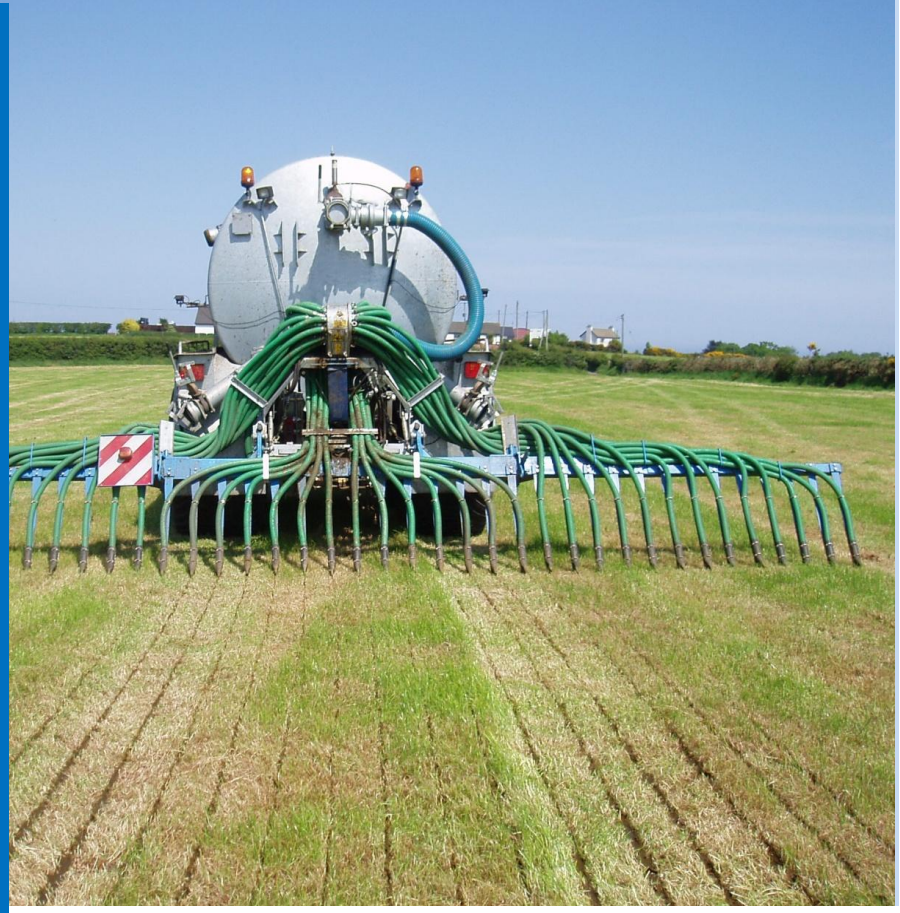
Nitrates Directive Derogation Guidance Booklet 2015-2018

For Northern Ireland farmers on the requirements of the Nitrates Directive Derogation from the livestock manure limit of 170 kg Nitrogen per hectare per year.



Department of Agriculture and Rural Development
www.dardni.gov.uk

AN ROINN Talmhaíochta agus Forbartha Tuaithe

MÄNNYSTRIE O Fairms an Kintra Fordèrin

NIEA Northern Ireland Environment Agency
www.ni-environment.gov.uk

An Agency within the Department of the Environment
www.doeni.gov.uk

INVESTORS IN PEOPLE

This document may be made available in alternative formats; please contact us to discuss your requirements:-

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You can download this guidance booklet from our websites. Follow these links: www.dardni.gov.uk/publications/nitrates-directive-derogation-information-2015-2018 or: www.doeni.gov.uk/articles/nitrates-directive

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Introduction

In Northern Ireland the EU Nitrates Directive is currently implemented through the Nitrates Action Programme Regulations (Northern Ireland) 2014 (NAP Regulations). The Regulations include a limit on the amount of nitrogen (N) from livestock manure that can be applied to land of 170 kg N per ha per year on all farms (the *livestock manure nitrogen loading limit*). In addition, farms applying chemical fertiliser containing phosphorus (P) must comply with the Phosphorus (Use in Agriculture) Regulations (Northern Ireland) 2014 (Phosphorus Regulations). The NAP 2015-2018 and Phosphorus Regulations Guidance Booklet gives general guidance on the measures set out in the NAP and Phosphorus Regulations and how to comply with them and is available at:- www.dardni.gov.uk/nitrates-action-programme or www.doeni.gov.uk/nitrates-directive

In 2014 Northern Ireland was successful in applying to the European Commission to renew a Derogation from the Nitrates Directive (Commission Decision 2015/346/EU) permitting the land application of up to 250 kg N per ha per year from grazing livestock manure under certain conditions. This Derogation, for the period 2015 to 2018, is also implemented through the NAP Regulations. It is underpinned by scientific justification showing that this fertilisation amount will not compromise the achievement of protecting and improving water quality.

This Derogation Guidance Booklet provides details of what you are required to do under derogation. It is only applicable if you have been successful in applying to the Northern Ireland Environment Agency (NIEA) to operate under an individual derogation, otherwise the livestock manure loading limit of 170 kg N per ha per year under the NAP Regulations applies.

Please note that the NAP and Phosphorus Regulations Guidance Booklets and the Derogation Guidance Booklets issued from 2007 to 2010 and 2011 to 2014 are only applicable for those years.

Legal Requirements and Cross-Compliance

The rules set out in the NAP and Phosphorus Regulations apply to all farm businesses in Northern Ireland. If you are undertaking any of the activities covered by the Regulations you have a legal obligation to comply with the rules; **regardless of whether or not you are claiming any Area-Based Scheme payments**. Failure to comply may lead to legal action being taken against your business by NIEA.

The Nitrates Directive also underpins one of the Cross-Compliance Statutory Management Requirements (SMR 1: Protection of Water against Nitrate Pollution). Therefore, for farm businesses claiming payments under Area-Based Schemes (including the *Basic Payment Scheme* (BPS)), non-compliance with the NAP Regulations, **including non-compliance with the terms of any derogation granted to your farm**, is also a breach of Cross-Compliance conditions and may lead to a reduction in payments.

Table 1 summarises the measures set out in the NAP and Phosphorus Regulations and, for the NAP Regulations, groups them into the verifiable standards that must be adhered to under Cross-Compliance.

Summary of measures required to comply with the Nitrates Action Programme and Nitrates Derogation

Table 1 – Summary of measures required to comply with the NAP and Nitrates Derogation

(Measures **in blue** show changes from the 2011-2014 NAP and 2006 Phosphorus Regulations)

Verifiable Standards	Key Measures	
	Nitrates Action Programme - Requirements for **ALL** farmers	**Additional action required on derogated farms**
Closed spreading periods	• Chemical N and **phosphate** fertiliser must not be applied to grassland from midnight 15 September to midnight 31 January. • **All types** of chemical fertiliser must not be applied to crops other than grass from midnight 15 September to midnight 31 January, unless there is a demonstrable crop requirement. • Organic manures, including slurry, poultry litter, digestate, sewage sludge, anaerobic digestate and abattoir waste, must not be applied to any land from midnight 15 October to midnight 31 January. • Farmyard manure (FYM) must not be applied to any land from midnight 31 October to midnight 31 January. • There is no closed spreading period for dirty water.	• Where the fertilisation plan indicates a proposal to disturb soil as part of grass cultivation, for example ploughing, there must be no application to that parcel of land of any organic manures, including FYM and dirty water, from midnight 15 October in any year to midnight 31 January of the following year.
Land application restrictions	• **All fertilisers**, chemical and organic and including dirty water, must not be applied:- – on *waterlogged* soils, flooded land or land liable to flood; – on frozen ground or snow covered ground; – if *heavy rain* is falling or forecast in the next 48 hours; – on steep slopes (that is an average incline of 20% or more on grassland or an average incline of 15% or more on all other land) where other significant risks of water pollution exist. Risk factors to be considered include the proximity to *waterways*, the length of time to incorporation; – type and amount of fertiliser being applied and/or the soil and weather conditions; or	

Summary of measures required to comply with the Nitrates Action Programme and Nitrates Derogation (continued)

Verifiable Standards	Key Measures **Nitrates Action Programme -** Requirements for **ALL** farmers	 **Additional action required on derogated farms**
	– **on less steep slopes (with an average incline of 15% or more on grassland or 12% or more on all other land), organic manures must not be applied within 30 m of lakes and 15 m of other waterways; chemical fertilisers must not be applied within 10 m of lakes and 5 m of other waterways.** • Prevent entry of fertilisers to waters and ensure application is accurate, uniform and not in a location or manner likely to cause entry to waters. • **All types** of chemical fertiliser must not be applied within 2 m of any waterway. • Organic manures including dirty water must not be applied within:- – 20 m of lakes; – 50 m of a borehole, spring or well; – 250 m of a borehole used for a public water supply; – 15 m of exposed cavernous or karstified limestone features; – 10 m of a waterway other than lakes; this distance may be reduced to 3 m where slope is less than 10% towards the waterway and where organic manures are spread by bandspreaders, trailing shoe, trailing hose or soil injection or where adjoining area is less than 1 ha in size or not more than 50 m in width. • Application rates:- – No more than 50 m^3 per ha (4,500 gal per ac) or 50 tonnes per ha (20 t per ha) of organic manures to be applied at one time, with a minimum of three weeks between applications; – No more than 50 m^3 per ha (4,500 gal per ac) of dirty water to be applied at one time; or – No more than with a minimum of two weeks between applications. • Slurry can only be spread by inverted splashplate, bandspreaders, trailing shoe, trailing hose or soil injection. • Dirty water to be spread by same methods as slurry and by irrigation.	

