluation](#)’ publication. For the purposes of this report, a selection of data has been extracted from the OECD database in order to consider the three indicators in detail. Support has been above trend in recent years due to the implementation of measures in response to crises such as the COVID-19 pandemic and the Russian invasion of Ukraine.

Producer Support Estimate (PSE)

The *Producer Support Estimate (PSE)* represents policy transfers to agricultural producers, measured at the farm gate and expressed as a share of gross farm receipts. Transfers included in the PSE are composed of market price support, budgetary payments and the cost of revenue foregone by the government and other economic agents. The PSE represents transfers to producers individually. These transfers require that an individual farmer takes actions to produce goods or services, to use factors of production or to be defined as an eligible farming enterprise or farmer, to receive the transfer.

Of the countries selected, Japan has the highest PSE in 2021, at almost 38%, when expressed as a percentage of gross farm receipts. While not included in the data shown here, Norway, Switzerland, Iceland and Korea tend to have some of the highest PSE rates when expressed as a percentage of gross farm receipts. In contrast, the EU's PSE, of around 18%, is substantially lower, although slightly above the OECD average of 16%. New Zealand has the lowest level of support, whether expressed in absolute terms or as a percentage of farm receipts.

Table 7.1 *Producer Support Estimate (PSE) – expressed in Millions of Euros (€m) and as a Share of Gross Farm Receipts (% GFR) – for a selection of countries and regions, 2017 – 2021*

PSE		2017	2018	2019	2020	2021
Japan	€m	33,534	31,284	33,273	35,392	28,440
	% GFR	42	41	42	43	38
UK	€m	5,846	6,149	6,197	5,846	7,559
	% GFR	19	20	19	19	23
EU	€m	87,183	92,504	93,906	91,254	82,848
	% GFR	19	20	20	19	18
China	€m	180,445	157,516	178,117	220,032	244,371
	% GFR	15	13	13	15	16
OECD (Total)	€m	198,457	203,196	217,893	221,527	207,477
	% GFR	17	18	18	18	16
Canada	€m	3,236	3,191	3,887	3,801	6,716
	% GFR	8	8	9	8	12
USA	€m	28,396	35,243	44,909	42,880	44,852
	% GFR	8	10	13	12	11
Brazil	€m	3,338	2,265	2,038	2,073	5,748
	% GFR	2	2	2	2	3
New Zealand	€m	84	78	119	174	120
	% GFR	0	0	1	1	1

Source: OECD (2022), “Producer and Consumer Support Estimates”, [OECD Agriculture Statistics](#)

Consumer Support Estimate (CSE)

The *Consumer Support Estimate (CSE)* measures by how much domestic farm gate prices are inflated by agriculture policy at farm gate level. It captures the value of transfers to consumers and is almost always negative because transfers from consumers due to market price support policies outweigh any consumption subsidies from taxpayers that might be provided to consumers.

The CSE of selected countries shows that China has the largest implicit tax on consumers in absolute terms. When expressed as a percentage of consumption expenditure at farmgate, however, Japan comes out as being least beneficial to consumers with support of -33% in 2021. The EU has a lower CSE percentage than the OECD average, with its level falling closer to zero during the past three years. In contrast, the US has a high positive net-support to consumers, reflective of significant domestic food assistance programmes in place and interventions introduced during the COVID-19 pandemic.

Table 7.2 Consumer Support Estimate for a selection of countries and regions, 2017 – 2021

CSE		2017	2018	2019	2020	2021
Japan	€m	-37,954	-36,574	-38,517	-38,342	-31,387
	% Agri Consumption	-36.52	-36.42	-36.15	-36.25	-32.87
USA	€m	30,401	28,164	29,455	39,203	49,863
	% Agri Consumption	14.10	13.68	13.20	17.72	21.11
China	€m	-135,133	-113,712	-141,787	-211,793	-222,826
	% Agri Consumption	-11.24	-9.43	-10.41	-13.57	-14.08
UK	€m	-1,772	-2,152	-1,790	-1,375	-3,774
	% Agri Consumption	-6.03	-7.24	-6.31	-4.63	-12.96
Canada	€m	-2,182	-1,875	-2,216	-2,414	-3,173
	% Agri Consumption	-8.61	-7.57	-8.02	-8.61	-9.74
OECD	€m	-61,957	-65,583	-66,353	-52,989	-33,661
	% Agri Consumption	-6.84	-7.25	-7.03	-5.67	-3.57
EU	€m	-13,691	-17,333	-16,549	-12,879	-10,231
	% Agri Consumption	-3.64	-4.41	-4.26	-3.30	-2.62
Brazil	€m	896	774	779	-4	-1,710
	% Agri Consumption	1.06	1.07	0.99	-0.00	-1.67
New Zealand	€m	-56	-60	-96	-126	-61
	% Agri Consumption	-0.80	-0.74	-1.07	-1.47	-0.67

*Net of taxpayer transfers.

Source: OECD (2022), "Producer and Consumer Support Estimates", [OECD Agriculture Statistics](#).

Total Support Estimate (TSE)

The *Total Support Estimate indicator (TSE)* represents the total of policy transfers to the agricultural sector expressed as a share of GDP. TSE transfers consist of transfers to agricultural producers (measured by the PSE), consumers (measured by the CSE) and support to general services to agricultural sector (measured by the GSSE).

Total support relative to the size of countries' economies varies considerably across OECD countries. For the data selected, China has the highest TSE as a percentage of GDP at 1.85%. The United Kingdom and New Zealand have the lowest relative TSE at 0.26-0.30%. In almost all countries, policy transfers to individual producers are the dominant form of total support.

Table 7.3 Total Support Estimate for a selection of countries and regions, 2017 – 2021

	TSE	2017	2018	2019	2020	2021
China	€m	241,691	221,737	228,911	286,097	326,844
	% GDP	1.96	1.60	1.60	1.94	1.85
Japan	€m	47,274	46,075	47,660	52,929	42,381
	% GDP	0.96	0.91	0.93	1.05	0.85
EU	€m	110,401	122,419	118,186	119,152	112,919
	% GDP	0.63	0.65	0.64	0.66	0.67
OECD	€m	315,619	331,965	334,155	348,628	353,518
	% GDP	0.62	0.62	0.62	0.67	0.61
Brazil	€m	7,290	6,069	5,254	4,687	9,045
	% GDP	0.35	0.32	0.28	0.32	0.56
USA	€m	88,730	98,303	106,492	107,458	127,087
	% GDP	0.45	0.48	0.50	0.51	0.55
Canada	€m	5,355	5,449	6,004	6,201	9,776
	% GDP	0.32	0.32	0.34	0.38	0.49
UK	€m	7,429	8,115	7,898	7,577	9,713
	% GDP	0.28	0.28	0.27	0.27	0.30
New Zealand	€m	493	485	617	622	640
	% GDP	0.24	0.23	0.29	0.30	0.26

Source: OECD (2022), "Producer and Consumer Support Estimates", [OECD Agriculture statistics](#).

7.8 International Trade Developments

Introduction/ Overview

The EU negotiates trade agreements on behalf of the member states, including Ireland. These agreements deal with preferential duty rates on the shipment of goods between the EU and countries around the world. They have also evolved to cover a wider range of areas to facilitate trade. Among these include government procurement opportunities, business visitor visas, mutual recognition of professional qualifications, intellectual property rights and the cross-border trade in services.

While they take can take a number of years to conclude, they deliver significant benefits to Ireland as a small, open exporting economy. This will continue to be the case into the future, and they are included as a crucial objective as outlined in the Food Vision 2030 strategy.

EU- Mercosur

The EU-Mercosur Free Trade Agreement passed the political agreement stage in June 2019, and it has spent the past two years undergoing assessment for its economic and sustainability impacts at both a national and EU level.

Additional concerns have also been raised regarding deforestation in the Amazon basin and the sustainability of production from these areas. In this regard Ireland supports the EU Commission approach of seeking additional robust, and legally enforceable commitments on environmental compliance being added to the agreement.

The Agreement has been undergoing legal scrubbing and translation to the EU's Official languages. The Commission hope to commence the ratification process of the agreement at Trade Council in 2022. The ESIA study and the outcome of Commission efforts to secure additional commitment on environmental compliance will inform Ireland's approach to this at EU Council.

EU-US Trade Relations

The change in US Presidential administration in January 2021 has seen a change in tone of the engagement between the EU Commission and the Office of the United States Trade Representative (USTR) on trade matters. This includes agreement to a 5-year suspension of retaliatory tariffs imposed as part of WTO dispute cases related to subsidies to Airbus and Boeing and suspension of tariff related measures imposed as part of steel safeguards. The suspension of measures in both these cases is positive for EU exporters, including Irish exporters, to the US. Both actions provide much-needed relief for businesses and workers on both sides of the Atlantic.

Comprehensive Economic Trade Agreement (CETA)

Following a process of legal review, this agreement was signed on 30th October 2016. On 15th February 2017, the European Parliament gave its consent for CETA and on 21st September 2017, the agreement entered provisionally into force. As such, most of the agreement, including its trade aspects, now apply. The overall outcome is satisfactory from Ireland's perspective. Although increased access to the EU market was granted for Canadian beef, greater access to the Canadian market for EU beef and dairy products (notably cheese) was also secured. To date, Canada has yet to fully utilise the additional beef access to the EU market provided for in the agreement.

The agreement will enter into force fully when all EU MS parliaments have ratified the agreement. As of December 2021, fifteen EU member states have deposited their instruments of ratification: Austria, Croatia, Czech Republic, Denmark, Estonia, Finland, Latvia, Lithuania, Luxembourg, Malta, Portugal, Romania, Slovakia, Spain, and Sweden. At present, there is no formal date for Ireland's ratification of the agreement. The Department of Enterprise, Trade and Employment are determining when to commence this ratification process, taking into consideration wider Government and Oireachtas business.

EU-Chile

Ten rounds of negotiations have taken place between the EU and Chile. The Parties had a second exchange of offers on goods at the beginning of June 2021 (the first one took place in 2019). On 10th December 2021 Commission circulated the final draft version of the negotiation texts.

While negotiations were technically completed in October 2021, announcement of the Political Agreement has still not occurred to date. Pending the political conclusion of the agreement, the two sides have engaged in the legal revision of the texts. Once the political conclusion is announced and the texts are finalised, the agreement will need to undergo translation into all EU languages so that the Commission can start the necessary internal procedures for the transmission of the agreement to the Council and European Parliament.

