



**ULSTER  
FARMERS'  
UNION**

**PUBLIC CONSULTATION ON THE  
NUTRIENTS ACTION  
PROGRAMME 2026-2029**

**ULSTER FARMERS' UNION  
RESPONSE**

**JULY 2025**

## Contents

1.	Introduction .....	4
2.	Nutrients Action Programme Review.....	4
3	NAP Review Process .....	5
	3.1 Consultation Documentation .....	6
	3.2 Consultation Events .....	7
	3.3 Economic Impact Assessment.....	7
4.	NAP 2019-2022.....	8
	4.1 NAP 2019-2022 .....	8
	4.2 Derogation.....	9
5.	NAP Review Findings.....	9
	5.1 Long-term trend analysis.....	9
	5.2 Nitrate Levels.....	10
	5.3 Soluble Reactive Phosphorus (SRP) .....	10
	5.4 Water Quality Data - Sampling and methodology. ....	11
	5.5 Research.....	12
	5.6 DAERA Review Conclusions .....	12
6.	Proposed Changes to the NAP.....	13
	6.1 Water Protection: intercepting / breaking nutrient pathways .....	13
	6.2 Low Emission Slurry Spreading Equipment (LESSE) .....	18
	6.3 Additional Phosphorus Controls.....	24
	6.4 Review of Standard Values for calculation of Nitrogen and Phosphorus .....	36
	6.5 Nitrogen Fertiliser .....	38
	6.6 Derogation.....	46
	6.7 Storage Requirements .....	49
	6.8 Provision of False or misleading information.....	51
	6.9 Technical Amendments .....	52
	6.10 Updated Procedure and IT System for recording slurry / manure exports and imports.....	53
	6.11 Information system for slurry spreading conditions .....	56
	6.12 Fertiliser Database .....	58

6.13 Anaerobic Digestate Measure .....	59
6.14 Focused approach for high risk areas and sensitive sites.....	60
6.15 Enforcement and sanctions .....	62
7 Impact Assessments .....	64
7.1 Strategic Environmental Assessment (SEA) .....	64
7.2 Regulatory Impact Assessment (RIA) .....	64
7.3 Equality Impact Assessment.....	65
7.4 Rural Needs Impact Assessment.....	66
8. Other issues.....	66
8.1 Planning .....	66
8.2 Lack of joined up Government.....	67
8.3 Sewage infrastructure .....	68
8.4 Septic Tanks .....	68
8.5 Water Charges .....	69
9. Conclusion .....	70
APPENDIX 1 .....	71
A SCIENTIFIC EVALUATION OF THE AFBI PAPER ‘AFBI SCIENTIFIC EVIDENCE CONTRIBUTING TO N FERTILISER LIMIT’ POSTED ON THE NAP CONSULTATION WEBSITE ON 20 JUNE, 2025 .....	71
Dr Sinclair Mayne .....	71
APPENDIX 2: INTERIM ECONOMIC IMPACT ASSESSMENT OF PROPOSED MEASURES WITHIN DAERA’S NUTRIENTS ACTION PROGRAMME 2026 – 2029.....	83
<i>Separate document attached</i>	

## 1. Introduction

The Ulster Farmers' Union (UFU) is the largest farming organisation in NI representing over 11,500 members. UFU membership encompasses farmers from all sectors across NI and from all farm sizes, reflecting the diverse nature of the agricultural sector in NI. The Nutrients Action Programme (NAP) 2026-2029 is of interest to the UFU and its members because of the impact it will have on the agricultural sector in NI.

The Ulster Farmers' Union (UFU) welcomes the opportunity to respond to the proposed Nutrients Action Programme (NAP) 2026-2029. Our members are committed to environmental stewardship, but successful implementation must be grounded in practical, evidence-based, and economically viable approaches for farm businesses. The draft proposals introduce a significant tightening of existing regulations. UFU's primary concerns include:

- Flaws in the consultation process
- The lack of supporting evidence demonstrating the need for and the environmental effectiveness of proposed changes.
- The lack of stakeholder engagement in drafting these proposals.
- The potential economic impact of these measures on Northern Ireland's agri-food sector and rural communities.
- Insufficient time and financial support for farmers to adapt to any new requirements.

The UFU finds that the current DAERA proposals to amend the Nutrients Action Programme contain significant flaws, leading us to fundamentally object to many of the revisions outlined in the consultation pack. Our detailed analysis reveals numerous concerns regarding their practical implications, economic viability, and scientific justification.

This response sets out a detailed critique of the proposals and offers some practical alternatives that support both improved environmental outcomes and sustainable food production. UFU calls for a more collaborative and phased approach, one that genuinely engages with the farming community and reflects the realities on the ground.

## 2. Nutrients Action Programme Review

The Ulster Farmers' Union (UFU) accepts that the Nutrients Action Programme Regulations (Northern Ireland) 2019 requires DAERA to review and, where necessary revise the action programme, at least every four years. It should also be noted that what has been published for public consultation is not a review but a major overhaul of the NAP which the UFU believe to be cross-cutting and significant.

Considering that the review outlined above is required by law, the UFU welcomes the opportunity to comment on proposals for a new Nutrients Action Programme (NAP) 2026-2029. However, the Union has concerns about the process, lack of stakeholder engagement and the quality of the information provided. The flaws in the consultation, inconsistencies and lack of detail in some areas has made it extremely difficult to properly consult with our membership and provide a properly informed position and response.

### 3 NAP Review Process

The UFU attended Stakeholder meetings in June and November 2024 and while useful information was presented it was unclear as to if, and how this would be included in a revised NAP. While there was some opportunity to ask questions, proper discussion on the various presentations was not feasible.

In previous Action Programme reviews, there would have been significantly more roundtable engagement with all relevant Stakeholders in advance of the consultation being published and this regrettably did not take place resulting in a poor-quality and flawed consultation which has triggered significant backlash from the agri-food sector.

The Environmental Improvement Plan (“EIP”) recognises that existing environmental challenges *“can only be addressed if agriculture and farmers are part of the solution”*. The Programme for Government similarly recognises that the industry will play an *“important role in helping to deliver our climate change obligations and restore the natural environment”*.

It goes on to say that the Executive will *“continue to support these sectors through the Sustainable Agriculture Programme working with stakeholders to develop coherent policies and design schemes”*.

The UFU endorses this approach but are concerned that it has not been followed through in practice for the proposed Nutrient Action Programme for 2026 – 2029. These proposals will have a substantial impact across Northern Ireland and the wider economy. Their success will ultimately depend upon the actions of farmers. The need for a collaborative approach to policymaking is heightened in this context.

The UFU had an expectation that we would have been actively and appropriately consulted (along with other relevant stakeholders) particularly when there were such major changes to the NAP proposed with the potential to have a significant effect on farmers and on the Northern Ireland economy as a whole before this was publicly launched. The ongoing public consultation exercise falls far short of meeting that legitimate expectation for reasons that have already been stated.

### 3.1 Consultation Documentation

There are around 40 changes proposed for NAP 2026-2029 some of which will have serious and negative consequences for farmers and the wider agri-food sector. The ability for farmers and UFU members to process the vast amounts of information provided in this consultation through the various additional assessment reports, presentations and impact assessments has been very challenging within the initial 8 weeks plus 4-week extension provided particularly over Balmoral Show week, silage and harvest season and a traditional holiday period.

The UFU are concerned that there are a considerable number of inconsistencies between what is outlined in Chapter 3 of the consultation and that in the draft regulations outlined in Annex 3 of the main consultation document. There are various discrepancies, incorrect figures and missing updates. This makes the consultation difficult to respond to and therefore the UFU are responding to a flawed consultation and giving our views based on what we are assuming the consultation paper is proposing. This is unacceptable and it seems that the consultation paper was rushed out for public consultation without the necessary prior stakeholder engagement and internal scrutiny that would have resulted in a fairer consultation process.

The ability of UFU to give proper consideration to the proposals and to respond to this consultation has been prejudiced by the limited time available to read, consider and understand the voluminous documentation spread over many documents.

This is significant given the very serious consequences to agri-food sector should these proposals be enacted. Furthermore, the timing of this consultation means that many in the agricultural community simply will not have the time to respond at all.

In addition, a series of key documents have been uploaded to the online portal at various stages of the process without warning or notification. It has therefore been difficult to keep track of all the changes and information available and to provide a properly informed response as a result.

As a democratic organisation the UFU is required to consult widely within our committee structures in preparing responses to consultations. These are timed and sequenced throughout the consultation period. Since our initial UFU internal meetings took place, additional documentation has been added to the DAERA consultation website, this is unacceptable and has not allowed for proper consideration within the current consultation window. The UFU has simply not had the opportunity to fully review these additional documents within our committee structures in the time available. We reserve the right to make further submissions in due course in respect of these documents and such representations must be considered.

## 3.2 Consultation Events

DAERA hosted four wider 'information events' on the NAP consultation. Two of these events were in person at Loughry and Greenmount CAFRE Campuses and two online. The presentations at these events did not go through the full extent of the NAP proposals and many of the NAP changes were not covered despite the potential for impact and this will have skewed the understanding of the consultation for those attending.

The online webinars were poorly organised. Many of those who registered for the first online event did not receive a link to join the meeting. UFU Head Office and staff received phone calls from members frustrated that they had no way of joining the meeting. While the UFU were able to obtain a link and circulate to some, the start of the meeting was missed. The Q&A function did not work during both online meetings and those attending were asked to email questions to a DAERA email address. Some questions that were put forward have never been answered. This was a poor effort at providing information to farmers and other stakeholders to help them with the consultation process.

## 3.3 Economic Impact Assessment

The UFU is concerned that a full economic impact assessment was not carried out as part of the consultation process. While a Regulatory Impact Assessment has been produced this appears to be totally inadequate given the scale of the changes proposed in the NAP consultation. It does not cover all measures.

The UFU and partners in the agri-food sector have commissioned some basic economic analysis work which is provided as an appendix to this document (appendix 2). This is only an overview focusing more specifically on the impact of P balances on the livestock and layer sectors, and buffer strips on arable land. This report must be read in conjunction with this response.

It is clear that a much more significant report is required to fully understand the economic impact of the proposals including the wider impact on the whole agri-food supply chain and rural communities. However, given the number of proposed changes, the significant impact that they could have and the complexity of the issue, it was not feasible for UFU and the wider agri-food sector to prepare a more comprehensive economic assessment within the consultation timescales.

The UFU believes that going forward it should be a necessary requirement for all major consultations for a full economic impact assessment to be carried out and provided as part of the consultation process to stakeholders in the same way as Strategic Environmental Assessments are required. This would allow a more balanced consideration of proposals.

DAERA must provide a full economic impact assessment on the NAP 2026-2029 for consideration which also includes the impact on the agri-food sector supply chain and rural communities.

## 4. NAP 2019-2022

### 4.1 NAP 2019-2022

DAERA have outlined that they intend to carry over all the NAP 2019-2022 measures. It is disappointing that DAERA have not recognised that some of the current proposals, many of which were imposed by the EC to ensure consistency across Member States, should be reconsidered.

The 170kgN/ha/year limit set out in the EU Nitrates Directive which ultimately limits livestock stocking on farms has always concerned the UFU. The Union would query the science behind this figure and would question the appropriateness for Northern Ireland. The UFU believe that it results in inefficiencies in nutrient management particularly on more intensive farms as it prevents them from using their own slurry. Since the UK has left the EU there is the potential to revisit this limit and its appropriateness for NI.

The UFU have consistently taken the position that farming by calendar dates does not work. As technology develops and allows more precision farming and with a changing climate, DAERA repeatedly revisit the current closed periods as also outlined in the 'Review of the 2019 Nutrients Action Programme Regulations' publication<sup>1</sup>.

The UFU requests a review of the existing measure within the NAP 2019 regulations for managing soil after cropping. (Regulation 25)<sup>2</sup>. This requirement was imposed by the EC and due to the smaller proportion of arable land in Northern Ireland compared to other EU Member States, this regulation offers limited environmental benefits and is not practical for local farmers. There is a concern that this current regulation increases farmers reliance on glyphosate and other plant protection products as a result of not being able to mechanically remove weeds in a reduced cultivation system, similar to organic farmers who rely on stale seed beds to germinate and remove weeds. Some farmers are actively managing soil to increase carbon stores by not ploughing fields however, this NAP requirement drives farmers back to ploughing and therefore could be in conflict with climate change commitments. These processes are also a mechanical way of decreasing pests such as slug eggs, but this regulation increases reliance on chemical interventions.

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<sup>1</sup> <https://www.daera-ni.gov.uk/sites/default/files/2025-05/Review%20of%20the%202019%20Nutrient%20Action%20Programme%20Regulations.PDF>

<sup>2</sup> <https://www.legislation.gov.uk/nisr/2019/81/regulation/25?view=plain>

## 4.2 Derogation

The UFU welcomes the commitment to renew the derogation. As recognised by DAERA this is important to some cattle farmers in NI with higher stocking rates.

The 'Review of the 2019 Nutrient Action Programme Regulation' (page 87) discussed the requirement for derogated farms to have greater than 80% grass. This was a requirement imposed by the EC and therefore there is now more flexibility around this. The paper discussed the potential for permitting more crop to be grown on arable land that could lower the requirement for concentrate feed and what it also failed to mention was the potential to 'mine P' from soils through crop offtake. There is a considerable amount of whole crop silage and maize grown on dairy farms in Northern Ireland and many of these farms could be currently excluded from the derogation due to the 80% requirement. The UFU is disappointed that despite some recognition that there could be more flexibility on this that could help attract more farmers into the derogation (something which DAERA have consistently expressed the desire to do) the Department have failed to explore this within the consultation document.

Derogated farms are largely not permitted to grow nitrogen fixing plants for example clovers, peas, beans and lucerne. This appears to be contradictory to DAERA policy and should be revisited and removed from derogation conditions in the 2026-2029 NAP. In other parts of DAERA, incentives are in place to encourage home grown protein crops to displace some imported feed. Leguminous crops (which fixate N) result in a reduced requirement for chemical nitrogen fertiliser, reducing inputs and potentially reducing ammonia and greenhouse gas emissions on farms. DAERA have carried out a research project 'the role of higher protein forages and home-grown protein sources within NI dairy systems' which highlights these could lower the NI phosphorus balance and if grown on the farm in which they could be used could lower the P surplus on farm. It is therefore unhelpful that those farmers who are derogated and are willing to grow more protein crops are prevented from doing so and are unable to avail of the DAERA Protein Crop Scheme.

## 5. NAP Review Findings

### 5.1 Long-term trend analysis

It is positive to note that the consultation document highlights that the long-term trend analysis for the mean monthly nitrate and phosphorus concentrations at river sites show a significant decreasing slope over the years.

The evidence presented clearly shows a significant decrease in mean monthly nitrate and phosphorus concentrations across all river sites over a 31-year period (nitrate) and 25-year period (phosphorus).

Within the consultation documentation and stakeholder presentations, NIEA have suggested that recent data is showing that water quality is no longer following these long-term downward trends but offer no statistical analysis to support this theory. It is also concerning that DAERA have chosen 2016 as the base year in their recent analysis, as this was a particularly low year for nitrate levels across the monitoring network, and out of line with both 2015 and 2017 data.

## 5.2 Nitrate Levels

DAERA have outlined that nitrate levels in surface waters are showing signs of declining proportions of surface freshwater sites with an annual average nitrate concentration below 10mg NO<sub>3</sub>/l between reporting periods 2016-2019 and 2020-2023. However, DAERA has failed to highlight that in 2024 (reported in May 2025), the results showed an improvement with approximately 91% of rivers showing an annual nitrates concentration of less than 10mg NO<sub>3</sub>/l in that year, a considerable improvement from 2023 which had 78.9% in this category.

It is clearly outlined that weather events and in particular spells of dry weather, have an impact on nitrate levels. It is concerning that when trends are negative DAERA are quick to blame agriculture but when they are positive, they highlight environmental factors or sampling regime issues as the cause.

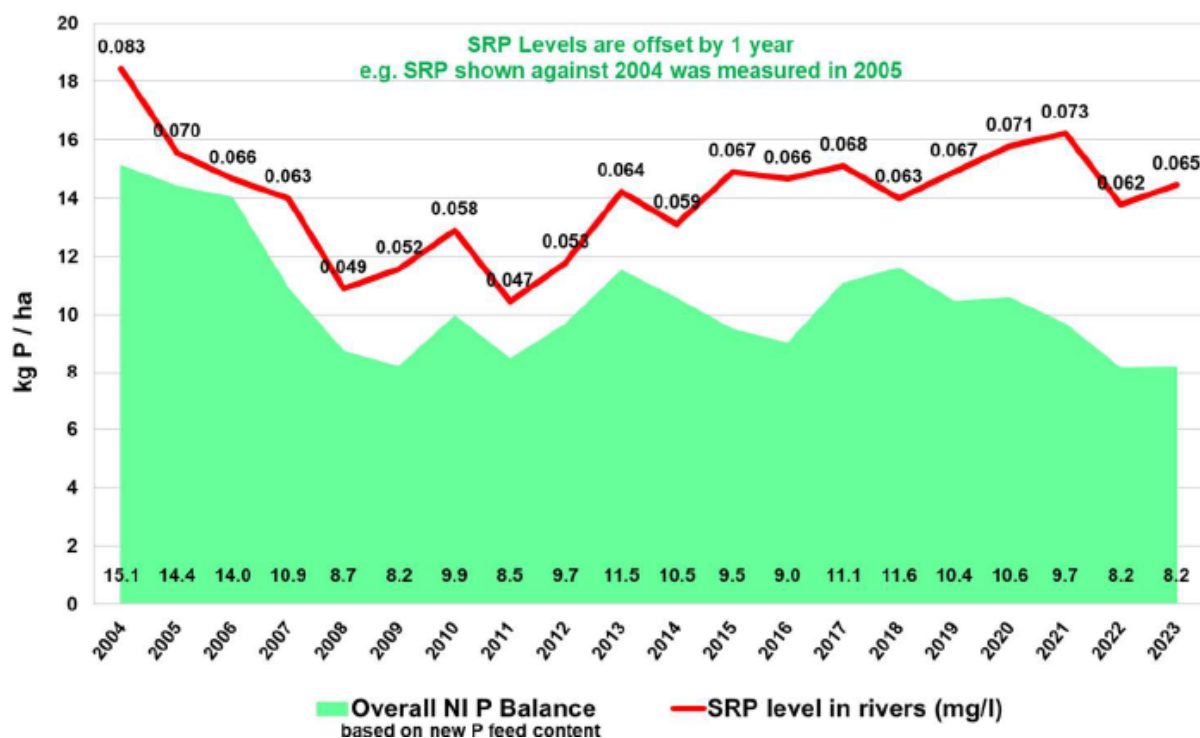
## 5.3 Soluble Reactive Phosphorus (SRP)

In the presentation at the Greenmount Information event on 29 May 2025 (uploaded to the DAERA website on 27 June 2025<sup>3</sup> Slide 17 of the presentation 'Proposed Nutrients Action Programme 2026-2029' which shows the trends of phosphorus in rivers states that there has been a '*38% increase in phosphorus in NI rivers since 2012*' and that '*The agricultural phosphorus surplus needs to be reduced significantly to improve water quality.*' However, DAERA's own data, presented in Slide 15 and included below, demonstrated that over the five year period from 2018 to 2023, when P levels in rivers were increasing, the agricultural P balance declined by 29 % from 11.6 kg/ha to 8.2 kg/ha. Furthermore, over the 4-year period 2018 to 2021, the overall agricultural P balance declined by 16.4% from 11.6 to 9.7 kg/ha, yet the data presented as shown in the graph below indicates that the SRP levels in rivers increased by 15.8% over this period, from 0.063 to 0.073 mg/l.

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<sup>3</sup> <https://www.daera-ni.gov.uk/publications/presentations-delivered-greenmount-information-event-29-may-2025>

### Phosphorus Balance v Soluble Reactive Phosphorus in Rivers



Source: DAERA slide from Greenmount event

The evidence presented demonstrates that, from 2014 onwards, there is no clear link between the NI agricultural P balance and the soluble reactive phosphorus content of rivers in Northern Ireland. The fact that the agricultural P balance has declined by 29% in the most recent five-year period (2018 – 2023), with no effect on the SRP content of rivers, suggests that other factors including the potential for non-agricultural P sources are increasing and offsetting the progress made by the agricultural sector.

## 5.4 Water Quality Data - Sampling and methodology.

DAERA present time series analysis of surface freshwaters, groundwaters, rivers, transitional and coastal marine waters and trophic assessments of rivers, lakes and transitional and coastal marine waters over a number of years. However, major changes in sampling protocols have occurred over this time period, including the number of sample sites, sampling frequency and analytical techniques used. For example, over the period 2012 - 2015 nitrate concentrations were monitored at 337 surface freshwater monitoring stations, from 2016 – 2019, 493 stations were monitored and from 2020 – 2023, 487 stations were monitored. There were also significant changes to monitoring protocols during the covid restrictions and different sites have been used which raises concerns around the ability to make fair comparisons. Despite this, no information is presented on how the time series analyses of water quality were adjusted to take account of different sampling sites,

different sampling protocols and changes in weather patterns, particularly rainfall, over the years.

The UFU believes it is no longer appropriate for the Northern Ireland Environment Agency (NIEA) (or its successor), as the environmental regulator, to be solely responsible for water quality sampling, analysis, and the presentation of related data. Concerns remain over the perceived lack of independence in this process. Many farmers have expressed limited confidence in NIEA's role in both monitoring and enforcement of environmental standards. This lack of trust highlights the need for greater transparency and, the need for another organisation to take over this function to support the credibility and accuracy of environmental reporting.

