



**Rialtas na hÉireann**  
Government of Ireland

# **Nitrates Derogation Review 2019**

## **Report of the Nitrates Expert Group**

### **July 2019**

Prepared by the Department of Housing, Planning and Local Government  
and the Department of Agriculture, Food and the Marine, Environmental Protection Agency and Teagasc

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## Executive Summary

This report is presented by the Nitrates Expert Group<sup>1</sup> comprising officials from the Department of Agriculture, Food and the Marine; the Department of Housing, Planning and Local Government; Teagasc, and the Environmental Protection Agency (EPA).

The Department of Housing, Planning and Local Government (DHPLG) is the lead authority for the Nitrates Regulations (SI 605 2017). The Department of Agriculture, Food and the Marine implements and operates the Nitrates Derogation (SI 65 2018). Teagasc is actively researching and promoting mitigation measures for livestock farmers and the EPA is responsible for monitoring and reporting environmental indicators.

A review of Ireland's nitrates derogation has been conducted to examine further opportunities for derogation farmers to improve efficiencies and continue to reduce their environmental footprint with regard to water, climate and air quality. It is conducted against the background of derogation farms being a very significant intensive cohort and the increasing area being farmed under the derogation. Furthermore, recent EPA reports have highlighted deterioration in water quality and increasing green house gas and ammonia emissions.

Following this consultation, the Nitrates Expert Group examined all submissions and provided the recommendations in relation to how derogation farmers can improve their nutrient use efficiency and environmental footprint. It is expected that the outcome of this review, including recommendations, will be published in autumn 2019, in order to allow derogation farmers sufficient time to plan for 2020 and beyond.

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# Chapter 1: Introduction

## 1.1 Background

The agri-food sector is Ireland's largest indigenous sector contributing to 7.8% of GNI, 7.9% of total employment and 11.1% of all merchandise exports. Agri-food exports have grown by over 70% from 2009 to 2017 when they reached €13.6 billion. With the backdrop of the abolition of dairy quotas in 2015, Food Wise 2025 was published setting out the current ten-year plan for the industry. This strategy sets targets for further development and intensification in primary production and value added processing. The plan aims for an 85% increase in exports, the creation of 23,000 additional jobs, a 70% increase in value added and a 60% increase in primary production by 2025. It acknowledges that economic competitiveness and environmental sustainability are equal pillars in the delivery of the strategic vision.

Notwithstanding the economic success of the Food Wise strategy to date, the sector faces a number of challenges. Challenges specifically relating to this review are both our water quality standards and climate change commitments. As the industry embraces new levels of growth, it will also be required to show an absolute commitment to the principles of sustainability, recognising that gains in productivity must not be at the expense of the environment. The success or otherwise of measures to mitigate and adapt to these challenges will inform the reforms to the Common Agricultural Policy (CAP), the cornerstone of agricultural support in Ireland and the EU.

The Review Group considers that any proposed changes to the Regulations must be in keeping with the Food Wise 2025 ambitions for sustainability. The Group is of the view that the Derogation Review cannot of itself address all the issues but it is an important part of the required co-ordinated approach.

## 1.2 Nitrates Action Programme (NAP)

Ireland's first Nitrates Action Programme (NAP) came into operation in 2006. Giving effect to the Nitrates Directive and supported by successive national regulations, the NAP was designed to prevent pollution of surface waters and groundwater from agricultural sources and to protect and improve water quality.

In accordance with the Nitrates Directive and Article 28 of the Good Agricultural Practice Regulations, the Minister for the Environment, Community and Local Government, in consultation with the Minister for Agriculture, Food and the Marine reviewed the NAP in 2010, 2013 and 2017. This resulted in a revised Nitrates Action Programmes (NAP2, 3 and 4) and the current Good Agricultural Practice Regulations (also known as the 'GAP Regulations' and the 'Nitrates Regulations') – S.I. no.31/2014.

NAP4 expires on 31 December 2021 however given the current challenges in place it was considered prudent to initiate a review of the Derogation in advance of Ireland reviewing and considering an application for NAP 5 in 2021. Accordingly, it is intended to finalise Ireland's

Derogation Review shortly and commence with process of consultation of NAP 5 in early 2021. NAP 4 will run until the end 2021.