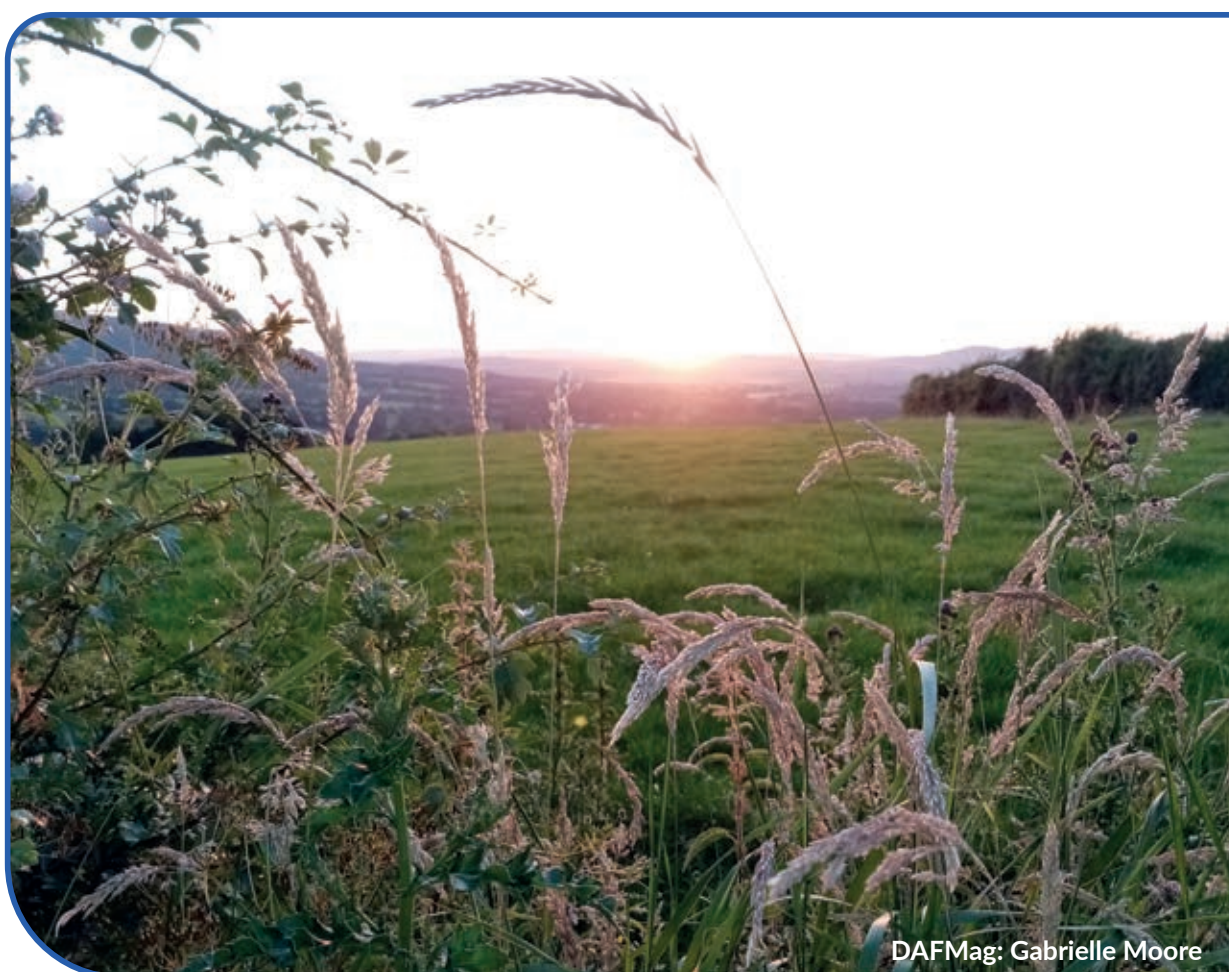
EU-New Zealand

Ireland has strong relationships with New Zealand and enjoys good cooperation on both a bilateral and multilateral level. As with any trade deal, there are both defensive and offensive interests and these must be balanced and have due regard to special sensitive sectors, such as beef, sheepmeat and dairy. The EU is New Zealand's third-biggest trade partner.

Negotiations began in June 2018 and took place over 12 negotiating rounds. On 30th June 2022 the EU concluded negotiations for a comprehensive and ambitious trade agreement with New Zealand. According to an impact assessment on the FTA, trade between New Zealand and the EU is expected to increase by 30%, with removing tariffs alone saving businesses €140 million in duties per year. Moreover, EU investment flows into New Zealand could increase by over 80%. The agreement, once it enters into force, will:

- Create significant economic opportunities for companies, farmers and consumers;
- Respect the Paris Climate Agreement and core labour rights, enforceable through trade sanctions as a last resort, and;
- Cement EU ties with a like-minded ally in the economically dynamic Indo-Pacific region.

Shortly after the conclusion of the negotiations, the negotiated draft texts will be published, go through legal revision, and be translated. Following that, the agreement must be adopted by the Council, after which the EU and New Zealand will sign it. Following its signature, the text is transmitted to the European Parliament. Once the European Parliament has given its consent, and once the agreement has been ratified by New Zealand, it can then enter into force.



DAFMag: Gabrielle Moore

EU-Mexico

On 21st April 2018, the EU and Mexico reached an ‘agreement in principle’ on the trade part of a modernised EU-Mexico Global Agreement (updating the 2000 Agreement) and this was supplemented with the agreement on public procurement on 28th April 2020. From an EU perspective, significant market access improvements were agreed for core exports of cheese and dairy products to Mexico. There will also be a considerable improvement in market access conditions for EU’s exports for pork and poultry.

On 12th May 2020, Ireland secured pigmeat access to Mexico. This access is particularly welcome when combined with the Trade Agreements. This will significantly reduce tariff barriers to trade and will provide new export market opportunities for Irish pigmeat and the wider sector.

The texts of the trade part of the agreement have been published. Once the Commission procedures are finalised, the legal texts will need to undergo translation into all EU languages, before the Commission can start the necessary internal procedures for the transmission of the agreement to the Council and European Parliament.

EU-Australia

Ireland has a well-built relationship with Australia and enjoys good cooperation on a bilateral and multilateral level. As with any trade deal, there will be both defensive and offensive interests in any negotiations, and these must be balanced and have due regard to special sensitive sectors, such as beef, sheep meat and dairy.

Twelve rounds of negotiations have taken place with Australia, the most recent virtually in February 2022. Some good progress had been made with chapters on transparency and domestic regulation provisionally closed; second government procurement offers exchanged; good movement on Intellectual property rights, services and maritime chapter, geographic indications, and technical barriers to trade. The next round is envisaged for after the summer, with possible exchanges of the second offers on services and investment as well as on tariffs, most sensitive products would remain excluded.

Member states have been assured that a second tariff offer will not be discussed until closer to the end of the negotiations.

Any other pertinent trade developments

Gaining third country market access and opening trading opportunities around the world for Irish exports, have long been integral to DAFM’s strategic approach to the development of the agri-food sector. This is particularly important as we emerge from the recent COVID-19 pandemic and continue to deal with the challenges presented by Brexit and Russian invasion of Ukraine.

Market Access

Trade missions play a key role in gaining and maintaining market access in key countries. DAFM continues to support the ambition of the Irish agri-food sector to grow both the value and volume of our exports to international markets. The promotion of Ireland’s high-quality, safe, nutritious, and sustainably produced food remains a core objective of DAFM and its agencies.

Due to public health restrictions related to COVID-19 pandemic, the traditional programme of “in person” Trade Missions was not feasible in 2021. DAFM and Bord Bia adapted to virtual trade mission format to maintain and support Ireland’s customer base overseas. During 2021, a Virtual Trade Mission programme was implemented along with multiple top-to-top meetings between Ministers and CEOs of key customers worldwide. These have assisted in maintaining market share globally with high quality Irish agri-food produce.

In 2021, Ministerial trade promotion engagements led by Ministers McConalogue and Heydon, included a series of virtual meetings with key global customers across the UK, the US, France, Spain, Germany, and the Netherlands.

From September to November 2021, Ministers McConalogue and Heydon were involved in a series of virtual Trade Missions and meetings with key customers in Vietnam, Malaysia, Thailand, Japan, China, and Singapore.

These successful engagements and meetings covered a wide range of products across the beef, seafood, poultry, dairy, sheepmeat and beverage sectors.

A full programme of in-person Ministerial Trade Missions is scheduled for 2022. In early 2022, an in-person Trade Mission to the United Arab Emirates and Saudi Arabia was led by Ministers McConalogue and Heydon. This Mission included Government to Government discussions and engagements with key Irish customers. It also encompassed Gulfood, one of the world's largest food fairs, and EXPO 2020 in Dubai.

This visit forms part of an intensified programme of trade missions that will be undertaken this year. In April, both Ministers also led Trade Missions to the United States and Mexico. Further missions in the second half of 2022 will be focused on Southeast Asia, including Japan, Singapore and Vietnam and subject to travel restrictions related to COVID-19 to China. Ministerial-led Trade Missions to key European markets, such as the UK, France and Germany, for Irish agri-food products are also planned for 2022.

The selection of these destinations is informed by the comprehensive market prioritisation analysis that has been undertaken by Bord Bia in recent years. This will complement the continuing programme of virtual engagements with overseas governments and clients - a model that has been developed very effectively since the advent of the pandemic.

CHAPTER 8

Environment, Rural Development and Research



18,000

participants complete the
Knowledge Transfer (KT)
Programme



48,000

approvals have issued for
TAMS II with €322 million in
payments to December 2021.



€20 million

was awarded by DAFM to 24
research projects in 2021 under
the themes of Food, Forestry and
Agriculture.

8.1 Overview

Addressing climate change, restoring & enhancing biodiversity and improving water & air quality, while safeguarding the livelihoods of our primary producers is of the utmost importance. Under The Programme for Government, Ireland is committed to achieving a 7% average yearly reduction in overall greenhouse gas emissions over the next ten years and net zero emissions by 2050. The Climate Action and Low Carbon Development (Amendment) Act 2021 will drive a number of policies to help achieve these goals. These include setting a legally binding target of net-zero greenhouse gas emissions no later than 2050, with a reduction of 51% by 2030. In addition to the targets, the Act also establishes a system of carbon budgeting with three five-year economy-wide budgets included in each carbon budget programme. Each carbon budget represents the total amount of greenhouse gases that may be emitted in the State during each five-year period, measured in tonnes of carbon dioxide equivalent. The carbon budgets will be consistent with furthering the achievement of the national climate objective and include all greenhouse gases. The first carbon budget programme will comprise carbon budgets for the following periods: 2021-2025; 2026-2030 and 2031-2035.

The Department continues to work on strengthening the resilience and adaptive capacity of the sector while integrating climate change measures into national policies and strategies and raising sectoral awareness and capacity on climate change issues.

Food Vision 2030

Food Vision 2030 aims for Ireland to be a world leader in Sustainable Food Systems, sustainability in all its dimensions – environmental, economic and social - taking a food systems approach, a more holistic view of agri-food. One its four missions is for a Climate Smart, Environmentally Sustainable Agri-Food Sector, encompassing emissions reductions, carbon sequestration, improvements in air quality, restoration and enhancement of biodiversity, improvements in water quality, development of diverse forests, enhanced seafood sustainability, exploring the bioeconomy and strengthening Origin Green.

8.2 National Climate Change Strategy

Climate Action Plan 2021

The first **All of Government Climate Action Plan** in 2019 established sectoral emission reduction targets for the first time. The target for agriculture was a 10-15% reduction by 2030. The Government launched Climate Action Plan 2021 on 4th November 2021. This is an ambitious plan to put Ireland on a more sustainable path, cutting emissions, creating a cleaner, greener economy and society and protecting us from the devastating consequences of climate change. The Climate Action Plan follows the Climate Action and Low Carbon Development (Amendment) Act 2021, which commits Ireland to a legally binding target of net-zero greenhouse gas emissions no later than 2050, and a reduction of 51% by 2030. These targets are a key pillar of the Programme for Government. The plan sets out indicative ranges of emission reductions for each sector of the economy. It also sets out the actions needed to deliver on our climate targets.

The agriculture sector has committed to reduce its emissions by 25% by 2030. This means agricultural emissions are to reduce to 17.25 Mt CO₂eq in 2030 – an absolute reduction of 5.75 Mt CO₂eq compared to 2018. Additionally, the sector will also contribute through reducing land-based emissions and through better managing our soils, in particular peat soils.

The Climate Action Plan goes hand-in-hand with the recently published food systems strategy - Food Vision 2030. Food Vision 2030 charts a course for how Ireland can become a world leader in sustainable food systems. It ensures that Ireland can continue to produce high quality food in a manner that protects the environment and mitigates climate change.

AgClimatise was published in December 2020 by Minister McConalogue. It sets out a series of 29 actions to deliver a 10-15% reduction in GHG emissions by 2030. AgClimatise is expected to be updated in late 2022 to reflect the increased ambition in the Climate Action Plan 2021.

Adaptation

Adaptation actions aim to reduce the impacts of climate change and to take advantage of any opportunities presented by climate change. Adaptation actions such as planting of multispecies swards are becoming more widespread due to their resistance to extreme weather conditions and they are also proven to reduce our dependency on chemical nitrogen while maintaining forage output.

There were several adaptation developments during 2021. These include the publication of the New EU Adaptation Strategy setting out how the EU can adapt to the unavoidable impacts of climate change and become climate resilient by 2050. There were also numerous outcomes from COP 26 to reduce vulnerability, strengthen resilience and increase the capacity to adapt to the impacts of climate change.

Nationally, the Climate Action and Low Carbon (Amendment) Act 2021 included new provisions allowing for joint sectoral adaptation plans and placing the Climate Change Advisory Council Adaptation Committee on a statutory footing. For the first time, the Advisory Council Annual Review 2021 considered progress across the 12 National Adaptation Framework (NAF) sectors, including the agriculture, forest and seafood sector which achieved an overall score of moderate progress. The Climate Action Plan 2021 included greater integration of adaptation to support implementation at national level.

During 2021, work was ongoing to embed adaptation-planning in a range of sectoral policies. Evidence of this is its inclusion in the development of Ireland's CAP Strategic Plan and Food Vision 2030. The new forest strategy will also consider the important role forests play in climate change mitigation and adaptation. The Department also completed a review of the climate impact screening it conducted as part of the 2019 impact and vulnerability assessment. Observed changes since the Sectoral Adaptation Plan was published in October 2019 were now included.