## 5.5 Research

The UFU is supportive of continuing research on water quality. The project based research in projects such as CatchmentCARE, Upper Bann, Source to Tap etc where there are multiple stakeholders working together investigating issues and potential solutions has been a positive research model. While the need for locally based agricultural research is vital, UFU members have raised concerns about the role of the Agri-Food and Biosciences Institute (AFBI) in NI. Their ability to provide credible independent research has been questioned during this process. Adding to these concerns is the recent decision to not appoint any full-time farmers to the AFBI Board. All of this has significantly damaged trust and confidence in AFBI as an organisation.

## 5.6 DAERA Review Conclusions

The Review of 2019 NAP Regulations document gives more detailed information on the water quality assessment information. However, it is important to note that on pages 27 and 46 in relation to nitrates and SRP respectively, the document outlines that further analysis is needed to establish the causative factors and geospatial differences in the recent changes to water quality reported. There is no evidence provided of any further analysis work being undertaken. Despite this, DAERA appear to have concluded on page 8 of the consultation document that these changes in water quality are due to agriculture, that NAP measures are not being implemented or not being implemented correctly and 'additional measures are required to address identified pressures' yet have provided no firm evidence to back up these conclusions.

## 6. Proposed Changes to the NAP

The UFU are opposed to the DAERA proposals to amend the current NAP and therefore rejects most of the revisions outlined in consultation pack.

It is concerning that within the internal review process, DAERA has failed to take account of practical considerations, economic impact and wider impact on rural communities during their deliberations. A more holistic approach would have led to more effective and potentially widely accepted outcomes.

While DAERA have outlined *'the draft regulations are indicative of proposed revisions, they have not been scrutinised by the Departmental Solicitor's Office (DSO) and may, therefore, be subject to drafting revisions after scrutiny'*. This is not acceptable as an excuse in terms of the scale and importance of the flaws presented within the draft regulations for public comment. The failure to have these regulations at a final draft stage makes it difficult to comment appropriately on the measures that are proposed.

The UFU views on each of the new proposals are outlined in the following sections. It has been difficult to properly consider these proposals given the lack of information and inconsistencies with the draft regulations and therefore comments are made without prejudice.

### 6.1 Water Protection: intercepting / breaking nutrient pathways

*WP1 - The Department proposes the requirement for a 3 m uncultivated buffer alongside a waterway in arable fields, from 1 January 2026 – **STRONGLY OPPOSE***

As there is insufficient detail in the consultation paper including missing definitions and explanatory text it is difficult to assess this proposal appropriately.

The regulations or consultation paper provide no definition of an arable field. The 'Review of the 2019 NAP measures' document on page 238 references 'arable fields where there is bare soil', the SEA also mentions 'where there is bare ground' yet that is not clear from the current proposal. It is also important to note that there will only ever be bare soil for a short period of time therefore how could this be assessed by an inspector.

The definition of arable fields is critical to allow proper consideration of this measure and its potential impact. Farmers will be familiar with the current definition of 'arable land' within the Basic Payment Scheme and preceding schemes as outlined below.

#### <sup>4</sup>Arable land

*Arable land is land used to grow crops other than grass and permanent crops such as orchards, short rotational coppice, miscanthus, ornamentals and nurseries, and multi-annual crops. Forage crops such as maize, fodder beet, fodder rape, stubble turnips or any cereal crop used for forage are also regarded as an arable crop use. Sainfoin, clover, lucerne and forage vetches are regarded in the same way as grass and therefore are not deemed to be an arable use.*

*If your land will be used to grow an arable crop in this scheme year or has been used to grow an arable crop in any of the previous five years, then it will be classified as arable in this scheme year. Land used to grow grass in this scheme year but which has been used to grow an arable crop in any of the previous five years, i.e. temporary grassland, will also be classified as arable in this scheme year.*

*Areas available for crop production but lying fallow, including areas set aside under EU schemes, in any of the previous five years will also be classified as arable land. Fallow land in grass for six consecutive years will be classified as permanent grassland.*

This definition would bring in significantly more fields requiring buffer strips to be provided and more information as to what DAERA consider an arable field to be in this context is needed to allow full commentary on this proposal.

In most schemes, DAERA use data from submissions from the previous year's Single Application Form and therefore normally pre-populated information is a year out of date in relation to land use. This further complicates this issue as this will be inaccurate and unrepresentative for analysis and use within the current farming year.

It should be noted that this proposal is in complete contradiction to the Farming with Nature Transition Scheme which opened on 23 June 2025. The FwNTS will fund 2m buffer riparian buffer strips on farms and fenced off. The 2m distance was selected as it was felt it as an appropriate balance of providing some protection to water bodies, enhancing biodiversity while supporting production and where appropriate allowing Rivers Agency or farmers to maintain the waterways. This highlights the lack of join-up thinking within DAERA where one division is promoting and financially supporting riparian buffer strips and working with the industry to design the specification around these while another part of DAERA is mandating them without any prior discussion. It is also clear that there has been a lack of internal engagement within DAERA on buffer strips which is highly concerning. There are obvious questions around how this will operate, it will clearly result in confusion, and can farmers be paid for something that will potentially be a legal requirement.

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<sup>4</sup> <https://www.daera-ni.gov.uk/publications/guide-land-eligibility-2024>

There are concerns around the new definition of a waterway using an online 1:5000 map. Feedback suggests that the 1:5000 maps include some dry sheughs and drains creating another layer of confusion. It should also be noted that not all farmers will be able to access online 1:5000 maps and from some initial trials it is not an easy mapping system to use and brings another layer of complexity given the various mapping and Geographic Information Systems (GIS) that are already required to be used by farmers.

If imposed, it is also unclear where the 3m buffer zone is to be measured from, the waterline or the edge of the bank for example. This again makes it difficult to assess impact. There is also no account taken of risk. There will be fields with natural bunding or slope that would prevent runoff from entering a waterway and this needs recognised should this measure be imposed on the industry.

The science supporting this measure needs further investigation. The Strategic Environmental Assessment (SEA)<sup>5</sup> notes in relation to buffers that the 'efficacy is uncertain'. Given the questions around the potential for buffers to remove sediment and the ranges outlined in the SEA, more work needs to be done in this area before any proposals are adopted into legislation. Questions also need to be asked around whether riparian buffer strips are the most effective mechanism and whether more adaptable buffers using the LiDAR risk maps supported through an agri-environment scheme are a more appropriate and efficient method of tackling run off and sediment loss from fields.

There is the potential for this proposed measure to result in a considerable loss of land area and this may have been totally underestimated in the Regulatory Impact Assessment depending on the definitions used by DAERA for arable fields and how the buffer was measured. UFU members have raised concerns that there could be a significant loss of productive land area to unproductive buffer strips and therefore will have an economic impact on some farms that has not been appropriately considered. The scale of economic loss also will depend on the crop grown in the field. UFU members have estimated that around 2% of arable land could be lost due to this measure with no economic compensation on offer.

The AgriSearch report<sup>6</sup> commissioned by the agri-food sector outlined that the imposition of buffer strips could cost of £3.83 million annually to the arable, potato and vegetable sectors in NI. This is not financially sustainable for these industries and highlights that this policy is clearly unworkable on farms.

UFU members have also raised concerns about the spread of weeds and Noxious Weeds from these uncultivated buffer margins and the inclusion of the word

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<sup>5</sup> <https://www.daera-ni.gov.uk/sites/default/files/2025-04/DAERA%20NAP%20-%20Strategic%20Environmental%20Assessment.PDF> Page 164-165

<sup>6</sup> <https://agrisearch.org/pdfs/web/viewer.html?file=%2Fdownload%2Ffiles%2FNAP%5FEconomic%5FImpact%5FAssessment%5FFINAL%2Epdf>

'unharvested' raises concerns that these areas cannot be topped to keep weeds under control. Pests such as slugs, wireworms and leatherjackets will flourish in these areas. Questions have also been raised about the potential for grazing these areas to control unwanted species. The resulting impact is likely that more plant protection products (PPPs) will be needed to be applied in the adjacent field areas to control spread of weeds resulting in additional costs and amount of chemicals applied. There is also concern that these buffers could harbour ticks and the potential for an increase in Lyme Disease

There are also questions as to whether in the applicable fields, these buffer strips will be considered the new field boundary and therefore current buffer restrictions for the application of PPPs and/or fertilisers will apply from that point.

The UFU would also highlight that farmers could be deterred from growing crops due to loss of productive land to these buffer strips, an unintended consequence given that arable crops have the potential to 'mine' phosphorus from soils above optimum and act as an outlet to redistribute livestock manures in some cases.

Field size is also important in that small fields surrounded by waterways could lose a considerable percentage of productive area and could make smaller fields unviable from arable crops. This again could result in farmers requesting hedge removal consent to enlarge existing fields or stop growing arable crops.

If imposed, annual crop rotations will result in these buffer strips being ploughed up on a regular basis when grass leys are reintroduced. This removes any environmental benefits these buffers might have provided in terms of biodiversity and with questions around the efficacy of buffer strips in relation to water quality the UFU question why DAERA are considering this approach. It is also difficult to understand, due to the lack of a clear definition of arable fields, how this proposal if imposed would be enforced.

Alternative: The Environmental Farming Scheme has clearly demonstrated that the fencing off watercourses and creating buffers is an attractive and popular measure for farmers. There has also been similar positive uptake with this option within the Sustainable Catchment Programme. DAERA should remove this mandatory requirement and continue to incentivise riparian buffer strips through the new Farming with Nature Scheme encouraging farms with higher risk fields to participate voluntarily and consider adaptable buffers in this scheme.

*WP2 From 1 January 2026, the Department proposes to revise the requirements for the storage of silage bales in field, by increasing the distance from a waterway to 20 m and if stacked, not more than two bales high. **STRONGLY OPPOSE***

The UFU would have major concerns around this very significant change. This also goes beyond what England, Wales and ROI require and making it illegal to stack silage bales no more than two high appears excessive. This will cause significant practical

issues for farmers and will also have a disproportionate impact on smaller farmers. There is no definition of silage bales and it is therefore unclear if this also includes haylage.

DAERA have not demonstrated that the stacking of silage bales is causing issues. The consultation document outlines that '*stacking of silage bales greater than two bales high increases the risk of effluent*' yet they have provided no evidence to back up this statement. It is widely accepted that there is generally lower risk of effluent when silage is stored in bales than when stored in silo pits due to a higher percentage dry matter and the fact it is wrapped and sealed. Concerns around big bale stacking is not an issue that NIEA have ever raised with the UFU as being a problem and regular engagement takes place to discuss cross-compliance inspections including non-compliance issues. There is very little effluent from silage made into bales.

There are also issues around what 'in field' means as many businesses use areas that may not be defined by DAERA as 'fields' to store silage bales but where there is no risk of effluent pollution.

20m from a waterway is a significant distance and may not be achievable using the current NAP definition of a waterway forcing farmers to construct expensive an unnecessary storage.

Farmers will select a location for big bales based on Health and Safety, convenience to livestock housing, accessibility for machinery and environmental protection. There will often be limited alternative safe locations on farms. If bales cannot be stacked more than 2 high then those farmers who currently operate more than 2 high could struggle to find accessible and appropriate areas on farms.

The consultation document also refers to not locating bales on 'critical risk pathways to waterways'. It outlines that farmers who participate in the DAERA Soil Nutrient Health Scheme (SNHS) can use their run-off maps to determine where this critical risk pathway exists. It is unclear whether this is good practice guidance or to become a legislative requirement. This clause has not been included in the draft regulations again making it difficult to understand how DAERA intend to implement this aspect. Not all farms will participate in the SNHS so will not have run off risk maps available for their farm therefore this would create inequalities. It should also be noted DAERA have given a written commitment that they will not use data and information from the SNHS to regulate farmers therefore these maps could not be used by the regulator (NIEA) to enforce this element if DAERA was to mandate it.

*WP3 The Department proposes to reduce the maximum volume of slurry which can be applied during February and between 1st-15th October from the current figure of 30 m<sup>3</sup> per hectare per single application to 25 m<sup>3</sup> **OPPOSE***

The UFU have consistently taken the position that farming by calendar dates does not work. As technology develops and allows more precision farming, DAERA must revisit

the current closed period. More flexibility is needed and a move towards spreading when soil and weather conditions are appropriate regardless of the date.

## 6.2 Low Emission Slurry Spreading Equipment (LESSE)

*LESSE 1: It is intended to amend the definition of LESSE, to provide clarification and incorporate the terminology throughout the regulation **STRONGLY OPPOSE***

The consultation document states that ‘the 2019 NAP Regulations includes a definition of LESSE methods. It is proposed to update this to provide clarity that any method whereby small-scale splashplates, or other modifications, which increase the surface area of the slurry being spread, are attached to trailing hoses, is not classified as LESSE’. DAERA offer no clear evidence around the rationale for this. As outlined below there are considerable barriers on farm to the use of LESSE including concerns around animal health therefore by banning such attachment, DAERA will see further reluctance to move earlier towards LESSE than what is mandated.

*LESSE 2: The Department proposes to move to 100% use of LESSE by 2030 using a tiered approach based on Farm Livestock Manure Nitrogen Production per hectare - **STRONGLY OPPOSE***

The UFU is opposed to the mandatory use of LESSE for all farms. There would be a significant cost to farms should this be imposed in NI and is unacceptable.

Farmers have been moving towards LESSE over the last number of years and it is positive that a survey of slurry spreading practices in NI by AFBI in 2020 reported that an estimated 39% of slurry was spread by LESSE improving nutrient efficiencies. These changes have been driven by the various funding schemes that have assisted farmers in purchasing the LESSE.

The majority of farms in Northern Ireland own their own slurry tanker, which offers them the flexibility to spread slurry when conditions are most suitable minimising environmental risk and maximising nutrient efficiency. While there has been an increase in the number of dribble bar or trailing shoe tankers on farms, these are costly and the majority of farmers are not in a position to purchase new LESSE. In addition, many farms would not have a tractor large enough to operate LESSE. Even if the previous level of Farm Business Investment Scheme (FBIS) support for low emission spreading was rolled out again in a similar scheme it will be still unviable for most smaller farm businesses in Northern Ireland.

CAFRE highlighted during the implementation of the Manure Efficiency Technology Scheme (METS) scheme that the use of LESSE results in a 25% increase in contractor

spreading costs and a 10% reduction in work-rate. While there is potential for savings in terms of chemical N fertiliser it was estimated by CAFRE at that time that the farm scale to justify LESSE was around 300 dairy cows (without grant aid)

Many small dairy and beef farms run a profitable business as they can carry out their own slurry spreading using their own equipment at the most suitable times. Imposing LESSE with its additional costs plus the likelihood that contractors are unlikely to prioritise smaller farms, could threaten the viability and future of these smaller businesses. There will also be a reduction in nutrient efficiency as the ability to choose the most suitable times for spreading will be removed.

Despite the benefits of LESSE, there are many practical concerns with the usage of LESSE. This equipment is more expensive to purchase and to use than splashplate tankers. The reliability of LESSE is questionable and is dependent on slurry composition and quality. AFBI research<sup>7</sup> highlights that LESSE is only able to be used when cow slurry is under 9% dry matter. BH Estates Farm2Export Project reports that raw slurry from over 100 farms averages 7% dry matter, with almost a third of these over 8% dry matter and 14% of farms over 9% dry matter. The challenge for farmers is that to ensure slurry is consistently in a format fit for LESSE. Farmers need to either add water to dilute slurry, which is not environmentally friendly, or to separate cow slurry. Due to issues with planning and the current interpretation of the Ammonia Operational Protocol, DAERA/NIEA will not give permission for separation equipment to be installed on the vast majority of farms.

Another practical issue outlined by UFU members is that at times farmers and contractors report that it has been difficult to obtain replacement parts resulting in long periods of downtime for LESSE again reducing the reliability of this equipment.

Splashplates will remain the most economical method of spreading dirty water therefore it is not practical or realistic to completely ban the use of the splashplate tanker. Splashplates will be necessary on most farms for some spreading at certain times of the year and for emptying the last few loads of a tank which is thicker in consistency etc.

Farmers have found that spreading with LESSE in dry and warmer months of the year results in the slurry staying in the lines in which it was spread and contaminating silage crops. This is an animal health and welfare and water quality concern and a reason why many farmers do not use LESSE between silage cuts. Vets are reporting an increase in mycotoxins in some larger dairy herds with many attributing this to the use of LESSE. This is further exacerbated when farmers are relying on contractors as farmers are dependent on the contractor's schedule rather than spreading at the most appropriate times.

CAFRE have highlighted silage contamination in an article published online<sup>8</sup> stating '*with high applications followed by dry weather, the fibre from the applied slurry can lift up into the crop*'. Others advise farmers to consider a tedder/rake for ground clearance following application and/or using products such as a mycotoxin binder to reduce

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<sup>7</sup> <https://www.afbini.gov.uk/page/afbi-ammonia-blog>

<sup>8</sup> <https://www.daera-ni.gov.uk/news/minimise-contamination-when-harvesting-silage-season>

health impacts. Both of these options will add additional cost which is unlikely to have been considered in economic assessments of LESSE carried out to date. This is a major concern and further investigations into the animal health implications of LESSE equipment must be examined. Farmers believe that DAERA have been dismissive of this issue to date and urge the Department to liaise with Private Veterinarians on this aspect.

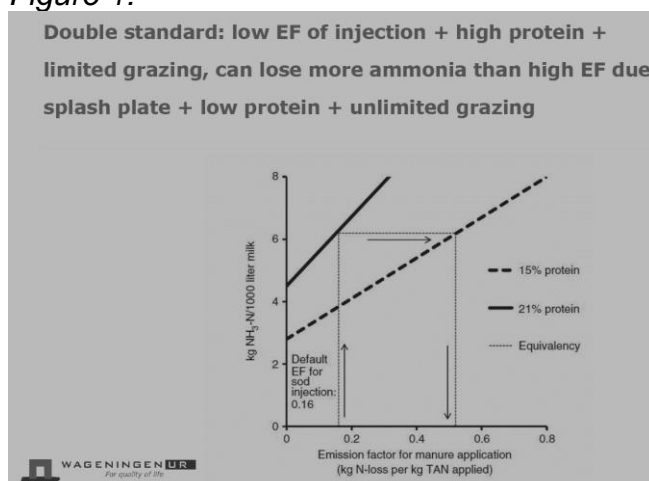
The LESSE are heavier machines and soil compaction is a real concern. Larger tractors are required to haul LESSE and therefore a move away from splashplates not only requires the replacement of a tanker but also a tractor. While the use of LESSE with umbilical systems is an alternative, this hose system may not be practical to use in some locations. Even the operation of umbilical systems with heavier tractors can cause compaction issues. A contractor is unlikely to set up an umbilical system to spread slurry on a small area of land again impacting on the smaller farmers.

There are locations which are unsuitable for LESSE. Many fields in NI will be unsuitable for LESSE as they are small in size or due to the slope. Access to yards could restrict the ability to use LESSE on some farms, and narrow laneways to fields may be unsuitable for the larger tankers and distance could make them unsuitable for umbilical systems. Farms split by roads again may be unable to use umbilical equipment. This has been recognised within the current Nutrients Action Programme with a relevant exemption included within the Regulations and it is positive to see that DAERA are proposing to retain this in the NAP 2026-2029.

Farmers have also highlighted the difficulty in getting contractors to do slurry spreading work at peak times e.g. silage time and therefore to get nutrients applied at the most appropriate time it is necessary to do this work yourself however for some LESSE could not be justified. It is too simplistic to suggest the contractors would increase capacity to cope with the potential increased demand as contractors are already facing labour shortages. The seasonal nature of the work with anti-social hours often makes it difficult to attract employees. Spreading would be dictated by the contractors' schedule as opposed to the optimum time for nutrients and the decisions around spreading would be taken out of the farmer's hands.

Researchers in Wageningen University as outlined in Figure 1 have indicated that splashplates used alongside low protein diets and maximum grazing can deliver equivalent emissions reductions to injection tankers and high protein and limited grazing systems. This would further support a more proportionate response to the use of LESSE on some farms which are more likely to have lower protein diets and grazing animals.

Figure 1:



Source: Jaap Schroder, Wageningen University and Research

In addition to the many practical and financial concerns listed above it should be noted that it is highly unlikely that the manufacturing sector could supply the number of tankers required should this measure be imposed along the current timelines. There were considerable delays to those farmers who sought to purchase LESSE within the FBIS Tier 1 scheme despite manufactures being aware of the scheme opening in advance if this were to be repeated this could result in challenges meeting the timescales outlined within the consultation.

There are also concerns that in future DAREA may again move the ‘goalposts’ and declare the dribble bar unacceptable. To encourage significant farmer investment in LESSE technologies like dribble bars, it is paramount that DAERA provides long-term assurances regarding the continued acceptability of these technologies. Farmers making substantial financial commitments need confidence that their investments will remain valid and supported in future policy iterations.

Any moves to drive farmers towards LESSE must be accompanied by a suitable support package. The UFU has welcomed the various funding schemes that have assisted farmers in purchasing LESSE to date and would like to see new schemes launched with a more attractive support rate and appropriate budget. It is vital that the timing of these schemes are sequenced to support farmers. If DAERA are genuine about reducing emissions and improving water quality, it is essential that any support for LESSE is provided in a timely manner and well in advance of legislative deadlines for LESSE use. Failure to time this appropriately will result in many farmers being unable to afford the new equipment and result in unintended consequences.