### **1.3 Key elements of Ireland's NAP**

Ireland has applied its NAP on a country-wide basis, thus ensuring 100% territorial coverage. The scope of the NAP to date has been comprehensive, both in terms of addressing the major sources of agricultural nutrients and in covering a national farming population of over 139,600 farm holdings.

The principal elements of the NAP include:

- limits on farm stocking rates
- legal maxima for nitrogen and phosphorus application rates
- prohibited spreading periods preventing the application of organic and chemical fertilisers during more environmentally vulnerable times of the year
- minimum storage requirements for livestock manures
- requirements regarding maintenance of green cover in tillage lands and
- set-back distances from waters.

In common with other EU member states in which intensive agricultural activity is practised, Ireland has availed of a derogation from the 170kg livestock manure nitrogen limit as provided for in the Nitrates Directive. The derogation was originally granted by the Commission in 2007 and renewed in 2010, 2014 and 2017.

### **1.4 Terms of Reference and Scope**

Ireland's nitrates derogation provides farmers an opportunity to farm at higher stocking rates, above 170 kg livestock manure nitrogen/ ha, subject to additional conditions designed to protect the environment. The derogation is an important facility for more intensive farmers and almost 7,000 intensively stocked farmers availed of the derogation in 2018.

### **1.5 Methodological Approach**

This report of the Expert Review Group incorporates the following elements;

1. The results of the public consultation process,
2. A key set of recommendations for farmers operating within the nitrates derogation.

## **Chapter 2: Policy Context and Challenges**

### **2.1 Introduction**

Agricultural activity both relies on and influences the quality of our water, soils, biodiversity and air locally, regionally and nationally. EU and National policy and regulation guide agricultural activity to a great extent, with the Common Agricultural Policy (CAP) taking the overarching role. This section provides an overview of the EU and National regulatory and legal obligations and the challenges faced by the agriculture sector.

### **2.2 Common Agricultural Policy (CAP) and the Rural Development Programme (RDP)**

In each iteration the CAP is increasingly concerning itself with sustainability from an environmental perspective. The greening of the basic payment along with the cross compliance requirements for direct payments when land is maintained in Good Agricultural and Environmental Condition set an environmental baseline.

The RDP consists of a suite of measures designed to enhance the competitiveness of the agri-food sector, achieve more sustainable management of natural resources and ensure more balanced development of rural areas, with an enhanced focus on delivering positive environmental outcomes including for water and climate change. The GLAS programmes implements meaningful actions at a regional and local level, especially in areas with high water quality. Knowledge transfer also has a key role here to allow for research findings to be disseminated and applied on the ground. Targeted measures introduced under the 2014-2020 Rural Development Programme (RDP) also contribute to meeting our national ambitions for climate change measures, water protection biodiversity and soil.

### **2.3 Water Framework Directive (WFD)**

The Water Framework Directive (WFD) establishes a framework for the protection of all waters including rivers, lakes, estuaries, coastal waters and groundwater, and their dependent wildlife/habitats under one piece of environmental legislation. It was given legal effect in Ireland by the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003). The Water Framework Directive (WFD) is linked to a number of other EU directives in several ways. These include Directives relating to the protection of biodiversity (Birds and Habitats Directives), Directives related to specific uses of waters (drinking water and bathing waters) and to Directives concerned with the regulation of activities undertaken in the environment (Industrial Emissions, Urban Waste Water Treatment Directive and Environmental Impact Assessment Directives). The Nitrates Directive is one of the key Directives that provides the basic measures to support the WFD. Soil health is largely addressed indirectly through the implementation of the WFD.

Ireland is required to implement the Water Framework Directive (WFD) through river basin management planning. The Government has published the River Basin Management Plan for Ireland 2018-2021. The Plan sets out the actions that Ireland will take to improve water quality and achieve

'good' or 'high' ecological status in water bodies (rivers, lakes, estuaries and coastal waters) by 2027. Water quality in Ireland has deteriorated over the past two decades. The Plan provides a more coordinated framework for improving the quality of our waters — to protect public health, the environment, water amenities and to sustain water-intensive industries, including agri-food and tourism, particularly in rural Ireland.