Outlook

Under the Climate Act, the Minister for Environment, Climate and Communications must review the National Adaptation Framework (NAF) not less than once every five years after the date of approval by Government. Therefore, the existing NAF is required to be reviewed by 15 December 2022. The Climate Action Plan 2021 (CAP2021) echoes this requirement and requires that a public consultation to inform the review be launched by end Q1 2022. This consultation commenced May 2022 and closed in July 2022.

DAFM has participated in the early key stakeholder consultations. It will consider the outcome of the NAF review in the context of the Climate Action Plan 2021 action. This will be used to review the Agriculture, Forest and Seafood Climate Change Sectoral Adaptation Plan.

8.3 Bioenergy

As part of the European Green Deal, the European Commission has committed to achieving a series of actions under the Fit for 55 Package. It is a highly significant, cross-sectoral package detailing the binding actions, by which it is proposed the EU will reduce greenhouse gas emissions by at least 55% by 2030 as compared to 1990 levels. The Fit for 55 package consists of proposals to amend existing legislation as well as new initiatives in climate, energy & fuels, transport, buildings, land use and forestry.

Of particular importance to Ireland, is the increased ambition under the Renewable Energy Directive to set a target of 40% of gross final consumption of energy being met from renewable sources by 2030.

While energy policy is a matter for the Department of the Environment, Climate and Communications (DECC), DAFM continues to work very closely on related matters promoting energy efficiency. These include increasing on-farm generation of renewable energy and regulating agricultural feedstocks to produce indigenous biomethane as the renewable alternative to natural gas. There will be increased opportunities for the agriculture sector to turn renewable biological resources and agriculture by-products into value-added bio-based products and bio-energy. Realising the potential of such opportunities will require sustained attention over the period ahead.

In addition, DAFM continues to support farmers, foresters and landowners to participate in this energy transition through achieving energy use efficiencies, the deployment of renewable energy technology sources for self-consumption and in the provision of biomass feedstocks.

Targeted Agricultural Modernisation Schemes (TAMS II) Energy Efficiency

Energy efficiency grants include investment options such as biomass boilers and air-source heat pumps under the Targeted Agricultural Modernisation Schemes (TAMS II), Pig and Poultry and Young Farmers Capital Investment Schemes and grants for installing solar PV across all farm types and using LED lighting.

Grant aid is provided through TAMS II to assist farmers in maximizing their production of renewable energy through the installation of Solar PV technology along with battery storage on Irish farms. Solar energy for on-farm use is grant aided under the Animal Welfare Nutrient Storage and Safety Scheme, Young Farmers Capitals Investment Scheme, the Organic Capital Investment Scheme and the Pig and Poultry Scheme measures under TAMS. The solar PV systems grant aided under TAMS includes Solar PV Panels and Solar PV Rechargeable Batteries. Currently all grant aid for TAMS II investments must be for on farm use only.

Microgeneration Support Scheme

The Microgeneration Support Scheme was launched in December 2021. It provides a range of supports to assist homes, businesses and farms to develop renewable generation for self-consumption. It also provides a micro-generation enabling framework to introduce payments to micro-generators for exported electricity.

The Support Scheme for Renewable Heat (SSRH)

State support is available for Anaerobic Digestion and Biomass through the SSRH. This scheme gives an operational support of biogas production for heat purposes only. It also bridges the gap between the installation and operating costs of renewable heating systems and the conventional fossil fuel alternatives. It supports an installation grant and ongoing operational support (for some technologies) for a period of up to 15 years. Technologies which are part of this scheme are as follows:

- Air source heat pumps
- Ground source heat pumps
- Water source heat pumps.
- Biomass boiler or biomass HE CHP heating systems
- Biogas (anaerobic digestion) boiler or biogas HE CHP heating systems.

Anaerobic Digestion

Anaerobic Digestion (AD) industry in Ireland is at a nascent stage of development, when compared to the more established industry in many European countries. There are potential opportunities for farmers to participate in this sector not only as owner/operators of AD plants but also in the provision of feedstocks to the industry. Anaerobic Digestion can use a range of feedstocks from food waste to animal slurries and poultry litter to grass and other silage crops. DAFM has a key regulatory role to play when using animal-by-products as feedstock for Anaerobic Digestion.

Biomass Supply

Wood grown in Irish forests is a valuable commodity and it is used across a wide variety of applications including bioenergy. Material derived from thinning operations can be used as bioenergy to offset the use of fossil fuels. Thinning operations can also enhance the quality of the final timber produced. When this timber is then used to manufacture wood products, the sequestered carbon remains stored until the end of life of the product, which further mitigates climate change. Other forest harvest biomass such as brash and smaller materials, not suitable for wood products, can also be used for bioenergy purposes.

DAFM supports the mobilisation and use of forest biomass through the All-Ireland Roundwood Production Forecast 2021 -2040. This report provides information to energy users in the biomass supply chain to estimate predicted supplies now and into the future. A spatial geographic information system (GIS) map browser is available to allow the user to define a specific geographic area and to make custom-made forecasts of available wood biomass.

Outlook

The continuing urgency to achieve ambitious targets for renewable energy generation, as outlined in the recent publication of the Climate Action Plan 2021, has been further enhanced due to the upheaval experienced on global energy markets as a result of the COVID pandemic and international uncertainties in the supply of fossil fuels.

Within this uncertainty, there is an opportunity for the farmers, foresters and landowners to become more actively involved in the generation of renewable electricity, primarily for on-farm use, while also supplying biomass feedstocks to the renewable energy sector. The recent launch of the Micro-generation Support Scheme will further help to stimulate the production of on-farm renewable energy while allowing for the payment for excess energy supplied to the national grid.

DAFM remains committed to providing supports for energy efficiency measures and renewable energy production, in particular for grant support for solar PV, as provided through the Targeted Agricultural Modernisation Scheme (TAMS). The role of solar in the renewable energy mix will also increase in importance with commitments given under the Climate Action Plan which calls for the development of a Small-scale Generation Scheme (>50 kW) to support the deployment of rooftop and ground-mounted solar PV. There is a potential for increased farmer involvement in the provision of agricultural feedstocks to the anaerobic digestion sector. This could help us achieve our goal for 1.6TWh of biomethane production. A decision will be made on this after reviewing data from the recent Renewable Heat Obligation public consultation conducted through the Department of Environment, Climate and Communication (DECC)

8.4 Bioeconomy

The bioeconomy encompasses all sectors and associated services and investments that produce, use, process, distribute or consume biological resources, including ecosystem services. The bioeconomy includes agriculture, forestry, food processing and organic waste sectors and land and marine (eco)systems. Bioeconomy policies enable the development of a 'bio-based' lifestyle, providing bio-based material (food, fibre, bio-based chemicals and materials, energy) and non-material (clean air and water, biodiversity, climate mitigation and adaptation, recreation) products and services.

The National Policy Statement on the Bioeconomy in (2018) identified that the Irish bioeconomy was at an early stage of its progression. One of the premises of the statement was that the economic and environmental case for the bioeconomy was clear. However, the statement did not identify individual sectors or targets which should be advanced as this was considered premature. Instead, the policy statement sought a concentration on developing the key major pillars of the bioeconomy:

- Investments in research, innovation and skills
- Development of markets and competitiveness
- Reinforced policy co-ordination and stakeholder engagement

It was also noted that these pillars should receive consistent attention of Government. It was envisaged that the next step involved looking at how the commercial viability of the bioeconomy could be extended and intensified as Ireland moved towards the objective of embedding pro-environmental and climate actions in rural, coastal, and regional areas and developing a climate-neutral and decarbonised economy by 2050.

The critical role of the Bioeconomy as part of a sustainable transition is increasingly being recognised. Numerous countries worldwide have elaborated their bioeconomy strategies and others are in the process of framing their own. It is necessary to examine the size and importance of the bioeconomy within the Irish economy, in line with the bioeconomy vision set out in the national policy statement. This requires measurement of the bioeconomy from a range of different perspectives, such as economic, social, spatial, innovation and environmental perspectives. Research has been undertaken, led by NUI Galway, to further develop the original bioeconomy modelling approach to now examine the environmental, spatial, social, and economic impact and innovation intensity of the bioeconomy. These newly emerging models will allow for the assessment of the economic and employment impact of (circular) bioeconomy novel technology and the assessment of the environmental impact in terms of GHG emissions of such technologies. Based on the completed research, the opportunity now arises to begin to measure and determine the contribution of the bioeconomy to a sustainable and circular economy and to measure how the Irish Bioeconomy as a whole, is incorporating sustainable economic development originating from both land and marine ecosystems.

The high-level Bioeconomy Implementation Group (BIG) jointly chaired by DAFM and Department of Communications, Climate Action and Environment has provided a coordination structure bringing together Departments and Agencies on a planned and regular basis. The group met several times in 2021. The coordination group has provided a shared space to build a baseline understanding of the bioeconomy, share bioeconomy relevant developments by state agencies, semi-state commercial companies and state-funded research and innovation infrastructure. It has also created engagement opportunities to bring forward recommendations to develop the bioeconomy further.

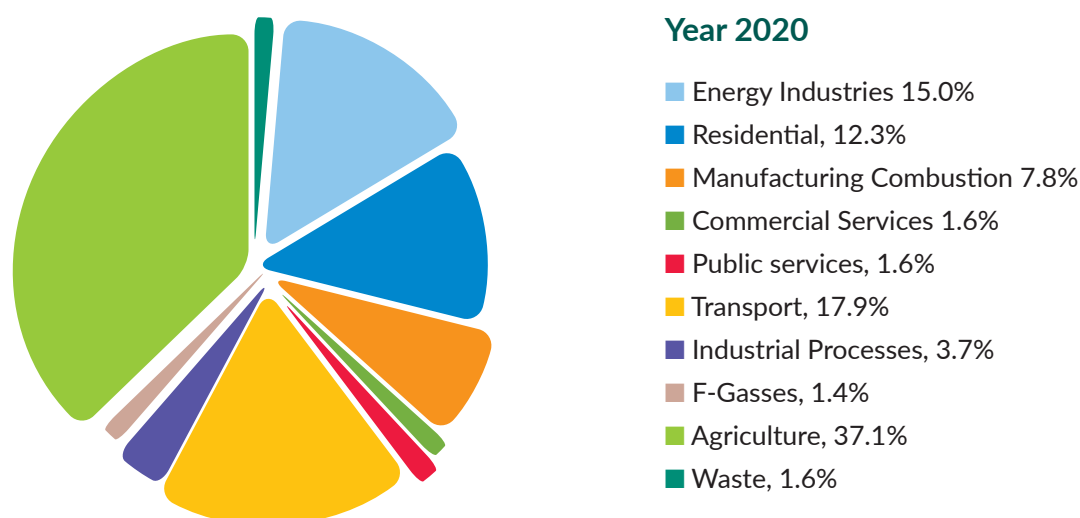
A bioeconomy forum, chaired by a former Secretary General of DAFM, John Malone, began its activities in July 2021. The forum has developed a work programme for its first year. It has met on two occasions in 2021 examining challenges and barriers facing bioeconomy development, developing a shared understanding of the bioeconomy concept, and examining EU developments on 'sustainable carbon cycles'. The chairperson and the forum secretariat have held bilateral meetings with most of the forum members. The forum is in the process of undertaking a series of workshops on bioeconomy and education, training & skills, regulation, funding and finance. The forum will also undertake site visits to examine the 'bioeconomy in action' through commercial biorefinery developments and the development of a climate neutral farm. It is expected the forum chairperson will provide a report to the Bioeconomy Implementation Group in Q2 2022, reflecting the feedback received based on the first year of the forums two-year term and feeding into the generation of the Bioeconomy Action Plan in Q4 2022.

Bioeconomy governance through the Bioeconomy Policy Implementation Group is crucial to maximise synergetic effects of sectoral policies, create a level playing field and to frame coherent sustainability criteria across policy areas. In this respect, the Bioeconomy Policy Implementation Group met four times in 2021. The Group co-ordinated an Information Day on Bioeconomy Monitoring with the Munster Technological University, and the Central Statistics Office. The Implementation Group also coordinated Bioeconomy Ireland Week in October 2021 which saw a series of online events involving a range of partners such as Teagasc, BiOrbic Bioeconomy Research Centre, Munster Technological University, Shannon ABC, the Circular Bioeconomy Cluster Southwest and the Irish Bioeconomy Foundation.

8.5 Greenhouse Gas Emissions & Targets

Agriculture remains the single largest contributor to the overall emissions at 37% of the total in 2020 (provisional figures provided by the EPA).