UFU members have discussed various mechanisms to encourage further use of LESSE. In Finland, farmers are paid through an environmental payment scheme<sup>9</sup> to use LESSE with a figure of €40/hectare quoted for 2018. A scrappage scheme for some splashplate tankers could also be investigated to encourage more farmers to replace these with LESSE. Regardless of support, moves towards LESSE will not be

<sup>9</sup> [https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/163564/MMM\\_2021\\_20.pdf?sequence=1&isAllowed=y](https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/163564/MMM_2021_20.pdf?sequence=1&isAllowed=y)

suitable or a proportionate policy option for the spreading of all slurry and in particular for many smaller farmers and therefore must be rejected.

The UFU also rejects the use of the livestock production figure as an appropriate mechanism for determining the phased introduction of LESSE. A key objective of water policy has been to allow the redistribution of nutrients from farms with excess to those that would benefit from organic manures. This tends to replace some chemical fertiliser and in general will see nutrients in additional organic manures move from more intensive to less intensive farms or to non-livestock farms. As slurry imports are included in the 'N Production' calculation, those who are currently importing slurry will want to avoid hitting the 150kgN/ha threshold as this would require LESSE (and P balances) and in 2028 will drop to 100kgN/ha so therefore will refuse to import organic manures. This creates a perverse outcome due to this calculation method. It should also be noted that some very small farms with small slurry volumes could trigger the 150kgN/ha if they are 'intensive' on a small area while some very large farms could avoid the 150kgN/ha threshold if they have large areas of for example hill land. This also requires another calculation to be carried by farmers and is more likely to vary annually depending on the type of stock and age on farm than using the previous method of livestock units. It therefore is not an appropriate mechanism to determine the farms that should be required to use mandatory LESSE and DAERA must revert to livestock units which is simple and more understandable by local farmers than a new and complex calculation.

*LESSE 3: It is proposed that all pig slurry should be spread by LESSE, from 1 February 2027. - **STRONGLY OPPOSE***

The regulations already require LESSE for pig farms with a total annual livestock manure nitrogen production of 20,000 kg or more. The Department proposes to amend this to make it compulsory for all pig slurry to be spread using LESSE from 1 February 2027.

The draft regulations outline that this would be introduced on pig farms by 1 January 2026 while the SEA suggests 1 February 2026 which is clearly impractical and unacceptable and contradicts the date in the consultation paper resulting in confusion for consultees.

It is unclear as to whether this proposal applies to all pig slurry or all pig farms the need for clarification around this is vital as this has significant consequences and is already causing concern. The consultation refers to '*all pig slurry*' and SEA mentions '*all pig farms*' and '*all pig slurry*' again an inconsistency that hampers stakeholders' ability to properly comment on the proposals. If DAERA intend 'all pig slurry' to be spread by LESSE then this would impact on other farmers who import slurry. There are also questions around what happens on mixed farms where the pig slurry and cattle slurry could be mixed but the cattle slurry is not yet required to be spread by

LESSE. These scenarios have not been thought through and with confusion around pig slurry v pig farm issue and the different start dates, the UFU have struggled to analyse the full impact of this measure.

Pig farms in general have limited amounts of land associate with the pig farm business and therefore currently rely on exporting pig slurry to comply with the NAP N Loading requirements. The increasing amount of paperwork currently required under NAP 2019-2022 for movements of organic manures has resulted in some farmers moving away from importing organic manures due to concerns around inspections etc. If the the proposal is to mandate the use of LESSE for spreading pig slurry immediately (2026) or by 1 February 2027 then this has the potential to further hinder the movement of manures.

It is standard practice in some areas that beef farmers will import pig slurry into tanks due to its lower dry matter to aid mixing and to improve the value of the slurry. As outlined above the feasibility of LESSE on beef farms, particularly smaller farms is questionable and therefore if the requirement is that all pig slurry must be spread with LESSE then this will result in this slurry redistribution being stopped.

There are also questions to be addressed as to why farmers spreading pig slurry are being required to move earlier to use LESSE. The pig sector is relatively small in Northern Ireland and therefore emissions from the spreading of pig slurry have a lower impact in terms of ammonia. The 2022 inventory on ammonia shows that 'other livestock manure application to land' i.e. non-cattle accounts for 8% of emissions in Northern Ireland. Large pig farms are already required to use LESSE therefore it is unreasonable to introduce the requirement to use LESSE on smaller pig farmers and those taking pig slurry at an earlier date given the limited benefit this will have in terms of ammonia and water quality. This could be an equality issue and should be addressed in the Equality Impact Assessment.

The UFU are aware that the Department is working on a capital grant scheme that is due to commence in late 2025 and will include support for LESSE. This is to be welcomed. However, should DAERA impose a start date of 1 January 2026 for LESSE to be used with pig slurry this would result in those farmers missing out on capital grants as DAERA is unable to fund equipment once it is mandated. This is unfair and again raises equality issues. It should also be noted that it takes time to manufacture and deliver LESSE and the 2026 deadline for all pig slurry may also create a significant challenge for manufacturers of LESSE equipment to deliver the necessary tankers in time for this date.

*LESSE 4: On derogated farms all slurry should be spread by LESSE, from 1 February 2027.- **OPPOSE***

It is already a requirement for derogated farms to use LESSE from 15 June each year however the practical issues and concerns around LESSE outlined above are also relevant to derogated farms.

## 6.3 Additional Phosphorus Controls

*APC 1: The Department proposes to introduce further restrictions on use of chemical fertiliser containing phosphorus on grassland. Use will be restricted to the following criteria: grass reseeded, establishment of clover, where a farm has deficit of phosphorus that cannot be met by import of organic manures/fertilisers or chemical phosphorus is needed for animal health reasons, Soil analysis and a nutrient management plan demonstrating a crop requirement is also required. An exemption and supporting evidence to allow use under the above criteria must be registered with NIEA. This measure will come into operation from the commencement of the Regulations. Action 23 of the Lough Neagh Action Plan. **STRONGLY OPPOSE***

The UFU supports the principle of only using chemical P where and when it is required. This is good farming practice and considerable efforts have gone in by both DAERA and agri-food stakeholders including UFU around increasing knowledge and awareness of farmers around good nutrient management.

This is a key part of the Soil Nutrient Health Scheme (SNHS) where farmers are provided with soil analysis results and training to interpret these results and make appropriate nutrient management decisions. It is unusual that even though the SNHS testing regime is only 75% complete and about 25% of farmers trained, DAERA are proposing to mandate tighter rules on chemical P before that initial SNHS education / knowledge transfer process is complete.

There are further examples of inconsistencies between the consultation paper and the draft regulations. The consultation paper focuses on the use of chemical P on grassland however the draft regulations do not differentiate between grass and non-grass crops. This again makes it difficult for Stakeholders to constructively comment on the proposals given the lack of clarity.

It is too simplistic to suggest that there are enough organic manures in Northern Ireland to supply phosphorus demands without the need for chemical P. There are a number of issues that need to be considered for various sectors:

- It is impractical to import slurry or other organic manures onto some fields to satisfy P demand due to steep slopes or accessibility issues. For some farms it will be more economical and safer to use a quad bike and sow chemical P on this land where there is a demand than to use organic manures.
- Farmers are concerned about the transfer of diseases/biodsecurity, Johnes Disease, salmonella, botulism etc have all been highlighted and some farmers are not willing to risk importing slurry or other organic manures from another farm onto their land and risk their high health status. Johnes disease and other production diseases evidentially increases GHG emissions per unit of product basis, and so withdrawing chemical P from grazing land but targeting organic manures could also have wider implications.
- Generally, vegetable and fruit farmers are unable to use organic manures to satisfy their crop demand due to rules associated with those supply chains. Some industry standards will permit organic manures to be used if they meet PAS 110 standards however this is onerous and at present only tends to be adopted by some Anaerobic digestion plants These standards are required for these sectors for human health reasons to remove risks of E Coli and Salmonella.
- There are also issues with the persistence of the herbicide Forefront-T. It is recommended that organic manures from animals fed from grass treated with Forefront T should stay on farm and should only be spread onto agricultural grassland. If the manure is applied back to fields, trace residues can have an impact on sensitive crops such as beans, potatoes and vegetables. Potatoes, sugar beet, fodder beet, vegetables, beans and other legumes can only be planted in the second calendar year following Forefront T treatment.
- The use of digestate is also highlighted as an alternative way to redistribute organic manures however the UFU has received reports from some members about livestock being reluctant to graze forage after spreading with some types of digestates with the suggestion that there is a taint left which is unpalatable to some animals and therefore has a negative impact on efficiencies and production. This should be investigated further.

Animal Health Issues: DAERA outline that chemical P can be used if it is needed for animal health reasons however again no detail is given on this process. How does a farmer know if there is a requirement, is this based on P balances, animal showing signs of deficiency, veterinary reports or some other mechanism. Again, without details it is difficult to comment on this proposal, but UFU would oppose a policy which favours waiting until deficiencies arise and therefore creating welfare problems on farms; this would be unacceptable. It should also be noted that if there appears to be P deficiency in forage then farmers may opt to supplement with animal feeds – a perverse outcome.

It should be noted that Ferris et al (2010)<sup>10</sup> in a survey of 36 farm silages across Northern Ireland observed P concentrations ranging from 1.4 to 3.9 g/kg DM

Section 3, page 8 of the AHDB Nutrient Management Guide RB209<sup>11</sup> states that P deficiency is indicated when the P concentration of herbage is less than 0.35% (3.5 g/kg DM). This suggests that a considerable proportion of forage in NI is P deficient.

Record Keeping: Again there are inconsistencies between the consultation paper which suggests that an exemption for using chemical P should be registered with NIEA whereas this is not covered in the draft regulations. This again makes it difficult to determine impact on farms. No details have been given on this proposed registration/exemption process in terms of how this should be done, when (before use or after use), online or on paper and whether it is via the proposed fertiliser database or a different system. This has not been fully developed and therefore UFU are unable to comment sufficiently on this aspect. However, we would register concerns around the proposal to register exemptions and the additional bureaucracy this imposes on farmers. There is also concern if this was introduced how long it would take for NIEA to grant permission to use chemical P which could result in spreading windows being missed, animal health issues and impact on grass and crop yields.

Non-grass crops: These have a greater demand for chemical P and therefore effectively banning this as the draft regulations suggest would make it extremely difficult and bureaucratic for those farmers. Apples require high soil P indices in order to ensure that the fruit can be stored long-term. Foliar applications of phosphate are also typical. Other crops such as potatoes have a significant demand for phosphorus and chemical P will be needed to achieve optimum yields on farm. There needs to be a clear difference between the requirements for grassland and non-grass crops. Currently non-grass crops are operating to crop requirement using the NAP 2019 fertiliser P limits which are based on RB209, fertiliser is purchased on this basis and therefore no additional restrictions should be imposed. Requiring non-grass crops to register / seek exemptions for P fertiliser would mean all arable and horticultural operators would require this for every crop which would be a significant burden on both NIEA and farmers. Non-grass crops should be automatically exempt from requiring permission to use chemical P.

SNHS Results: Some farmers have expressed concerns around the accuracy of some SNHS results and are worried that these do not reflect current levels of soil P in many

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<sup>10</sup>[https://www.researchgate.net/publication/221972838\\_Effect\\_of\\_offering\\_dairy\\_cows\\_diets\\_differing\\_in\\_phosphorus\\_concentration\\_over\\_four\\_successive\\_lactations\\_1\\_Food\\_intake\\_milk\\_production\\_tissue\\_changes\\_and\\_blood\\_metabolites](https://www.researchgate.net/publication/221972838_Effect_of_offering_dairy_cows_diets_differing_in_phosphorus_concentration_over_four_successive_lactations_1_Food_intake_milk_production_tissue_changes_and_blood_metabolites)

<sup>11</sup> [RB209\\_Section\\_3\\_Grass\\_and\\_forage\\_crops | AHDB](#)

areas. While AFBI do offer a re-test service on request, it is important that farmers have confidence in these results going forward.

Alternative:

DAERA must continue to permit the use of chemical P on non-grass crops without the need for stricter criteria or exemptions as in the current NAP 2019-2022 i.e. no change to the current rules.

DAERA could consider only limiting chemical P blends/ compounds (apart from where it is needed under the exemptions outlined in this consultation) on grassland but permitting the use of straight phosphorus e.g. DAP up to crop requirement without requiring an exemption. This should be kept under review. As this product is more specialised and expensive and will not be used on any farm where it is not required. This would permit the use of chemical P where it is needed on grassland and remove the habitual grassland users of chemical P fertiliser without the added bureaucracy outlined in the consultation paper.

*AP 2: The Department proposes to introduce a Farm Phosphorus Balance limit for more intensively stocked farms. Defined as those with annual livestock manure nitrogen production at and above 150kg N/ha per year. There are approximately 3100 farms in this category, in addition to derogated farms where a limit of 10 kg/P/ha/year already applies. The purpose of this limit is to reduce surplus phosphorus and limit the buildup of excess soil phosphorus levels. The limit would be phased in. – **STRONGLY OPPOSE***

Inconsistencies

It is concerning that this significant addition to the NAP has discrepancies between what is proposed in the consultation paper and the draft regulations. Table 1 highlights those differences and depending on what figures are to be used will have a significant difference on how farms are impacted by this onerous measure.

*Table 1: comparison of consultation P balance requirements and draft regulations*

Phased in by:	Consultation	Draft Regulations
2027	10kg P /ha / year	12kgP/ha/year
2029	8 kg P /ha /year	10kgP/ha/year

There is also a discrepancy between the consultation proposals and draft regulations in terms of how this is to be enforced. The consultation paper suggests on page 15

that farms will be required to submit annual records to NIEA to demonstrate compliance. No dates or methodology for doing so are outlined resulting in difficulties assessing the impact of the administrative burden of this proposal. To complicate this further, the regulations state that P balance records should be retained on the holding. Clarity is essential in consultation processes, and this is another example where DAERA have failed to provide this impacting on the Union's ability to fully consider this proposal.

### P balance calculation

Since the publication of NAP 2026-2029 consultation, many farmers have been looking at P balances for their individual farms and have expressed concern at the complexity of this calculation; the majority are unable to do this calculation without assistance despite the DAERA online calculator being available.

P balances are neither defined or explained in the consultation document or draft regulations. While P balances are a requirement on derogated farms (approximately 430), the remaining ~25,000 farmers will not have any experience or understanding of this calculation. The UFU has found it difficult to explain how a P balance operates to members as it is very different from the N loading calculations that farmers have been used to. A vast amount of information about the farm is required to do the P balance calculation and most farmers need assistance. There are also considerable variations between farms. As the consultation fails to explain the basic requirements of a P balance the UFU can only assume that this follows the same requirements as that currently required on derogated farms. The lack of detail may also mean that farmers fail to grasp the significance of this proposal when looking at the consultation document and with no attempt by DAERA to do a proper impact analysis on this measure the Union is concerned that many farmers simply do not realise that this could impact, and in some cases severely impact, their farming business.

If this measure was imposed, there is not the capacity within DAERA/ CAFRE to provide adequate support and assistance to farmers carrying out P balances.

### Impact of P Balance on farms

The current proposals in the consultation paper for farm level P balances with surplus of 10kg P/ha/year by 2027 reducing to 8 kg P/ha/year by 2029 pose a major threat to the agri-food sector in Northern Ireland and are totally unworkable. A preliminary economic impact assessment carried out by AgriSearch (appendix 2) based on P balance data from 211 farms in NI has estimated that the economic impact of imposing P balances on livestock and layer farms is £1.03 billion (10kg P/ha limit) or £1.56 billion (8kgP/ha limit). Table 2 sets out the impact for each sector. This would result in severe economic disruption. DAERA must fully consider this analysis and remove the proposals for P balances given the severity of the economic impact on the agri-food sector.

*Table 2: Breakdown of Financial Impact per sector (per annum) on implementation of the 10kg/ha and 8kg/ha Phosphorus balance and buffer strips*

	10kg/ha Limit	8kg/ha Limit
Pigs	£72,880,124	£77,090,144
Poultry (Layers)	£318,135,000	£330,708,000
Beef	£174,276,951	£219,402,234
Sheep	£27,555,006	£34,689,784
Dairy	£433,983,550	£897,897,000
Arable, Potatoes & Vegetables	£3,883,091	£3,833,091
<b>TOTAL</b>	<b>£1,030,713,722</b>	<b>£1,563,620,253</b>

These targets are impossible for the majority of farms to meet within the timescales imposed. The targets within the draft regulations of 12kgP/ha/year and 10kgP/ha/year are only marginally better and the majority of intensive farms will also fail to meet these.

In 2005, when DARD and DOE first proposed introducing P balances, the consultation paper published at that time estimated that the economic cost of acquiring additional spread lands for the pig and poultry sectors to meet a P balance of 10kgP/ha/ear to be £25 million per annum. This was a totally unrealistic proposal twenty years ago and continues to be totally unrealistic. The UFU and wider agri-food industry vehemently opposed P balances at that time. Therefore, it is incomprehensible as to why DAERA considered it appropriate to again propose the introduction of P balances in a short timeframe when records showed how problematic and costly this policy would be twenty years ago. For DAERA and the Minister to not recognise that there would be massive kickback from the agri-food sector around this aspect, given the previous reaction and proposing this in addition to all of the other very significant changes is concerning and had there been proper engagement in advance with all stakeholders this would have been made very clear. Worryingly, DAERA were warned within their own internal review documents. The ‘Review of the 2019 Nutrients Action Programme Regulations’ document on page 220 states ‘*Setting limits that are seen as unachievable is highly likely to result in rejection and disengagement by farmers and the agricultural sector. Without a roadmap to achieve limits, the capacity in place for slurry processing and P export, and routes to compliance, limits could lead to non-compliance.*’ DAERA are clearly aware about the difficulties that P balances present yet progressed with these regardless.

The consultation paper on page 16 suggests that reducing feed and chemical fertiliser ‘*is a relatively straightforward way to reduce the NI agricultural P surplus*’ however the same principle cannot apply at farm level. Each farm is unique and it is too simplistic to suggest this as a solution as every farm which triggers the threshold will need to calculate their P balance and see where, if any P efficiencies can be made.

## Pigs & Poultry

Evidence from the pig and poultry sector who have already delivered reductions in P in diets and analysis from sector expert Dr V Wylie<sup>12</sup> suggests there is no room for further improvement and as there is generally no chemical P used on pig farms, this means that the only options available to allow these farms to comply with these P balances is herd reductions or to take additional land. The same principle will apply on poultry farms. Neither of these options is workable or acceptable and the UFU will not accept any policy which results in forced livestock/poultry reductions. Dr Wylie reported at a UFU/NIGTA<sup>13</sup> meeting that to meet the P balances proposed would require a reduction in the pig sector of 70-80% resulting in the closure of both pig processing plants (Cullybackey would not be sustainable at 50% capacity and Cookstown would have to close). The pig sector in NI is made up of around 400 farms, supplies 16% of UK pigmeat and contributes 10.4% to the agricultural GDP in NI. It is therefore a vital part of the NI economy and is a particularly important employer in rural areas of NI with key focus in mid-Ulster and Co Tyrone. 950 people are employed in the Cookstown factory in addition there would be hauliers, suppliers, equipment manufacturers etc all impacted. It is unacceptable that DAERA has put forward a proposal that could wipe out entire industries in NI without any recognition of this impact or any attempt to consider the economic impact of this. The mobile machinery that is part of the SULS programme is very unlikely to be suitable for pig slurry due to the nature and composition of those businesses and pig slurry. Static machinery may work although it is untested and again the ammonia operational protocol used in assessing planning applications would prevent the deployment.

The layer sector would be just as severely affected as the pig sector, as both face the challenge of needing vast areas of land to meet phosphorus balance requirements. For many of these farms, achieving such balances is not feasible. The only apparent option would be to reduce bird numbers, which would threaten the viability of their operations and could ultimately lead to farm closures.

Most farms providing poultry meat are expected to be able to use the Stream Bioenergy Plant with further expansion of that plant to take litter from the Moy Park group underway. While this is positive there is some nervousness from farmers around the timing of this development and whether it will be ready in time to meet the proposed deadlines. There are concerns that the ammonia planning operational protocol will again stand in the way of another technological solution that will remove excess phosphorous and very likely reduce ammonia emissions. This is a further example of inconsistency in policies between N and P and farmers have nowhere to turn.

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<sup>12</sup> UFU – NIGTA Pig Industry meeting – held 17<sup>th</sup> June 2025 at Glenavon Hotel, Cookstown.

<sup>13</sup> UFU – NIGTA Pig Industry meeting – held 17<sup>th</sup> June 2025 at Glenavon Hotel, Cookstown.

## Dairy, Beef and Sheep

AgriSearch have presented an initial impact analysis<sup>14</sup> of the NAP Consultation proposals using data from AgriSearch's Beacon Farm Network. These farms are among the most efficient in Northern Ireland and make excellent use of grazed grass and silage so these figures should be seen as the upper end of what is achievable.

No purchased P fertiliser was included in any of the P Balance calculations. In addition, the new lower P% content of concentrates was also used in these calculations (4.7g/kg dairy concentrate, 4.3g/kg other concentrates). The analysis showed that it is almost impossible for any herd with a milk yield of above 8,000 litres per cow to achieve a P balance of 8kg/ha. Furthermore, this analysis is based on 2023 which was a relatively benign year. The poor weather of 2024 saw most farmers feed an extra ½ t of concentrate per cow to compensate for poor forage quality. This would add an extra 4-5 kg P/ha. None of the herds considered were severely impacted by TB which would increase the number of replacements needed to be kept as well as the dairy-beef calves and the herds were all calving heifers at 24 months old. The recently completed AgriSearch dairy farmer survey indicates that 55% of the cows in Northern Ireland are in herds with a yield of greater than 8,500 litres per cow. Adverse weather, TB breakdowns and other disease incidence can add considerably to a farmers P balance.