## **2.4 Water Quality**

Agriculture has long been known to be a source of nutrient flow to water bodies. Excessive losses to rivers, lakes and marine waters can lead to significant ecological impacts and eutrophication. Since 1991 the Nitrates Directive sought to monitor and improve the environmental impact of these pollutants. Nitrogen and phosphorus can lead to eutrophication of waters and the overarching goal has been to minimise their input from agricultural activity.

Careful management of livestock, manures, slurries, and fertiliser application can significantly reduce both point and diffuse sources of these nutrients. With extensive research and application of knowledge on the soils, land and farming practices have been successful in the past to this end. With the increase in the size of the dairy herd and derogation farms it can be expected that the pressure in areas of livestock intensification will have significantly increased. Nutrient losses to waters are not uniform across the country: higher nitrogen losses are correlated with freely draining soils and intensive agriculture in the south and southeast of the country; while higher phosphorus losses are more closely correlated with areas of poorly draining soils and can be associated with the human population and all levels of agricultural intensity.

The EPA developed environmental standards and the water body classification criteria and classified the status of water bodies through an assessment of monitoring data against the standards and criteria identified in the respective Regulations. This assessment acted as the cornerstone of the national River Basin Management Plan. The EPA's 'State of the Environment Report 2016' notes that Ireland is still a long way from meeting the full legal requirements of the Water Framework Directive, against which water quality is measured. It indicates that there was no overall improvement in water quality over the first river basin cycle (2009-2015) and that the target of a 13.6% improvement in the ecological status of surface waters (from the 2009 baseline) by 2015 was not achieved.

Water quality improvements are required by approximately 50% of rivers, lakes and estuaries that are impacted by pollution or other pressures. While overall the length of unpolluted river channel has remained relatively constant, there has been a substantial loss in the number of highest quality river sites (i.e. Q value of 5). In the most recent monitoring period (2013-2015) only 21 sites were classified as the highest quality river sites (0.7% of sites) compared with 575 between 1987 and 1990, and 82 between 2001 and 2003. This is an area where substantial effort is required to protect the few remaining sites and, where feasible, return impacted ones back to their earlier extremely high quality.

The EPA's indicators report for water quality in 2017, published in November 2018, stated a further 3% reduction in river water quality was observed in 2017 with 44% of river water bodies of less than

good status<sup>14</sup>. It noted that nutrients (phosphorus and nitrogen) continue to cause eutrophication of waters with agriculture as a significant source. Some of the main findings in the report are:

- River biological quality fell by 3% (72 water bodies) since 2013–2015. 56% of our rivers are at high or good biological quality with the remaining 44% being at moderate or worse quality.
- The reduction in the number of river water bodies at bad quality is continuing. The number of water bodies in this category fell from five in 2016 to just two in 2017.
- The decline in high-quality sites (Q4–5 and Q5) is continuing. This trend must be reversed.
- There is a relatively stable picture with regard to nitrate concentrations in our rivers between 2007 and 2017. However, there is evidence of increasing nitrate concentration at some river sites, particularly when considering the period 2013 to 2018 in rivers in the southeast of the country.

The number of river sites with phosphorus concentrations needed to support high-quality rivers dropped from 58% in 2014–2016 to just over 48% in 2015–2017. There is also an increase in the percentage of sites with higher phosphorus concentrations that are likely to lead to water quality issues.

## **2.5 Drinking Water and Agriculture**

Protecting drinking water sources from diffuse microbial contamination from animal excreta continues to be an area of concern for public health. Generally poor farm management practices, inappropriate land spreading near source abstraction points, and animals directly entering watercourses are the cause of such contamination. The threat and impact can be exacerbated by extreme weather events.

## **2.6 Climate change**

Changing global weather patterns and climate have resulted in increased interest in the Irish climate and the recognition that agriculture in Ireland is a major contributor to greenhouse gas emissions and is also significantly impacted by changes to weather systems.