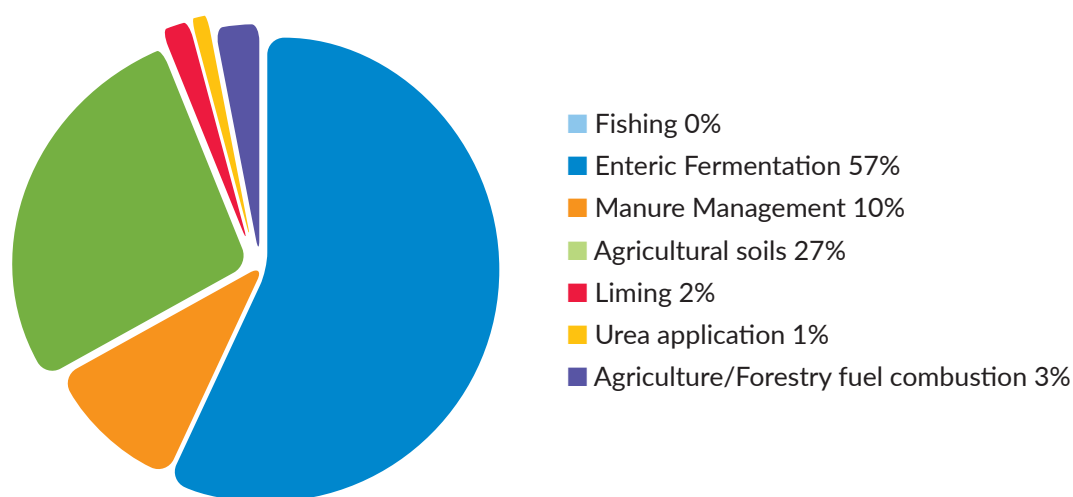
Figure 8.1 Greenhouse Gas Emissions in Ireland 2020



Source: EPA

Agriculture emissions increased slightly by 0.29 Mt CO₂eq in 2020 bringing total sector emissions to 21.43 Mt CO₂ eq. This growth was driven by increased levels of chemical nitrogen use and a slight increase in dairy cow numbers. Red and white clover, in addition to other multispecies swards are being established on livestock farms. Therefore, it is anticipated that chemical nitrogen usage will decline over the decade - this will have a positive impact on the inventory. In addition, increased uptake in the use of low emissions slurry spreading technology will also reduce chemical nitrogen demand. Data from the Teagasc National Farm Survey would indicate that 36% of all livestock slurry was applied using the technology in 2020.

Figure 8.2 Distribution of Irish Agricultural Emissions 2020



Source: EPA

The Gothenburg Protocol and NEC Directives

Ireland is a Party to the Convention on Long Range Transboundary Air Pollution (CLRTAP) under which certain transboundary air pollutants, such as ammonia, are controlled. As a Party to the United Nations Economic Commission for Europe Convention (UNECE) on CLRTAP, Ireland is required to annually report emission data for a wide range of air pollutants and other substances released into the atmosphere. As a member of the EU, implementation of the Gothenburg protocol (a daughter protocol of the CLRTAP) is achieved through limits set out in the National Emissions Ceilings Directive (NECD) [2001/81/EC](#), subsequently updated in 2016 by Directive [2016/2284](#).

The NECD sets maximum emission ceilings for each Member State per year for the five main pollutants: fine particulate matter (PM_{2.5}), sulphur dioxide, nitrogen oxides, non-methane volatile organic compounds and ammonia. In terms of ammonia, Ireland must comply with the targets set out within the NECD. Beginning in 2020, the NECD set out new national emission reduction commitments for each EU Member State for the years 2020 to 2029 and 2030 onwards. Ammonia emissions must be further reduced by 1% below 2005 levels by 2020 and 5% below 2005 levels from 2030 onwards.

Following collaboration between DAFM and the Department of the Environment, Climate and Communications (DECC), the updated [National Air Pollution Control Programme \(NAPCP\)](#) was submitted to the European Commission in March 2021. The NAPCP is a technical document which outlines the pathway Ireland will follow to achieve compliance with its commitments under the NECD.

8.6 International Affiliation

DAFM continues to engage in the Koronivia Joint Work on Agriculture (KJWA), which was established under the Conference of the Parties (COP) in Bonn in 2017. Through this forum, issues related to agriculture and its role in tackling climate change and achieving the ambitions of the Paris Climate Agreement were explored through a series of 6 workshops. Subsequent reports for culmination of an output at COP26 which was held in November 2021 in Glasgow, Scotland.

Significant progress was made at COP26 in identifying pathways to both reduce the impact of climate change on the agriculture sector and lower the sector's contribution to global warming. The need for a transition towards sustainable and climate-resilient food systems, taking into consideration food security and ending hunger throughout the globe, as well as to achieve climate objectives such as emission reductions was also acknowledged at COP26.

Ireland's growing expertise in soil science and land-use management was also reflected at COP26 with DAFM participating in a number of side events including the Peatlands Gathering- A New Beginning while also co-hosting the European Peatlands Initiative event with colleagues from the Department of Housing, Local Government and Heritage.

Ireland remains committed to the sharing of scientific knowledge and the coordination of research activities as seen through our continued involvement and leadership as a member of the Global Research Alliance (GRA). The GRA was launched in 2009 and now has 62 member countries from all regions of the world. The Alliance is focused on coordinating research, development and extension of technologies & practices that will help deliver ways to grow more food (and more climate-resilient food systems) without increasing greenhouse gas emissions.

Ireland brings a wide range of experience and knowledge to the GRA with representation from the DAFM, Teagasc and the Environmental Protection Agency (EPA). The broad contribution of researchers and representatives from these organisations reflects Ireland's long standing reputation for efficiency in both animal and crop production.

In recognition of the importance and many similarities that the agricultural sector in Ireland shares with New Zealand, it has been agreed that officials from the DAFM and the Ministry for Primary Industries (MPI), will meet annually for agriculture policy dialogues. This partnership will also seek to develop our bi-lateral cooperation across international fora such as the Organisation for Economic Co-operation and Development (OECD), Food and Agriculture Organisation of the United Nations (FAO), and under the United Nations Framework Convention on Climate Change (UNFCCC).

8.7 Highlights and Challenges

Highlights

- In July 2022 the Government announced sectoral emissions ceilings with the ceiling for agriculture by 2030 set at 17.25 CO₂e representing a 25% cut in emissions compared to 2018.
- Ireland was nominated to act as Co-chair to the joint UNFCCC Subsidiary Body for Implementation (SBI) and the Subsidiary Body for Scientific and Technological Advice (SBSTA) KJWA negotiation meetings at COP 26.
- Adaptation related outcomes from COP 26 included agreeing a work programme on the Global Goal on Adaptation to reduce vulnerability, strengthening resilience and increasing the capacity of people and the planet to adapt to the impacts of climate change. Specific financing commitments to increase support for adaptation were also made.
- EU Adaptation Strategy published in February 2021.
- Review of National Adaptation Framework commenced.

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Ireland brings a wide range of experience and knowledge to the GRA with representation from the DAFM, Teagasc and the Environmental Protection Agency (EPA).



Challenges

The Climate Action and Low Carbon Development Act, published in 2021, aims to reduce total economy wide emissions by 51% by 2030 compared with 2018 levels. It also set an ambitious target to achieve net zero emissions by 2050. This increased ambition will significantly impact on all sectors of the economy, including the agriculture sector, making it even more important that the targets in the Climate Action Plan are met and that the actions contained in AgClimatise are implemented effectively. Added to this at a European level is the Green Deal and the move to at least a 55% reduction of GHG emissions at EU level by 2030. It is still to become clear how this will translate into the Farm to Fork, Biodiversity, and Methane Strategies and the upcoming negotiations on the Effort Sharing Regulation.

8.8 Nitrates & Biodiversity

Nitrates and Water Protection

The Nitrates Derogation is an important facility for intensively stocked farms as it allows them, subject to additional environmental conditions, to farm up to 250kgs organic manure nitrogen per hectare, or the equivalent of almost three dairy cows per hectare. In December 2017, Ireland secured a renewal of our Nitrates Derogation for the period 2018-2021 inclusive. In 2021, a total of 6,815 farmers made an online application for a Nitrates Derogation.

Following a review of the Nitrates Derogation in 2019, new measures arising from the recommendations of the Nitrates Expert Group were included in the Terms & Conditions for the Nitrates Derogation applications from 2020 onwards. During 2021 the Department of Housing, Local Government and Heritage, working in collaboration with the DAFM, conducted a full review of Ireland's Nitrates Action Programme. As part of this process, Ireland also sought an extension to its Nitrates Derogation to cover the period 2022-2025. This work continued into 2022.

Nitrogen and Phosphorus (N&P) Data 2021

The Department's online system, www.agfood.ie provides farmers with detailed N&P statements, reflecting cattle only stocking rates on their holding. Statements are available online from April to December 2021, allowing farmers to monitor their Nitrate levels to comply with the regulatory limits. Text messages also issue periodically to farmers that have relatively high stocking rates for the time of year.

Online movements

A new online system to record movements of organic manure between holdings was launched in 2021. The new system replaces the almost 16,000 paper forms submitted annually by farmers and brings several other key benefits. These include simplifying the system of reporting of movements and importantly also giving farmers access to prompt information on their compliance with the Nitrates limits where they are exporting or importing livestock manure.

Agricultural Catchments Programme

The Agricultural Catchments Programme (ACP) has been in place since 2006 and is used to evaluate the impact of Ireland's Nitrates Action Programme (NAP) and the Nitrates Derogation which are implemented under the Nitrates Directive. This Programme has been funded by the Department and has been delivered by Teagasc since its inception.

Phase 4 of the ACP (2020-2023) commenced in January 2020 and includes research on greenhouse gases (GHG), and carbon sequestration. This expansion was both relevant and vital for DAFM in the context of the Climate Action Plan 2021.

The Agricultural Sustainability Support & Advisory Programme (ASSAP) is also now included in the ACP. ASSAP is an innovative collaborative initiative supported by DAFM and the Department of Housing, Planning and Local Government as well as industry to achieve farmer behavioural change regarding the protection of water in order to meet the Water Framework Directive's objectives. The ASSAP has been set up to provide free advice and support to farmers to assist them in complying with the nitrate's regulations, provide solutions for critical source areas and to improve water quality.

This is an innovative approach to achieving improvements in water quality and supports the goals of the Food Vision 2030 strategy, facilitating increased productivity hand-in-hand with development of a more sustainable sector. This is being achieved by advisors working with farmers focusing on improved nutrient management with more targeted use of fertiliser, better farmyard practice and appropriate measures for identified critical source areas. Over time, more widespread sustainability approaches developed by Teagasc will be implemented focusing on climate change and biodiversity.

ASSAP represents a whole of Government, whole of sector, approach to provide direct advice to farmers in 190 areas-for-action for the protection and improvement of water quality. Thirty sustainability advisors were assigned to this programme in 2021. Twenty of these were funded by the Government and ten by the Dairy Co-ops. The industry element of the programme is due to expand further in 2022. The ASSAP advisors are working within a unified partnership structure which encompasses Teagasc, the Co-ops and LAWCO (Local Authorities Water and Communities Office).

Waters of LIFE Integrated Project

The Waters of LIFE Integrated Project started in 2019 and was due to finish in 2026 but due to delays, it is now scheduled to finish in 2028. This Department of Housing, Local Government and Heritage (DHLGH) led Integrated Project aims to support the implementation of measures to protect and enhance high-status waters in Ireland. This will be a catchment scale demonstration project to test and validate the effectiveness of implementing locally tailored best practice measures across a range of landscape and land use management activities including agriculture. DAFM will provide over €800,000 in funding to this project overall and will be involved in its development throughout the life of the project.

Other measures to protect water quality

Several water quality related measures are proposed in Ireland's draft CAP Strategic Plan (CSP) that was submitted to the European Commission at the end of 2021. Enhanced Conditionality, the proposed Pillar 1 Eco-Scheme, the Agri-Environment and Climate Measure (AECM) General

and the AECM Co-operation Project will all contribute to improving water quality. In addition, other measures proposed for inclusion in Ireland's CSP will also benefit water quality. These include the proposed Organic Farming Scheme; the proposed Capital Investment Scheme and a specific themed European Innovation Partnership (EIP) call to address water quality. These measures will complement regulatory requirements under the new Nitrates Action Programme as well as the 3rd Cycle River Basin Management Plan both of which are due to be finalised in 2022.

Subject to European Commission approval, Ireland's CSP is due to be finalised in 2022 with implementation commencing from January 2023.