Recent analysis from the beef sector suggests they also will struggle to meet P balances of 10kgP/ha/year. There have also been concerns raised that the imposition of tough P balances could result in some beef farmers reducing the amount of concentrate feed to meet those limits which will result in longer finishing times, higher methane production and reduce eligibility for the Beef Carbon Reduction Scheme which is a key strand of the agriculture Climate Action Plan. Despite being extensive, the Agrisearch study also indicated an impact on the sheep sector in NI.

The AgriSearch economic analysis report appended to this response clearly outlines that there are serious threats to the future viability of farms and the wider agri-food sector from P balances. Projected losses of over £1.5 billion are just not viable and will cause widespread economic disruption.

## Wider Impact of P Balances

Reductions in livestock / poultry threatens to impact national food security and will result in higher food prices for UK consumers. Previously the UFU commissioned KPMG<sup>15</sup> to investigate the economic impact of the climate change bill with potential livestock cuts required to meet targets. One of the report findings outlines, *Broadly, across all sectors, farm employment is significantly impacted from a 30% reduction in herd numbers. Amongst processors, a 10% fall in throughput impacts plant viability and brings knock-on impacts for processors' employees*. The potential for a reduction

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<sup>14</sup> <https://agrisearch.org/news/industry-news/agrisearch-gives-initial-reaction-to-nutrients-action-programme-2026-2029-consultation>

<sup>15</sup> [http://content17.com/media/99/images/full/Climate-Bill-Impact-Assessment-Final-Report\\_1.pdf](http://content17.com/media/99/images/full/Climate-Bill-Impact-Assessment-Final-Report_1.pdf)

in livestock numbers due to the imposition of P balances will have the same negative impact on the wider supply chain, farm employment and processor viability as demonstrated in this KPMG report and is clearly unsustainable.

In July 2024, the then Economy Minister, Conor Murphy, launched a £46million Agri-Food Investment Initiative to support local agri-food and drink processors. The Initiative, developed by Invest Northern Ireland, has been designed to help improve the overall competitiveness and productivity of the agri-food and drink processing sector in Northern Ireland. It therefore questions the effectiveness of joined-up policy making within the NI Executive when DfE is supporting the agri-food sector to develop whereas DAERA are consulting on proposals that lack proper consideration or alignment with other policy areas and the result will be the decimation of the agri-food sector.. This suggests there is no joined up thinking or co-ordination on agri-food policy across the different Departments.

#### Land availability & stock reductions

The alternative for some farms to meet P balances could be to source additional land for slurry spreading. For pigs and poultry this is unachievable due to the amount of land required to meet the P balances proposed and therefore not a viable option. As the amount of land required to meet P balances is not available, the only option is to reduce numbers. The Agrisearch economic appraisal outlines that 84-87% of a reduction is needed in layers to meet the P balance limits while for pigs this is 78-82% reduction. This would render these sectors unviable and result in closure of processing facilities.

For some dairy farmers this may be feasible but there are concerns around this as this puts pressure on the land/conacre market and could squeeze out smaller farms or those in the arable/horticulture/beef and sheep sectors who may struggle to compete with larger dairy farmers. Policy driven land grabs are not acceptable and will result in negative environmental consequences. This potential race for land will also prevent farmers from considering farm woodland options or any other schemes that DAERA is promoting for biodiversity, Farming with Nature, or just land that is less intensive. and therefore may hinder progress towards climate action plan and biodiversity targets.

#### P balance and Water Quality

The UFU questions the relationship between an individual farm P balance and improving water quality and would like DAERA to provide concrete evidence as to what additional improvements that this specific measure will provide to water quality over and above the current NAP requirements. DAERA should provide examples of where this policy implementation has been successful.

The UFU believes P balance compliance is too much of a paper exercise which is complicated and bureaucratic and DAERA have not demonstrated how it will deliver

tangible benefits to water quality yet has the potential to destroy the sector. The UFU is concerned that DAERA is threatening the industry with this specific proposal that has not been implemented elsewhere that has the potential to close parts of the industry without delivering any additional improvements to water quality.

DAERA suggest the purpose of the P balance limit is to reduce surplus P and limit the buildup of excess soil phosphorus levels. However, the UFU are repeatedly hearing from dairy farmers that despite calculating a high P balance they are not showing a build up of soil P in their soil analysis results. Had there been sufficient time in this process, the UFU could have done more research into this aspect.

In the 'Review of the 2019 Nutrients Action Programme Regulations' page 222 DAERA refers to '*there is accurate information available to calculate the farm phosphorus balance and this can be used as a guide to water quality*'. This contradicts what is stated on page 118 which outlines that '*P excretion levels from different classes of livestock are not well defined, with the values for dairy cattle are based on data which is several decades old.*' DAERA have provided a recommendation for a programme of sampling and analysis of slurry from commercial dairy farms to improve accuracy in the data that is used.

A research report used by DAERA on Page 18 of the consultation to suggest a link between farm phosphorus balance and soluble reactive P levels in rivers and lakes Jordan et al, 2024 <sup>16</sup> used outdated historical NI farm P balance data which do not reflect the latest DAERA estimates of P balance over the period 2009 - 2023, which take account of reduced P levels in animal feedstuffs. This research needs to be updated to take account of the latest P balance data.

There is also anecdotal evidence from farms which have a P balance above the proposed limits but are not indicating a build-up of phosphorus in their soils. There needs to be more research on offtake, phosphorus exported in milk, multi-cut high yield silage systems to better understand how phosphorus is cycling within farms.

#### Definition of 'intensive farms' for P balances

While the UFU recognises that DAERA have tried to target intensive farms, using a N production threshold of 150kgN/ha/year which includes imports. N production is not defined in the regulations which is another key omission. This 150kgN/ha level is too low and puts smaller farmers off importing organic manures in case they trigger this threshold and are required to carry out a P balance. As outlined above the UFU questions if the 150kgN/ha/year N production limit is an appropriate level to trigger a requirement to meet a P balance. As mentioned previously some very small farms with small slurry volumes could trigger the 150kgN/ha if they are 'intensive' on a small area while some very large farms could fall below the 150kgN/ha. This also requires another calculation to be carried by farmers and is more likely to vary annually

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<sup>16</sup> Jordan et al, 2024 Journal of Environmental Management 372:12347

depending on the type of stock and age on farm than using the previous method of livestock units. The UFU believes that the 3100 + derogated farms estimate is inaccurate, and many more farms could be caught by this proposal.

In addition, the effect that TB has on cattle farms will leave farms completely unable to manage. TB breakdown on farms can come from a number of sources, including wildlife. In the event of TB breakdown on dairy or beef farms stock levels will inevitably rise due to movement restriction placed on herds. This again leaves farmers with nowhere to turn to manage the nutrient balances on their farms.

#### Alternatives and barriers to implementation

There are off-land solutions potentially available to reduce P surpluses on farms, and the pig and layer industries have indicated their willingness to continue to progress such solutions however time is needed to develop new infrastructure. There are also considerable barriers linked to planning with ammonia (operational protocol) interpretations and the impact on designated sites.

DAERA must consider that if they want to support a viable agri-food sector and assist the industry in becoming more sustainable then they must remove the barriers put up by Government which are preventing environmental improvements. The UFU are receiving reports of NIEA refusing to properly engage with businesses around potential solutions that are operating elsewhere and companies with solutions refusing to come to Northern Ireland as they are frustrated by the planning barriers and process. If DAERA are genuine about improving water quality, reducing phosphorus on farms and supporting off-land solutions for organic manures then there must be a complete overhaul of the planning regime, including the ammonia operational protocol, and a positive attitude to alternative solutions rather than the risk averse positions that are currently taken.

UFU have been supportive of both the Soil Nutrient Health Scheme (SNHS) and the Sustainable Use of Livestock Slurry (SULS) initiative which both aim to reduce P surpluses on farms and ultimately improve water quality.

The SNHS aims to provide soil analysis to all NI farmers, support and nutrient management training to allow more farmers to improve their nutrient use and efficiencies on farms and therefore providing an environmental benefit. The pilot scheme which ran before SNHS had clear evidence of farmers making positive changes to nutrient management following the provision of soil test results and advice. It is therefore expected that the same will happen with SNHS. As outlined above, the scheme is still progressing with the last zone, zone 4, only recently open for applications for soil testing. The majority of farmers have still to go through training. It is surprising that DAERA have decided to ignore the progress of the SNHS and impose radical and extreme P balances despite the ongoing knowledge transfer approach through the SNHS.

The SULS initiative has only started with the third contract still to be awarded. This pilot project is trialling the separation of slurry and removal of some phosphorus off-farm. This also has potential to improve the P situation on some farms but it is still at the early stages and needs to be given the opportunity to finish and report and see if these projects are viable, practical and scalable. These projects face considerable barriers in both policies on renewable energy subsidies and the ammonia operational protocol. If these projects are to be successful, government will need to deal with the barriers they face in a manner that allows widespread adoption of the methodologies that are successful. We are aware, as a result of research conducted by a Masters student at Queens this summer, that the likely maximum tonnage of manures and dung that could be used in NI AD plants would be less than a few 100,000 tonnes. This would not be enough for any of the agricultural industries on the numbers proposed without widespread change in the scale of this potential partial solution.

The UK Dairy Demonstrator project also is investigating diets in dairy cows and phosphorus is a key research component. It makes no sense that DAERA are funding all of these programmes yet decide to impose the P balance measures knowing the impact and that alternatives to land take or reducing numbers are not viable yet on most farms.

The UFU has some concerns that pressure from the supply chain is pushing farmers to remove soya from livestock diets in order to lower carbon footprints. This could result in increasing P in diets again against the wishes of the industry but failure to comply could result in loss of business to some retailers.

Arable land will also be part of the solution and more needs to be done to incentivise and make things easier for arable farmers to take organic manures from other sectors. Arable farmers have been excluded from grants for slurry storage in the past and from applying for equipment such as LESSE yet supporting these sectors to allow for better infrastructure and equipment could result in them taking more organic manures if the bureaucracy surrounding organic manure imports was minimised.

There is ongoing concern within the agri-food sector that the position taken by DAERA on this P balance measure is an indicator of an underlying policy within the Department to reduce livestock/bird numbers. This is totally unacceptable and concerning.

While P balances rolled out to more farms are currently unworkable and will not be accepted by the agri-food sector, the other option suggested to limit the spreading of organic manures will also not allow the industry to operate.

Alternative: DAERA refer to the need to work with industry stakeholders to *'develop and publish a Roadmap for Phosphorus efficiency on farms'*. This is a sensible approach and should have been established some time ago and it would have been

made very clear that the current measures on the table are just not feasible and will not be accepted.

## 6.4 Review of Standard Values for calculation of Nitrogen and Phosphorus

*SVNP1: dairy cow nitrogen (N) excretion rates based on most recent AFBI data to ensure consistency with data used for the ammonia inventory. Proposal that rates are banded based on annual milk yield. This would ensure more accurate accounting of nutrients produced by various dairy production systems, particularly high input herds.*

The revised dairy cow nitrogen excretion figures will result in additional costs to many dairy farmers as they struggle to meet the 170 kg N/ha/year limit. These farmers will be forced to reduce stock numbers, find additional land, export more slurry or apply for a derogation (if they can meet the conditions). All these options, apart from the derogation, will result in additional costs to the farm at a time when there is uncertainty in the industry. It does highlight the importance of the derogation for Northern Ireland as more farms in NI will need this option if these revised N excretion rates are introduced.

The UFU is opposed to the banding of milk yields and urge DAERA to implement one figure for Northern Ireland as at present. Adopting a banded system will result in more paperwork for farmers. This adds to the bureaucratic burden of these regulations, introduces another level of complexity and therefore increases the potential for non-compliance and penalties. DAERA and NIEA are unable to request milk yield data as this is commercially sensitive information.

The UFU would also query how this measure would work in practice. There is mention of a three-year rolling average but no explanation on how this would work, the information that would be required, how it is inspected or checked and no information in the draft regulations.

Farms with lower milk output have always had the option of using a lower figure as this is permitted within the existing NAP regulations (regulation 9 (5)). NIEA has been asked in the past to outline the information they need to allow farmers to take up this option but have never produced the required guidance which is generally why farmers did not deviate from the standard figure.

The UFU would also highlight ongoing research funded by DAERA and industry outlined in the 'Review of the 2019 Nutrient Action Programme Regulations' booklet which is considering 'Reducing nitrogen excretion from dairy cows from dietary manipulation.' This research is focusing on the effect of reducing crude protein in diets

which is also a key focus within the draft DAERA Ammonia Strategy. It seems premature to move forward with revised dairy nitrogen excretion figures before this latest work on diets comes to a conclusion and may further impact N excretion.

*SVNP 2: Dairy cow phosphorus (P) excretion rates, banded based on annual milk yield.*

The current P excretion figure in the 2019 regulations corresponds to the highest figure within the new proposals therefore this will have limited impact. However, the concerns outlined above in terms of bureaucracy, complexity, practicalities around data protection with regards to milk yields also apply to this proposal.

The 'Review of the 2019 Nutrients Action Programme Regulations' booklet page 118 outlines that '*P excretion levels from different classes of livestock are not well defined, with the values for dairy cattle based on data which is several decades old.*' There is a recommendation for a programme of sampling and analysis of slurry from commercial dairy farms and the UFU would urge DAERA and AFBI to progress this to improve accuracy in the data that is used and to give confidence to the industry around the figures.

*SVNP 3: poultry nutrient excretion figures to reflect current poultry systems.*  
**SUPPORT**

The UFU would support the adoption of the revised poultry figures and additional categories that have been outlined in the consultation paper. However the UFU note ongoing research outlined in the 'Review of the 2019 Nutrient Action Programme Regulations' booklet (DAERA E&I 19/4/17) which highlights a series of trials to investigate diets, performance, N excretion and ammonia and other emissions which would result in further changes. It is important to note that this could result in further changes to the N excretion figures for poultry and that the NAP should be amended to reflect this in future.

The UFU would highlight concerns however that the draft regulations do not accurately reflect the figures outlined in the consultation paper within Table 3 and 4; again causing confusion. There are several errors and discrepancies in the figures within these tables.

*SVNP 4: standard values for separated manures and slurries*

No comment.

## 6.5 Nitrogen Fertiliser

*NF 1: From 1 January 2026 to prohibit the use of granular urea fertilisers unless they contain urease inhibitors.*

This proposal has arisen from the draft Ammonia Strategy and is included in NAP on that basis however this is not explained in the NAP consultation document. Urea use in Northern Ireland is low therefore the imposition of this proposal will have very limited benefits in terms of ammonia reduction.

However, while usage of urea in Northern Ireland is relatively low, it is important and the cheapest source of chemical nitrogen for many farmers. NI farmers are paying some of the highest fertiliser prices in Europe and only have two primary Nitrogen sources since Ammonium Nitrate (AN) is banned. The ban on AN fertiliser forces farmers towards urea as an alternative which is recognised to have higher ammonia emissions than AN. Chambers and Dempsey (2009)<sup>17</sup> estimate the average emissions factor on cereal sites at 3% for AN, 24% for urea and 6% for protected urea. NI is already at a competitive disadvantage due to the lack of access to AN fertiliser.

Access to commodity urea keeps the UK fertiliser market in step with the global nitrogen fertiliser market and therefore by having access to commodity urea from the global market, there is a greater chance that the UK fertiliser prices remain competitive. The requirement to use an inhibitor puts a barrier between the global market and NI agriculture therefore will restrict competition in the marketplace and has the potential to further increase prices. Fertiliser is a significant cost on farms and any increases will increase production costs and reduce competitiveness and place NI farmers at a disadvantage to their GB counterparts. DEFRA has clearly indicated recently 'that any legislation or industry scheme that takes away the choice of use of fertiliser type (i.e. untreated solid urea) under current circumstances would present significant operational and economic difficulties for farmers.'<sup>18</sup>

Another potential challenge will be the introduction of the Carbon Border Adjustment Mechanism (CBAM) regime which could differ between the UK and EU (and therefore ROI) and require a carbon taxes to be paid on product moving between NI and ROI.

Industry representatives in GB have questioned the impact of inhibited urea on soil health and quality. In response DEFRA has concluded 'The impact of increased use of UIs on soil quality is uncertain due to a lack of evidence. There is some evidence that UI-treated urea, as it retains integrity longer in the soil for plant uptake, can lead to increased concentrations of ureic nitrogen in connected watercourses.' DEFRA also indicates that they will investigate this in more detail before adopting a regulatory

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<sup>17</sup> Chambers B & Dempsey P (2009): Nitrogen Efficiency and Ammonia Emissions from Urea-Based and Ammonium Nitrate Fertilisers. International Fertiliser Society Proceedings December 2009

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[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1068182/Reducing\\_ammonia\\_emissions\\_from\\_solid\\_urea\\_fertilisers\\_government\\_response.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1068182/Reducing_ammonia_emissions_from_solid_urea_fertilisers_government_response.pdf)

approach. DAERA must consider this point before imposing a policy that could result in further unintended consequences.

The Strategic Environmental Assessment report highlights that there is 'limited information page 184 available on the potential of these inhibitors to enter the food chain. Previous studies have found residual contaminants in dairy products'. While there is some reassurance around this it is extremely concerning that these questions are being asked and uncertainty highlighted around 'population and human health (PHH)' impacts. The introduction of another chemical into the food supply chain has been raised by farmers as an issue of concern. There are also questions on the ability of farmers to use protected urea safely given the potential for health impacts and the need to use PPE.

DAERA must ensure that the requirement to use protected urea, particularly where some safety concerns exist, does not repeat the mistakes made with organophosphate-based (OP) sheep dips. From the 1970s, it was government policy to mandate the use of OP-based dips, a decision which has reportedly been linked to serious health concerns among farmers. Continued unease around these products ultimately led to decision to remove the mandatory use of OP-based dips, legal action against the UK Government, and persistent calls for a public inquiry. This history underlines the need for caution.

Farmers will need to have confidence in the uptake rates of protected urea by forage crops. There are knowledge gaps and there needs to be reassurance provided to farmers that using protected urea will not result in nitrogen and the inhibitor remaining in forage crops impacting fermentation and livestock health and production.

The ammonia losses from urea are dependent on spreading conditions. The assumptions behind the emission factor for urea fertiliser does not consider the mitigation efforts put in place by farmers to protect urea such as spreading conditions, timing of spreading etc. The majority of urea is spread in the early part of the year when conditions are most suitable and losses will be minimal. Farmers management is key and as fertiliser is expensive, farmers will ensure that they spread in conditions that minimize N losses from urea applications.

There are concerns about the research used to verify ammonia reductions from inhibited urea. The consultation reports that Urea + NBPT resulted a reduction in ammonia losses of 78.5% compared with straight urea however this may be a considerable overestimate due to the measurement system used in the research (wind tunnels) which limits vital rainfall and encourages N-loss from Urea. Forrestal et al (2016)<sup>5</sup> have highlighted that "farmers can maximise suppression of NH<sub>3</sub> loss from urea by applying shortly before the onset of appreciable and sustained precipitation". The majority of farmers who use urea will follow this advice to minimise losses therefore the draft Ammonia Strategy has overestimated the contribution of emissions from urea.

Forrestal et al (2016) also clearly highlight gaps in the knowledge that need to be addressed outlining that "This study has provided information on the abatement

potential of a suite of N fertiliser options, however there is an important knowledge gap regarding absolute levels of NH<sub>3</sub>-N loss from urea in Irish grassland which could be addressed by a campaign of micrometeorological measurements. Such knowledge is of critical importance in the context of national commitments to reduce NH<sub>3</sub>-N loss whilst growing the agri-food sector.”<sup>19</sup>

Urea inhibitors have a reported shelf life of 6-12 months with many suppliers advising use within 3-4 months. ‘Use by’ dates should be required on fertiliser with urea inhibitors. This area has not been recognised within the consultation. This shelf life will also prevent farmers from forward buying fertiliser when the prices and farm economics are suitable.

Urea is also used in orchards and it is important to ensure that there is a suitable cost effective alternative for the horticulture sector if this ban is to be imposed.

Many crop farmers have adopted the process of melting urea and applying it as a foliar feed in a little and often approach. This reduces the impact on soil biology and the possibility of leaching from soils. While DAERA have outlined that there is no intention to require liquid fertiliser to be inhibited, they have not confirmed if they will permit the use of straight urea for melting on farms to be used as a liquid fertiliser. This practice would not be possible with inhibited urea and therefore another example of how DAERA policy can have a negative impact on both the environment and farmers.

If this measure is to be imposed, DAERA should note that some fertiliser companies have already highlighted that they will be unable to supply this product within the stipulated timelines of 1 January 2026 due to the lack of appropriate infrastructure being in place in Northern Ireland. Had DAERA engaged appropriately with Stakeholders in advance of the consultation launch this aspect could have been clarified.

Despite proposals to ban urea, England have not adopted a blanket ban due to various concerns raised by stakeholders. All the above points suggest that it would be unwise to consider banning the use of urea fertiliser in NI when there are still so many uncertainties around the costs and benefits of this policy proposal.