Summary of measures required to comply with the Nitrates Action Programme and Nitrates Derogation (continued)

Verifiable Standards	Key measures	
	Nitrates Action Programme - Requirements for **ALL** farmers	**Additional action required on derogated farms**
	• Sludgigators must not be used.	
Livestock Manure N Loading	• 170 kg N per ha per year farm limit.	• 250 kg N per ha per year limit from grazing livestock manure (cattle (excluding veal calves), sheep, deer, goats and horses). • 170 kg N per ha per year limit from all other livestock manure.
Overall N Fertiliser Limits	• Maximum kg N per ha on grassland (apart from N in *livestock manure*):- – Dairy farms* 272 (8¼ bags** per ac) – Other farms 222 (6¾ bags** per ac) (When applying chemical N fertiliser, N from organic manures (other than livestock manure and anaerobic digestate containing digested livestock manure) must be subtracted.) For non-grassland crops, maximum N applied (from all types of fertiliser, including livestock manure) must not exceed crop requirement and, **for certain *arable crops*, an N-Max limit applies to the total crop area.** * More than 50% of N in livestock manure comes from dairy cattle. **Approximate number of 50 kg bags of a 27% N type fertiliser.	
Restrictions on Phosphate Application	• Chemical fertilisers containing phosphate must only be applied where soil analysis shows a crop requirement for P.[1]	

[1] For the Phosphorus Regulations, this measure is a legal requirement but not a verifiable standard under Cross-Compliance.

Summary of measures required to comply with the Nitrates Action Programme and Nitrates Derogation (continued)

Verifiable Standards	Key measures	
	Nitrates Action Programme - Requirements for **ALL** farmers	**Additional action required on derogated farms**
	• New values for phosphate recommendations for grassland and phosphate availabilities for organic manures. • **From 1 January 2017, organic manure with more than 0.25 kg of total P per 1 kg of total N (e.g. some anaerobic digestates) can only be applied where there is a crop requirement for P.**	
Phosphorus balance	Not applicable.	• Derogated holding must not exceed a surplus of 10 kg P per ha per year.
Livestock Manure, Silage and Silage Effluent Storage Requirements	• 26 weeks livestock manure storage capacity for pig and poultry enterprises. • 22 weeks for other enterprises. • When certain criteria are met there are allowances for out-wintering, animals in bedded accommodation, separated cattle slurry, renting additional tanks, poultry litter stored in a midden or field heap and exporting manure to approved outlets. • Livestock manure and silage effluent storage must be maintained and managed to prevent seepage or run-off. • Silage and slurry stores constructed or substantially modified after 1 December 2003 must comply with certain construction standards (set out in the NAP Regulations) and be notified to NIEA at least 28 days before they are brought into use. • **Silage bales must be stored at least 10 m from any waterway and stored and managed in such a way as to prevent seepage into the waterway.**	

Summary of measures required to comply with the Nitrates Action Programme and Nitrates Derogation (continued)

Verifiable Standards	Key measures	
	Nitrates Action Programme - Requirements for **ALL** farmers	**Additional action required on derogated farms**
	• FYM and poultry litter storage:- - both may be stored in middens with adequate effluent collection facilities. - both may be stored in a field heap where they are to be applied for **a maximum of 120 days**. - field storage of poultry litter is subject to authorisation by NIEA. • FYM and poultry litter field heaps must not be stored:- - in the same location of the field year after year; - within 50 m of a borehole, spring or well; - within 250 m of a borehole used for a public water supply; - within 50 m of exposed cavernous or karstified limestone features; - on land that is waterlogged, flooded or likely to flood. • FYM field heaps must not be stored within 20 m of any waterway and 50 m of lakes. • Poultry litter field heaps must not be stored within 100 m of lakes and 40 m of a waterway. • Poultry litter field heaps must be covered with an impermeable membrane as soon as possible and within 24 hours of placement in the field. • Provide storage for dirty water during periods when conditions for land application are unsuitable.	
Land Management	• From **harvest of all crops** until **15 January** of the following year, the land must be managed to ensure minimum soil cover and to minimise soil erosion and nutrient run off. • Where grass leys are grown in rotation with arable crops, the crop should be sown as soon as possible after grass has been ploughed.	• At least 80% of controlled agricultural area must be grassland. • Soil testing for phosphorus must be carried out across

Summary of measures required to comply with the Nitrates Action Programme and Nitrates Derogation (continued)

Verifiable Standards	Key measures	
	Nitrates Action Programme - Requirements for **ALL** farmers	**Additional action required on derogated farms**
		the holding at least every four years. • Temporary grassland must only be ploughed in spring; • Ploughed grass must be followed immediately by a crop with a high N demand; • Crop rotation must not include leguminous or other plants fixing N except for grassland with less than 50% clover and legumes undersown with grass.
Record Keeping	• **Records relating to the export of organic manure to be submitted annually to NIEA by 31 January of the following year.** • Eligible agricultural area, field size and location. Cropping regimes and areas, Soil Nitrogen Supply (SNS) index for crops other than grassland. • Livestock numbers, type, species and time kept. • Organic and chemical fertiliser details including imports and exports. • Evidence of a crop phosphate requirement from soil analysis if chemical	• Application for derogation must be made to NIEA on or before 1 March in the year for which the derogation is being sought. • Prepare and keep a fertilisation plan on farm and have it ready for inspection

Summary of measures required to comply with the Nitrates Action Programme and Nitrates Derogation (continued)

Verifiable Standards	Key measures	
	Nitrates Action Programme - Requirements for **ALL** farmers	**Additional action required on derogated farms**
	phosphate fertiliser is applied.[2] • **From 1 January 2017 – evidence of a crop phosphate requirement from soil analysis if organic manure with over 0.25 kg total P per 1 kg total N is applied (P-rich manure).** • Storage capacity, and where applicable, details of rental agreements, authorisation to store poultry litter in field heaps and associated evidence to support allowances to reduce capacity. • Evidence of control over the eligible agricultural area (including controllers' agreements) and the right to graze common land. From 2015 you will not need to keep controller agreements, but you will still need to produce them for the calendar years 2010-2014 if selected for an inspection. (Many of these records already exist on farms, for example, Single Application Form/Integrated Administrative Control System (SAF) IACS) forms, farm maps, herd and flock records and fertiliser receipts. N and phosphate requirements for grassland are set out in the NAP and Phosphorus Regulations. N and P requirements for other crops should be determined using the latest edition of the Department for Environment, Food and Rural Affairs (DEFRA) Fertiliser Manual.) • Records to be ready by 30 June each year for the period 1 January to 31 December of previous year. • Records to be available for inspection from previous five calendar years.	by 1 March for that calendar year. • When available, soil analysis results must be kept with the fertilisation plan. • Prepare and submit a fertilisation account to NIEA each year on or before 1 March for the previous calendar year.
Compliance with a Notice	Enforcement Notices issued under the NAP Regulations and Phosphorus Regulations[2] must be complied with.	

[2] For the Phosphorus Regulations, this measure is a legal requirement but not a verifiable standard under Cross-Compliance.

Key Definitions Under a Derogation

Some frequently used terms in this guidance booklet are defined below. For definitions of other terms, please refer to the key definitions and glossary in the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet.

Controller - the person charged with management of a holding for the calendar year in question and will be taken to be:-

(a) for calendar years prior to 2015 and in the absence of a written nitrates controller agreement to the contrary, the person claiming direct agricultural aid payments for the eligible agricultural area or, where direct agricultural aid payments are not being claimed, the owner of the agricultural area; or

(b) for calendar years from 2015, the person claiming direct agricultural aid payments for the eligible agricultural area or, where direct agricultural aid payments are not being claimed, the person who enjoys the decision making power, benefits and financial risks in relation to the agricultural activity carried out on the land.

Grass - permanent grassland or temporary grassland (temporary implying leys of less than four years).

Grassland farms - holdings where 80% or more of the agricultural area available for manure application is grass.

Grazing livestock - cattle (with the exclusion of veal calves), sheep, deer, goats and horses.

Livestock manure nitrogen loading - the amount of total nitrogen in livestock manures applied to the eligible land under your control, both by land application and directly by excretion by livestock.