Biodiversity

DAFM plays an active role in developing biodiversity policy for agriculture and implementing relevant environmental legislation such as the Environmental Impact Assessment (Agriculture) Regulations, working closely with other Government Departments, as well as several multi-agency working groups and steering committees dealing with a wide range of issues regarding the conservation of biodiversity. For example, DAFM is part of the Biodiversity Working Group comprising of other Departments, Agencies and other bodies that have a role in implementing the National Biodiversity Action Plan 2017-2021.

While the Department of Housing, Local Government and Heritage (DHLGH) is the official body responsible for oversight of the implementation of the National Biodiversity Action Plan, the plan is an over-arching Government policy that is comprised of a suite of Objectives, Targets and Actions that aim to achieve Ireland's Vision for Biodiversity that *"biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally"*.

Across DAFM, biodiversity is supported through a variety of schemes and programmes at national and local scale. A number of these programmes are outlined within the following sections.

Pollinators

In response to the current threat to our pollinators and the importance of their role for agriculture, DAFM is taking a proactive approach to support pollinators through policy development and increasing awareness among farmers and the public. As part of the EIP funding stream under the Rural Development Programme, DAFM awarded funding to the Protecting Farmland Pollinators EIP. This National Biodiversity Data Centre led project began in 2019 and continued during 2021. The project aims to develop a flexible mechanism that encourages all farmers to make their whole-farm more pollinator friendly in a way that is measurable and will not impact productivity.

DAFM also continues to support the All-Ireland Pollinator Plan and as a member of the steering committee worked to develop the new five-year All-Ireland Pollinator Plan which was launched by the Minister for Housing, Local Government and Heritage, Darragh O'Brien, as well as Ministers of State Malcom Noonan, and Pippa Hackett in March 2021. This new All-Ireland Pollinator Plan builds on the success of the first plan. DAFM has provided €60,000 funding for the role of a Farmland Pollinator officer to support the implementation of farmland actions.

Pilot National Soil Sampling and Analysis Programme

The pilot National Soil Sampling and Analysis Programme was launched in September 2021. The objective of the programme is to develop a baseline national dataset at farm level for macro and micronutrients and a soil pathogen assessment. This pilot is also examining soil carbon levels which will guide future actions and could support carbon farming. The €10 million pilot Programme is co-funded by the EU and the national exchequer under the Rural Development

Programme (RDP) 2014-2022. A further €15m was announced in the 2022 budget for this ambitious programme.

Participation in the current pilot Programme is voluntary and open to all farms that submitted a 2021 BPS application. Applicants were accepted on a first come, first serve basis ensuring maximum spread over geographic regions and farm enterprise types. Approximately 7,800 farmers and partnerships were notified of acceptance into the programme in November 2021. With soil sampling and the associated analysis commencing thereafter. Work under the pilot programme will continue in 2022. The pilot is intended to inform a further roll out of the measure in 2022.

Information about our soils will provide opportunities for environmental and climate balance and is the foundation for natural and agricultural systems to achieve both economic and environmental sustainability. The results from the programme will assist farmers, advisors and policy makers in applying the 'right measure, right place, right time' approach to reaching our overall goals.

Pilot National Farm Environmental Study Programme

The pilot Farm Environmental Study (FES) programme will begin the process of developing a national baseline database of farm scale habitat and biodiversity data along with additional environmental parameters. This programme was launched in late 2021 and opened for farmer applications in Quarter 2 of 2022. The information gathered will enhance farmer knowledge of habitat and biodiversity on their farms, while also providing information to DAFM which could be used to target future Agri-environment and Climate Measures as part of the next Common Agricultural Policy. This €5 million pilot Programme is co-funded by the EU and national exchequer under the Rural Development Programme (RDP) 2014-2022.

Multi-Species Swards Measure

Research has shown that multi-species swards can have a positive impact from a climate, biodiversity and water quality perspective. They also support improved livestock productive efficiency, while reducing dependence on expensive chemical nitrogen.

Building on the increased interest in multi-species swards during 2020 there was further interest from farmers in establishing these swards during 2021. This momentum is anticipated to continue into 2022 and an action involving establishment of multi-species swards has been included in the proposed Eco-Scheme that, subject to European Commission approval, will apply from 2023 as part of Ireland's CAP Strategic Plan (CSP).

To cover the interim period in advance of the CSP coming into effect, a measure to support establishment of multi-species swards was announced as part of Budget 2022. The measure is due to launch in late Quarter 1 of 2022 and is envisaged to facilitate establishment of approximately 8,000 Hectares of new multi-species swards.

8.9 Rural Development Programme (RDP)

The Programme is part of the Common Agricultural Policy (CAP) and is co-funded by the EU's European Agricultural Fund for Rural Development (EAFRD) and the national exchequer. Ireland's 2014-2020 RDP was formally adopted by the EU Commission in May 2015 and contains a suite of extensive measures that support the farming sectors and support community led local development.

Due to a delay in the adoption of the new CAP proposals and the EU Budget for the 2021-2027 period, the European Commission proposed transitional arrangements to allow for the extension of the RDP into 2021 and 2022 and to provide certainty to farmers and other beneficiaries. These transitional arrangements were finalised at the end of 2020 and added nearly €700 million to the RDP for 2021 and 2022. As of 2021, EU support through the EAFRD amounted

to €2.88 billion over Programme lifespan in addition to €190 million being provided through the European Union Recovery Instrument (EURI), in response to the COVID-19 pandemic and to aid the green and digital recovery. This EU funding was supplemented by exchequer funding to bring the total support available under the RDP to just over €5.6 billion.

ADDITIONAL FUNDING FOR IRELAND'S RURAL DEVELOPMENT PROGRAMME

Ireland has been allocated almost

€190m

in European Union Recovery Instrument funding which contributes to the green and digital recovery during the years 2021 and 2022





Source: National Rural Network

The RDP has been amended eleven times since its initial approval in 2015. The tenth and eleventh amendments were approved in 2021 as follows:

- The tenth amendment was approved by the European Commission in May 2021 to take account of the transitional arrangements and funding for the RDP for 2021 and 2022 and to incorporate the EU Recovery Instrument funding allocation for Ireland of €190m.
- The eleventh amendment was approved by the European Commission in September 2021 to correct a clerical error in the tenth amendment.

Table 8.1 EAFRD and national funding for the 2014 -2022 Rural Development Programme

Table 1: Total Funding allocation (EAFRD and national)	
Measure	Million €
Measure 1 – Knowledge transfer and information actions	€102.62
Measure 2 - Advisory services, farm management and farm relief services	€12.30
Measure 4 - Investments in physical assets (TAMS)	€619.63
Measure 7 - Basic services and village renewal in rural areas	€7.55
Measure 10 - Agri-environment-climate	€2,077.31
Measure 11 - Organic farming	€102.00
Measure 12 – Natura	€44.73
Measure 13 – Payments to areas facing natural or other specific constraints	€2,049.90
Measure 14 – Animal Welfare	€110.00
Measure 16 – Co-Operation	€70.47
Measure 19 - Support for LEADER local development	€320.00
Measure 20 - Technical Assistance	€78.13
Measure 113- Early Retirement Scheme (Transitional)	€7.67
Total	€5,602.31

Source: DAFM

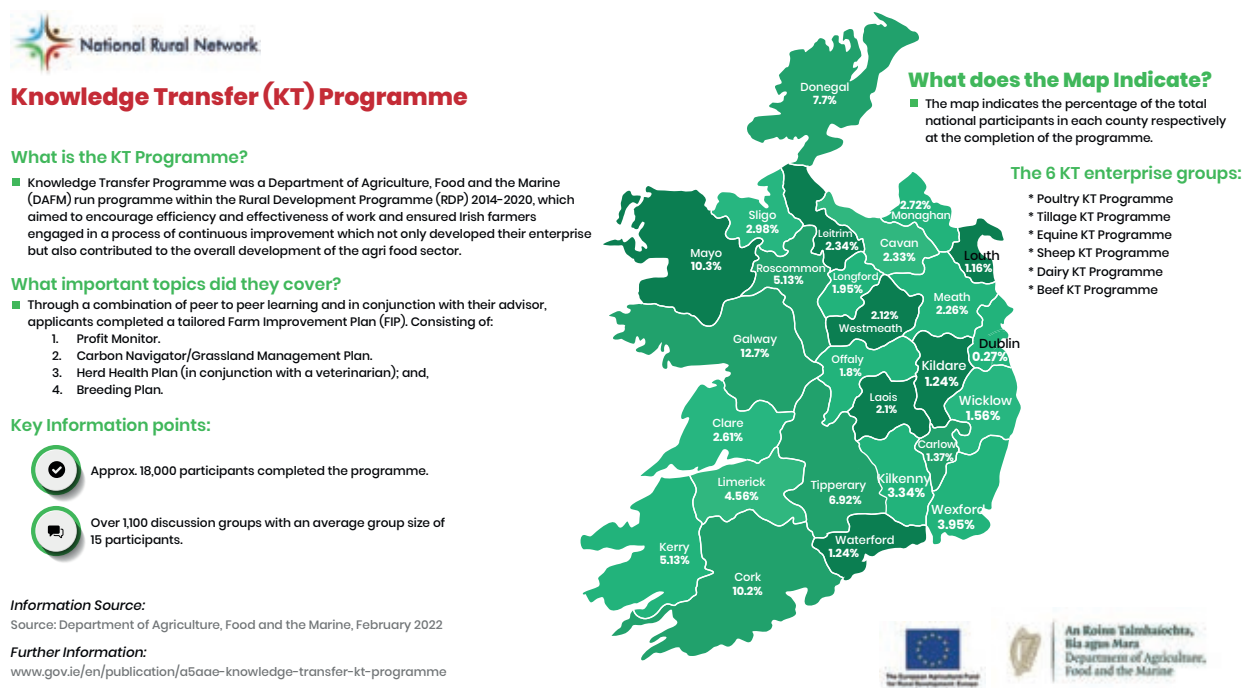
Transitional funding arrangements are the norm for scheme expenditure spanning two RDP programming periods and featured between the 2007-2013 and 2014-2020 programmes. Transitional funding is included in the above table for Measures 4, 10, 12 and 13. Measure 12 is programmed exclusively to provide for ongoing Natura 2000 commitments under the 2007-2013 RDP. In addition, the current RDP financial plan also includes transitional funding allocated to a discontinued measure (i.e., the Early Retirement Scheme) in the 2007-2013 Programme. 2020 saw additional funds allocated to Measure 13 – Areas of Natural Constraint from elsewhere in the RDP in order to meet the high demand for the Scheme. Also, the Pig and Poultry Investment Scheme (PPIS), part of Measure 4 – Investments in physical assets, saw its investment ceiling increased to €200,000. In 2021 and 2022, new EIP-AGRI Operational Groups are being added to the programme.

Updates on Measures in 2021:

Measure 1 – Knowledge Transfer and information actions (€102.6m)

Under the umbrella of Knowledge Transfer, Ministerial approval was given for a new scheme, the Agri-Environment Training Scheme (AETS); development and preparatory work for the roll-out is nearing finalisation.

Figure 8.3: National Participants for the KT Programme.



Source: National Rural Network

Measure 2 – Advisory Services (€12.3m)

Continuous Professional Development (CPD) for Agricultural Advisors enhances their knowledge to keep them up to date with the latest developments and regulatory requirements in their field. Various CPD has been funded under Measure 2. Provision was made in Budget 2021 for €1m for CPD for Agricultural Advisors. These Advisors will play a key role in the sector in addressing key challenges and in implementing the range of schemes to be rolled out during the transitional period and as part of the new CAP Strategic Plan (CSP). Animal Health Ireland is responsible for setting up and organising the provision of specialist advice to farmers by trained Private Veterinary Practitioners. The diseases falling within the remit of the service include Bovine Viral Diarrhoea, Johne's Disease, Infectious Bovine Rhinotracheitis and mastitis in dairy herds, as well as animal and public health issues in the pig and poultry sectors. Over 5,900 investigations and nearly 800 pig bio-checks have been completed under the scheme as of December 2021. A scheme (worth €0.3m) funding the provision of start-up advice to prospective Producer Organisations of active beef suppliers is operational since 2018. Two Beef Producer Organisations (BPOs) were approved in 2019 and a further one in 2021.

Measure 4 – Investments in Physical Assets (€620m)

The Targeted Agricultural Modernisation Schemes (TAMS II) provides grants to farmers to stimulate capital investments, infrastructure, facilities and equipment which will promote increased competitiveness and sustainability in relevant sectors. Nearly 48,000 approvals were issued to scheme applicants. In the lifetime of this scheme, €322 million has been paid to farmers (figures correct as of December 2021).