*NF 2: The Department has reviewed the current Chemical Nitrogen fertiliser limits for grassland and proposes to include the updated figures in the Schedule within the Regulations. **STRONGLY OPPOSE***

There has been a lot of public debate around the proposal to impose new limits for chemical nitrogen. When the first NAP was proposed in 2004/5 there was considerable time spent discussing revised chemical nitrogen limits for grassland in Northern Ireland with a specific stakeholder scientific group established to work on this

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<sup>19</sup>Forrestal, P. et al, (2016), Ammonia emissions from urea, stabilized urea and calcium ammonium nitrate: insights into loss abatement in temperate grassland. *Soil Use Manage*, 32: 92–100

issue. Months of discussion resulted in an agreed set of figures that the industry could be confident in and that could be accepted by the European Commission as part of the NAP process.

It was agreed at that time to work with two limits for chemical N fertiliser on grassland for dairy cattle and other livestock. This results in a simple system which all farmers could understand and was practical to implement and enforce with minimal burden in terms of record keeping.

In the 'Review of the 2019 Nutrient Action Programme Regulations' document, Table 31 shows the chemical fertiliser N usage which demonstrates a significant reduction of 24% between 2004-2006 period to 2021-2023. From 102.1 kg N/ha/year to 77.9kgN/ha/year. The same report also notes that '*compliance with nitrogen fertiliser crop requirements was also very high*'. Farmers have reduced chemical N usage and improved N efficiency in this time.

On publication of the 2026-2029 NAP consultation, the UFU was shocked to see revised figures for chemical N as there had been no previous engagement on this. There were three Stakeholder meetings held (May 2024, November 2024 and May 2025) and no references were made by AFBI or DAERA around new scientific evidence on chemical N. Tables 7 and 8 in the consultation document, present revised N fertiliser limits for grass silage and grazing however these have not been included in the draft regulations; another inconsistency within the consultation paper.

The UFU attended a DAERA Themed Workshop on Nitrogen (2 June 2025) where additional scientific information was presented to justify the revised figures within the consultation document. This information should have been included within the consultation document to allow all stakeholder to properly scrutinise the proposals. It is extremely concerning to note that the scientific evidence used to verify the information presented in Table 7 is from a study only recently finished with AFBI outlining that the data is still being processed and is not yet peer reviewed or published. This report is not even referenced in the consultation document.

DAERA eventually published a document entitled 'AFBI Scientific Evidence Contributing to N Fertiliser Limits NAP 2026-2029' on 20 June 2025. It is totally unacceptable to present stakeholders with crucial information in relation to a key proposal halfway through the consultation period. This has not allowed for proper scrutiny within UFU structures on this measure.

Dr Sinclair Mayne has challenged the science and the proposals in a recent paper and the UFU would support that analysis, a copy of this paper is found in Appendix 1 of this response.

It is unacceptable that the chemical N limits proposed within the consultation document for silage have not been implemented in Northern Ireland for trials on a commercial basis. While there has been discussion around work on grass plots (and there are

reservations around this as outlined in Dr S Mayne paper) this work has not been rolled out to farm trials and therefore in addition to concerns raised by Dr Mayne, farmers have no confidence in accepting the figures outlined at this time.

UFU members have outlined that the levels of chemical N proposed would not be sufficient on many grass based dairy farms to grow sufficient yields of grass to support their farm. The UFU have repeatedly heard from farmers who have outlined that this restriction would require them to increase concentrate feed on their farm which would result in them increasing P and for some who were able to meet P balances will then exceed the proposed P balance figures and some will no longer be eligible for derogation. There is also potential for considerable additional costs if DAERA force farmers in this direction.

It has also become apparent that there is not enough research work being carried out on silage quality and yields in recent years. There is a trend on farms moving towards a 4 or 5+ cut silage systems and more research work is needed to understand the crop requirements of these systems. In addition, there needs to be more understanding about the ability to 'mine' phosphorus from soils.

Northern Ireland does not have a nitrogen problem therefore it remains unclear as to why DAERA are proposing to significantly reduce chemical N requirements which would force an increase in P inputs which is outlined as the major environmental issue in terms of water quality.

The Sustainable Agricultural Land Management Strategy <sup>20</sup>recommended increasing silage yields and silage quality as a method for 'mining' P from soils and displacing P from concentrate feeds. This was also shown to lower P balances on farms but to achieve these higher silage yields, appropriate levels of chemical N are needed which is contrary to what is being proposed in the NAP 2026-2029 consultation.

Drought conditions: Page 31 of the consultation paper states '*During drought conditions, there should be no application of nitrogen fertiliser*'. While there is some background text on drought conditions and potential risk of losses explained, it is unclear as to whether or not DAERA is including this as a new measure within NAP. It is not presented in the draft regulations. The UFU would have considerable concerns around this, particularly as 'drought conditions' have not been defined. It is good farming practice not to apply fertiliser in drought conditions and the majority of farmers will know this. Further education and guidance should be pursued as the route to increase awareness on this rather than regulation and enforcement.

#### Table 8: N Fertiliser Limits for Grazed Fields.

The consultation paper outlined that table 8 is based on RB209 for grazed fields however data is missing from the table 8 presented compared to that found in RB209.

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<sup>20</sup> <https://www.daera-ni.gov.uk/publications/sustainable-agricultural-land-management-strategy-report-and-executive-summary>

There is no explanatory text around Table 8 describing how this is to be used, and it is not included in the draft regulations therefore it is impossible to comment on this aspect. It is unclear as to whether this table is setting out new limits or revised figures or how it works in conjunction with Table 7. AFBI have also clarified that they are unable to provide any justification for the figures provided in Table 8 and there has been no work carried out in Northern Ireland on this area.

The UFU cannot provide comment on Table 8 due to no explanation being provided on why it is included in the consultation paper. The addendum paper published in late June appears to reference this issue but its publication did not fit with UFU internal scrutiny timelines to allow this to be properly considered; a major flaw in the consultation process.

If different limits are to be imposed for grazing land and silage ground, then it is unclear how this could be inspected and enforced. Currently NIEA use information from the DAERA Single Application Form to determine grassland areas however, this form does not differentiate between silage and grazing areas. Should DAERA impose different limits on grazing and silage fields then even more paperwork and inspection would be required which is unacceptable.

*NF 3: The Department proposes to introduce an allowance/limit for fertilisers derived from processed livestock manures. **SUPPORT***

The UFU would support the proposal to introduce an allowance for processed livestock manures and agrees that this helps to support and facilitate the processing of manure/slurry in Northern Ireland.

There is no definition of 'processed organic fertilisers' or 'processed livestock manures' outlined in the document or within the draft regulations making it difficult for this to be fully considered. On further discussion at the DAERA Themed Workshop on Nitrogen Fertilisers held on 2 June 2025, there was a suggestion that this was a product that went beyond separated digestate from an anaerobic digestion plant.

The UFU would support the need to mitigate the risk of contaminants or heavy metals, but clearer definitions and explanation should have been provided within the consultation document to allow full consideration.

DAERA are suggesting that there would be a limit of 100kgN/ha from processed organic fertilisers. Without proper definitions it is difficult to understand the impact of that threshold. The UFU would also question why the 100kgN/ha/year limit has been selected as appropriate and is this the most appropriate level for NI. More investigation is needed but it is possible that all chemical N requirement should be

encouraged from processed manures potentially allowing reduced costs to farms and lower greenhouse gas emissions from substituting chemical fertiliser usage.

Further information is required to allow proper scrutiny of this proposal, but the UFU in principle would support the inclusion of this measure. However, again the possibility of this being realised at scale will be hampered significantly due to the ammonia operational protocol preventing development or replacement buildings on farms - again this is demonstrating inconsistencies between policies on nitrogen and phosphorus.

*NF 4: The Department proposes to introduce mandatory liming programmes for grassland farms with manure nitrogen production of 150 kg N per hectare per year or more - **STRONGLY OPPOSE***

There is a lack of sufficient detail to allow proper consideration of this proposal. The consultation refers to a minimum of 25% of the lime required per farm spread in year one and the balance applied over the remaining four years.

The spreading of lime is good farming practice, and it is right that this is encouraged as the financial gains on farm can be considerable in addition to the benefits to soil health etc from an appropriate liming programme. However, while UFU agree with liming, we cannot accept that this should be mandatory. DAERA and NIEA would produce more effective results if this was incentivised and promoted rather than enforced. Farmers are receiving lime recommendations through the SNHS and training for that scheme highlights the benefits of liming, and this should be the key focus from the Department.

Liming is necessary but is complex, education is needed for many farmers around the type of lime etc that should be used on farms.

As this proposal only applies to 'intensive farms' over 150kgN/ha/year there will be farm businesses some years that trigger that threshold and be required to lime and in other years not be required. Questions remain as to how this then works in practice with the 25% lime requirement in year one and the remaining land over the next 3 years when those parcels of land are potentially changing and meeting the 150kgN/ha requirement is also uncertain for some farms.

The draft regulations also are inconsistent with the consultation proposals in that regulation 30 (2) requires calculations to be carried out and a lime application programme for the holding but does not mandate the actual sowing of lime to farmland, resulting in additional bureaucracy for the farmer. The consultation suggests a valid soil analysis is necessary for the area being farmed but this is not specified in the draft

regulations again another inconsistency resulting in uncertainty around the consultation proposals.

DAERA also need to clarify an addition to the draft regulations around liming at 13 1(f) which states in relation to the use of chemical P 'where the soil pH is 6 or more or a verified liming plan is in place' however this is not referred to or explained anywhere in the consultation documents.

There is also ongoing debate around the most appropriate pH for soils in Northern Ireland.

As outlined previously, DAERA have made a commitment not to use SNHS for the purposes of regulation therefore these results cannot be used to enforce this aspect around liming.

It also should be noted that this proposal will be complex for conacre land. Many farmers are reluctant to invest in liming conacre land which they have no certainty of farming in the following year. The Sustainable Agricultural Land Management Strategy for NI <sup>21</sup>clearly identified the limitations on conacre land which makes up around 30% of land in NI. It highlights that 'tenants will generally be reluctant to invest in soil fertility or environmental performance because they have no guarantee of a return on their investment'. The UFU would highlight that mandating liming on four year cycles will be extremely complex to operate and enforce on conacre land.

There are also concerns around limitations in terms of lime if ground conditions and weather or farm economics do not support liming in a particular year and how this would be treated by inspectors.

DAERA refer to the no lime applications on peat soils, but this specification is not included in the draft regulations. There is also no definition of 'peat soils' within the draft regulations or any method outlined as to how a farmer or inspector would determine peat soils on farms. AFBI Peatlands programme estimated 31,000 ha of improved grassland over peat, and therefore would suggest this land is not suitable for mandatory liming for environmental reasons yet DAERA have provided no policy direction around this within the NAP.

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<sup>21</sup> <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/16.17.079%20Sustainable%20Land%20Management%20Strategy%20final%20amended.PDF> page 22

## 6.6 Derogation

*DER 1: From 1 January 2026 Department proposes to retain the derogation limit of up to 250kg N/ha/year as last applied by the Commission to Northern Ireland with the following amendments:*

*10.1. To change the eligibility requirements for a derogation so that if the Department finds that a controller's nutrient management account is false or misleading, they will not be eligible to apply for a derogation the following year. **STRONGLY OPPOSE***

The UFU would like to see further detail on this proposal and due to the lack of clarity and explanation around what would be deemed 'false or misleading' we oppose this proposal. The vast majority of farmers strive to ensure that they comply with regulations including the paperwork requirements. It should be recognised that the paperwork requirements surrounding the derogation are more onerous and genuine mistakes can be made. The UFU would have concern around how an overzealous inspector would interpret 'false and misleading'. Information that is inaccurate will already result in penalties and this is proposing to penalise farmers again by preventing them from entering the derogation in future years. There has always been a policy within DAERA, CAFRE and the UFU to promote and recommend the derogation as a good option for some farmers however this proposal could have significant consequences for derogated farms if they made a simple mistake in their paperwork. DAERA need to explain the benefits of introducing this requirement when they have been consistently clear that they want to increase numbers within the derogation then why are they seeking ways to exclude farmers.

It should also be highlighted that the UFU has numerous examples of NIEA inspectors making mistakes and either coming back to farmers to highlight that they had wrongly calculated or interpreted reports or figures or classified penalties and where the farmers have successfully appealed penalties on this basis.

The timelines are also unclear, if an application is submitted in late January for the current year but the nutrient account is submitted by 1 March for the previous year is the application refused for current year or are DAERA referring to the next application year? This is not clearly outlined within the consultation paper.

*DER 2: The Department proposes to change in legislation the dates for applications and submission of nutrient management accounts to a date specified by the Department. It is proposed that the closing date for derogation applications will be 31 January and the closing date for the submission of accounts to remain the 1 March. **STRONGLY OPPOSE***

DAERA appear to have changed the terminology around the derogation with 'Fertilisation Plans' and 'Fertilisation Accounts' replaced by Nutrient Management

plans and accounts. There is no rationale provided as to whether there is any change to the substance of these documents other than the name change. There is a definition of 'Nutrient Management Plans within the draft regulations but no definition for Nutrient management accounts.

Previously in NAP 2019-2022 Derogation, Fertiliser Plans were prepared each year and retained on farm in case of inspection. Page 36 of the consultation document specified '*the 2019 NAP Regulations specify that for derogated holdings that they must submit their nutrient management plans and accounts by 1 March in the following year*'. This is not correct, only Fertiliser Accounts had to be submitted by 1 March the following year while Fertiliser Plans are retained on farm. Page 36 goes on to outline that '*there may be occasions where Department would need to amend the date by which nutrient management plans are required to be submitted*'. This is inconsistent with the draft regulations which does not require nutrient management plans to be submitted but simply retained on farm which is the preferable option.

The UFU assumes that DAERA are proposing to leave the regulations flexible with the actual date specified in guidance rather than in legislation. This is helpful and will help cater for exceptional circumstances. For example, DAERA agreed to move the derogation application and fertilisation account submission date in 2025 due to ongoing electricity, phone and broadband outages in many rural areas which was causing considerable communication issues for some farmers following Storm Eowyn.

However, there is some concern around moving the application date to the 31 January. This could cause confusion for those farmers who have been in the derogation for many years and have been used to the 1 March deadlines. It also clashes with the date for the annual submission of export records which could cause confusion. If DAERA are to impose this change, there should be some leeway for existing derogated farmers who may miss the deadline as they are familiar with 1 March. If the annual export deadline remains 31 January this clash could also cause issues with agricultural agents who may struggle to assist derogated farmers with applications and non-derogated farmers with export paperwork by the same deadline.

*DER 3: Derogated farms will be required to provide a copy of valid Soil analysis for the whole farm along with the nutrient management account. STRONGLY OPPOSE*

DAERA have outlined in the consultation document that farmers could use SNHS to provide evidence that a soil test has been carried out. This goes against commitments by DAERA and the previous DAERA minister to not use the SNHS for regulatory purposes. DAERA have not provided any rationale as to why farmers must submit their soil analysis results along with nutrient management accounts. In the past it was

acceptable to retain valid soil analysis on farm and for NIEA to check these when required – the UFU sees no value in changing this practice.

There will need to be some flexibility given to farmers who have taken conacre land where no soil analysis is available, and it may not be feasible to obtain a soil analysis within the required timelines.

DAERA have outlined in their 'Review of the 2019 Nutrients Action Programme' booklet (page 87) that 'despite higher organic N inputs (up to 250 kg N/ha/year) and proportionally higher P inputs, there is no difference in soil P between derogated and non-derogated farms. It is therefore unfair to request the submission of soil analysis from derogated farms as an additional condition (and potential for breach if this is not provided)

*DER 4: The Department proposes to include in the regulations a cross reference to the Habitat Regulations. This is to enable additional conditions to be included in a derogation where required following completion of a Habitats Regulations Assessment. **STRONGLY OPPOSE***

There is considerable concern around this proposed cross reference check and what this could mean for derogated farmers. From the draft ammonia strategy, the UFU are aware that around 97% of farms are within 7.5km of a designated site and therefore the majority of derogated farmers are likely to be subjected to this HRA process. It is unclear as to what DAERA/NIEA will do with the HRA. These farmers are not new developments and therefore are not causing any new or additional impacts on designated sites. The UFU would refer DAERA to arguments outlined in the papers submitted on behalf of Union and the agri-food sector by Tughans Solicitors to the consultation on the environmental report for the proposed ammonia strategy and the revised operational protocol

More information is required to understand the impact of the HRA process and potential implications of this in order to be able to fully understand and comment on this aspect and assess the impact on our members.

Furthermore, many farmers wish to avail of environmental schemes such as the Small Woodland Grant Scheme or Farming with Nature scheme. Those farmers who do so and maintain and improve biodiversity and habitats could find that this results in future land designation and then the potential for future curtailment of farming activities. This is not a policy that encourages wider DAERA objectives around biodiversity.

The derogation is beneficial, and it is important that DAERA continue to promote the benefits of the derogation and do not drive farmers away from it due to unnecessary requirements. This is unacceptable.

The consultation refers to DAERA potentially requesting further information including 'run-off risk mapping' (page 37) however, not all farmers have opted to take part in the SNHS and therefore not all will have risk maps available. These also may not be available on conacre land.

*DER 5: The Department proposes to amend the application process for Derogated Farms and amend the circumstances and timescale for when an application will be approved*

The 'deemed granted' 28 days' timescale was workable, fair and transparent. To remove for the purposes of allowing NIEA to do environmental assessments without any deadlines for completion is completely unacceptable. If NIEA do not have the capacity to meet the 28-day timelines they need to invest in their own resources rather than extend their deadlines.

It is simply unworkable for farmers if NIEA do not provide certainty within a set short period of time otherwise how can farmers plan to meet the conditions. It would be totally unrealistic and unreasonable for a farmer to be refused derogation months after applications were submitted and to then have to try and comply with the 170kgN/ha/year limit. Farm businesses need certainty, and this removes that.

NIEA are happy to extend their own deadlines to facilitate their own workloads but have no understanding of the pressure they put on farmers when demanding they return information by their deadlines which can be unrealistic and then breaching them for failing to meet such deadlines.

## 6.7 Storage Requirements

*SR 1: The Department intends to raise awareness of existing storage requirements and how dirty water storage, rainwater and parlour washings can impact this.*

### **SUPPORT**

UFU support raising awareness around storage requirements and agree that the 22-week (26 weeks for pig and poultry farms) slurry storage requirement should remain unchanged. This currently allows for significant additional storage beyond the length of the closed period. However, UFU would highlight that farmers who would like to increase storage capacity, it is almost impossible due to the onerous planning requirements around ammonia and designated sites and the interim operational protocol applied by NIEA. The UFU would refer DAERA to the UFU submission via Tughans Solicitors to the consultation on the environmental report for the proposed ammonia strategy and the revised operational protocol.

The proposal to promote better storage etc is in complete contradiction with the stance that DAERA/NIEA take on planning applications for slurry tanks. DAERA/NIEA are

preventing environmental improvements on water quality by the position they are currently taking on ammonia within the planning process. The current ammonia operational protocol prohibits almost all development associated with livestock and slurry on the vast majority of NI farms (given that 97% of NI is within 7.5km of a designated site) and therefore completely stifles the ability to make positive environmental changes with farming infrastructure.

It is also concerning that with the impact of climate change and the need for farmers to consider adaptation, no flexibility is provided by DAERA/NIEA around in planning for existing farms to allow upgrade and extensions to existing storage facilities to meet changing demands.

*SR2. The Department proposes from 1 January 2026, to amend the requirement for prenotification of new slurry storage, to prior to construction rather than 28 days prior to use. The Department will still seek verification that construction has been completed and complies with standards. **STRONGLY OPPOSE***

The UFU would highlight another contradiction between the consultation proposal and the draft regulations. The consultation refers to a requirement to notify NIEA (page 39) 28 days prior to '*construction beginning*'.

The regulations state that '*..... after 1 January 2026 must give the Department notice in writing, specifying the type of storage system and its location, at least 28 days before*

- (a) Work commences and*
- (b) Before it is to be first used.'*

The draft regulations are requiring two notices in writing, the consultation paper only one therefore it is again unclear exactly which DAERA are consulting on making difficult for the UFU to assess impact on our members once again.

Requiring both notices as specified in the draft regulations is totally excessive, this duplicates work for both the farmer and NIEA and no rationale has been given for requiring both notifications and the capacity of NIEA to deal with this. There is also the potential for two breaches / penalties which is unnecessary.

There also needs to be discussion around whether this is 'at least 28 days' or '28 days' prior to construction as there is considerable difference and practicalities between these. 28 days is too rigid allows for no flexibility and the phrasing of 'at least' must be included. In terms of construction 28 days is too restrictive. Construction work depends on ground conditions, weather conditions and availability of building contractors. Contractors can become available at short notice and demanding notice 28 days prior to construction will not work as farmers cannot be certain of a start date. There is also no definition or explanation of the term 'construction'. Is this notice required before a digger clears a proposed site or before building work commences.

It is unacceptable that due to resourcing issues within NIEA and other Government departments that poor customer service in terms of turnaround times is permitted. This is not acceptable and there needs to be a deadline for NIEA responses in legislation as it is not feasible or environmentally beneficially for projects to be delayed indefinitely due to inadequate service by Government officials.

There are also questions around why this is necessary. Planning requirements due to the ammonia issue now effectively require planning permission on all slurry tanks across over 97% of Northern Ireland regardless of size. NIEA are consulted within the planning process and will have been able to comment on the siting and design of tanks prior to construction therefore this new proposal is duplicating that process and completely unnecessary.