The following farm scenario is used throughout this booklet:-

64 ha eligible agricultural area

56.78 ha of eligible grassland area

4.22 ha winter wheat

3.00 ha forage maize

100 dairy cows (9,100 kg N)

5 cattle over 2 years (270 kg N)

30 cattle 1-2 year olds (1,410 kg N)

30 cattle under 1 year (570 kg N)

1 broiler house finishing 132,000 birds per annum (5,280 Kg N)

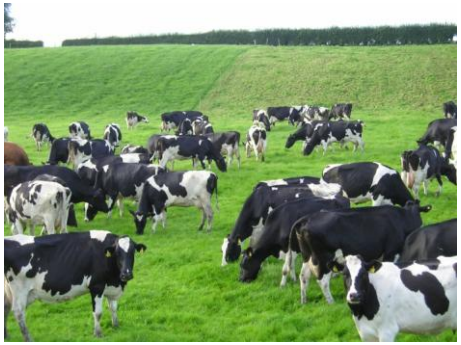
Exports 141 tonnes of broiler litter off-farm (4,653 kg N)

Produces 650,000 litres of milk

Why would I need to apply for a Derogation?

The Nitrates Directive sets out a livestock manure nitrogen loading limit of **170 kg N per ha per year.** Unless you have an approved Derogation, exceeding this limit is a breach of the NAP Regulations. In Northern Ireland approximately 90% of farm businesses are working under the 170 kg N limit. Only intensive dairy, beef, pig and poultry farms tend to exceed it, however, it is strongly advisable that all farm businesses calculate their nitrogen loading so that you know your position in relation to the limit. The livestock manure nitrogen loading for your farm can be calculated using the guidance set out in **Section 5** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet.

If your nitrogen loading is above 170 kg N per ha per year, your options are to:-



- apply for a Nitrates Derogation to operate above the limit; or
- reduce your loading by taking more eligible land, exporting livestock manure and/or reducing livestock numbers (see the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet for further information).

The best option for your farm business will depend on your individual circumstances and business model and it may be helpful to discuss the alternatives with a farm business adviser.

If you decide that applying for a Nitrates Derogation is the best option for your business, you must be able to meet and/or comply the following criteria:-

- Maintain at least 80 % of the eligible agricultural area of the holding in grassland;
- Make an application for derogation to NIEA on or before 1 March each year;
- Prepare a fertilisation plan on the holding by 1 March each year and keep updated during the year;
- Prepare and submit a fertilisation account for the previous calendar year to NIEA on or before 1 March each year;
- Have a farm phosphorus balance that does not exceed 10 kg P per ha per year;
- Undertake soil analysis; and
- Comply with some additional restrictions on crop rotation and soil management.

Farmers who successfully apply for a derogation must also meet all the standard NAP Regulations requirements (including closed periods for fertiliser application and limits on how much nitrogen can be applied to grassland and other crops). These are summarised on **pages 2-8** of this booklet and detailed in the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet. The additional controls for derogated farms are explained in further detail in the following sections.

What must I do to comply with the Derogation rules?

1. Maintain at least 80 % of the eligible agricultural area of the holding in grassland

Compliance with this measure will be verified at application stage and again during any inspection. SAF form declarations will be used for verification where appropriate.

2. Make an application for derogation to NIEA on or before 1 March each year

See **Pages 15-23** for further detail on making an application.

3. Prepare a fertilisation plan on the holding by 1 March each year and keep updated during the year

What is a fertilisation plan?
A fertilisation plan is a document detailing your proposed farming plans for the coming calendar year as regards cropping and fertilisation, projected stock numbers and manure production, housing and manure storage capacity. As it details your ***proposed*** plans it should be updated whenever these change.

The fertilisation plan must be prepared for each calendar year and kept up to date over the year. The plan is not submitted to NIEA but is kept on the farm. It must be available for inspection on farm by 1 March of the calendar year it refers to.

What must a fertilisation plan include?
The fertilisation plan must include the following:-

(1) planned average stock numbers for the year;
(2) description of housing and storage system;
(3) volume of livestock manure storage;
(4) planned livestock manure N and P to be produced on the farm;
(5) planned areas of grass and other crops to be grown and area noted on farm map;
(6) N and P requirements of grass and other crops to be grown, in accordance with the latest edition of the DEFRA Fertiliser Manual and the Phosphorus Regulations (guidance provided in detail in the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet);
(7) soil analysis results when available;
(8) amount and type of organic manure to be imported or exported;
(9) planned N and P applications from livestock manure over each uniform area of soil type and crop; and
(10) planned N and P to be applied from chemical and other organic manures over each uniform area of soil type and crop.

An example of a fertilisation plan may be found in **Annex A.**

What if my management differs from my plan?
Plans must be revised no later than seven days following any changes in agricultural practices to ensure consistency between plans and actual agricultural practices. NIEA do not need to be contacted if changes are made but always ensure that any change in management does not cause a breach of the NAP and Phosphorus Regulations, including the derogation controls.

If you do not intend to make significant changes to your farm practice the records for the previous year may form the basis of the current year's plan.

4. Prepare and submit a fertilisation account for the previous calendar year to NIEA on or before 1 March each year

What is a fertilisation account?
The fertilisation account is primarily a summary of the fertiliser (chemical and organic) applied in the previous calendar year and the provision of information required to allow calculation of the farm's P balance.

A fertilisation account must be prepared for each calendar year and submitted to be received by NIEA on or before 1 March of the following year.

Failure to submit an account on time will result in BPS penalties being applied and may invalidate any application for derogation in the year of submission.

The following information must be included to allow NIEA to assess compliance with the various limits set for the derogated farm:-

- N requirement of crops grown;
- N chemical fertiliser usage;
- type and number of livestock;
- quantity and type of organic manure imported and exported;
- the amount of P in agricultural products entering and leaving the farm; and
- a description of how dirty water is managed.

An example of a fertilisation account may be found in **Annex B.**

5. Have a farm phosphorus balance that does not exceed 10 kg P per ha per year

What is a phosphorus (P) balance and how do I calculate it?
A P balance is the difference between the amount of P entering and leaving the farm expressed over the eligible agricultural area controlled. Derogated farms must not exceed a P balance of **10 kg P per ha per year.**

The balance includes all P inputs and outputs from all enterprises on the farm. It is calculated by subtracting the kilogrammes of P leaving the farm in product (for example, milk, eggs, cull cows, calves, pigs, broilers) from the kilogrammes of P entering the farm in inputs (for example, concentrates, fertiliser, imported forage or livestock manures) then dividing the difference by the eligible agricultural area in hectares.

The standard P content of common inputs and outputs are found in **Annex C** and a full example is worked in **Annex D**. If the amount of P in the inputs and outputs deviates from the standard figures, documentary evidence must be provided. For further assistance in calculating a P balance for your farm see www.dardni.gov.uk/onlineservices

What must I do to comply with the Derogation rules? (continued)

6. Undertake soil analysis

Is soil sampling required?
Farmers operating under a derogation must carry out soil sampling for phosphorus (P) analysis at least once between 2015 and 2018 for each uniform area of the farm, with regard to crop rotation and soil characteristics. At least one analysis per 4 ha of farmland is required. More information on how to carry out soil sampling and use the results for nutrient management planning can be found in **Section 7** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet.

Taking a soil sample for laboratory testing for nitrogen (N) is not required as the fertiliser application limits for grassland take into consideration the amount of nitrogen in the soil. Similarly in the case of crops the Soil Nitrogen Supply (SNS) indicates the amount of N in soil. (Refer to **Annexes G and H** in the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet).

7. Comply with some additional restrictions on crop rotation and soil management

Can I apply manure in the autumn before ploughing grass?
Ploughing grass swards after a manure application can lead to poor nutrient uptake from the resulting reseed. To minimise the loss of nutrients, manure should be applied after ploughing only. This means that on a derogated holding, where the fertilisation plan indicates a proposal to disturb soil as part of grass cultivation (for example, ploughing), there must be no application to that parcel of land of any organic manures, **including farmyard manure and dirty water**, between 15 October in any year and 31 January of the following year.

Can I plough grassland at any time of the year?
No. To minimise the potential for nitrogen leaching, grass swards less than four years old can only be ploughed in spring.

What can I grow after ploughing grassland?
Ploughed grass on all soil types must be followed immediately by a crop with a high N requirement. This prohibits crops such as peas or beans which have no N requirement.

Can I grow leguminous plants or other plants fixing atmospheric N?
Growing N fixing plants, for example, clovers, peas, beans and lucerne may result in an excessive amount of N being available to grass or crops. Therefore, in most situations, these plants must not be grown on derogated holdings. However, grassland with less than 50% clover is allowed, as are other legumes undersown with grass.

Applying for a Derogation

When must I apply for a derogation?
Farmers who want to benefit from a derogation must submit an application form for that year and a fertilisation account (if operating under a derogation in the previous year) to be received by NIEA each year on or before **1 March**.

Late applications will not be accepted.

When can I expect a decision on my application?
NIEA must make a decision within 28 days of receipt of a complete application. Where your application is deemed approved you will generally not receive any further correspondence from NIEA. You will receive a letter within 28 days of receipt of your application if it has been refused, with an explanation of the reason for refusal. Applications received after 1 March or incomplete applications cannot be accepted.

What can I do if my application is refused or was received after 1 March deadline?
You must adjust your management of your farm to comply with the 170 kg N per ha per year livestock manure limit.