The EPAs 'State of the Environment report 2016' requires the following key environmental action in relation to climate change<sup>15</sup> – *'accelerate mitigation actions to reduce greenhouse gas emissions and implement adoption measures to increase our resilience in dealing with adverse climate impacts'*

Teagasc has published a new report 'Analysis of Abatement Potential of Greenhouse Gas Emissions in Irish Agriculture 2021-2030' and have assessed the likely level of future GHG emissions if no action is taken to address emissions over the period 2021 to 2030.

In continuing with the Food Wise 2025 strategy there are a number of mitigation measures identified in Teagasc's Marginal Abatement Cost Curve that have potential to reduce GHG emissions resulting from agricultural activity including:

- The adoption of measures such as dairy EBI, beef genomics and improved animal health, extending the grazing season, and the use of sexed semen.



- Improved nutrient management planning, particularly optimising soil pH, and improving soil tilth, drainage of poorly drained mineral soils, with optimal use of low emission slurry application and legumes and maximum nitrogen use efficiency.
- The use of low-emission fertiliser, reducing crude protein in bovine and pig diets, fatty acid supplementation to reduce methane and adding amendments to manures during storage.

### **2.6.1 Ammonia and Other Emissions to Air**

There are a number of European Union (EU) Directives on air quality in place that set standards for a wide variety of pollutants. Additionally, Ireland is a Party to the Convention on Long Range Transboundary Air Pollution (CLRTAP) under which certain transboundary air pollutants including ammonia are controlled. 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 2001/81/EC (NECD). As part of the EU Clean air package, the National Emissions Ceilings Directive was reviewed and updated to reflect the latest scientific knowledge and understanding of the health and environmental impacts of air pollution. This revised NECD entered into force on 31<sup>st</sup> December 2016 and was transposed into national legislation on the 29<sup>th</sup> June, S.I. No. 232 of 2018 (European Union (National Emission Ceiling) Regulations 2018).

A key component of the revised NECD is more ambitious and protective national emission ceilings for key pollutants such as ammonia. The NEC Directive sets new national targets for 2020 and 2030 for five air pollutants – particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), ammonia (NH<sub>3</sub>) and volatile organic compounds (VOCs). The aim of the revised Directive is to cut the negative impacts of air pollution on human health by almost half by 2030. Reducing levels of illness, including respiratory and cardiovascular diseases and premature death is the main priority.

Ireland's national emission ceiling for NH<sub>3</sub> under the NEC Directive is 116 kilotonnes (kt), to be achieved from 2010 and in each year until 2019. This is equivalent to a 5.6 per cent permitted increase in emissions from the 109.8 kt 1990 baseline figure. Recent increases in cattle numbers and fertiliser use have seen ammonia (NH<sub>3</sub>) emissions increase for the last five years. The emissions in 2017 were 8.7 kt or 7.9 per cent higher than emissions in 1990. Animal manures produce about 90 per cent of ammonia emissions and chemical fertilisers and road transport account for the remainder. It is estimated that approximately 15 per cent of the nitrogen in animal manures and 2 per cent of nitrogen contained in chemical fertilisers is lost to the atmosphere as NH<sub>3</sub>.

Teagasc's Marginal Abatement Cost Curve and research has shown that ammonia emissions can be reduced by:

- The use of Low Emission Slurry Spreading (LESS) equipment particularly when restrictions on timing of spreading is in force.

- The use of protected nitrogen has mitigation potential worthy of further investigation in Ireland to reduce GHG emissions resulting from agricultural activity.

### 2.6.2 Greenhouse gases

Ireland's national policy position is transition to a low-carbon, climate resilient economy and society with 80% decarbonisation by 2050 including an approach to carbon neutrality in the agriculture and land use sector which does not compromise sustainable food production. Ireland's commitments under the EU Effort Sharing decision and the Climate and Energy Framework to 2030 can be summarised as follows:

Key indicator	2020	2030
Reduction in Non emissions trading GHG emissions	20%	30%
Increase in energy efficiency	20%	32.5%
Increase in renewable energy (across electricity, heat and transport)	16%	>16% - 32%

Current projections indicate that Ireland will fall short on all of these targets and that while all sectors of the economy will have to contribute, agriculture has a key role to play in working towards meeting these GHG and energy related targets.