*SR 3: Clarification of existing requirement for new above ground stores that the cover must only be a tensioned fitted / fixed cover.*

No further comment

## 6.8 Provision of False or misleading information

*FL1: The Department proposes to amend the existing provisions to apply to the Appropriate Person rather than the Controller only - **STRONGLY OPPOSE***

The UFU would like to see further detail on this proposal and due to the lack of clarity and potential explanation around what would be deemed 'false or misleading' we oppose this proposal. Those who assist farmers work on the best available information provided to them. Farming situations could change throughout the year and the 'appropriate persons' may not be made aware of changes which could result in previously submitted information becoming inaccurate.

The vast majority of those assisting farmers strive to ensure that they help them comply with regulations including the record keeping requirements. The UFU would have concern around how an overzealous inspector would interpret 'false and misleading'. There would need to be more information around the level of the burden of proof needed to claim that something is false or misleading.

Information that is inaccurate will already result in penalties for the farmer and potential subsequent claim against companies / organisations / agents. Most companies / organisations / agents will also be concerned about reputational damage should they be found to be providing inaccurate information under the current system and will also hold professional indemnity insurance for this purpose.

There is a concern that this proposed clause could prevent organisations, individuals or companies from assisting farmers with recording keeping or advice going forward.

The UFU provides considerable assistance to UFU members based on the information that they provide to us; it is extremely difficult for the Union to determine if this is 'false or misleading'. Should DAERA proceed with this proposal, the UFU would have to consider if it continues to provide this information and guidance service to members around record keeping in order to protect our staff.

Ultimately there could be a perverse outcome where those individuals who provide assistance and guidance and advice to farmers could withdraw their services resulting in negative outcomes for the farmer and the environment.

While it is right that blatant fraudulent activity by an 'appropriate person' should not result in penalties to the farmer and they should be held responsible, we cannot agree to this proposal due to the lack of information provided in the consultation paper.

## 6.9 Technical Amendments

While the UFU accept the need for the proposed technical amendments outlined in the consultation, it should be noted that many of the references to the regulation numbers etc are incorrect.

The UFU welcome the inclusion to update the regulations to clarify that the covering of new lagoons is not required as was agreed during the NAP 2019-2022 consultation and is outlined in the Guidance Booklets.

Page 43 under point 8. of the consultation document refers to '*It is also proposed that as part of the controls on NAP that there is a requirement to notify the Department of movement all organic manures on and off a farm. This amendment will extend the definition of an appropriate person to beyond those who have custody or control of livestock manures*'. The UFU would like further clarification as to what this means and the implications that it would have as it is vague and difficult to comment on.

## 6.10 Updated Procedure and IT System for recording slurry / manure exports and imports

*IT 1: The Department proposes to introduce an enhanced online system to record exports and imports of slurry and manures to ensure up to date and accurate reporting of movements. All slurry / manure movements to be recorded on the system within four days of the movement and verified by the receiving farm where it will be land spread. **STRONGLY OPPOSE***

This is a significant change to the current arrangements which has not been fully explored with Stakeholders to allow proper consideration. While some rationale is given, it is limited in terms of why there is a need to change the current system and what will this achieve for the farmer and the environment. DAERA propose that the new system will be 'closer to real time' but again there is contradiction between various parts of the consultation paper which makes it challenging to properly comment on this proposal.

Page 44 in the consultation paper refers to the new system and states '*require the importing farm to verify receipt of the export within four days of the movement taking place. Manure movements will only be accepted upon verification by both the exporting and importing entities..... it will be mandatory for all farms exporting or importing manure who are required to keep these records, to use the new recording system.*'

The draft regulations for the record keeping requirements around slurry movements remain unchanged requesting submission by 31 January of the following year. This conflict between the draft regulations and consultation paper is again confusing and another example of an inconsistency.

The UFU support retaining the current arrangements with online export submissions made by 31 January of the following year which have worked well for farmers and support the redistribution of nutrients.

There is no explanation for why four days has been selected as a reporting timeframe and is recommended but not referred to in any detail within the rationale section, review paper or within the draft regulations. Four days is a very short turnaround for submission of records and is out of line with many other DAERA policies.

For example, cattle movements and deaths must be registered in 7 days, births within 27 days online. Sheep movements are registered within 7 days. These are seen as necessary timelines for animal health purposes which is viewed as a significantly greater priority than the control of movement of slurry. The proposal for 4-day returns

is completely unworkable, will add considerable mental stress to farmers and must be removed.

Another example is Anaerobic Digestion plants are required to submit quarterly or annual waste returns depending on licence requirements which outlines the origin and destination of waste etc.

There has been some speculation that DAERA have proposed the 4 days to allow them to see the slurry spreading evidence on land. This does not work for movements which go straight to the importers slurry tanks which is common practice on many farms to aid mixing and spreading or solid manures stacked in field heaps.

There are significant concerns that there is a lack of ability to use online recording within the farming community. Currently a large percentage of farmers use agents and consultants to assist with slurry export and other paperwork. The ability to provide this assistance to facilitate 4-day reporting requirements is questionable. For cattle movements and registrations, DAERA provide the option of paper returns and a hotline where the notification can be done by phone call. If DAERA pursue this proposal an equivalent system is needed to facilitate farmers who are not IT literate or who do not have access to online due to broadband/network issues in rural areas.

There are also significant concerns around the implications for exporters/importers if verification is missed and the impact of this, this could result in breaches, penalties and a break down in relationships between farms but again no detail is given to allow proper scrutiny and comment.

There are also difficulties estimating the amount of slurry moved on many farms, yet the Farm sustainability standards penalty regime does not allow for any tolerances with limits.

The UFU are concerned that over complicating the current system of imports/exports will deter farmers from importing slurry and therefore the redistribution of nutrients in NI. This is further exacerbated by the N production threshold for P balances and LESSE use.

No clarification is provided in terms of the movements of organic manures to the Republic of Ireland (ROI). Imports and exports of livestock manures between NI and ROI are regulated by the Animal By-Product legislation with requirements to notify DAERA Veterinary Services. Will farmers in the ROI be able to use the new system proposed by DAERA etc and have those discussions taken place with ROI authorities. This will also present difficulties for farms who own land on both sides of the border and are currently moving organic manures within their own unit but different jurisdictions.

Poultry farmers have also highlighted that hauliers facilitate the movement of chicken litter to arable land and there would need to be a mechanism to allow that practice to continue.

IPPC farms already carry out considerable record keeping including movements of organic manures. Given the additional controls and the additional inspections requirements etc, these farmers should be exempt from this NAP requirement.

There are genuine concerns due to the complexity and impractical nature of this and the burden it places on the importing farmer to verify within four days, that this has significant potential to deter the movement of organic manures to farms which have a genuine need for nutrients. This additional record keeping on top of the 150kgN/ha/year N production threshold for triggering phosphorus balances and LESSE requirements will result in farmers who normally import organic manures being deterred from taking these and resorting to chemical fertiliser as an easier and more viable alternative. This is a perverse outcome of a policy that has not been properly thought through or developed and has the potential to increase chemical fertiliser usage and greenhouse gas emissions and therefore also impact agriculture's ability to meet climate change targets.

It is also noted that the DAERA Regulatory Impact Assessment has not included an outline of the cost for introducing this system which is concerning. A full cost benefit analysis of this measure including the cost to the farmer in terms of time spent recording information and the set up of a new system, staff to run the system and alternatives to those who cannot access online should have been included in this consultation.

Alternative: While the UFU are opposed to an online import/export system with a requirement to verify movements within 4 days, there is recognition that some farmers are vulnerable to their names and farm business identification numbers being falsely used by some unscrupulous operators within the industry to facilitate the current requirements which is concerning. The UFU propose that following annual submission of exports on 31 January of the following year, the importing farms receive an email from NIEA outlining the exporters name, amount and type of organic manure. If the importing farmer does not agree with the information and records sent to them there should be a mechanism to raise concerns with NIEA within a set period of time. This would give more confidence to those farmers who chose to import organic manures without significantly increasing bureaucracy for all parties

*IT 2. The system will be developed to extend it to include movements of processed/separated slurry solids from farms and digestate to farms, subject to appropriate legislative powers being available*

No comment on this proposal.

## 6.11 Information system for slurry spreading conditions

IS 1: The Department proposes to introduce a simple information system to provide a warning when widespread heavy rainfall is forecast, and conditions are unsuitable for slurry spreading. (Action 9 of the Lough Neagh Action Plan.) It is proposed that *from February 2026, that failure to comply with early warning notifications will be a breach under the NAP Regulations. **STRONGLY OPPOSE***

The current regulations prevent farmers from spreading slurry in inappropriate conditions and when heavy rain is forecast therefore it is unclear what additional benefit this measure will bring to farmers or the environment.

The vast majority of farmers operate within the current rules and spread when regulations permit. If there are those who fail to comply then they should be dealt through the appropriate mechanism and focus NIEA resources on persistent offenders rather than on a system which tells farmers what they already know.

It should also be noted that despite every effort to comply with regulations, the inaccuracies that surround weather forecasting will always catch some farmers out particularly in showery weather conditions.

Farming activities are driven by the weather therefore farmers are constantly observing weather and ground conditions in their area and will have various methods for doing so. It is unnecessary to bring in a 'weather warning system' to tell farmers what they already know. To suggest that this tool will aid decision making and provide clarity on weather events is somewhat insulting to farmers whose businesses depend on making appropriate decisions according to the weather conditions.

Notifying farmers by text, email and website ignores the concerns around accessibility, broadband, phone network and IT skills. There will also be a cost to establishing this system, but these have not yet been quantified therefore stakeholders are unable to assess the cost / benefit of this measure. However, the UFU would seriously question whether the benefits would ever outweigh the costs of this proposal. Resource for this would be better directed towards education and knowledge transfer and to target the persistent offenders.

It should also be noted that the continued imposition of rules on farmers forcing the use of contractors such as around LESSE removes the flexibility that farmers have to spread slurry at the most appropriate times.

The 'Review of the 2019 Nutrient Action Programme Regulations' document page 210, outlines '*it appears therefore that there is limited potential to use the issues of a yellow warning to provide additional buffering in terms of warning time in advance of heavy rainfall.*' This is because the majority of weather warnings are issued less than 48

hours before they are put in place. The current regulations require slurry spreading to not take place within 48 hours when heavy rain is forecast. Weather warnings can also be cancelled at shorter notice, would this result in DAERA removing their advice?

The analysis carried out and referred to Review of the 2019 Nutrient Action Programme Regulations' states that *'it is strongly recommended that consultation with Met Office and Met Eireann is undertaken'* due to limitations with the assessment of this proposal and outlines that this has not happened within the timeframes. It is therefore unacceptable that DAERA have proposed to include this measure without following their own internal advice to explore this further.

Weather across Northern Ireland will vary significantly in any day therefore it is unrealistic to assume that this measure will be of any benefit to farmers or the environment. Limiting slurry spreading when conditions are favourable may result in less frequent but heavier application of slurries at other times therefore increasing run off potential.

This measure will also result in confusion. If DAERA chose to only notify farmers when a weather warning is issued across NI, farmers in areas where a regional weather warning is in place may believe because no communication from DAERA has been received that it is permitted to spread in that region on that day when that would actually be a breach of the current rules.

The draft regulations do not align with the commentary in the consultation paper. Firstly, they apply to all fertiliser whereas the consultation paper just specifies a slurry spreading warning system. Secondly the regulations also do not specify yellow weather warning or above as has been outlined elsewhere which the UFU feels leaves this in a position that the measure could be used to significantly reduce the time for slurry spreading for a multitude of reasons due to the lack of definition at regulation 8 (2) (e)

The NI Beef and Lamb Farm Quality Assurance Scheme (FQAS) requires farmers to make a declaration indicating that they only spread slurry in appropriate conditions and comply with the NAP regulations on this. This is another aspect of awareness raising.

This measure is an unhelpful and unnecessary addition to the NAP.

## 6.12 Fertiliser Database

*FD 1: The Department proposes to introduce a Fertiliser Database to record fertiliser sales and usage along the supply chain in Northern Ireland. It is also proposed to include livestock feed sales as part of the database. This project will be developed and implemented during NAP 2026-2029. Action 24 of the Lough Neagh Report and Action Plan. - **STRONGLY OPPOSE***

The UFU has concerns that DAERA has already taken the decision to impose this database as page 47 outlines that 'A Fertiliser Database is under development and it is aimed to introduce this by 2027'. This is concerning that DAERA have proceeded without properly consulting or engaging with those most impacted by this proposal.

While DAERA report on the DAFM benefits of the ROI system, they have failed to highlight the perspective of the agri-food sector and supply chain in Ireland. Reports from the ROI suggest that there are genuine concerns around the use of this database, the costs to the merchants and indirectly to the farmers, and the administrative burden it has created. Reports suggest that this is requiring 3-4 days administration per month others suggest it is adding around £10/t to the price of fertilisers in Ireland. There are various practical issues; incorrect information supplied by farmers to the merchants, cash sales, hobby users, non-farming fertiliser purchases etc.

DAERA propose 'end users' (who are not defined) with closing stocks each September should notify the department. However, this does not recognise those farmers such as vegetable farmers who have a legitimate crop need in the autumn and who are permitted to sow fertiliser after 15<sup>th</sup> September and therefore will not know their closing stocks until much later in the year.

There will also be farmers who forward buy fertiliser before the year end and how will that be recorded.

There are concerns around how small rural merchants supplying fertiliser will cope with the burden of this requirement and the cost to their business. There must be a full analysis carried out on the impact of this measure on the fertiliser suppliers. The RIA recognises that there will be an administrative cost to merchants associated with entering sales data onto the proposed database but makes no attempt to quantify this despite the system being operational in ROI.

The use of this database for fertiliser is complex however if DAERA were to extend this to feed sales it would be virtually impossible to operate. The trade of feed is very complex. There are many farmers who will purchase small amounts of bagged feeds, there are hobby farmers, feed bought for domestic pets etc. There are also countless rations and products supplied in comparison to fertiliser. The UFU would question the usefulness of a feed database given the complexity of this trade and the unrealistic administrative burden and cost it would impose on the sector. Cross-border purchases of feed and imports from GB would also be a considerable issue.

UFU would also highlight issues such as contract rearing / bed and breakfast livestock systems where animals may not be permitted out of a herd and add a degree of complexity e.g. feed and fertiliser could be provided by another farmer as part of the arrangement.

## 6.13 Anaerobic Digestate Measure

*AD 1: From 2027 all digestate should be separated to reduce phosphorus content before it can be land spread. Where liquid digestate has a P:N ratio of 1:10 or lower, it can be land spread, in line with regulations covering cattle slurry. **OPPOSE***

While in principle it is positive to promote nutrient recovery technology and this is to be encouraged, the ammonia planning operational protocol is currently so restrictive that it will not permit new or replacement separation equipment to be installed in the majority of plants across NI. This is an example of a lack of joined up policy development within DAERA and NIEA. For this reason, the UFU cannot support the requirement to separate as the majority of AD plants/farms will be unable to meet this. The implementation of the ammonia operational protocol by NIEA is stifling the industry's ability to meet water quality, air and biodiversity targets.

The UFU in conjunction with the wider agri-food sector has submitted a response to the recent consultation on the ammonia operational protocol which sets out legal arguments around why the current interpretation of the habitats legislation is incorrect and prohibits environmental improvements and would refer DAERA again to that document.

*AD 2: Where digestate is not separated, or it has a P:N ratio of greater than 1:10, it must be applied to crop requirement for phosphorus and nitrogen according to a Nutrient Management Plan.*

*AD 3: If digestate is produced using feedstocks from outside Northern Ireland, it must be applied to crop requirement for phosphorus and nitrogen according to a Nutrient Management Plan, regardless of digestate separation or processing technology.*

The UFU can support both these proposals provided that the digestate should be produced from feedstocks that are at least 60% (by weight) classed as waste under Waste Framework Directive and provided those feedstocks are solely sourced from Northern Ireland

*AD4: AD plants will be required to record movements of separated slurry solids and slurry from farms and nutrients moved to farms in processed digestate from AD plants*

*AD5: These movements to be recorded and notified on an update online system that the Department will implement during NAP 2026-2029. This will be a comprehensive nutrient tracking system for recording movement of organic nutrients including both farm-to-farm movements and movements to and from AD plants and other manure processing facilities. **STRONGLY OPPOSE***

The manner in which the import of manures and slurries to AD plants should be handled is the Waste Management Licensing return system. This is already a requirement under Waste Management Licensing and therefore there should not be a requirement for duplication of records. We would strongly advocate that all existing AD plants in Northern Ireland should be granted Waste Licences that allow them to process manure and slurry from other farms, not just their own.

We would recommend that when an AD sends digestate to third party farms that this counts as importing of organic manure in the farm system, and digestate is then exported from the Waste Management System. Similarly, if digestate in a form consistent with either processed organic manures or consistent with a P:N ratio of 1:10 then this would be exported from the Waste Management System and imported into the farm nutrient system.

## 6.14 Focused approach for high risk areas and sensitive sites

*FA 1: The Department proposes to develop and implement a focused approach for NAP, with focused measures applied in high-risk areas – **STRONGLY OPPOSE***

The principle of using a catchment approach with voluntary measures to address water quality issues in high risk catchments is something the UFU has previously supported. There is a mountain of evidence to show catchment-based approaches, working with farmers and other partners in local areas in a non-regulatory advisory manner is the best way to achieve results and to target problem catchments. Previously, the Sustainable Agriculture Land Management Strategy recommended this as a way forward this this has been more recently successfully adopted through the Sustainable Catchment Programme, EFS Group Projects, CatchmentCARE, the Water Catchment Partnership, Source to Tap, AFBI catchment research work and many other projects as supported by the UFU. The UFU has also invested resources and obtained DAERA

Environment Fund monies for a Farm Water Project which focuses on catchment based non-regulatory advice for farmers.

These projects have all resulted in farmers in selected catchment areas taking on additional measures in a voluntary capacity to deliver for water quality with impressive results.

It is therefore deeply concerning despite all this positive action in focused areas, often part funded by DAERA, that the Department is proposing to undermine all this good work by proposing a far more extreme model that forces farmers in certain areas to take on additional actions and should the environment not show the necessary improvement (not defined) mandatory regulatory measures with the threat of 'curtailing farming activity' could be imposed. This is totally unacceptable and has farmers across NI deeply worried in case their farming business is identified as being in a focused area. This threatens participation in all the good and positive catchment work that is underway or proposed. Again, details are lacking making responding more challenging.

This requirement has come on the back of the Strategy Environment Assessment (SEA) which while is a requirement, the consultancy company (RPS) who carried this out appear to not understand the agri-food sector and how it currently operates.

DAERA held a Themed Workshop on 'focused areas' on 27<sup>th</sup> May 2025 where more information became available. At this meeting, it was suggested it would be voluntary for farmers to participate in additional controls in these areas, but officials failed to recognise that the threat of additional mandatory controls down the line would ensure that farmers would never voluntarily take part in any schemes for fear of future mandatory requirements being imposed on them. It also became clear that there has been very limited internal consideration on this proposal before it was released for consultation which is concerning. Officials could not determine the potential scale of a pilot or focused area, the criteria to determine which areas might be selected and resources needed to operate. Stakeholders need information to provide adequate feedback in a genuine and proper consultation process.

The proposed move from voluntary to mandatory measures or to 'curtail agricultural activity' is unclear. The flowchart on page 53 of the consultation suggests this happens following the 'assessment of effectiveness of focused measures' but there is no clear information as to what that assessment entails. Water quality will take time to improve and can also be influenced by non-agricultural factors and climatic and environmental conditions therefore the UFU is unclear around the timelines and how this is expected to be monitored as a pilot project in the short term.

There are concerns that farms within these 'focused areas' will be devalued if there is a greater burden placed on them and there are questions around equality. The UFU

has consistently opposed the designation of sites for biodiversity purposes and therefore due to the regime outlined in the consultation paper will oppose these focused areas.

If this aspect is genuinely about improving water quality in high-risk areas, then DAERA should look to expand the successful Sustainable Catchment Programme which has been welcomed by farmers instead of imposing this option in areas where it will be opposed and will add considerable stress and anxiety to the local farmers.

The UFU strongly encourage DAERA to embrace this catchment based advisory method when it comes to tackling water quality in focused areas and allocate sufficient resources to ensure that it happens rather than adopting a regulatory approach which will not work successfully with farmers.

There has been no recognition around the wider economic impact of this approach and equality concerns.

## 6.15 Enforcement and sanctions

*ES 1: From January 2027, the Department proposes to increase the number of on the spot inspections in focused areas. These focused inspections will be in addition to those undertaken to assess compliance with the new Farm Sustainability Standards*  
**STRONGLY OPPOSE**

The UFU would prefer that stretched resources are focused on preventing environmental problems rather than searching for non-compliances and applying sanctions. It would be more beneficial to engage with farmers in catchments providing non-regulatory farm advice and proactively work to improve water quality. Inspections and sanctions should be reserved for persistent or blatant offenders.

NIEA must show more flexibility when policing the Nutrients Regulations and Farm Sustainability Standards on farm. It is apparent in cases where an incident has been reported to NIEA that the assumption taken by the inspectors is that the farmer is guilty of an offence before any investigation has taken place which is not acceptable. A more flexible system needs to be put in place which would allow farmers more opportunity to 'fix' a low or medium severity incident and penalties should only be applied where an incident is ongoing or of high severity.