Under certain circumstances, you also have the right to appeal against an NIEA decision to refuse your application for derogation. You can do this by contacting the Water Appeals Commission within 28 days of the refusal. The appeal should contain, or be accompanied by, a statement of the grounds of appeal.

The Water Appeals Commission has powers to overturn the refusal or dismiss the appeal.

The Water Appeals Commission can be contacted at:-

Park House
87-91 Great Victoria Street
Belfast
BT2 7AG

Tel: 028 9024 4710
Fax: 028 9031 2536
e-mail: info@pacni.gov.uk

You may wish to consider taking legal advice before making an appeal. Legal advice would be sought at your own expense.

Any queries on the legal interpretation of the Regulations and on their enforcement should be made to NIEA.

What if I find out that I no longer need a derogation?
If at any stage your circumstances change so that you are operating below 170 kg N per ha per year livestock manure you must inform NIEA **as soon as possible and before 31 December of that year**. They will require you to provide written evidence to show that you can operate below this livestock manure limit and you will, therefore, need to provide details of livestock manure production, livestock manure imports and exports and area of land controlled.

Completing the application form

(An example of a Derogation application form is shown below. Guidance on how to complete it is set out on the following pages)

Nitrates Derogation Form 2015

SECTION A

Name: _____
Address: _____
_____
_____
Postcode: _____

DARD Business Ref No: 6 _ _ _ _ _ _ _
Telephone: _____
Mobile: _____
E-mail: _____

SECTION B: AGRICULTURAL AREA DETAILS

1. i. Eligible Agricultural Area of your holding under your control in 2015 (hectares) ☐

ii. Eligible Grassland Area of your holding under your control in 2015 (hectares) ☐

SECTION C: GRAZING LIVESTOCK MANURE DETAILS

2. Estimated nitrogen produced from grazing livestock manure on your holding in 2015 (kgs) ☐

3. How much nitrogen from grazing livestock manure do you intend to import onto your holding in 2015 (kgs) ☐

4. How much nitrogen from grazing livestock manure do you intend to export from your holding in 2015 (kgs) ☐

SECTION D: NON-GRAZING LIVESTOCK MANURE DETAILS

5. Estimated nitrogen produced from non-grazing livestock manure on your holding in 2015 (kgs) ☐

6. How much nitrogen from non-grazing livestock manure do you intend to import onto your holding in 2015 (kgs) ☐

7. How much nitrogen from non-grazing livestock manure do you intend to export from your holding in 2015 (kgs) ☐

SECTION E: DECLARATION/UNDERTAKING TO BE COMPLETED BY APPLICANT

I declare that, to the best of my knowledge, the particulars given by me in this form are correct at this time and that I undertake to comply with all the derogation conditions set out in the summary of the measures attached.

SIGNED: _____ DATE: _____

Completed forms to be submitted on or before **1 March 2015** to:- **Northern Ireland Environment Agency**
Water Management Unit, Agricultural Regulations Team,
17 Antrim Road, Lisburn, Co Antrim, BT28 3AL

PTO

Completing the application form (continued)

Section A – Farm Business Details

To complete the application form, both boxes in Section B must be filled in or the application will be considered incomplete. Where you have no information to declare in boxes in **Sections C and D** ensure you put a line through the box. If subsequently it becomes apparent that something should have been declared, and has been omitted this will be considered a false declaration and may affect your derogation approval. Page references mentioned throughout are from this booklet.

Write your name, address, DARD business reference number and contact information. Please complete in **BLOCK CAPITALS**.

Nitrates Derogation Application Form Section A (Sample form)

Example of the Nitrates Derogation Application Form 2015

SECTION A

Name:	JOHN SMITH	**DARD Business Ref No:**	675256
Address:	1 BIGFARM ROAD	**Telephone:**	028 1234 5678
	BALLYHOME	**Mobile:**	07412 345678
		E-mail:	
Post Code:	BT2 7AG		

Completing the application form (continued)

Section B – Eligible agricultural area details

To be eligible for derogation, 80% or more of the agricultural area of your holding under your control must be grassland. From 2015:-

- **If you are claiming direct agricultural aid payments, only agricultural land that you have claimed and is eligible for payment is assumed to be under your control.**
- **If you are not claiming direct agricultural aid payments, only agricultural land for which you have decision making power, benefits and financial risks in relation to the agricultural activity carried out on it is assumed to be under your control.**

For more information see **Section 1.3** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet.

Nitrates Derogation Application Form Section B: Eligible Agricultural Area Details

SECTION B: ELIGIBLE AGRICULTURAL AREA DETAILS		*Figures from example farm scenario*
1.	i. Eligible agricultural area of your holding in 2015 (hectares)	**64 (A)**
	ii. Eligible grassland area of your holding in 2015 (hectares)	**56.78 (B)**

1. (i) Eligible agricultural area of your holding this year (hectares):-

State the eligible agricultural area of your holding as declared and claimed on your SAF application form under your control this year in hectares (see **page 10**).

1. (ii) Eligible grassland area of your holding this year (hectares):-

State the area in hectares of grassland under your control this year. Grassland is defined as any land on which the vegetation consists predominantly of grass species. This area will be determined based on the crop grown for the majority of the year.

Completing the application form (continued)

Section C – Grazing livestock manure details

You cannot apply more than 250 kg N per ha per year from grazing livestock manure to land. This includes application by the animal itself. Grazing livestock means cattle (with the exception of veal calves), sheep, deer, goats and horses. You may apply for derogation in respect of grazing livestock only, so this figure should not include N produced from non-grazing livestock such as pigs or poultry. If your **grazing livestock** stocking rate is greater than 250 kg N per ha per year, you will have to make alternative arrangements to deal with the surplus. (Method to calculate your livestock manure N loading can be found in the NAP 2015-2018 and Phosphorus Regulations Workbook, the online calculator available at www.dardni.gov.uk/onlineservices and at CAFRE training programmes. More information can be found on-line at www.cafre.ac.uk)

Nitrates Derogation Application Form Section C: Grazing livestock manure details (Sample form)

SECTION C: GRAZING LIVESTOCK MANURE DETAILS

2.	Estimated nitrogen produced from grazing livestock manure on your holding in 2015 (kgs)	**11,350 (C)**
3.	How much nitrogen from grazing livestock manure do you intend to import onto your holding in 2015 (kgs)	**(D)**
4.	How much nitrogen from grazing livestock manure do you intend to export from your holding in 2015 (kgs)	**(E)**

2. Estimated nitrogen produced from grazing livestock manure on your holding this year (kgs)
State the N (in kgs) that you predict will be produced from grazing livestock only on your holding this year. Use the amount recorded in the previous year unless you anticipate any substantial change in stocking levels this year.

3. **How much nitrogen from grazing livestock manure do you intend to import onto your holding this year (kgs)?**
State any N (in kgs) from grazing livestock manure in kgs that you predict will be imported onto your holding this year. Remember all farmers in Northern Ireland must keep records of imported manures (**Section 10.4-10.5 and Annex N** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet). If you do not intend to import any grazing livestock manure onto your holding this year **put a line through this box.**

Completing the application form (continued)

4. **How much nitrogen from grazing livestock manure do you intend to export from your holding this year (kgs)?**
You may choose to export surplus grazing livestock manure in which case state any surplus of N (in kgs) to be exported this year. Remember all farmers in Northern Ireland must keep records of exported manures (**Section 10.4-10.5 and Annex N** of NAP 2015-2018 and Phosphorus Regulations Guidance Booklet) and submit them to NIEA by:-

- **31 January the following year for non-derogated farms.**
- **1 March the following year for derogated farms.**

If you do not intend to export any grazing livestock manure from your holding this year **put a line through this box.**

Completing the application form (continued)

Section D – Non-grazing livestock manure details

You cannot apply more than 170 kg N per ha per year from non-grazing livestock manure to land. This includes application by the animal itself. Grazing livestock means cattle (with the exception of veal calves), sheep, deer, goats and horses. Non-grazing livestock should include all other livestock such as pigs and poultry. You must have sufficient land to meet both these limits. If your non-grazing livestock stocking rate is greater than 170 kg N per ha per year, you will have to make alternative arrangements to deal with the surplus. (Method to calculate your livestock manure N loading can be found in the NAP Guidance Workbook, the online calculator available at www.dardni.gov.uk/onlineservices and at CAFRE training programmes. More information about NAP training courses can be found on-line at www.cafre.ac.uk). However, it should be noted that all of the farm will be subject to all of the conditions of the derogation.