### 2.7 Biodiversity

Globally biodiversity has been in decline and this is true of Ireland also. Agricultural land management has resulted in much of Ireland's biodiversity and continues to influence it as such. Biodiversity loss has not been halted in Ireland and agriculture remains a threat to both protected habitats and species both directly and indirectly.

The National Parks and Wildlife Service (NPWS) monitor and report on the status of Natura<sup>2</sup> sites in Ireland, forming an integral network across the country. Habitats and species dependent on, for example, high water quality can potentially be negatively impacted by agricultural activity. While these Natura sites are predominantly in the extensively farmed areas of the country it is important that all agricultural areas of the country are implementing appropriate measures to maintain and enhance national biodiversity.

### 2.8 Agricultural Catchments Programme

The primary function of Agricultural Catchments Programme (ACP) is the evaluation of the effectiveness of the package of measures contained in Ireland's NAP. The programme is operated by Teagasc and funded by DAFM. Ireland's agriculture and food landscape has evolved rapidly during

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<sup>2</sup> Natura 2000 is a network of core breeding and resting sites for rare and threatened species, and some rare natural habitat types which are protected in their own right.

the life of the project and increasing farm output, especially milk, is now an objective in national policy. This changed policy environment poses new challenges for the ACP which it is well positioned to meet.

The ACP works in partnership with over 300 farmers in six intensively farmed catchments and this farmer engagement, which is built on the relationships of the advisers with their farmer clients, facilitates the research elements of the programme. The research work is carried out according to a single experimental design which is implemented rigorously in each catchment. A range of biophysical and socio-economic parameters are used to evaluate the impact of the NAP measures and the derogation implemented by farmers under the Nitrates Directive. The outcomes of this research provide a valuable insight into the processes that determine the impact of agricultural activity on water quality in the catchments.

Overall, evidence from the ACP indicates that supporting farmers to make better decisions regarding how they manage nutrient applications and losses is likely to be the single area with the greatest potential to improve outcomes for water quality on Irish farms - delivering better profits for the farmer while reducing risk of nutrient loss to water.

## Chapter 3: Nitrates Derogation Review

### 3.1 Background

Ireland's nitrates derogation provides farmers an opportunity to farm at higher stocking rates subject to additional conditions designed to protect the environment. The derogation is an important facility for more intensive farmers and almost 7,000 intensively stocked farmers availed of the derogation in 2018. It is recognised that compliance of a higher standard is required from these farmers to ensure a greater level of environment efficiency is achieved.

Nitrates derogation farms have become a very significant intensive farming cohort over recent years. The area farmed under derogation, stocked at up to 250 kg livestock manure N/ ha, has increased by 34% from 2014 to 2018.

**Profile of Derogation farm**

	2014	2015	2016	2017	2018
No. Derogation Farms	5,800	6,300	6,800	7,000	6,891
Area under Der. Farms (ha)	332,200	351,900	409,800	432,300	445,200
Average Farm Size (ha)	58	56	60	62	65
Livestock Units/ Der. Farm	139	146	149	150	162

### 3.2 Purpose

Considering the importance of the nitrates derogation in the current trajectory of Irish agriculture, and its relevance to current legislative obligations as described above, a review of Ireland's nitrates derogation commenced in 2019. The purpose of the review was to examine further opportunities for derogation farmers to improve efficiencies and continue to reduce their environmental footprint with particular regard to water, climate and air quality.

Part of the review group's work also focused on the increasing number of farms operating above 170 kgs N/ha livestock manure who export slurry to comply with the 170 kg limit. These are a significant cohort of 5,000 farmers which the group believes should also contribute to the environmental efficiency of Irish agriculture.

### 3.3 Initiation and Participation

#### Open Consultation

The consultation was advertised in national and local media.