The UFU believes that farms that can demonstrate a level of environmental compliance through participation in other schemes such as the various sectoral Farm Quality Assurance Schemes or agri-environment schemes should have a reduced risk of being chosen for inspection i.e. earned recognition. It is also unacceptable that some farms can be selected for both IPPC and Nitrates cross-compliance inspections. Over 200 farms in NI have an IPPC licence this requires complication with a significant

amount of additional measures as to what is included in the NAP. These farms are inspected on average at least once a year with the requirement for the submission of records etc in addition to this. . It is therefore a waste of Government resources for these IPPC farms to be also selected for NAP inspections.

Farmers are also inspected against environmental standards through the various Farm Quality Assurance Schemes. For example there are 11,500 members of the Beef and Lamb FQAS and 8700 inspections take place annually with an inspection cycle of 18 months. In addition to checking the yards, silos and tanks, farmers are also required to provide soil testing records if chemical P is used. There are similar requirements for other sectors. There are around 2500 dairy farms operating under Red Tractor and almost all pig and poultry farms are quality assured. There is also a scheme for cereals. There may be additional standards required on farms imposed by the various retailers. All of this results in multiple inspections on farms annually from either industry or Government officials.

The UFU supports the continued support through the CAFRE advisory service to help farmers understand and meet the various measures. There are messages that need to be delivered to farmers to help compliance and environmental improvements and the formation of the CAFRE Sustainable Land Management branch in April 2018 has been particularly helpful. It is positive that around 3000 farmers were part of the Business Development Groups which offer an important means to get messages to farmers. It is vital that the same opportunities will be developed in the Business Sustainability Groups and Themed Groups going forward however, it is also vital that farmers outside of BDGs are also targeted with advice and training rather than inspections and sanctions

*ES 2: The Department is proposing to introduce fixed and variable monetary penalties for offences / breaches under the NAP Regulations, when primary powers are available – **STRONGLY OPPOSE***

While it is noted that primary powers are not yet available, there are significant concerns around the use of fixed and variable penalties and no detail is provided on how, when and where these would be used if there will be an appeals mechanism (which would be vital) and the level of penalties that would be imposed. There also needs to be consideration as to how this links to the Farm Sustainability Standard penalty process and duplication of penalties must be avoided. While there may be some merit in the use of these in specific circumstances, the UFU would propose that a separate consultation is needed on this aspect to properly consider this proposal and until more detail is provided the UFU cannot fully comment or support this approach.

## 7 Impact Assessments

### 7.1 Strategic Environmental Assessment (SEA)

The UFU would highlight some concerns with the SEA report including some inconsistencies with the consultation document. The SEA fails to recognise the potential for unintended consequences for the environment should some of the NAP 2026-2029 measures be imposed.

As the DAERA Minister has given a commitment to re-consult on revised measures in due course, it can only be assumed that this will require a revised SEA to be carried out.

### 7.2 Regulatory Impact Assessment (RIA)

The UFU believes that the RIA presented is fundamentally flawed. DAERA have not fully considered or understood the impact of implementation of this proposed NAP within the consultation document and therefore have not properly accounted for this in economic terms.

Some basic omissions to the current RIA:

- DAERA does not include the additional costs for the in-field control of pests and diseases as a result of uncultivated buffer strips. UFU believes the area impacted is underestimated.
- Silage bale requirement has not taken account of the extra land area needed to store the same number of bales if stacking is limited to 2 high.
- There may be additional costs associated with LESSE not counted in this RIA such as the requirement for more dilute slurry and suitability of tanks etc.
- As shown in the industry analysis and outlined previously, DAERA have completely misunderstood and underestimated the number, type and size of farms that P balances would apply to. DAERA's own figures show that there would be significant additional costs on dairy farms but ignore pig and poultry farms. The RIA is not correct in assuming that because derogated farms operate within a P balance scenario, that it is possible for others to do so.
- Due to the DAERA failures with the P balance RIA, the UFU has no confidence in the figures produced for the revised N excretion figures.
- The UFU does not accept the cost saving figures in relation to protected urea. This references a Teagasc study that was carried out in 2022 when fertiliser prices were at their peak and therefore is not reflective of typical market conditions.
- As outlined previously the UFU believes that the proposed chemical N changes will constrain grass growth and therefore will be a cost to farmers as additional concentrate feed will have to be purchased to make up for yield reductions.

- DAERA has taken no account of the cost of additional record keeping requirements to farmers.
- DAERA have not included a costs assessment for the building of an import/export organic manure database or the slurry warning system.

Due to the inadequacy of the RIA, the UFU along with agri-food sector partners, commissioned AgriSearch (appendix 2) to provide a basic economic analysis outlining the impact of P balances and buffer strips. This economic analysis, overseen by agri-economist Professor Thia Hennessey, takes only a surface look at the impact of the NAP proposals, concentrating on the impact of Phosphorus (P) Balances and buffer strips. Other additional costs such as the purchase of LESSE equipment, reduction in N fertiliser usage, and administrative costs associated with the new databases and record keeping requirements, the use of protected urea etc have not been included. It assumes that farms will still operate with significantly reduced stock when in fact the vast majority will become economically unviable and unable to meet their financial commitments (Northern Ireland farms have some £960M borrowed in loans and overdrafts). This is not the only critical point. At the levels of stock reductions needed to comply with the NAP proposals most of the processing facilities would become unviable and so the economic tsunami would proceed up and down the agri-food supply chain to have a devastating impact on the wider Northern Ireland economy. The additional annual cost of £1.56 billion would not only undermine the economic sustainability of Northern Ireland's rural economy but also risk unintended social and environmental consequences.

The UFU demand that DAREA carry out a full economic impact assessment which also includes the impact on the wider agri-food sector supply chain and rural communities.

### 7.3 Equality Impact Assessment

The agri-food sector economic analysis has demonstrated a significant negative impact on the agri-food sector from P balance and buffer strip proposals which will have wider knock-on impacts in rural communities. It is likely that the parts of NI which are more dependent on the agri-food sector in terms of their local economy would be harder hit and this could raise equality concerns.

The EQIA has not considered the equality impact of the pig sector being required to use LESSE earlier than other sectors. There will also be equality issues potentially arising from the focused area approach.

A revised EQIA will be required as part of the proposed second consultation exercise.

## 7.4 Rural Needs Impact Assessment

The Rural Needs Impact Assessment fails to recognise the potential impact of these proposals on rural businesses and communities. Section 2D should also include 'jobs or employment in rural areas', 'poverty in rural areas' and 'deprivation in rural areas' as areas which the NAP proposals will also impact on.

Section 3C lists the details of methods and information sources used to identify the social and economic needs of people in rural areas but fails to list any economic reports consulted by DAERA in preparing the RNIA.

Section 3D fails to identify the needs of the wider rural economy and community in relation to these proposals.

Section 4A fails to properly address the impact of the measures and incorrectly excludes the impact on non-farming rural businesses and rural communities.

A revised RNIA will be required as part of the proposed second consultation exercise.

## 8. Other issues

### 8.1 Planning

Throughout this consultation response the UFU have highlighted that progress in dealing the organic manures and technological solutions will be hampered because of planning issues. The interim Operational Protocol used by NIEA to assess planning applications is preventing sustainable agricultural development, preventing implementation of many of the policies and measures proposed through the emerging Sustainable Agriculture Programme, Climate Action Plans, Nutrient Action Programme and the draft Ammonia Strategy. The Revised Operational Protocol limits a farmer's ability to respond to changing health and welfare requirements, environmental issues and discourage investment, and disincentivise farmers from making improvements to already existing developments.

The UFU strongly urges DAERA to revisit and revise the Revised Operational Protocol to ensure it is evidence-based, proportionate, and deliverable.

As currently drafted, the Revised Operational Protocol is fundamentally flawed in both methodology and implementation. It fails to recognise the distinction between new and replacement or upgraded agricultural developments, leading to double counting of emissions and blocking investment in modern, low-emission infrastructure. In doing so, it undermines the very environmental improvements it seeks to achieve, placing a

de facto embargo on progress in sectors that are actively striving to reduce emissions and enhance sustainability.

The lack of recognition for environmental betterment, failure to accommodate welfare-driven upgrades, and disregard for the operational and economic realities of modern farming render the Revised Operational Protocol not only counterproductive but incompatible with key strategic goals, including those outlined in the Programme for Government, the Sustainable Agriculture Programme, the NAP and the Climate Change Act (Northern Ireland) 2022. Unless significantly amended, the Revised Operational Protocol will constrain innovation, stifle productivity, and jeopardise NI's agri-food sector at a time when it should be supported to lead on both environmental stewardship and food security.

The UFU along with agri-food stakeholders have submitted a comprehensive response to the recent DAERA consultation on the Revised Operational Protocol. The UFU and NI agri-food sector organisations have called for urgent changes to ensure the final framework promotes meaningful emissions reductions while enabling a thriving, modern and resilient agricultural industry.

## 8.2 Lack of joined up Government

The development of this document has clearly indicated a lack of joined up working within DAERA and between different Government Departments. For example, the promotion of riparian buffer strips within the Farming with Nature scheme is being promoted by DAERA Food and Farming Group whereas DAERA Environment, Marine and Fisheries Group are proposing to mandate similar buffers on arable land. In various Stakeholder meetings it was clear that no internal discussions had taken place on this. As outlined above, planning restrictions prevent development that will result in environmental improvements.

Another example is the Department of Economy targets and proposals around the agri-food sector with officials working on these policies not aware or familiar with the range of environmental policies within DAERA including the NAP that will prevent DfE from delivering various strategies and officials again being unaware of the negative impact and job losses that could come as a result of new NAP measures being imposed.

There are a number of behavioural science studies that demonstrate the need to avoid inconsistencies in policy and throughout this document the UFU has outlined how the proposals in this consultation do not align with policies advanced by other areas of DAERA or other Government departments.

As the NAP requires sign up by the NI Executive, it is surprising that there appears to have been a complete lack of comprehensive cross-departmental discussions on these proposals.

### 8.3 Sewage infrastructure

UFU welcome the investment to date in the sewerage infrastructure however, investment in sewage treatment works must continue to ensure water quality targets are met. NI Water should install treatment works in areas where there is currently no treatment taking place; it is totally unacceptable that raw sewage is being discharged into watercourses/sea. Where there are failures to comply with water quality standards, NI Water should be adequately penalised for polluting the water environment as would happen with other industries.

The UFU are also opposed to the use of combined systems carrying both foul and storm water which NIEA permit to discharge raw sewage under emergency conditions. This is unacceptable given that farmers and industry would be fined for releasing pollutants into watercourses in similar situations. Investment should be made in treatment works and storage systems to ensure that emergency overflows are not necessary, discharge consents for emergency situations should be revoked and NI Water fined if such a situation occurs as with other industries. A specific incident of this nature in the Neagh Bann River Basin District at Ballinacor works several years ago resulted in the discharge of raw sewage to the Closet River which flooded and spilled over onto farmland. This resulted in losses for the farmers concerned as this land could not be used for grazing due to the level of contamination and took several years and countless meetings and correspondence to deal with this issue. This practice is totally unacceptable and should be stopped. Protocols must be developed to tackle the clean-up operation when such discharges occur. Penalties must also be applied.

### 8.4 Septic Tanks

Rural diffuse pollution must not solely be attributed to farmers as research shows that septic tanks have a significant impact on water quality in rural areas. Past research on tributaries of the River Blackwater has clearly indicated that septic tanks are a significant problem at particular times of the day/year. Inefficient septic tanks can and are polluting rivers/stream/sheughs running through farmland which livestock are drinking from.

It is unacceptable that NIEA consider individual domestic discharges to be low risk and that NIEA are still unable to properly address the septic tanks issue. Poorly maintained septic tanks must be addressed and householders must be educated about their septic tank and the importance of ensuring that it is working properly. Many are not aware of their responsibility to ensure that this is working effectively and the need to de-sludge tanks. The public should also be educated into the use of household

detergents and the potential negative impact these can have on the workings of a septic tank.

The UFU have a number of examples where members have raised complaints with NIEA regarding domestic septic tanks from neighbouring dwellings not working and discharging onto land and into waterways. The UFU has found that NIEA generally fail to investigate or respond to these concerns and appear to have a lack of interest in discussing compliance with the offending householders. NIEA's failure to address pollution from domestic septic tanks demonstrates blatant double standards. Farmers face rigorous inspection, while significant non-agricultural pollution sources are ignored. This disparity is unacceptable and undermines environmental efforts NIEA must adequately address farmers' concerns around septic tanks and actively work with landowners and septic tank owners to resolve pollution and land contamination issues.

The UFU believes that NIEA should run an awareness raising campaign to make homeowners aware of their responsibilities, the service available from NI Water to empty septic tanks and how to maintain a septic tank. There is a genuine complete lack of awareness and this needs to be tackled. NIEA should start this task immediately and allocate appropriate resources to an education/awareness campaign. Given that the majority of farmers are likely to have a septic tank, the UFU has offered on a number of occasions to work with NIEA on such a campaign along with other stakeholders however, there has been a clear lack of engagement or will on the part of NIEA over the years to progress this.

Further research should be carried out on the availability of suitable effective septic tanks. There are concerns that the septic tanks currently installed in new houses are failing to adequately treat wastewater. The UFU would suggest that once a suitable effective septic tank is made available that Government should financially assist domestic households in upgrading their tanks.

NI Water needs to review their policy on de-sludging rural septic tanks where access is difficult. Currently if there is not lane or road access to a septic tank, NI Water will not provide a de-sludging service which is unacceptable.

## 8.5 Water Charges

The Ulster Farmers' Union policy on water charging is that meters should be introduced to all households to ensure more efficient use of drinking water. Farmers already pay for water and understand the requirement for efficient usage to avoid hefty bills. Users will only use water wisely in the knowledge that they will pay more for it if they use more. It will be virtually impossible to manage water resources effectively if we have no means of measuring its use, and the efficiency of the system. This would also help provide additional funds for NI Water to invest in the water and sewage network.

## 9. Conclusion

The UFU is opposed to the majority of the proposed changes to the current Nutrients Action Programme for Northern Ireland. Many of the changes proposed in the DAERA consultation document would have a very detrimental effect as indicated in the interim economic analysis work on local farmers and the entire agri-food sector and are therefore not acceptable.

The UFU supports catchment-based approaches, working with farmers and other partners in local areas in a non-regulatory way and believes this is the best way to achieve results and to target the problem catchments in this way. The Sustainable Agriculture Land Management Strategy recommended this as a way forward and numerous projects have proved that this is a successful model. We strongly encourage DAERA to embrace this method when it comes to tackling water quality and allocate sufficient resources to ensure that it happens rather than adopting a broad-brush high level regulatory approach.

While the UFU had constructive engagement with the Department and NIEA on the previous Action Programmes it is disappointing that this engagement has been very limited for NAP 2026-2029. It is vital that all stakeholders work together positively going forward to ensure the best outcomes for both the industry and the environment.

It is essential that measures proposed are based on robust science otherwise there is significant risk that measures will be ineffective/counterproductive and lead to industry disengagement. The UFU recognises the environmental challenges associated with nutrient management and supports proportionate, fair, science-based regulation. However, we cannot support the proposed changes to the NAP in their current form. The proposal NAP 2026-2029 fails to offer credible data, practical timelines, or financial clarity required for implementation. It risks undermining farm viability, competitiveness, and the confidence of farmers who have already made significant progress under previous schemes.

We urge DAERA to revise the consultation proposals by engaging more closely with farmers and industry stakeholders. A balanced and pragmatic approach will ensure environmental progress while maintaining a productive and resilient agricultural sector in Northern Ireland.

## APPENDIX 1

### A SCIENTIFIC EVALUATION OF THE AFBI PAPER 'AFBI SCIENTIFIC EVIDENCE CONTRIBUTING TO N FERTILISER LIMIT' POSTED ON THE NAP CONSULTATION WEBSITE ON 20 JUNE, 2025

Dr Sinclair Mayne

#### Background

Assuming optimal soil pH (6.3 - 6.5) and a balanced supply of other essential nutrients (P, K and S), nitrogen is the single most important nutrient influencing grass growth. The classical grassland manuring experiments (Jackson and Williams (1979) and Morrison et al (1980)) demonstrated that maximum response to N on sown grassland occurs at relatively high levels.

Jackson and Williams (1979) compared the response of perennial ryegrass (cv. S. 23) swards to fertilizer N at input rates of 200, 400 and 600 kg N/ha under cutting-only or grazing-only management systems. The experiment was conducted at six widely separated sites in England and Wales for 4 years. Under both managements the yield response to N varied substantially and was always greater under cutting than grazing and the response was greater in the first than in subsequent years. Under cutting, significant responses were obtained from 200 to 400 kg N/ha at all sites and in all years but very few sites responded significantly from 400 to 600 kg N/ha after the first year.

Morrison et al (1980) carried out a very large scale and very well-known multi-site study across England and Wales – the Grassland Manuring 20 Trial, which involved 21 sites over 4 years and noted that the maximum response to N on sown grassland occurred at 500 – 700 kg N/ha. They noted a mean response at N300, relative to N0 of 23 kg DM/kg N.

Hopkins et al (1990) examined the response of both permanent and reseeded grassland to fertilizer N at sixteen sites across England and Wales, representing a wide range of grassland environments. Responses were examined at two cutting frequencies to simulate grazing and silage production (4-week and 8-week cutting interval respectively) with N levels of 0, 150, 300, 450 and 900 kg N/ha. N fertilizer was applied as ammonium nitrate in either 6 (4 -week cutting) or 3 (8-week cutting) equal applications and total yield was measured from spring to late October/November.

Results indicated that average yield of herbage increased up to 450 kg N/ha with both permanent and reseeded swards, under both cutting frequencies as shown in Table 1 below.

As expected, the marginal response to additional N declines as level of application increases, but N10 (the economic optimum where 1 additional kg of N fertilizer produces an additional 10 kg of herbage DM) occurs above 350 kg N/ha.

Conclusion: Annual total herbage DM yield from both permanent and reseeded swards increased with successive increments of fertiliser up to 450 kg N/ha, with an economic optimum application above 350 kg N/ha.

Table 1 Effect of fertilizer N level on herbage production (average of reseeded and permanent swards) Hopkins et al (1980)

a) 4 weekly cutting, average of three years across reseeds and perm pasture

N (kg N/ha)	DM Yield (t DM/ha)	Marginal Response (kg DM/kg additional N)
0	4.40	
150	7.33	19.5
300	9.70	15.8
450	10.68	6.5
900	10.77	

b) 8 weekly cutting, average of three years across reseeds and perm pasture

N (kg N/ha)	DM Yield (t DM/ha)	Marginal Response (kg DM/kg additional N)
0	6.96	
150	10.51	23.6
300	12.56	13.5
450	13.51	6.3
900	13.14	

A more recent study was conducted across Johnstown Castle, Moorepark and Hillsborough examining the effect of fertilizer type on grass growth response (Forrestal

et al (2017)), although it is important to note that AFBI chose not to include this study in their review

The study involved a Control treatment plus 5 rates of N fertilizer up to 500 kg N/ha, with four cuts per year for Hillsborough in 2013 (HB13) and 5 cuts per year in 2014 (HB14)

Hillsborough Data – Response to chemical N fertilizer level.

Fert N level kg N/ha	Herbage Yield (t DM/ha)	
	Year 1	Year 2
0	6.10	6.50
100	8.50	9.43
200	10.62	12.23
300	12.12	14.24
400	13.29	14.85
500	13.95	15.47

The authors concluded that all sites responded positively to increasing N rate with significant yield responses up to 500 kg N/ha at Hillsborough in 2013 and up to 400kg N/ha at Hillsborough in 2014.

Table 3. Grass dry matter yield at each site-year for N rates of 0 to 500 kg/ha. N rates were applied in five equal split applications during the growing season

Site year	Annual N rate (kg N/ha)					
	0	100	200	300	400	500
Yield (kg DM/ha)						
HB13	6103 BC f	8497 D e	10624 D d	12120 C c	13292 B b	13952 CD a
HB14	6497 AB e	9432 C d	12234 BC c	14245 A b	14850 A a	15467 A a
JC13	5252 C e	7975 E d	9694 E c	10856 D b	11532 C a	11914 E a
JC14	7161 A d	10292 AB c	12783 AB b	14404 A a	14789 A a	15049 AB a
MP13	6596 AB e	9692 BC d	11820 C c	12665 C b	13067 B ab	13378 D a
MP14	6874 AB e	10333 AB d	13224 A c	13588 B bc	14325 A a	14381 BC a

Pooled standard error of the mean = 259.3 kg/ha (371.7 kg/ha for the control group)

Mean comparison by *F*-protected LSD test ( $P \leq 0.05$ ).

Within columns yields with different upper case letters are significantly different.

Within rows yields with different lower case letters are significantly different.

## AFBI REPORT

A series of studies are presented by AFBI to justify the proposed lower chemical N fertilizer limits for grassland.

Project 1 A three year study at Hillsborough designed to examine effects of G lime on soil pH and grass productivity (Higgins et al., 2012 Soil Use and Management 28:62-69)

Permanent grassland dominated by meadow grass and perennial ryegrass. Soil pH was 5.72 at start of study - sub-optimal for maximum grass production.

Slurry applied in Year 1 – 30 cubic meters per ha after first and second cuts = 60 kg N/ha not accounted for in Year 1 in determining the chemical N response.

Fertiliser applied in 3 applications – no dates or levels given. All N applied as CAN – 0, 75, 150, 225 and 300 kg N/ha. No split application in spring and first application applied in early April, missing maximum response period.