Nitrates Derogation Application Form Section D: Non-grazing livestock manure details (Sample form)

SECTION D: NON-GRAZING LIVESTOCK MANURE DETAILS

5.	Estimated nitrogen produced from non-grazing livestock manure on your holding in 2015 (kgs)	**5,280 (F)**
6.	How much nitrogen from non-grazing livestock manure do you intend to import onto your holding in 2015 (kgs)	~~(G)~~
7.	How much nitrogen from non-grazing livestock manure do you intend to export from your holding in 2015 (kgs)	**4,653 (H)**

5. Estimated nitrogen produced from non-grazing livestock manure on your holding this year (kgs):-
State the N (in kgs) that you predict will be produced from non-grazing livestock only on your holding this year. Use the amount recorded in the previous year unless you anticipate any substantial change in stocking levels this year. If you do not have non-grazing livestock **put a line through this box.**

6. How much nitrogen from non-grazing livestock manure do you intend to import onto your holding this year (kgs)?
State any N (in kgs) from non-grazing livestock manure that you predict will be imported onto your holding this year. Remember all farmers in Northern Ireland must keep records of imported manures (**Section 10.4-10.5 and Annex N** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet). If you do not intent to import any non-grazing livestock manure onto your holding this year **put a line through this box.**

Completing the application form (continued)

7 How much nitrogen from non-grazing livestock manure do you intend to export from your holding this year (kgs)?
You may choose to export surplus non-grazing livestock manure in which case state any surplus of N (in kgs) to be exported this year. Remember all farmers in Northern Ireland must keep records of exported manures (**Section 10.4-10.5 and Annex N** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet) and submit them to NIEA by:-

- **31 January the following year for non-derogated farms.**
- **1 March the following year for derogated farms.**

If you do not intend to export any non-grazing livestock manure from your holding this year **put a line through this box**.

Section E - Declaration
You should read the leaflet on terms and conditions carefully before signing the declaration/undertaking. By signing this declaration and submitting your application to NIEA, you are accepting that you have understood the conditions attached to the granting of a derogation, that you are eligible to obtain a derogation and that you will meet the terms and conditions relating to the derogation this year.

Nitrates Derogation Application Form Section E: Declaration

SECTION E: DECLARATION/UNDERTAKING TO BE COMPLETED BY APPLICANT

I declare that, to the best of my knowledge, the particulars given by me in this form are correct at this time and that I undertake to comply with all the derogation conditions set out in the summary of the measures attached.

SIGNED: *J Smith* **DATE:**

Completing the application form (continued):-

Do you have enough land to meet the livestock manure nitrogen loading limits?

You must ensure that N from grazing and non-grazing livestock manure does not exceed the 250 kg N per ha per year and 170 kg N per ha per year limits.

An example of how to check this is set out below using the farm scenario outlined on **page 23** with 100 dairy cows and followers, and a 20,000 broiler unit selling 132,000 birds per annum and exporting 141 tonnes of litter off the farm. Agricultural area is 64 ha.

Land requirements for grazing livestock manure:-
(numbers in brackets relate to section C on the Nitrates Derogation application form **page 18**).

Land requirements for non-grazing livestock manure:-
(numbers in brackets relate to section D on the Nitrates Derogation application form **page 20**).

Eligible agricultural area of the example farm is 64 ha and, therefore, complies with the limits
If the land area requirement is greater than the actual eligible agricultural area of the farm then steps must be taken to reduce the livestock manure N.

What happens if the figures in my application form change? Do I have to notify NIEA?
No. However, you must ensure that you continue to comply with the terms of the derogation including having 80% grassland and operating at below 250 kg N per ha per year grazing livestock manure N and below 170 kg N per ha per year non-grazing livestock manure.

Completing the application form (continued):-

Do you have enough land to meet the livestock manure nitrogen loading limits?

Estimated N produced from grazing livestock manure	11,350 kg N	(2)
+ Imported N from grazing livestock	0	(3)
– Exported N from grazing livestock	0	(4)
Total N	11,350 kg N	
Divided by 250 kg N per ha per year (11,350 + 0 - 0 divided by 250 kg N per ha per year)		
Land requirement	**= 45.4 ha**	

Estimated N produced from non-grazing livestock manure	5,280 kg N	(5)
+ Imported N from non-grazing livestock	0	(6)
– Exported N from non-grazing livestock	4,653 kg N	(7)
Total N	627 kg N	
Divided by 170 kg N per ha per year (5,280 + 0 – 4,653 divided by 170 kg N per ha per year)		
Land requirement	**= 3.69 ha**	

45.4 + 3.69 = 49.1ha – the farm can comply with the land requirement limits.

Online Farm Nutrient Calculators

If you need help with the NAP measures on nutrient limits, storage requirements and record keeping, you can log onto www.dardni.gov.uk/onlineservices and use the Farm Nutrient Calculators which are designed to help you meet the requirements of the NAP.

There are five Farm Nutrient Calculators which are free, easy to use, available 24 hours per day, secure and confidential:-

- **Nitrogen loading calculator:** Helps you to calculate the nitrogen loading for your farm and check if you are below the 170 kg N per ha per year limit or, if operating under a derogation, below the 250 kg N per ha per year limit.

- **Manure storage calculator:** Helps you to calculate the weekly slurry, dirty water, manure production and current storage capacity for your farm and check if you have the required 22 or 26 weeks' storage or how much additional storage is needed.

***(Livestock numbers** are required for the above two calculators. An accurate record of cattle type and numbers kept each year since 2007 can be obtained using the 'Nitrate Animal Count' function on APHIS Online.)*

- **Crop nutrient calculator:** This programme will help you to comply with nutrient limit requirements and draw up a nutrient management plan (NMP) for your farm:-
  - determine the N, P_2O_5 and K_2O required by crops;
  - calculate the amount of nutrients supplied by organic manures;
  - select the correct chemical fertiliser and application rate; and
  - retain information required for record keeping.

(Although not a requirement of the Regulations, this calculator also provides information in relation to potash requirements. When this calculator is used for all three main nutrients (N, P_2O_5 and K_2O) it will help to improve soil fertility, optimise application rates, increase crop yields and help to reduce chemical fertiliser costs.)

- **Phosphorus balance calculator:** If operating under a derogation, helps you calculate the phosphorus balance for your farm and check that the limit of 10 kg P per ha per year has not been exceeded. For all farms it helps you manage phosphorus inputs and outputs to use phosphorus efficiently.

- **N-max for grassland calculator:** Helps you to check that nitrogen applications to the whole grassland area on the farm do not exceed the NAP limits.

Online Farm Nutrient Calculators (continued)

Where can I find the farm nutrient calculators?

Step 1: Go to www.dardni.gov.uk/.

Step 2: Click Online Services and then the Login button.

Step 3: If you have not yet registered, click 'I need a government gateway account' and follow the on-screen instructions. (Remember to select APHIS Online if you wish to use this service).

Step 4: Once registered, log in and select Farm Nutrient Calculators.

Step 5: Select the Farm Nutrient Calculator you wish to use.

Training

CAFRE offers the following training courses to help farmers understand the requirements of these Regulations:-

- **Nitrates Information Training -** general information on nitrates and record keeping.
- **Nitrates Derogation Training -** information on how to meet the additional requirements of the Nitrates derogation.
- **Nutrient Management Planning -** a further detailed course on matching nutrient inputs to crop requirement for economic crop production, the long term fertility of the soil and to comply with the Nitrates Regulations.

To register your interest for any of these courses please contact CAFRE by calling 028 9442 6770 or e-mail: developmentservice.admin@dardni.gov.uk.

Information

DARD publishes the Farm Advisory System (FAS) Newsletter in February and September each year and posts it to all farm businesses registered with DARD. The newsletter aims to bring farmers up to date with news and developments in topics including:-

- Cross-Compliance.
- Basic Payment Scheme Greening Regulations and the maintenance of agricultural area.
- Rural Development Programmes (RDP) aiming at farm modernisation and competitiveness building.
- Water Framework Directive (WFD).
- Sustainable Use of Pesticides Directive.

As the NAP is part of Cross-Compliance, the FAS Newsletter will contain information relating to nitrates designed to help farmers manage their businesses in compliance with these Regulations.

Inspection and enforcement

Who will be responsible for inspection and enforcement?
Inspection and enforcement of the NAP (including the derogation) and Phosphorus Regulations is carried out by NIEA, an agency within the Department of the Environment (DOE). Further information on inspections and enforcement can be found in **Section 12** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet.

Which farms will be inspected?
It is a requirement of the rules of the Derogation (as specified by the European Commission) that all farms operating under a derogation will be subject to administrative control.

This administrative control will be carried out by NIEA through checks on the application form and fertilisation accounts submitted to them by every farm business operating under a derogation.

It is also a requirement that at least 5% of farm businesses who have been granted a derogation undergo an on-farm Cross-Compliance inspection each year to check for compliance with the NAP Regulations, including the derogation measures. NIEA will carry out an environmental risk assessment to identify a list of farmers who will be inspected under Cross-Compliance. A proportion of farms will also be randomly selected. Currently the number of derogated farms likely to be inspected is about 10 per year. Notice is normally given of an inspection (see **Section 12** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet).

What happens if my farm is non-compliant?
NIEA will seek to work co-operatively with farmers to secure improved practice on the farm. Unfortunately enforcement action will need to be taken in some cases to ensure compliance. Any enforcement action will be in accordance with the NIEA Enforcement and Prosecution Policy for Environmental Protection which can be found on www.doeni.gov.uk/niea-and-water-pollution or you can contact NIEA. See **Annex E**.