*“The public consultation will commence on **1st April 2019** and will close on **10th May 2019**. A short, targeted questionnaire has been developed to facilitate responses to some of the key questions we have in relation to the derogation review. The responses received will allow us to determine stakeholders’ opinion and will assist with the forming of recommendations”.*

*The final date for receipt of responses in respect of this consultation is **10th May 2019** however the closing date was extended to 24<sup>th</sup> May 2019. A questionnaire was requested to be completed and it included the following consultation questions;*

1. Our livestock systems are based on the maximum utilisation of grassland. How can we increase the efficiency of grassland management on derogation farms, while protecting the environment?
2. How can livestock manure be best managed to ensure its impact on the environment is minimised?
3. How should agricultural impact on soil be minimised on derogation farms?
4. What specific actions can derogation farms take to minimise their impact on the environment?
5. Should all intensive livestock farms be subject to the conditions of the derogation whether they apply or not?

### **Survey of Agricultural Advisors**

A Survey of agricultural advisors was also undertaken and it included the following consultation questions;

1. How can we increase the efficiency of grassland management on intensive farms?
2. How can livestock manure be best managed to ensure its impact on the environment is minimised?
3. In order to gain the desired efficiencies from animal manures and chemical fertilisers, how often would you consider a farmer should soil sample to ensure optimum soil fertility?
4. Should the terms and conditions of the derogation apply to all farmers > 170 kgs N/ha?
5. Are derogation farmers doing enough to protect biodiversity?
6. How could derogation farmers reduce their dependence on chemical fertilisers?

### **3.4 Review Group**

All submissions received were reviewed by an expert group set up specifically for this task. The Group was jointly chaired by DHPLG and DAFM and comprised senior scientific experts from DHPLG, DAFM, the Environmental Protection Agency (EPA) and Teagasc.

### **3.5 Guiding Principles**

The Group worked with the following guiding principles:

- that the Derogation should maintain and support the environmentally progressive outcomes achieved under the current and three previous NAPs and continue to secure consistency with the EU Nitrates Directive;
- that additional measures with the Derogation regime should be designed to operate as efficiently as possible, taking into account the objectives for Irish agriculture as set out in Food Harvest 2020 and Food Wise 2025, including sustainable farming practices objectives and also climate change, water quality and biodiversity objectives;
- that the present review of the Derogation should seek incremental improvements and build on the achievements to date and contribute to the delivery of Water Framework Directive (WFD) and Nitrates Directive (ND) obligations.

A total of 75 written submissions were received in response to the open consultation and 225 survey responses were received as part of this review. These include submissions from local authorities, public service bodies, farmers and farming representative bodies, NGO's, agricultural co-operative societies, agricultural advisors, trade and professional bodies and Teagasc. The Departments, and the Review Group formed to review these submissions, found this wide and considered input to the review process to be very valuable and they thank all parties involved for their contributions.

### **3.6 Approaches to Reviewing the Submissions**

As with the last public consultation in relation to the delivery of NAP3 and 4, this public consultation process produced many detailed and considered submissions. The Review Group in considering all submissions has also taken into account EPA water quality monitoring data and both current and emerging agricultural pressures on water quality and indirectly climate change challenges. The Group sought to focus its advice to the Departments on the major themes emerging from the public consultation and to make clear the Group's advice and/or recommendations on these for the purposes of the review of the NAP 4 Derogation.

## Chapter 4: Implementation

Ireland's nitrates derogation provides farmers an opportunity to farm at higher stocking rates, above 170 kg livestock manure nitrogen/ ha, subject to additional conditions designed to protect the environment.