In 2021, the seven broad categories of investment supported under the scheme issued payments of:

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The Targeted Agricultural Modernisation Schemes (TAMS II) provides grants to farmers to stimulate capital investments, infrastructure, facilities and equipment which will promote increased competitiveness and sustainability in relevant sectors.



- Young Farmers Capital Investment Scheme - €29.7m
- Dairy Equipment Scheme - €11.5m
- Organic Capital Investment Scheme - €536k
- Animal Welfare, Safety and Nutrient Storage Scheme - €8.5m
- Low Emission Slurry Spreading - €10.3m
- Pig and Poultry Investment Scheme - €681k
- Tillage Capital Investment Scheme - €2.8m

Support under this measure is also provided for 'non-productive investments' as part of the GLAS. As these non-productive investments are part of the GLAS tier 3 list of actions, they form part of GLAS applications. Funding from the European Recovery Instrument (EURI) will support investments for farmers to modernise their holdings, to invest in modern equipment and technologies, to assist in addressing climate and environment challenges, and to improve human and animal health and safety on their farms.

Measure 7 – Rural Services and Renewal (€7.6m)

The objective of the GLAS Traditional Farm Buildings is to ensure that traditional farm buildings and other related structures contributing to the character of the landscape, and of significant heritage value, are conserved for agricultural use. Participation in GLAS is a prime eligibility condition for this Scheme. Available grants range from €4,000 to €25,000 and can cover up to 75% of the cost of works.

Applications are invited at regular intervals throughout the programming period ending in December 2021. The Scheme is administered by the Heritage Council on behalf of DAFM and a total of 483 projects have been supported by the Scheme from its inception to December 2021.

Measure 10 – Agri-environment-climate (€2,077m)

GLAS has a three-tier structure designed to produce environmental benefits in the areas of climate change, water quality and the preservation of priority habitats and species. There are currently over 46,000 farmers active in GLAS. By December 2021, total GLAS payments to eligible applicants were over €1,130 million.

The Beef Data Genomics Programme (BDGP) requires farmers to undertake a range of actions designed to accelerate genetic improvement in the quality of the beef herd leading to associated climate benefits, such as reduced emissions intensity. Central to this approach is the establishment and maintenance of a large-scale data collection system from commercial suckler cow herds. Collated data feeds into a genomics-based breeding index that ranks the efficiency of animals according to a star-based system. Overall, the Scheme assists farmers in selecting more efficient suckler cow and bull replacements. Over 19,000 farmers are currently participating. In 2021, Over 16,000 farmers have received €35.5 million in respect of BDGP payments.

Measure 11 – Organic Farming (€102m)

The Organic Farming Scheme (OFS) encourages farmers to convert from conventional farming by applying organic methods and maintaining them after the initial conversion period. Its overall objective is to deliver enhanced environmental and animal welfare benefits and to encourage producers to respond to market demand for organically produced food. The total number of active organic farmers being funded under the RDP is around 1,792, managing about 93,000 hectares of land. Due to the extension of the RDP into 2022, the OFS was reopened in 2021 and an additional 278 applicants were added to the scheme.

Measure 12 – Natura 2000 payments (€44.7m)

This measure is not part of the current Programme because Natura areas are targeted under Measure 10. It is programmed exclusively to provide for ongoing commitments from the previous programming period. Total scheme expenditure at the end of 2021 amounted to €44.7 million.

Measure 13 – Areas facing natural constraint (€2,050m)

The Area of Natural Constraints (ANC) measure is based on the previous Less Favoured Areas Scheme and the Disadvantaged Areas Scheme. It compensates farmers for income foregone and additional costs linked to the disadvantage of the area concerned. A separate category of support is available for island farmers in recognition of the specific constraints on production faced by farmers in those areas. In 2021, 96,000 farmers received nearly €247m.

Measure 14 – Animal Welfare Scheme (€110m)

The Sheep Welfare Scheme is aimed at improving the Irish sheep production system. Sheep farmers with breeding ewes can apply for support based on two actions they choose to undertake from a menu of options appropriate to their flock type (i.e., hill or lowland). The scheme was launched in December 2016 and almost 18,000 farmers were paid €18 million for their participation in the scheme during 2021. Farmers are paid on the number of eligible breeding ewes owned, subject to the fulfilment of all scheme criteria.

Measure 16 – Co-operation (€70.5m)

European Innovation Partnerships (EIPs) aim to create greater linkages between research and on-farm implementation. There are currently 57 projects approved for support under this measure with 34 approved in 2021:

- Twelve from the first call for proposals launched in December 2016.
- Nine from the second call for proposals launched in August 2017.
- Two prioritising the conservation of endangered species in core areas (Hen Harrier & pearl Mussel).
- Two on the rewetting of farm peatlands in the Midlands.
- Eight for farm health, safety and wellbeing projects.
- Twenty-four Farm and Community Biodiversity Initiatives.

Locally-led schemes for the conservation of the Hen Harrier and the Freshwater Pearl Mussel are included under the EIP framework. Nearly 1,600 participants have signed contracts for the Hen Harrier Project with €9.5m being paid out since the scheme commenced in 2018. Over 450 contracts have been signed for the Pearl Mussel Project with the first payments having been made in 2019. As of December 2021, over €1m was paid to farmers in the project.



Collaborative Farming grants are intended to address some of the structural, economic, and social challenges facing Irish agriculture such as a lack of land availability, small average farm size, work/life balance, development of the knowledge base and intergenerational transfer. All new registered farm partnerships are eligible to receive a contribution of up to 50% towards the legal, accounting and advisory costs involved in setting up the partnership, subject to a maximum grant of €2,500. At the end of December 2021, a total of €2.43 million had been paid to support the formation of over 1,500 registered farm partnerships under the first nine tranches of the scheme.

Measure 19 – LEADER (€320m)

LEADER supports actions in rural areas targeted at addressing local needs under the broad themes of economic development, social inclusion and rural environment. Local communities direct where this funding is provided through the formation of, and participation in, Local Action Groups (LAGs), and the design and implementation of Local Development Strategies (LDS).

LAGs have been selected in all 28 sub-regional areas and funding agreements signed with all groups. The level of LEADER project activity has increased significantly over the last number of years which has given rise to a continued rise in project approvals. Currently nearly 5,000 projects have been approved for funding of approximately €209 million. There are also another 133 projects going through the application process seeking funding of another €7 million. At the end of December 2021, over €181 million had been fully paid. The LEADER Food Initiative (LFI) closed in December 2021 as the entirety of project funding had been allocated. By the end of December 2021, a total of 176 LFI projects had been approved and the corresponding value of these projects is in excess of €11.9m.

Measure 20 – Technical Assistance (€78.1m)

The main items of expenditure prior to 2021 related to payments for the running of the National Rural Network, the administration of the Burren Programme, several evaluation studies (e.g., a longitudinal study of the GLAS) and other ancillary costs. As part of the 2020 transitional arrangements, several pilot schemes were added to Technical Assistance:

- Results Based Environment Agri Pilot Programme (REAP) – This results-based agri-environment payment scheme will reward farmers for committed environmental effort by linking payments to the quality of environmental outcomes delivered.
- Farm Environmental Study Programme (FES) – this will generate a detailed inventory of farm habitat and biodiversity at the farm scale for approx. 8,000 farms, providing a representative sample that can be analysed to inform standards and targets for future schemes at a national level, for example, minimum semi-natural habitat cover, minimum hedgerow cover per farm.
- Soil Sampling – This programme will assist in the integration of environmental policies and objectives across water, soil, air and climate change and their alignment with the overall objectives of policy such as the Green Deal and Food Vision 2030. Having baseline data on the physical, chemical, and biological status of our soils at farm level is critical for both farmers and policy makers. The purpose of this programme is to develop a baseline national data set at farm level.

8.10 Rural Innovation and Development Fund (CEDRA) 2021

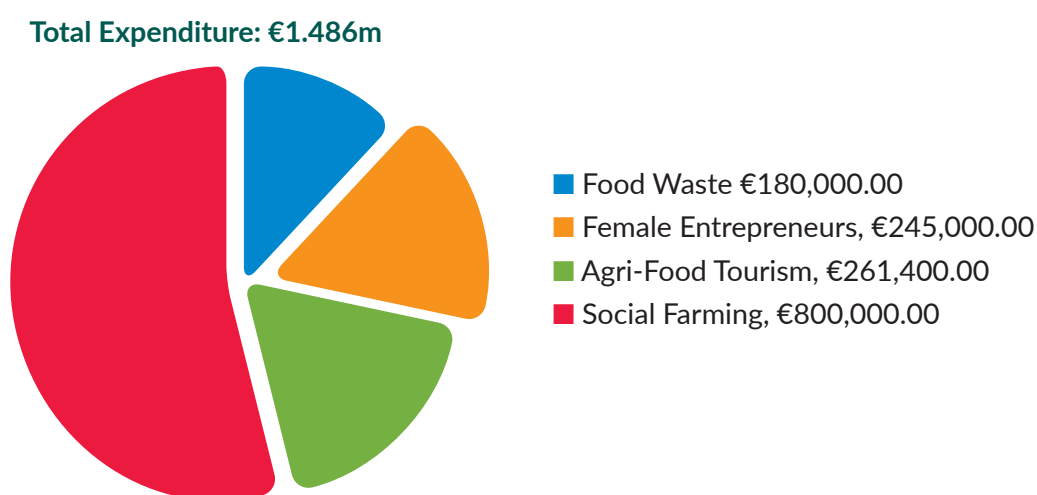
A range of projects under the Rural Innovation and Development Fund (RIDF) linked to the recommendations of CEDRA (Commission for the Economic Development of Rural Areas) were funded by the Department over 2021. Funding of almost €1.5 million was provided to support the following areas:

- **Rural Female Entrepreneurs:** Funding has helped develop the ACORNS training programme which is now in its seventh year. In 2021 ACORNS received €245,000 in funding from DAFM, bringing the total funding over the last seven years to €1,484,072. This programme

helps rural female entrepreneurs who have early-stage businesses. More information can be found in chapter 2.

- **Social Farming:** In 2021, €800,000 in funding was granted towards social farming. This enables the design, development and implementation of a national social farming network and several model social farms across Ireland. Its aim is to promote opportunities for disadvantaged groups and to support farm diversification in the rural community. Therapeutic day services in the form of farming and horticulture are offered on a voluntary basis. These can take many forms, from family farms, local community initiatives through to more institutional frameworks. This is one of the key deliverables in the Government's Action Plan for Rural Development.
- **Agri-Food Tourism:** This area, linked to diversification and local food actions in Food Vision 2030, has provided funds to support both the development and expansion of the agri-food network in rural areas. Agri-Food Tourism focusses on the production side of food and drink by showcasing the unique processes, people, and places involved.
- **Food Waste Reduction:** Funding has been provided to several projects to reduce Ireland's food waste. This funding has been granted to support activities that relate to the promotion and development of innovative food waste reduction techniques with associated environmental benefits.

Figure 8.4: Rural Innovation and Development Fund (CEDRA)



Monitoring and Evaluation of the CSP

During the CSP implementation phase, a Monitoring and Evaluation Steering Group will be established within the Department of Agriculture, Food and the Marine to ensure that the monitoring and evaluation requirements of the CSP are met. External actors will also be consulted as appropriate in relation to any specific issues as they arise.

In addition, an Inter-Departmental Environmental Committee will be established. This Committee will contain representatives from the Government Departments responsible for climate, air and water quality, as well as representatives from DAFM. The relevant State agencies will also be involved. The Committee's remit will be to ensure that the most up to date datasets, research and information are available, and to provide a coherent approach to the monitoring of the environmental and climate impacts of the CSP and make recommendations where appropriate.

While Article 140 (5) of the CSP regulation states that Member States shall submit the evaluation plan to the monitoring committee no later than one year after the adoption of the CAP Strategic Plan, it is intended to compile a draft evaluation plan for the CSP in 2022. The evaluation plan will outline the need for an evaluation team to assess the impact of CSP interventions across the three overarching themes of the CSP.

Case Study

Results Based Schemes - Biodiversity

Land used for agriculture covers approximately 64% of the land area of the Republic of Ireland. Many species of plants and animals rely on low-input agricultural management. The parallel processes of agricultural intensification and abandonment in the Irish landscape in the 20th century has resulted in a steep decline in farmland biodiversity. How we balance our requirements for food security and sustainability whilst minimising agriculture's negative environmental impact is one of the greatest challenges faced by Ireland, and indeed the entire global community.