Additionally, as non-compliance with the NAP Regulations, including the terms of any derogation granted to your farm, is also a breach of Cross-Compliance conditions, it may lead to a reduction in payments under Area-Based Schemes (including BPS).

Annex A

Example format of a fertilisation plan

The following pages are an example format of a **fertilisation plan** based on the farm scenario outlined on **page 9**.

The information can be presented in other formats if preferred, for example a print out from the CAFRE farm nutrient calculators, available at **www.dardni.gov.uk/onlineservices**

The fertilisation plan is kept on farm and should be presented if selected for an NIEA inspection.

Annex A

1 Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm

Table 1: Livestock manure nitrogen (N) and phosphorus (P) to be produced by dairy cattle per year

Only complete this table if you keep these livestock.

1. Multiply the planned number of livestock in column (A) by the N produced per head per year column (B). Enter total in column (C).
2. Multiply the planned number of livestock in column (A) by the P produced per head per year column (D). Enter total in column (E).
3. Total the N produced per year in column (C).
4. Total the P produced per year in column (E).

Livestock type	Average number per year	N produced per head per year (kg N)	N produced (kg per year)	P produced per head per year (kg P)	P produced (kg per year)
Dairy cattle	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Dairy cow	100	91	9,100	17	1,700
Dairy heifer (over 2 years)	5	54	270	10	50
Dairy heifer (1-2 years)	30	47	1,410	7.9	237
Breeding bull		54		10	
Dairy calves: to prevent the same animal being counted twice use either "0 to 1 year" **OR** "0-6 months" and/or "6 months to 1 year" categories					
0-1 year	30	19	570	4.7	141
OR					
6-12 months		12		3.0	
0-6 months		7		1.7	
		Total N produced from dairy cattle	**= 11,350**	**Total P produced from dairy cattle**	**= 2,128**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 2: Livestock Manure nitrogen (N) and phosphorus (P) to be produced by beef cattle per year

Only complete this table if you keep these livestock.

1. Multiply the planned number of livestock in column (A) by the N produced per head per year column (B). Enter total in column (C).
2. Multiply the planned number of livestock in column (A) by the P produced per head per year column (D). Enter total in column (E).
3. Total the N produced per year in column (C).
4. Total the P produced per year in column (E).

Livestock type	Average number per year	N produced per head per year (kg N)	N produced (kg per year)	P produced per head per year (kg P)	P produced (kg per year)
Beef cattle	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Suckler cows		54		10	
Cattle (over 2 years)		54		10	
Cattle (1-2 years)		47		7.9	
Breeding bull		54		10	
Beef calves: the same animal being counted twice use either “0 to 1 year” **OR** “0-6 months” and/or “6 months to 1 year” categories					
0-1 year		19		4.7	
OR					
6-12 months		12		3.0	
0-6 months		7		1.7	
Bull Beef calves: to prevent the same animal being counted twice use either “0 to 13.5 months” **OR** “0-6 months” and /or “6 to 13.5 months” categories					
0-13 months		30		7.5	
OR					
6-13 months		23		5.8	
0-6 months	Use beef calves 0-6 months.				
		Total N produced from beef cattle	**=**	**Total P produced from beef cattle**	**=**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 3: Livestock manure nitrogen (N) and phosphorus (P) to be produced by sheep per year.

Only complete this table if you keep these livestock.

1. Multiply the planned number of livestock in column (A) by the N produced per head per year column (B) enter total in column (C).
2. Multiply the planned number of livestock in column (A) by the P produced per head per year column (D) enter total in column (E).
3. Total the N produced in column (C).
4. Total the P produced in column (E).

Livestock type	**Average number per year**	**N produced per head per year (kg N)**	**N produced (kg per year)**	**P produced per head per year (kg P)**	**P produced (kg per year)**
Sheep	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Ewe (over 1 year)		9		1.0	
Ram (over 1 year)		9		1.0	
Lambs: to prevent the same animal being counted twice use either "0-1 year" **OR** "0-6 months" and/or "6-12 months" categories					
0-1 year		4.4		0.6	
OR					
6-12 months		3.2		0.3	
0-6 months		1.2		0.3	
		Total N produced from sheep	**=**	**Total P produced from sheep**	**=**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 4: Livestock manure nitrogen (N) and phosphorus (P) to be produced by deer and goats per year

Only complete this table if you keep these livestock.

1. Multiply the planned number of livestock in column (A) by the N produced per head per year column (B). Enter total in column (C)
2. Multiply the planned number of livestock in column (A) by the P produced per head per year column (D). Enter total in column (E)
3. Total the N produced per year in column (C).
4. Total the P produced per year in column (E).

Livestock type	Average number per year	N produced per head per year (kg N)	N produced (kg per year)	P produced per head per year (kg P)	P produced (kg per year)
Deer	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Deer (red) over 2 years		15		4	
Deer (red) 6 months–2 years		12		2	
Deer (fallow) over 2 years		13		2	
Deer (fallow) 6 months–2 years		7		1	
Deer (sika) over 2 years		10		2	
Deer (sika) 6 months–2 years		6		1	
Goats	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Milking goats		15		1.7	
Non milking goats		9		1.0	
Kids: to prevent the same animal being counted twice use either “0-1 year” **OR** “0-6 months” and/or “6-12 months” categories					
0-1 year		4.4		0.6	
OR					
6-12 months		3.2		0.3	
0-6 months		1.2		0.3	
		Total N produced from deer/goats	**=**	**Total P produced from deer/goats**	**=**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 5: Livestock manure nitrogen (N) and phosphorus (P) to be produced by horses per year.

Only complete this table if you keep these livestock.

1. Multiply the planned number of livestock in column (A) by the N produced per head per year column (B). Enter total in column (C)
2. Multiply the planned number of livestock in column (A) by the P produced per head per year column (D). Enter total in column (E)
3. Total the N produced per year in column (C).
4. Total the P produced per year in column (E).

Livestock type	Average number per year	N produced per head per year (kg N)	N produced (kg per year)	P produced per head per year (kg P)	P produced (kg per year)
Horses	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Horse > 3 years old		50		9	
Horse 2-3 years old		44		8	
Horse 1-2 years old		36		6	
Horse foal <1 year old		25		3	
Donkey/small pony		30		5	
		Total N produced from horses	**=**	**Total P produced from horses**	**=**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 6 and 7: Planned livestock numbers and livestock manure nitrogen (N) and phosphorus (P) to be produced by pigs per year

Only complete if you keep these livestock.
Select from either “Units with breeding stock only” or “Units with growing/finishing pigs only”, depending on your production system.

Table 6: Planned livestock numbers and livestock manure nitrogen (N) and phosphorus (P) to be produced by units with breeding stock only per year

1. Only complete the table below if you keep the pig types shown. This includes sows, gilts, boars and pigs from weaning to sale/transfer or slaughter.
2. Enter the planned average number of pigs on the unit at any one time in column (A).
3. Enter the planned total number of pigs to be sold/transferred off the unit in the year for each weight range in Column (F). You can select more than one weight.
4. Multiply the planned number per year by the N and P produced per year.
5. Total the N produced per year in column (C).
6. Total the P produced per year in column (E).

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 6: Planned livestock numbers and livestock manure nitrogen (N) and phosphorus (P) to be produced by units with breeding stock only per year (continued)

Livestock type	Breeding and rearing Units only				
	Number on unit per year[1]	N produced per head per year (kg N)	Total N produced (kg N per year)	P produced per head per year (kg P)	Total P produced (kg P per year)
Pigs	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Boars[1]		18		4.2	
Maiden gilts[1]		11		5.7	
Lactating sows[2], dry sows, served gilts[1]		16		8.7	
Sale/transfer weight of pigs (kg)	**Number sold/transferred per year**	**N produced per head per year (kg N)**	**Total N produced (kg N per year)**	**P produced per head per year (kg P)**	**Total P produced (kg P per year)**
	F	**B**	**C** (F)x(B)	**D**	**E** (F)x(D)
18		0.09		0.08	
35		0.38		0.23	
105		2.38		1.09	
		Total N produced from pig breeding stock	**=**	**Total P produced from pig breeding stock**	**=**

[1] Average number on the unit at any one time and not the total entering the herd.

[2] Lactating sow figure includes suckling pigs to weaning.

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 7: Planned livestock numbers and livestock manure nitrogen (N) and phosphorus (P) to be produced by units with growing/finishing pigs only per year

1. Only complete the table below if you just finish pigs and **do not** have breeding stock.
2. Enter the planned number of pigs to be sold or sent to slaughter in the year in Column (A).
3. Multiply the planned number per year by the N and P produced per year.

Livestock type	Growing and finishing farms ONLY				
	Number sold or sent to slaughter per year	N produced per head per year (kg N)	Total N produced (kg per year)	P produced per head per year (kg P)	Total P produced (kg per year)
Weight Range	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
7 kg–18 kg		0.09		0.08	
7 kg-35 kg		0.38		0.23	
7 kg-105 kg		2.38		1.09	
18 kg-35 kg		0.29		0.15	
18 kg-105 kg		2.30		1.00	
35 kg- 105 kg		2.00		0.85	
		Total N produced from growing/ finishing pig units	**=**	**Total P produced from growing/ finishing pig units**	**=**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Tables 8 and 9: Livestock manure nitrogen (N) and phosphorus (P) to be produced by poultry per year

Only complete this table if you keep these livestock.