Results are presented in Table 1 below. Note very different response in Year 1, when plots received an additional 60 Kg manure N/ha. These data should not be included in treatment means due to large slurry effect on the N response relationship.

**Table 1** Mean annual (three cuts) total grass dry matter (DM) yield (t/ha) in response to N fertilizer rate,<sup>a</sup> for pelletized and ground lime combined<sup>b</sup>

N rate (kg N/ha/yr)	Mean annual DM yield (t/ha)		
	2007	2008	2009
0	9.01	4.94	4.71
75	10.04	6.87	7.35
150	11.29	8.91	9.91
225	12.09	10.61	11.26
300	11.72	11.15	11.76
LSD	0.62	0.54	0.48

<sup>a</sup>Highly significant ( $P < 0.001$ ). <sup>b</sup>Not significant.

Average of 2008 and 2009, when no manure N was applied

kg N/ha DM yield

0	4.82
75	7.11
150	9.41
225	10.93
300	11.45

Increases in yield continued to 300 kg N/ha despite late first application (missed max response period), mixed meadow grass/prg sward, low soil pH and no split application for first cut (RB209 recommendation).

Summary – Trial results invalid as slurry applied to chemical fertilizer N treatments in Year 1 and not accounted for, yields continued to increase to 300 kg N/ha despite sub-optimal soil pH limiting N response and delayed application of chemical N fertilizer in spring.

Project 2 Cardenas et al 2019 (Science of the Total Environment 661: 696-710. Nitrous oxide emission study across 5 UK sites – one year study 2011. Permanent grassland site

Fertilizer application dates: 21 March, 18 April, 16 May and 14 July.

Harvest dates: 10 May, 27 June and 15 August.

Key Issues:

Late spring application, (21 March), no split N in spring, very high application rates mid-season for high N levels (120 and 100 kg N/ha applied on 16 May and 14 July respectively) at time of lowest response. Last chemical N application on 14 July (half way through the growing season). Last silage cut taken in 15 August, so no measurement of late season response to additional N.

Application rates: kg N/ha

Total	21/3	18 April	16 May	14 July	Hills Yield (t DM/ha)	Response
0					5.46	
80	20	20	20	20	9.65	52.3
160	30	40	50	40	11.78	26.6
240	40	60	80	60	14.81	37.8
320	70	70	100	80	15.11	3.7
400	90	90	120	100	16.97	23.2

Whilst the difference between 320 and 400 kg N/ha was 'not significant' the response was 1.86 t DM/ha for an additional 80 kg N/ha ie a response of 23.2 kg grass DM/kg additional N. This compares with a response of 26.6 kg grass DM between 80 and 160

kg N/ha. The reason for the ‘non-significant’ response is due to the very high error (sed of 0.68 t DM/ha) which is very high for the Hillsborough site.

Note also, the very high yield potential of the NI site at 400 kg N/ha -17 t DM/ha compared to 11.3 t Scotland, 9.5 and 10.9 t England and 12.1 t Wales.

**Table 4**  
Herbage production results: grass yield, N offtake and N content of herbage. Standard errors (s.e.d.) are also provided.

	Increase in AN rates						Change in strategy at 320 kg N ha <sup>-1</sup> application				s.e.d.
	C	AN80	AN160	AN240	AN320	AN400	AN320_NI	U320	U320_NI	AN320_Sp	
<b>Yield (t DM ha<sup>-1</sup>)</b>											
Crichton	3.85 <sup>a</sup>	8.18 <sup>b</sup>	9.72 <sup>bc</sup>	10.81 <sup>c</sup>	11.03 <sup>c</sup>	11.28 <sup>c</sup>	10.91 <sup>c</sup>	10.74 <sup>c</sup>	10.83 <sup>c</sup>	11.16 <sup>c</sup>	0.50
Drayton	2.78 <sup>a</sup>	4.44 <sup>b</sup>	6.30 <sup>c</sup>	7.82 <sup>d</sup>	9.32 <sup>e</sup>	9.46 <sup>e</sup>	9.28 <sup>e</sup>	8.84 <sup>de</sup>	7.95 <sup>d</sup>	8.90 <sup>de</sup>	0.33
North Wyke	4.22 <sup>a</sup>	6.01 <sup>b</sup>	7.59 <sup>b</sup>	9.21 <sup>c</sup>	10.54 <sup>cd</sup>	10.89 <sup>d</sup>	9.85 <sup>cd</sup>	9.72 <sup>cd</sup>	9.26 <sup>c</sup>	10.29 <sup>cd</sup>	0.45
Hillsborough	5.46 <sup>a</sup>	9.65 <sup>b</sup>	11.78 <sup>bc</sup>	14.81 <sup>def</sup>	15.11 <sup>def</sup>	16.97 <sup>f</sup>	15.34 <sup>def</sup>	13.79 <sup>cd</sup>	14.40 <sup>de</sup>	16.70 <sup>ef</sup>	0.68
Pwllpeiran	4.65 <sup>a</sup>	7.25 <sup>b</sup>	10.22 <sup>c</sup>	11.37 <sup>cd</sup>	12.00 <sup>d</sup>	12.15 <sup>d</sup>	12.38 <sup>d</sup>	11.37 <sup>cd</sup>	10.94 <sup>cd</sup>	12.18 <sup>d</sup>	0.45
<b>N offtake (kg N ha<sup>-1</sup> y<sup>-1</sup>)</b>											
Crichton	49.7 <sup>a</sup>	112.4 <sup>b</sup>	162.0 <sup>c</sup>	191.5 <sup>cd</sup>	251.7 <sup>f</sup>	286.8 <sup>g</sup>	245.4 <sup>ef</sup>	218.1 <sup>de</sup>	224.1 <sup>ef</sup>	285.3 <sup>g</sup>	10.9
Drayton	54.6 <sup>a</sup>	86.1 <sup>a</sup>	132.6 <sup>b</sup>	174.1 <sup>c</sup>	197.5 <sup>cd</sup>	241.2 <sup>e</sup>	223.3 <sup>de</sup>	205.1 <sup>cde</sup>	173.6 <sup>c</sup>	210.5 <sup>cde</sup>	13.5
North Wyke	89.3 <sup>a</sup>	129.7 <sup>a</sup>	180.2 <sup>b</sup>	247.3 <sup>c</sup>	309.6 <sup>ef</sup>	341.9 <sup>f</sup>	275.3 <sup>de</sup>	262.0 <sup>cd</sup>	244.1 <sup>c</sup>	292.9 <sup>de</sup>	14.7
Hillsborough	88.1 <sup>a</sup>	158.3 <sup>b</sup>	173.5 <sup>b</sup>	282.5 <sup>c</sup>	300.0 <sup>c</sup>	362.7 <sup>d</sup>	301.2 <sup>c</sup>	256.7 <sup>c</sup>	294.5 <sup>c</sup>	304.8 <sup>cd</sup>	20.2
Pwllpeiran	68.0 <sup>a</sup>	115.4 <sup>b</sup>	171.5 <sup>c</sup>	252.9 <sup>ef</sup>	274.1 <sup>f</sup>	336.9 <sup>g</sup>	269.5 <sup>f</sup>	236.9 <sup>de</sup>	217.4 <sup>d</sup>	268.9 <sup>f</sup>	7.34
<b>N content of herbage (kg N kg<sup>-1</sup> t DM)</b>											
Crichton	13.1 <sup>a</sup>	13.8 <sup>a</sup>	16.7 <sup>b</sup>	17.7 <sup>bc</sup>	22.8 <sup>de</sup>	25.4 <sup>ef</sup>	22.5 <sup>d</sup>	20.3 <sup>cd</sup>	20.7 <sup>d</sup>	25.6 <sup>f</sup>	0.89
Drayton	19.7 <sup>a</sup>	19.2 <sup>a</sup>	21.0 <sup>ab</sup>	22.2 <sup>abc</sup>	21.1 <sup>abc</sup>	25.5 <sup>d</sup>	24.0 <sup>cd</sup>	23.2 <sup>bcd</sup>	21.9 <sup>abc</sup>	23.6 <sup>bcd</sup>	1.03
North Wyke	21.2 <sup>a</sup>	21.5 <sup>a</sup>	23.7 <sup>b</sup>	26.8 <sup>cd</sup>	29.4 <sup>e</sup>	31.4 <sup>f</sup>	27.9 <sup>de</sup>	27.0 <sup>cd</sup>	26.3 <sup>c</sup>	28.4 <sup>de</sup>	0.56
Hillsborough	16.0 <sup>ab</sup>	16.0 <sup>ab</sup>	14.7 <sup>a</sup>	19.1 <sup>abc</sup>	20.0 <sup>bc</sup>	21.5 <sup>c</sup>	19.7 <sup>bc</sup>	18.6 <sup>abc</sup>	20.5 <sup>bc</sup>	18.3 <sup>abc</sup>	1.59
Pwllpeiran	14.6 <sup>a</sup>	15.9 <sup>ab</sup>	16.8 <sup>b</sup>	22.3 <sup>d</sup>	22.9 <sup>d</sup>	27.8 <sup>e</sup>	21.9 <sup>cd</sup>	20.8 <sup>cd</sup>	19.9 <sup>c</sup>	22.1 <sup>d</sup>	0.74

Values with different letters (a to f) within a row indicate significant differences between treatments (P < 0.05).

Summary – Despite significant trial limitations, grass yield responses were recorded up to 400 kg N/ha, with no evidence to support a maximum application of 310 kgN/ha.

Project 3 Higgins, S. Watson, C. Laughlin, R. 2013. The potential for urea plus a urease inhibitor to reduce nitrous oxide emissions from grassland compared with CAN, while maintaining sward production. Final E&I Report: Project 11/04/02

Unpublished study – details of study not available.

Project 4 Watson et al. Strategies to reduce emissions from nitrogen fertiliser application. Final E&I Report: Project 13/4/06

Unpublished study – details of study not available.

Krol et al. 2020. Nitrogen fertilisers with urease inhibitors reduce nitrous oxide and ammonia losses, while retaining yield in temperate grassland. Science of the Total Environment 725: 138329 Study reports effects of different N fertiliser type on emissions etc – no N response level data.

Project 5 Unpublished research by AFBI referred to as Higgins et al (2025). This study appears to involve a series of N treatments including digestate, plasma-treated

digestate and chemical N fertiliser, but no details of experimental methodology re provided. N fertilizer rates appear to be compounded with application of digestate – response from 68 to 104 kgN/ha was 6.7t DM/ha ie a response of 186 kg grass DM/kg fert N!

Project 6 Unpublished research designed to evaluate responses to chemical P fertilisers at 8 farms sites in Co Londonderry and Antrim. No details of methodology provided.

This trial appears to be the main study used to support the DAERA proposal to reduce chemical N fertiliser levels in Northern Ireland. Replicated study at eight farm sites across NI: Coleraine, Dark Hedges, Glenwherry, Greenmount, Magherafelt, Toomebridge, Slemish and Ballybogey, with the aim of the work being to assess grass yield response to N and P fertiliser across a range of farms in NI. All sites were permanent grassland but no details are provided of sward composition or reseeding history.

Key limitations of the study include: Soil pH was below 6 at five of the sites (5.54 – 5.96) and no lime was applied to any site. This is estimated to depress yield response to N by approximately 1.5 – 2.0 t DM/ha.

Fertiliser application rates and timing are given in Table 2 below, with fertiliser being applied as CAN (27% N fertiliser).

**Table 2:** N fertiliser application rates per experimental site and timing of application

N Rates kg N ha/yr	Application Number		
	1 (Mar/Apr)	2 (May/June)	3 (July)
0	0	0	0
130	80	30	20
250	100	75	75
310	120	100	90

In Year 1, no fertilizer was applied until 8 -14 April, and in Years 2 and 3 the first fertilizer application dates varied from 24 – 31 March (Year 2) and 19 – 23 March (Year 3).

No N fertiliser was applied in early spring as per normal farm practice (N is usually applied as slurry in Feb/March). Spring applications produce the best response in grass growth.

The cutting date for Cut 1 varied from 26 May to 14 June in Year 1, 9 to 16 May in Year 2 and 13 – 17 May in Year 3. The cutting date for Cut 2 varied from 7 July to 2 August (Year 1), 26 – 28 June (Year 2) and 1 – 18 July (Year 3).

The final harvest date varied from 31 August to 8 Sept (Year 1), 14 – 17 August (Year 2) and 14 August to 28 August (Year 3).

It appears that no account is taken of grass growth from mid August onwards, as the last harvest date occurred from 14 August to 8 September.

The interval from cutting date to fertilizer application varied from 1- 17 days over the three years of the study. The last fertilizer application was applied on 7 July to 2 August (Year 1), 26 – 28 June (Year 2) and 1- 19 July (Year 3).

No fertilizer was applied to the plots from late June in Year 2 and from mid July in Year 3, whereas normal farm practice is to continue N application until early September.

**Table 6:** Mean total annual DM yields (t DM/ha/yr) per N rate, at each experimental site in 2022, 2023 and 2024

N Rate kg N/ha/yr	Site								
	2022	Ballybogey	Coleraine	Dark Hedges	Glenwherry	Greenmount	Toomebridge	Stemish	Magherafelt
0	8.30	10.82	11.44	7.29	8.96	7.68	5.30	6.21	8.28 a
130	12.63	15.05	13.65	10.82	11.43	12.16	9.97	13.31	12.38 b
250	14.71	15.68	15.83	12.03	13.64	13.72	12.17	15.39	14.15 c
310	13.92	16.01	14.86	12.33	13.82	14.25	12.26	16.49	14.24 c
<b>2023</b>									
0	6.73	6.65	5.64	6.45	7.36	5.69	5.74	6.55	6.35 a
130	9.96	9.82	9.49	8.49	12.07	12.61	9.39	10.79	10.33 b
250	12.16	11.87	10.82	9.20	14.58	15.28	12.03	14.12	12.51 c
310	12.00	12.29	11.23	9.33	14.59	15.79	12.57	13.92	12.73 c
<b>2024</b>									
0	6.36	7.46	4.63	6.56	8.77	7.40	3.84	5.59	6.31 a
130	11.20	12.05	8.81	9.39	13.07	12.99	8.71	10.81	10.88 b
250	11.95	14.71	10.45	10.17	15.67	14.10	11.28	14.90	12.90 c
310	12.55	15.17	10.98	10.48	14.42	14.21	11.76	14.59	13.04 c

\*Fisher's unprotected least significant difference test. Change in letter denotes significant difference between means

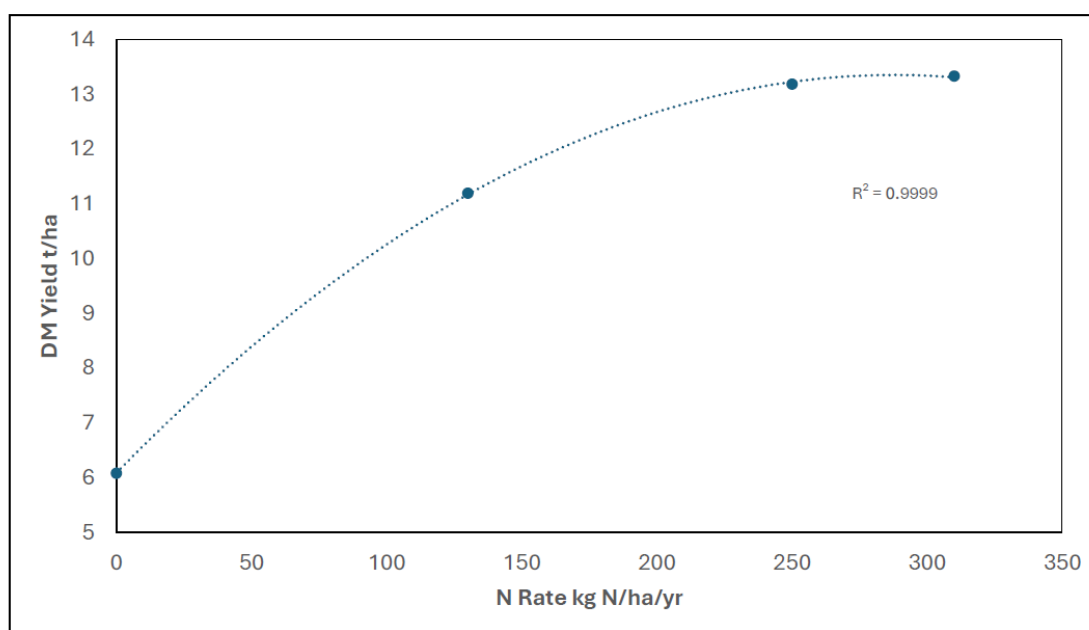
The grass yield data presented in Table 6 above are extremely unusual. For example, DM yields of 8.3, 10.8, 11.4, 7.3, 9.0 and 7.7 t DM/ha were recorded for 6 sites in 2022 at zero N fertilizer. All previous published reports for zero N fertilizer indicate DM yields of 4.4 – 7.0 t DM/ha as shown below. Furthermore, the long term AgriSearch GrassCheck project recorded grass DM yields of 5.4 t and 4.5 t DM/ha in 2023 and 2024 respectively, with no yields greater than 6.0 t DM/ha being obtained for zero N fertilizer on Grass Check plots over a 20-year period (2004 to 2024).

#### Published studies – DM yield at zero N fertilizer

Study	DM yield at zero N (t DM/ha)
Hopkins et al (2019)	4.4 (4 weekly cutting)

	6.96 (8 weekly cutting)
Higgins et al (2012)	4.94 (2008 – no spring slurry)
	4.71 (2009 – no spring slurry)
Cardenas et al (2019)	5.46
Forrestal et al (2017)	6.1 (2013)
	6.5 (2014)
Krol et al (2020)	4.53

The unusually high grass DM yields recorded in this unpublished study in year 1 suggest that there was an alternative N supply for the sward (possibly slurry or fertilizer application in spring or a high proportion of clover) and therefore invalidate the trial results.



**Figure 5:** Mean total annual DM yield 2022-2024 8 experimental sites across NI (4320 samples)

N Rate kg N/ha/yr	Total DM Yield t/ha/yr
0	6.1
130	11.2
250	13.2
310	13.3

Main project finding: On 8 experimental farm sites across NI, there was, on average over 3 years 2022 - 2024, no significant yield response beyond 250 kg N/ha/yr

Study concludes that '*No significant yield response beyond 250 kg N/ha/year.*' The suggestion that maximum grass DM yield is obtained at 250 kg N goes against all previously published data and recommendations for average, good, very good grass growing conditions, including RB 209 recommendations.

Results of this unpublished research cannot be used as a credible basis to inform N recommendations for grass swards in Northern Ireland, given several major shortcomings of the trial summarized as follows:

- i. Soil pH was suboptimal (range 5.54 – 5.96) at five of the eight sites used in this study – this will have reduced the grass yield response to N fertilizer.
- ii. There appears to have been an alternative source of nitrogen available to boost grass production in year 1 on 6 of the 8 sites, given the exceptionally high grass DM yields at zero N fertilizer.
- iii. The first application of fertiliser N was applied very late in all three years, relative to standard farm practice (Year 1, 8 -14 April, and in Years 2 and 3 first fertilizer application dates varied from 24 – 31 March (Year 2) and 19 – 23 March (Year 3).

Normal farm practice is to apply slurry in February/early March to stimulate early season growth at time of maximum N response.

- iv. At the highest N level, the first N application on the high N treatment (310 kg N/ha/year) was applied as a single application of 120 kg N/ha as CAN. RB209 recommends a split fertilizer application for first cut, with an application in late February, followed by a second application in late March.
- v. CAN was used as the N fertilizer source in this study. CAN is particularly susceptible to leaching on heavy soils and wet conditions, such as those experienced in 2022, 2023 and 2024.
- vi. The final N application in this unpublished study was applied from 7 July to 2 August (Year 1), 26 – 28 June (Year 2) and 1- 19 July (Year 3). Normal farm practice is to apply fertilizer through July and August, with good responses in grass growth being obtained at these times.
- vii. The final harvest was taken from 31 August to 8 Sept (Year 1), 14 – 17 August (Year 2) and 14 August to 28 August (Year 3). There appears to have been no assessment of late season growth, which could account for up to 20 % of total sward production.
- viii. No information is provided on the S status of the sward. Was a tissue sample taken for S analysis to confirm that the swards were not sulphur deficient?

Other studies not referenced in the DAERA/AFBI review:

Grazing recommendations.

The review states that AFBI have not carried out any recent replicated field trials assessing N requirements for grazed fields. Whilst proposing to limit chemical N fertiliser levels on grazing areas to 180 kg N/ha in the original Consultation, AFBI have now changed this to a maximum of 270 kg N/ha, which is in line with the current maximum limit of 272 kg chemical N/ha in the 2019 NAP.

It is important to note that this level is well below that recommended from previous research studies. For example, Holmes (1968) demonstrated a linear response in cow grazing days (CGD) to applied chemical N fertiliser of 1.05 CGD per kg of additional N fertilizer up to 450 kg N/ha. Similarly, Gordon (1982) observed a linear response of 0.98 CGD per kg of additional N fertilizer when comparing chemical N fertilizer levels of 150, 300 and 450 kg N/ha.

It is recommended that a new research programme should be established to examine grass production responses to chemical fertilizer N application under both grazing and silage production systems.

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## APPENDIX 2: INTERIM ECONOMIC IMPACT ASSESSMENT OF PROPOSED MEASURES WITHIN DAERA'S NUTRIENTS ACTION PROGRAMME 2026 – 2029

(sent as separate attachment)