Measure	Implemented
The total nitrogen inputs shall neither exceed the foreseeable nutrient demand of the considered crop, nor the maximum fertilisation rate applicable to the grassland farm, established in the Nitrates Action Programme and shall take into account the supply from the soil. Total nitrogen application shall be differentiated on the basis of stocking rate and grassland productivity.	<b>2007</b>
The amount of livestock manure from grazing livestock applied to the land each year on grassland farms, including by the animals themselves, shall not exceed the amount of manure containing 250 kg nitrogen per hectare, subject to the conditions laid down in paragraphs 2 to 7.	<b>2007</b>
A fertilisation plan shall be prepared and kept for each grassland farm describing the crop rotation of the farmland and the planned application of manure and other fertilisers. It shall be available at the grassland farm for each calendar year before 1 March of that year.	<b>2007</b>
Fertilisation accounts, including information related to management of nitrogen and phosphorus inputs and management of soiled water, shall be prepared and kept for each grassland farm. They shall be submitted to the competent authority for each calendar year by 31 March of the following calendar year.	<b>2007</b>
Periodic nitrogen and phosphorus analysis in soil shall be done for each grassland farm. Sampling and analysis shall be carried out at least once every four years for each homogeneous area of the grassland farm, with regard to crop rotation and soil characteristics. At least one analysis per five hectares of farmland shall be carried out	<b>2007</b>
Livestock manure shall not be spread in the autumn before grass cultivation	<b>2007</b>
Temporary grassland shall be ploughed Spring	<b>2007</b>
Ploughed grass on all soil types shall be followed immediately by a crop with high nitrogen demand.	<b>2007</b>
Crop rotation shall not include leguminous or other plants fixing atmospheric nitrogen. This shall, however, not apply to clover in grassland with less than 50% clover and to other leguminous plants that are undersown with grass.	<b>2007</b>
At least 50% of slurry produced on the holding shall be applied by 15 June. Low emission slurry spreading equipment shall be used for any slurry applications after 15 June	<b>2018</b>

## Chapter 5: Recommendations

### 5.1 Recommendations for Nitrates Derogations Farms

Proposed Measure	Proposed Implementation
<p><b>Nutrient Management Planning (NMP) is an integral part of the nutrient use efficiency of a farm and the submissions indicated that how a NMP is implemented at farm level needs greater consideration. The review group acknowledges that all derogation farms must complete a NMP to be eligible for derogation however there are additional measures required in order to understand and maximise the nutrient use efficiency of a farm. The review group recommend the following for inclusion;</b></p>	
<p>Achieving optimum soil fertility and improving nutrient use efficiency is a key element of the Nutrient Management Plan. The subsequent use and direct implementation of the information should be utilised further to correct soil acidity. The review group recommend the compulsory adoption of a farm scale liming programme on derogation farms and on farms with a whole farm stocking rate above 170 kgs N/ha. This measure is recommended to ensure an improvement in nutrient use efficiency (nitrogen and phosphorus), achieve a reduction in chemical fertiliser usage and consequential GHG and ammonia emissions, and improve grass and crop production.</p>	<p><b>2020</b></p>
<p>The Review Group recommends that farmers under derogation must attend annually a training programme in adopting best practice in nutrient use efficiency and management and the protection of water. The training must include and build on the key learning's from the Agricultural Catchments Programme (ACP) and the Agricultural Sustainability, Support and Advisory Programme (ASSAP). The review group recommends that farmers are required to participate in this programme if they wish to avail of a nitrates derogation.</p>	<p><b>2021</b></p>
<p>The current nitrates derogation provides that at least 50% of slurry produced on the holding shall be applied by 15 June. Low emission slurry spreading (LESS) equipment shall be used for any slurry applications after 15 June. This is an important initiative to increase the efficiency of livestock manure manures on farm and to reducing ammonia losses. The review group recommend the following amendments;</p> <ul style="list-style-type: none"> <li>i. Slurry remaining on the holding after the 15/4/2020 must be spread by LESS</li> <li>ii. All Slurry on the holding from the 12/1/2021 must be spread by LESS</li> </ul> <p>In addition it is recommended these conditions should apply to all farms with a whole farm stocking rate in excess of 170 kgs livestock manure N/ha.</p>	<p><b>2020</b> <b>2021</b></p>
<p>All farms must submit export forms for slurry movements earlier each calendar</p>	<p><b>2020</b></p>