1. Select either Table 8 or Table 9 depending on your production system.
2. Enter either the number of birds produced on your farm per year in column (A), Table 8 or the unit capacity in column (C), Table 9.
3. If using Table 9 enter the number of weeks occupancy in column (B) and multiply this by the unit capacity (A) to give the planned number of birds produced per year (C).
4. Multiply the number of birds by the N and P produced per 1,000 birds.
5. Total the N produced per year in the appropriate column.
6. Total the P produced per year in the appropriate column.

Table 8

Livestock type	Number of birds produced per year	N produced per 1,000 birds (kg N)	N produced (kg N per year)	P produced per 1,000 birds (kg P)	P produced (kg P per year)
Poultry	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (A)x(D)
Broilers (1,000s)	132	40	5,280	8.4	1,109
Male turkeys (1,000s)		611		254	
Female turkeys (1,000s)		363		104	
Fattening ducks (1,000s)		139		65	
		Total N produced from poultry	**= 5,280**	**Total P produced from poultry**	**= 1,109**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 9: Livestock manure nitrogen (N) and phosphorus (P) to be produced by poultry per year (continued)

Livestock type	Unit capacity (1,000s)	Number weeks occupancy	Number of birds produced	N produced per 1,000 birds per week (kg N)	N produced (kg N per year)	P produced per 1,000 birds per week (kg P)	P produced (kg P per year)
Poultry	**(A)**	**(B)**	**(C)** (A)x(B)	**(D)**	**(E)** (C)x(D)	**(D)**	**(E)** (A)x(D)
Broiler breeders (1,000s) 0-18 weeks				5.9		2.1	
Broiler breeders (1,000s) 18-60 weeks				21		7.6	
Broiler breeders (1,000s) 0-60 weeks				19		6.8	
Pullets (1,000s)				5.7		2.1	
Layers (1,000s)				12		4.6	
				Total N produced from poultry	**=**	**Total P produced from poultry**	**=**

Planned average stock numbers and livestock manure nitrogen and phosphorus produced on-farm (continued)

Table 10: nitrogen (N) and phosphorus (P) produced from livestock manure

Transferring the answers from the relevant pages enter the amount of livestock manure N and P from each of the enterprises on your farm.

	N produced (kg per year)	P produced (kg per year)
Dairy cattle livestock manure (total from page 28)	**11,350**	**2,128**
Beef cattle livestock manure (total from page 29)	+	+
Sheep livestock manure (total from page 30)	+	+
Deer and goat livestock manure (total from page 31)	+	+
Horse livestock manure (total from page 32)	+	+
Pig livestock manure (total from page 33-35)	+	+
Poultry livestock manure (total from page 36 and 37)	+ **5,280**	+ **1,109**
	= **16,630**	= **3,237**
Total for all enterprises	**(Total N produced kg per year)**	**(Total P produced kg per year)**

Remember you can use the CAFRE farm nutrient calculators, available at www.dardni.gov.uk to do these calculations.

Annex A

2 Organic manure planned to be imported and exported

1. Only complete this part if manure is to be imported/exported to or from your farm.
2. Select the type of slurry/manure and dry matter (DM) and insert the volume or tonnage. Typical DM is 6% for cattle slurry and 4% for pig slurry.

Slurry type	Nitrogen (N) content	Imported volume (m^3)	Exported volume (m^3)
Cattle slurry – 2% DM	1.6		
Cattle slurry – 6% DM	2.6		
Cattle slurry – 10% DM	3.6		
Pig slurry – 2% DM	3.0		
Pig slurry – 4% DM	3.6		
Pig slurry – 6% DM	4.4		
Separated cattle slurry (liquid portion)			
- Strainer box	1.5		
- Weeping Wall	2.0		
- Mechanical separator	3.0		
Separated pig slurry (liquid portion)	3.6		
Other e.g. digestate			

Manure type	Nitrogen (N) content	Imported quantity (tonnes)	Exported quantity (tonnes)
Cattle FYM – 25% DM	6.0		
Sheep manure FYM – 25% DM	7.0		
Pig manure FYM – 25% DM	7.0		
Broiler litter – 66% DM	33		141 t
Layer manure – 30% DM	16		
Turkey litter – 60% DM	30		
Duck manure – 25% DM	6.5		
Horse manure FYM – 30% DM	7.0		
Goat manure FYM – 25% DM	6.0		
Spent mushroom compost	8.0		
Separated cattle slurry (solid portion)	4.0		
Separated pig slurry (solid portion)	5.0		
Other			

$1m^3$= 220 gallons

Annex A

3 Map of farm

Provide a farm map which shows the following:-

- the field areas;
- crops grown in each field;
- crop grown last year if this year's crop is arable;
- Soil Nitrogen Status (SNS) index for arable crops (refer to the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet **Annex H) or** alternatively a table as below could be completed along with the farm map.

Farm survey number	Field number	Field area (ha)	Crop grown this year	Previous crop	SNS index (arable fields only except N-max crops*)
7/1/526	1	3.06	Grass	Grass	
7/1/526	2	4.00	Grass	Grass	
7/1/526	3	2.89	Grass	Grass	
7/1/526	4	2.68	Grass	Grass	
7/1/526	5	3.80	Grass	Grass	
7/1/526	6	2.61	Grass	Grass	
7/1/526	7	2.50	Grass	Grass	
7/1/526	8	2.90	Grass	Grass	
7/1/526	9	2.96	Grass	Maize	
7/1/526	10	3.82	Grass	Barley	

* N-max crops refer to winter/spring wheat, barley and oats. N-max is an upper limit for high yielding crops. For further information refer to **Section 5** below and the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet, **Annex I**.

Map of farm (continued)

Farm survey number	Field number	Field area (ha)	Crop grown this year	Previous crop	SNS index (arable fields only except N-max crops*)
7/1/526	11	4.10	Grass	Grass	
7/1/526	13	3.22	Grass	Winter Wheat	
7/1/526	14	6.53	Grass	Grass	
7/1/526	15	3.56	Grass	Grass	
7/1/526	16	3.15	Grass	Grass	
7/1/526	17	4.22	Winter Wheat	Grass	
7/1/526	18	2.3	Grass	Grass	
7/1/526	19	2.7	Grass	Grass	
7/1/526	20	3.0	Forage maize	Forage maize	1

* N-max crops refer to winter/spring wheat, barley and oats. N-max is an upper limit for high yielding crops. For further information refer to **Section 5** below and the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet, **Annex I**.

Annex A

4 Planning the amount of nitrogen (N) to be applied to grassland

This will estimate the amount of nitrogen (N) you are likely to apply to the grassland area over the year. If in practice this changes, plans should be amended within seven days.

Column (A)	Enter the total area of grassland.
Column (B)	Enter the maximum N requirement for your grassland area.
Column (C)	Enter the type(s) of organic manure, **not including livestock manure,** to be applied.
Column (D)	Enter in the amount of this organic manure to be applied to the grassland area.
Column (E)	Enter the available N content of these organic manures (per m^3 or tonne of manure) by calculating 40% of the total N content (i.e. multiplying by 0.4) (**Annex G** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet; total N content should be provided by producer or waste transfer note/copy of exemption from waste management licensing). For example, sewage sludge with a total N content of 3 kg N per m^3 has 1.2 kg available N per m^3.
Column (F)	Multiply columns (D) and (E) to give total amount of available N to be applied in organic manures.
Column (G)	Enter the type(s) of chemical fertiliser to be applied on grassland during the year.
Column (H)	Enter the total amount of chemical fertiliser product to be applied for each fertiliser type(s).
Column (I)	Calculate the amount of N to be applied for all type(s) of chemical fertiliser. For example if 25,000 kg of 27:0:0 is to be applied, kg of N to be applied = 27 x 25,000 ÷ 100 = 6,750 kg of N.
Column (J)	Add column (F) and (I) to give total N to be applied.
Column (K)	Divide total in (J) by whole area of grassland (A). Application to be less than requirement in column (B).

Planning the amount of nitrogen (N) to be applied to grassland (continued)

Nitrogen (N) planning sheet for grassland										
Crop details		Organic manure excluding livestock manures (for example sewage sludge)				Chemical N fertiliser			Organic and Chemical N fertiliser	Total N to be applied per ha (kg) Total (J) ÷ (A)
Area of grassland on the farm (ha)	N requirement of grassland (kg per ha) (As per page 18)	Type of manure	Total amount of manure to be applied to whole area of grass (m^3 or t)	Amount of available N (kg per m^3 or t) Annex G*	Total amount of available N to be applied to whole area of grass (kg) (D)x(E)	Type of N fertiliser to be applied	Total amount of fertiliser product to be applied to whole area (kg)	Total amount of N from fertiliser to be applied to whole area (kg)	Total amount of N to be applied to whole area (kg) (F)+(I)	
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
56.78	272	None	None	None	None	27:0:0	25,000	6,750	6,750	
						27:6:12	1,600	432	432	
						46:0:0	10,000	4,600	4,600	
								Total	11,782	208

* refers to **Annex G** in the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet.