The Common Agriculture Policy (CAP) provides a policy framework for agriculture in Europe and is the largest source of funding for nature conservation in the EU. In particular, Pillar Two of the CAP requires the implementation of agri-environment schemes (AES). However, the effectiveness of such schemes when applied through a prescription based, short term, untargeted and unmonitored model, has been questioned. The forthcoming CAP programming period (2023-27) calls for greater consideration and inclusion of environment and climate priorities throughout Member States' interventions. It also shifts the focus from prescription-based to result-based approaches to drive environmental improvements.

The key element of results-based methodologies regarding biodiversity is that the financial support paid to the farmer, reflects the quality of biodiversity that is being delivered. This facilitates a key shift in the perception of farmland biodiversity, focusing on purposefully produced environmental outputs alongside food production, rather than considering biodiversity as an occasional coincidental by-product.

The European Innovation Partnership (EIP) Scheme, financed through Ireland's current Rural Development Programme, supports innovation, competitiveness and sustainability in agriculture and forestry. Several of the EIP programmes currently active in Ireland are based on a results-based model.

The EIP's are locally-led, farmer-centred, results-based and adaptable. These principles are the key to their successful engagement and delivery to date. The success of these programmes has resulted in a significant commitment from the Department to implement the results-based approach at a national scale. Similar programmes include RBAPS (Results Based Agri-environmental Payment Schemes) and EU LIFE funded projects such as the Corncrake LIFE project and Wild Atlantic Nature programme,

The Results Based Environment Agri Pilot Programme (REAP) was launched during 2021. REAP is a pilot project that provides financial supports to farmers to maintain and improve the environmental condition of their land using a results-based scoring system to indicate payment rates. Further to this, Ireland has committed in its draft CAP Strategic Plan (for 2023-2027), to introduce a national scale results-based agri-environmental scheme. Subject to European Commission approval, this will see the implementation of the results-based approach across eight co-operative areas, building on the learnings of the EIPs and using a habitats-based approach to contribute significantly to long-term environmental improvement.

8.11 Competitive and Thematic Research Calls 2021

DAFM embarked on a new approach for structuring its national research funding programmes in 2021, using a five-strand approach including a thematic strand, an international outreach strand, strategic studies strand, industry strand (research+ and innovation platform), and coordination/support activities.

- Following the evaluation process of the 2021 thematic research call, grant awards were negotiated with 24 projects valued at €20.1 million over their lifespan; with food projects receiving €5.0m; agriculture projects €10.5m; and forest projects receiving €4.6 million.
- The projects cover several key overarching themes including sustainable food production and processing; managing natural resources and sustainable forest management; delivering food safety & food quality; bioeconomy and novel products and processing technologies.
- Over €12 million of the total funding will go towards projects in climate and environment related research including projects related to developing the necessary tools, technologies, and practices to mitigate methane and other GHG emissions from ruminant livestock, improve the health of agroecosystems and facilitate the sector's move to increased carbon removal and efficiency.
- This investment will provide direct employment for 59 post-doctorate and other contract researchers, as well as educational and training opportunities for 61 post graduate students at masters and PhD levels.
- Applications were received from 132 applicants with 40% received were from female co-ordinators and of the 24 successful projects 42% or 10 have female co-ordinators.
- The All-Island dimension of the research awards was facilitated through the involvement of the Department of Agriculture, Environment and Rural Affairs in Northern Ireland (DAERA NI), which provided up to €2.4m in funding to Northern Irish researchers participating in six of the projects.
- The EPA is contributing co-funding of €500,000 to two projects that will also help to deliver on the Climate Action Plan 2021.
- A further 13 proposals, with a total grant request of €9.94 million, were placed on a Reserve List for consideration for funding should budgetary commitments allow in 2022.

DAFM maintains an [Online Research Dashboard](#) which offers the public access to a range of information and statistics.

Final reports from projects funded by DAFM are publicly accessible online for [Agriculture](#), [Food](#) and [Forestry](#) projects.

European Research Area Networks (ERA-Nets) and Trans-national Calls

In 2021, the Department continued to use funding under its competitive research programmes to enable Irish researchers to participate in collaborative international partnerships through selected European Research Area Networks (ERA-Nets), Joint Programme Initiatives (JPIS) and Trans-National Calls. Notable commitments under these initiatives in 2021 include:

- €1.02 million was awarded to four projects under the **SusAn** (Sustainable Animal Production Systems), **FACCE ERA-GAS** (Monitoring and Mitigation of Greenhouse Gases from Agriculture and Silviculture), **SusCrop** (Sustainable Crop Production) and **ICT-AGRI-FOOD** (ICT-enabled agri-food systems) Joint Call on Circularity in mixed crop and livestock farming systems, with an emphasis on greenhouse gas mitigation.
- €600,000 was committed to the 2nd ICRAD (International Coordination of Research on Infectious Animal Diseases) Research Call.
- €648,905 was awarded to two projects under the Joint FOSC (Food Systems and Climate) - SUSFOOD 2 (Sustainable Food production and consumption) Research Call.
- Teagasc co-funded the ERANET FOSC initiative, and one project was awarded €259,291 by DAFM.

- Almost €637,000 was committed to four projects for the Research Call on One Health Interventions for Antimicrobial Resistance (AMR) under the JPI AMR.
- €1.4 million was committed to six successful projects with Irish researchers under the 1st External Call of EJP Soil on Agricultural Soil Management.
- €500,000 was committed to a research Call related to the interplay between Nutrition and the Immune system run through the JPI a Healthy Diet for a Healthy Life.

US-Ireland R&D Partnership

The US-Ireland R&D Partnership is a tri-jurisdictional alliance between Ireland, Northern Ireland and the United States which aims to promote collaborative innovative research projects that create value above and beyond individual efforts. Following a review in 2021 by all three partners, the agricultural research call under the partnership will continue beyond its pilot phase and evolve to include six additional research areas, resulting in a total of 12 topics for these calls. The expanded list of topics reflects evolving common policy priorities on climate-related and food systems research, including the bioeconomy, bioengineering, data science, sustainable agroecosystems, and plant and animal systems research.

A grant of over €340,000 was awarded by DAFM under this measure to a partnership project (phage-SUAS) under which researchers in Ireland are teaming up with Queen's University Belfast and the University of Wisconsin-Madison, USA to investigate the use of viruses (phages) that infect bacteria as an alternative to treatment with conventional antibiotics in the treatment of *Streptococcus suis*, a bacterial pathogen associated with respiratory and intestinal infection in pigs.

Ireland-Germany Collaboration

As part of the research actions under the Ireland-Germany Joint Plan of Action on bilateral cooperation, a joint research project MEDICow, with funding of €1m, was developed and launched in 2021. The project, involving Teagasc and ATB Potsdam, aims to develop an improved mastitis risk assessment model for dairy cows by using an innovative multisensory approach, digitalization and artificial intelligence and will also investigate calf welfare under transportation.

Co-funding Initiatives

In 2021, DAFM entered co-funding arrangements with the Sustainable Energy Authority of Ireland (SEAI), the Environmental Protection Agency (EPA) and DAFM also continued co-funding of the SFI VistaMilk Centre. As part of the EPA's 2021 Call, DAFM has agreed to co-fund up to €753,000 across 10 projects that will be led by the EPA.

Horizon 2020 and Horizon Europe

Ireland was very successful in the European Union's Horizon 2020 (H2020) research programme. The Societal Challenge 2 part of this with the title 'Food security, sustainable agriculture and forestry, marine, maritime and inland water research and the bioeconomy' was managed by DAFM in close cooperation with the Marine Institute.

A final H2020 Call closed in 2021 and by the end of this programme, Ireland had secured €107.7 million for agri-food research, consisting of 180 projects with 277 Research Organisations amounting to 3.06% of the H2020 agri-food budget.

Looking ahead, Ireland aims to build on the achievements of H2020 through increasing participation and success in Horizon Europe, the European Union's new Research and Innovation Programme 2021-2027, which has a budget of over €95 billion. The programme facilitates collaboration and strengthens the impact of research and innovation in developing, supporting, and implementing EU policies while tackling global challenges.

Climate Research Initiatives

DAFM continues to strongly support investment in and engagement with a range of international climate-related research initiatives including the Global Research Alliance on Agricultural Greenhouse Gases and the EU Joint Programming Initiative on Agriculture, Food Security and Climate Change (FACCE). At COP26 in November 2021 Ireland also joined the US and UAE led Agriculture Innovation Mission for Climate (AIM4C) as a partner and committed to an increase in investment in agriculture research & innovation for climate-smart agriculture and food systems over the next 5 years.

In 2021, DAFM entered into a two-year €2million partnership with EIT Climate KIC to identify and co-develop innovation interventions and pathways to help deliver AgClimatise. This partnership will begin in 2022 and will include a review of measures being deployed in other countries to deliver on climate mitigation, establish links between researchers and policy makers and embed a 'learning by doing' model of implementable and scalable innovations

8.12 Research Case Studies

Forestry

FitForests - Response of tree species to climate change

Dr Niall Farrelly – Teagasc lead collaborating with UCD, NUIM, AFBI

Project award: €641,064.23

Background

The decisions regarding the selection of suitable planting material to establish new forests will play a key role influencing the response and resilience of Irish Forests to future climate change. This research will focus on key species in Irish Forestry to provide up-to-date information on the best provenances and seed origins adapted for future Irish climatic conditions.

Importance/Value of Research

The project aims to provide critical information to assess the performance and adaptation of key forest tree species to climate change.

Expected Outcomes

This research will quantify the effects of climate change on Irish forests which will assist with national efforts in GHG mitigation. It will analyse data from historical provenance trials to assess the adaptability of various seed origins to environmental change. It will also conduct new experiments to assess the impact of climate parameters on the phenology and physiology of key species of importance to Irish forestry, assess the variability in timing bud burst and flowering for key broadleaves tree species, determine if species from biogeographic regions show tolerance to drought events, and assess the impact of extreme climatic events on the phenology of known tree species.

Benefits to the Sector

The selection of the best seed origins for the successful establishment of future forests is a key component of the development of sustainable production systems in the forestry sector. The selection of suitable planting stock should assist in ensuring that future forests are more resilient to the impacts of global environmental change by providing a continued supply of renewable material to assist the greater use of wood products in the marketplace and for product substitution opportunities.

The research will also serve to inform the legislative and regulatory framework on the use of reproductive material in Ireland and in Europe and the state of the world's forest genetic resources.

Protein-I - Shared Island sustainable healthy nutrition

Project coordinator: Prof Lorraine Brennan University College Dublin with Teagasc.

Project award: €2,199,435.09

Background

It is widely accepted that we need to transform our current food system if we are to feed the rapidly expanding global population whilst maintaining planetary health. On the Island of Ireland there is a need to expand the range of foods that currently contribute to our protein intake. However, this must be achieved in an innovative manner - one that is sustainable and provides benefits to whole food chain, from producers through to consumers.

Importance/Value of Research

Funded in 2021, the Protein-I project recognises the need for this innovative food systems approach. By availing of leading scientific expertise from a range of disciplines, underpinned by comprehensive engagement with stakeholders throughout, this project has the potential to be a key step towards future proofing the food system on the Island of Ireland and moving towards protecting planetary and population health.

Expected Outcomes

The overriding objective of the project is to focus on the production of plant food through to human health, while paying particular attention to the development of the rural bioeconomy. Such an objective will require a multi-disciplinary approach, including the development of strategies to maximise sustainable plant protein production in a traceable and transparent fashion, the assessment of the impact of changes to existing value chains, the development of new value chains for the rural economy and the promotion of such strategies across rural communities.

Benefits to the Sector

As part of these objectives, the project team endeavours to work with consumers to diversify plant protein intake, model this impact at the population level and perform human intervention studies to demonstrate effectiveness of these changes in terms of achieving adequate nutrition and improved health. In addition, a smart supply chain technology solution, tailored to the needs of the agri-food industry, will be developed and tested, while there is also a plan to test emerging sensor technologies for their potential to aid delivery of personalised nutrition.

Food

NCFS II - National children's food consumption survey II

Project coordinator: Dr Albert Flynn University College Cork with University College Dublin, Technological University Dublin, Munster technological University.

Project award: €1,232,199

Background

In this three-year project, a national dietary survey was conducted in 600 children aged 5-12 years in the Republic of Ireland. The objective of the survey was to establish a comprehensive, nationally representative, database of food consumption, lifestyle and health status in children in Ireland. A summary report and detailed data are published at www.iuna.net

Key project findings include

- Intakes of fruit and vegetables are low, about 3 servings a day, well below the recommended 5-7 a-day.
- Intakes of sugar, salt and saturated fat are higher than recommended.
- Most children are getting sufficient vitamins and minerals, but significant numbers have inadequate intakes of vitamin D, calcium, iron, folate and fibre.
- Recent dietary changes include reduced intake of milk, fruit juice, sugar and sugar-sweetened drinks and salt, and increased intake of fruit, brown/wholemeal bread and water.
- One in six school schoolchildren are classified as overweight or obese, but the levels have stabilised or decreased in recent years, especially in girls.