year to facilitate timely nutrient management planning.	
<b>Grassland Management</b>	
<p>Ireland is a predominately livestock country with 81% of the agricultural area devoted to grassland. Grassland and its productivity are central to our livestock systems. From an efficiency perspective, the review group recommend that derogation farmer's undertake to;</p> <ul style="list-style-type: none"> <li>Record through appropriate software technology the grass produced annually on the farm. This grassland management decision support tool enables the advancement of the <u>decision making</u> process through regular pasture measuring and budgeting on farm, improving nutrient use efficiency, grass production and utilisation.</li> </ul> <p>Or</p> <ul style="list-style-type: none"> <li>Undertake certified grassland measurement training</li> </ul>	<p><b>2020</b></p> <p><b>2020 or 2021</b></p>
The review group recommends all new grass reseeding completed by derogation farmers must include minimum clover content as part of the grass seed mixture however the inclusion rate must not exceed 50% of the sward mixture.	<b>2020</b>
<b>Land Eligibility</b>	
The review group recommend that Commonage/rough grazing will not be eligible for derogation in 2020 and cannot be included for the calculation of the chemical fertiliser allowance for the holding. As a consequence, this will reduce the chemical fertiliser allowance on marginal lands and reduce the risk of losses to the environment.	<b>2020</b>
<b>Crude Protein in Concentrate Feeds</b>	
The review group recommend a measure to reduce the crude protein in concentrate feeds for grazing livestock on farms with a grassland stocking rate greater than 170 kg/ha in order to reduce excess protein in animals diets.	<b>2020</b>
<b>Biodiversity</b>	
The <i>Global assessment report on biodiversity and ecosystem services</i> published in early May by the United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) reported that biodiversity loss continues in an unprecedented manner. In this context, it is proposed derogation farmers implement the measures in the All Island Pollinator Plan. The review group recommend the adoption of a biodiversity measure on derogation farms	<b>2020</b>

## 5.2 Considerations for Nitrates Action Programme 2021

The Nitrates Review Group recognise the significant level of ambition forthcoming from the submissions of the review. Unfortunately, not all elements of the submissions could be advanced at this stage however there are several proposals that merit discussion in the context of the next Nitrates Action Programme which is due for consideration by the Commission at the end of 2021. The review group considers the following proposals need to be considered further in the context of the current and future challenges facing the sector;

1. Ongoing research in fertiliser formulation provides an opportunity for both environmental and climate benefit. The use of inhibitor technology to reduce the losses from fertilisers provides a significant environmental and climate opportunity. This should be reviewed further as part of the next NAP.
2. There are environmental pressures at a catchment scale which can be attributed to intensification of agriculture. Intensively stocked dairy grazing platforms need further review in the context of the next NAP.
3. 65% of the bovine livestock in the country are on farms at stocking rates > 130 kgs/ha. The review group do not consider this group to be intensive however the next Nitrates Action Programme review should examine opportunities for this cohort to reduce their environmental footprint and contribute to the climate and water challenges.
4. Measures to support improved biodiversity on all farms

In addition, the Commission has requested Ireland to review some of the technical aspects of the Nitrates Action Programme and these will be incorporated into the next Nitrates Action Programme (NAP). This will include a review of SI 605 2017 and schedules 1, 2 and 3 and specifically;

5. The annual excretion rates for livestock as per Table 6 of SI 605 2017 will be reviewed based on most recent scientific research.
6. The average net rainfall during the specific storage period (Table 4 of SI 605 2017) will also be reviewed and updated as necessary.

## **Concluding Comments**

The Review Group has examined all submissions received and made recommendations primarily with the focus of building greater awareness of how agriculture and our natural resources must co-exist and achieve equilibrium in balancing production with environmental sustainability.

In considering the views of each of the submissions and recognising the scope of the Nitrates Directive, the Group have considered it appropriate based on the terms of reference and purpose of the review to propose several recommendations for implementation on Derogation Farms. Each proposal has been considered on its individual technical merit.

The proposed new measures are aimed at further strengthening the protection of water and attaining optimum soil fertility that is consistent with both efficient agricultural production and effective water quality protection. The recommendations made represent the agreed common position of all the experts comprising the Group.

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**Department of Housing, Planning and Local Government  
and the Department of Agriculture, Food and the Marine,  
Environmental Protection Agency and Teagasc**



**An Roinn Tithíochta,  
Pleanála agus Rialtais Áitiúil  
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