Benefits to the Sector

The database is designed to facilitate estimation of food and nutrient intakes and exposures to a range of food chemicals, including pesticides, additives and contaminants. It has the potential to serve as an important resource for government agencies and healthcare professionals concerned with developing healthy eating guidelines, obesity prevention and with food safety risk assessment. Furthermore, it will also be used to guide new product development and product reformulation in the Irish food industry.

RumenPredict - Predicting appropriate GHG mitigation strategies based on modelling variables that contribute to ruminant environmental impact.

National Lead Researcher

Dr Sinead Waters

National Lead Institution

Teagasc

National Collaborating Institutions

Irish Cattle Breeding Federation

University College Dublin

International Collaborating Institutions

Queen's University, Northern Ireland

Natural Resources Institute Finland

Agresearch, New Zealand

Swedish University of Agricultural Sciences, Sweden

Wageningen University, The Netherlands

Institut National de Recherche en Agronomie (INRA), France

Funding

Overall Project Funding: €1,592,000.00

Irish Project Funding (provided by DAFM): €244,418.07

Project Overview and Findings

Funded as part of the European Research Area Network Cofund for the Monitoring & Mitigation of Greenhouse Gases from Agri- and Silvi-culture (FACCE ERA-GAS), RumenPredict was one of 10 successful projects funded which aimed to strengthen the transnational coordination of research programmes across Europe and New-Zealand for the purposes of monitoring and mitigation of greenhouse gases from agricultural sources.

The overarching aims of RumenPredict have been to provide a platform for predicting how host genetics, feed additives or microbiome may affect emission phenotypes and develop genetic/diet/prediction technologies to improve nitrogen use efficiency whilst decreasing environmental impact of ruminants.

The collaborative project brings together 9 international partners. The work of the Irish partners has focused on generating a greater understanding of the function of the rumen microbiome and the efficiency of nutrient digestion and the production of GHG by ruminants in terms of methane production, faecal and urine nitrogen excretion, residual feed intake and rumen microbial populations in beef cattle.

Results and Impact of the project arising from Irish Participation include.

- Validated standard microbial analysis platforms for both Irish and international researchers.
- Enhanced understanding of the role of diet, host genetics, and rumen microbiome on environmental outputs, enabling setting of guidelines for the implementation of effective GHG mitigation strategies under varying conditions.
- Discovery of the DNA based biomarkers that can be integrated into the genomics selection breeding programme for the selection of animals with a rumen microbiome that facilitates greater feed efficiency and lower environmental footprint.

Agriculture

MAGGE-pH - Mitigating Agricultural Greenhouse Gas Emissions by improved pH management of soils**National Lead Researcher**

Dr Karl Richards

National Lead Institution

Teagasc

National Collaborating Institutions

National University of Ireland, Galway

International Collaborating Institutions

Aarhus University, Denmark

Thuenen Institute, Germany

Swedish University of Agricultural Sciences

University of Helsinki, Finland

Institut National de Recherche en Agronomie (INRA), France

University of Otago, New Zealand

Natural Environment Research Council, United Kingdom

Funding

Overall Project Funding: € 2,269,000.00

Irish Project Funding (provided by DAFM): € 244,999.99

Project Overview and Findings

Funded as part of the European Research Area Network Cofund for the Monitoring & Mitigation of Greenhouse Gases from Agri- and Silvi-culture (FACCE ERA-GAS), MAGGE-pH was one of 10 successful projects funded which aimed to strengthen the transnational coordination of research programmes across Europe and New-Zealand for the purposes of monitoring and mitigation of greenhouse gases from agricultural sources.

Overall, the project had a number of objectives including:

- Examination of the pH effect on N₂O emissions under realistic field conditions and testing the effects of different liming strategies on those emissions.
- Generate emission factors for a range of N fertilizers/manure/urine/biochar applications explicit for soil pH.
- Explore the use of non-calcareous rock powders as a replacement for traditional limes (carbonates). This is highly relevant, because CO₂ emissions from carbonates can negate their potential GHG reducing effect.
- Explore novel approaches to manage soil pH via fertilizers and manure, in order to reduce both N₂O emission and NH₃ volatilization.

The project has found that increasing soil pH through long term liming reduces annual emissions of fertiliser derived N₂O emissions. Significantly lower N₂O emissions were observed at the optimal soil pH for plant growth. This was related to changes in the soil microbial community associated with increased soil pH which resulted in lower N₂O emissions.

The project also found that N₂O emissions from compound fertilisers was significantly lower under controlled conditions when soils were wet and undergoing denitrification. The project highlighted that the effect of compound fertilisers should be followed on multiple soils and multiple years to get robust national emission factors.

Statistical Annex

Table 1 Output, Input and Income in Agriculture – Final Estimates, 2020 - 2021

Description	2020 € Million	2021 € Million
Livestock (incl. stock changes)	3,606.8	3,989.0
Cattle	2,290.5	2,580.7
Pigs	601.9	555.4
Sheep	303.3	362.9
Horses	224.2	301.9
Poultry	187.0	188.1
Livestock products	2,832.6	3,479.9
Milk	2,753.6	3,395.4
Other livestock products	79.0	84.5
Crops (incl. stock changes)	2,006.3	2,241.3
Barley	215.9	282.9
Wheat	45.6	108.4
Oats	28.1	42.9
Potatoes	118.3	174.9
Mushrooms	123.8	127.7
Other fresh vegetables	115.5	120.3
Fresh fruit	56.1	57.6
Other crops	96.7	105.0
Forage plants	1,206.4	1,221.6
Goods output at producer prices	8,445.8	9,710.2
Contract work	430.8	464.0
Subsidies on products	147.2	90.1
Taxes on products	52.6	52.9
Agricultural output at basic prices	8,971.1	10,211.3
Intermediate consumption	5,694.4	6,230.8
Feedingstuffs	1,525.2	1,798.4
Fertilisers	532.3	605.5
FISIM ¹	114.5	77.3
Seeds	74.5	74.1
Energy and lubricants	377.0	455.7
Maintenance and repairs	522.5	545.6
Other goods and services	509.4	546.0
Crop protection products	79.1	99.4
Veterinary expenses	325.4	347.7
Forage plants	1,203.6	1,217.2
Contract work	430.8	464.0
Gross value added at basic prices	3,276.7	3,980.5
Fixed capital consumption	993.7	1,094.8
Machinery, equipment, etc.	504.5	551.3
Farm buildings	489.2	543.4

Description	2020 € Million	2021 € Million
Net value added at basic prices	2,283.1	2,885.8
Other subsidies less taxes on production	1,662.6	1,690.1
Factor income	3,945.7	4,575.8
Compensation of employees	992.0	1,088.6
Operating surplus	2,953.7	3,487.2
Interest less FISIM ¹	34.0	64.5
Land rental	470.0	547.5
Entrepreneurial income	2,449.6	2,875.3
¹ FISIM: Financial Intermediation Services Indirectly Measured.		

Source: CSO, Output, Input & Income in Agriculture Final Estimates, 2021

Table 2 Direct Payments to Farmers (National and EU) Calendar Year 2020-2021

Scheme	2020 € Million	2021 € Million
Basic Payment Scheme	1,187.5	1,168.11
Areas of Natural Constraint	247.3	246.81
Sheep Welfare Scheme	16.8	17.89
Beef Data & Genomics Programme	42.7	28.89
Beef Exceptional Aid Measure	2.0	0.00
Beef Environmental Efficiency Pilot	40.9	40.4
Beef Finishers Payment	46.5	0.85
Dairy Beef Calf Programme	-	2.03
GLAS Traditional Farm Building Scheme	1.1	1.08
Bovine Tuberculosis Eradication Scheme	20.7	26.09
Various disease control programmes	-	2.44
Forestry	45.4	67.26
Rural Environment Protection Scheme	0.06	0.03
AEOS	0	0.025
Organics	8.4	7.82
GLAS	202.6	187.44
Straw Incorporation Measure	-	7.68
Results-Based Environment Agri Pilot Project	-	10.76
Burren Programme	1.27	1.47
Hen Harrier Scheme	3.2	3.66
Pearl Mussel Project	0.7	1.03
Other Locally Led Agri-Environment Schemes	1.27	2.04
Total Direct Payments to Farmers (National and EU)	1,868.40	1,817.65

Source: Department of Agriculture, Food and the Marine.

Table 3 EU-funded expenditure Managed by the Department of Agriculture, Food and the Marine 2020-2021

	2020 € Million	2021 € Million
European Agricultural Guarantee Fund (EAGF)	1,189.90	1,186.00
Direct Payment/Single Payment Scheme	1,187.00	1,186.00
Intervention/Aid to Private Storage	0	-
Other market supports	6.9	-
Other	-4	-
Co-funded receipts (measures co-funded by EU)	314	284.3
European Agricultural Fund for Rural Development (EAFRD)	306	270
Veterinary fund	7	4.3
Other co-financing receipts	1	-
Market intervention	-	10
Fisheries	19	13.5
EMFF and EFF Fisheries Programme	19	
Total	1,522.90	1,483.8

Note: Only the EU co-funding on these programmes is shown in this table.

Source: Department of Agriculture, Food and the Marine.

Table 4 Expenditure on Agriculture, Food and the Marine, 2020-2021

	2020 € Million	2021 € Million
European Agricultural Guarantee Fund (EAGF)	1,190	1,198
Basic Payment/Direct Payment Scheme	1,187	1,186
Intervention/Aid to Private Storage	-	0
Other Market Supports	7	12
Other	-4	-
Voted Expenditure (excluding Administration)	1,389	1,392
Rural Development ¹	606	566
Structural Measures ¹	87	77
State Bodies	279	306
Horse and Greyhound Fund	84	96
Animal Health	104	122
Research Quality and Certification	26	30
Market Support Costs	7	6
Forestry and Bio-Fuels	80	70
Fisheries	30	36
Food Aid / World Food Programme	26	25
Brexit Response Loan Scheme	26	16
Other	34	42
Administration	286	300
Total Voted Expenditure (including Administration)	1,675	1,692
Total DAFM Expenditure	2,865	2,875

Note: (1) EAFRD Rural Development measures and certain Structural Development measures are part financed by the EU and the Exchequer. These figures are total expenditure on these measures in the calendar year.

Source: Department of Agriculture, Food and the Marine.

Table 5 Total Payments (Direct and Capital) to Farmers by DAFM by County in 2021

County	Average Farmer Payment	Total Payments by County - € Million
Carlow	€18,365	€34.0
Cavan	€13,171	€62.2
Clare	€14,798	€89.2
Cork	€16,664	€218.9
Donegal	€12,760	€107.1
Dublin	€20,895	€17.8
Galway	€13,140	€158.1
Kerry	€15,415	€119.0
Kildare	€16,829	€37.0
Kilkenny	€19,644	€64.6
Laois	€16,950	€44.3
Leitrim	€13,063	€46.5
Limerick	€15,091	€77.0
Longford	€14,412	€35.3
Louth	€15,619	€24.0
Mayo	€11,909	€133.3
Meath	€16,818	€61.3
Monaghan	€11,105	€43.5
Offaly	€16,844	€46.3
Roscommon	€12,875	€69.4
Sligo	€12,214	€47.8
Tipperary	€18,519	€129.2
Waterford	€20,178	€46.7
Westmeath	€15,891	€52.1
Wexford	€18,014	€76.2
Wicklow	€19,707	€40.5
State	€15,033	€1,881

Source: Department of Agriculture, Food and the Marine.

Table 6 *Total Payments (Direct and Capital) to Farmers by DAFM by Province in 2021*

Province	Average Farmer Payment	Total Payments by Province € Million
Ulster	€12,493	€213 million
Munster	€16,474	€680 million
Leinster	€17,348	€534 million
Connaught	€12,611	€455 million
State	€15,033	€1,881 million

Source: Department of Agriculture, Food and the Marine.

Note

While every effort has been made to ensure the accuracy of the data contained in this publication, in view of the volume of statistical data, some errors may occur. Where these anomalies are identified, the Department will liaise to amend as required.

Acknowledgement

Economics and Planning Division wish to thank all who contributed to the Annual Review and Outlook 2022, with thanks in particular to Teagasc, the Central Statistics Office and DAFMag Photo Competition entrants.

Notes:

This image shows a single sheet of white paper with horizontal blue lines, similar to notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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