Annex A
5

Planning the amount of nitrogen to be applied on N-max crops

(winter/spring wheat, barley and/or oats)

In contrast to grassland **all** organic manures must be taken into consideration including livestock manures. N-max is an upper limit of nitrogen (N) that can be applied to crops of winter/spring wheat, barley and oats.

Column (A)	Enter crop type – either winter/spring wheat, barley and/or oats.
Column (B)	Enter the total area for each crop type to be grown.
Column (C)	Enter the maximum N requirement for each crop area as per the N-max limit for crop requirement (**Annex I** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet) **including any adjustment for yield**.
Column (D)	Enter the type(s) of organic manure, **including livestock manure,** to be applied.
Column (E)	Enter in the amount of manure to be applied.
Column (F)	Enter the available N content (per m^3 or tonne of manure) of the manure to be applied (**Annex G** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet).
Column (G)	Multiply columns (E) and (F) to give total amount of available N to be applied in organic manures.
Column (H)	Enter the type(s) of chemical fertiliser to be applied.
Column (I)	Enter the total amount of chemical fertiliser product to be applied for each fertiliser type(s).
Column (J)	Total up the amount of N to be applied for all type(s) of chemical fertiliser applied. For example if 1,600 kg of 27:0:0 is to be applied, kg of N to be applied = 27 x 1,600 ÷ 100 = 432 kg of N.
Column (K)	Add column (G) and (J) to give total N to be applied to the area.
Column (L)	Divide total in (K) by area of crop (B). Application to be less than requirement in column (C).

Annex A
5

Planning the amount of nitrogen to be applied on N-max crops

(winter/spring wheat, barley and/or oats) (continued)

Nitrogen (N) planning sheet for N-max crops											
Crop details			Organic manure including livestock manures				Chemical nitrogen (N) fertiliser			Organic and chemical N fertiliser	Total N to be applied per ha (kg) Total (K) ÷ (B)
Crop	Total area of crop (ha)	Crop N-max require-ment (kg per ha) Annex I*	Type of manure	Total amount of manure to be applied to field(s) (m^3 or t)	Amount of available N (kg per m^3 or t) Annex G*	Total amount of available N to be applied to field(s) (kg) (E) x (F)	Type of N fertiliser to be applied	Total amount of fertiliser product to be applied to field(s) (kg)	Total amount of N from fertiliser to be applied to field(s) (kg)	Total amount of N to be applied to field(s) (kg) (G) + (J)	
(A)	(B)	I	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
Winter Wheat	4.22	220 (N-max limit)	Broiler litter	9 t	9.9	89.1	46:0:0	400	184	273.1	64.7
							27:6:12	300	81	81	19.2
									Total	354.1	83..9

* refers to **Annexes I and G** in the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet

Annex A
6

Planning the amount of nitrogen to be applied on other arable crops (excluding N-max crops and grass)

In contrast to grassland **all** organic manures must be taken into consideration including livestock manures.

Column (A)	Enter crop type from **Annex H** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet.
Column (B)	For each crop area on the farm with the same cropping history enter the soil nitrogen supply (SNS) index as determined per **Annex H** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet.
Column (C)	Enter the area to be grown for each crop type with the same cropping history.
Column (D)	Enter the maximum N requirement for each crop area (**Annex H** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet) taking into consideration the SNS index stated in column B.
Column (E)	Enter the type(s) of organic manure, **including livestock manure,** to be applied.
Column (F)	Enter in the amount of manure to be applied.
Column (G)	Enter the available N content (per m^3 or tonne of manure) of the manure to be applied (**Annex G** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet).
Column (H)	Multiply columns (E) and (F) to give total amount of available N to be applied in organic manures.
Column (I)	Enter the type(s) of chemical fertiliser to be applied.
Column (J)	Enter the total amount of chemical fertiliser product to be applied for each fertiliser type(s).
Column (K)	Total up the amount of N to be applied for all types of chemical fertiliser applied. For example if 1,600 kg of 27:0:0 is to be applied, kg of N to be applied = 27 x 1,600 ÷ 100 = 432 kg of N.
Column (L)	Add column (H) and (K) to give total N to be applied to the area.
Column (M)	Divide total in (L) by area of crop (C). Application to be less than requirement in column (D).

Annex A
6

Planning the amount of nitrogen to be applied on other arable crops (excluding N-max crops and grass) (continued)

Nitrogen (N) planning sheet for other arable crops (excluding N-max crops and grass)												
Crop details				Organic manure including livestock manures				Chemical nitrogen (N) fertiliser			Organic and chemical N fertiliser	Total N to be applied per ha (kg)
Crop	SNS	Total area of crop (ha)	Crop N require-ment (kg per ha) Annex H*	Type of manure	Total amount of manure to be applied to field(s) (m^3 or t)	Amount of available N (kg per m^3 or t) Annex G*	Total amount of available N to be applied to field(s) (kg) (F) x (G)	Type of N fertiliser to be applied	Total amount of fertiliser product to be applied to field(s) (kg)	Total amount of N from fertiliser to be applied to field(s) (kg)	Total amount of N to be applied to field(s) (kg) (H) + (K)	Total (L) ÷ (C)
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
Forage maize	1	3	100	Cattle slurry	111 m^3	1.0	111	25:0:5	600	150	261	87
										Total	261	87

* refers to **Annexes H and G** in the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet

Annex A
7

Planning the amount of phosphate (P_2O_5) to be applied to crops including grass

Where no chemical P_2O_5 fertiliser is to be applied, there is no legal obligation to demonstrate a crop requirement for P_2O_5 from application of livestock manures. You are only required to complete this table if you are planning to apply chemical phosphate (P_2O_5) fertiliser.

1. All organic manures, **including livestock manures**, must be taken into consideration.
2. The values for available P_2O_5 content of organic manures vary depending on soil phosphorus (P) index and crop type.
3. The P_2O_5 content of chemical fertilisers is taken to be 100% available.
4. When applying nutrients to grass or crops remember to consider all nutrients such as potash and sulphur.

Column (A)	Identify the crop to be grown. A list of the main crops and their requirements are listed in **Annex J** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet.
Column (B)	Enter area of field.
Column (C)	Enter Soil P index from soil analysis if available. (If not available then assume an index of 2+ for grass or 2 for all other crops).
Column (D)	According to the soil P index from soil analysis results enter the P_2O_5 requirement for the crop in kg per ha from **Annex J** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet.
Column (E)	Enter the type(s) of organic manure**, including livestock manure,** to be applied.
Column (F)	Enter in the amount of manure to be applied in m^3 or tonnes.
Column (G)	Enter the available P_2O_5 content (per m^3 or tonne of manure) of the manure to be applied (**Annex G** of the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet).
Column (H)	Multiply columns (F) and (G) to give total amount of available P_2O_5 to be applied in organic manures.
Column (I)	Enter the type of chemical fertiliser to be applied.
Column (J)	Enter the amount of chemical fertiliser to be applied per ha.
Column (K)	Enter the amount of chemical P_2O_5 to be applied. For example type of fertiliser to be applied was 27:6:12, this contains 6% P_2O_5. If 300 kg is to be applied per ha then the amount of P_2O_5 would be 6 x 300 ÷ 100 = 18 kg per ha.
Column (L)	Add column (H) and (K) to give total amount of available P_2O_5 to be applied per ha and divide by the area of the field (B) to calculate the application rate per ha.

Annex A
7

Planning the amount of phosphate (P_2O_5) to be applied to crops including grass (continued)

Phosphate (P_2O_5) planning sheet												
Grass/crop details					Organic manure (includes livestock manures)				Chemical (P_2O_5) fertiliser			Total P_2O_5 to be applied per ha (kg)
Field No.	Crop	Area of crop (ha)	Soil P index (from analysis)	P_2O_5 requirement by crop according to soil P index Annex J*	Type of organic manure to be applied Annex G*	Total amount of organic manure to be applied (m^3 or t)	Available P_2O_5 content of organic manure to be applied (kg per m^3 or t) Annex G*	Total amount of available P_2O_5 supplied to crop in organic manure (kg) (F) x (G)	Type of fertiliser product to be applied	Total amount of fertiliser product to be applied (kg)	Total amount of P_2O_5 from fertiliser to be applied (kg) (I) x (J)	((H) + (K)) ÷ (B)
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
1, 3, 4, 5, 6, 7, 9, 18, 19	Grazing	20.5	2+	20	None	None	None	None	None	None	None	0
2	Grazing	4	1	50	Cow slurry	35m^3	0.6	21	None	None	None	5.3
8, 10, 11, 13, 14, 15, 16	1st Cut silage	27.28	2+	40	Cow slurry	800m^3	1.2	960	None	None	None	35.2
11, 14	Grass reseed	10.63	2-	65	Broiler litter	35t	16	560	None	None	None	52.7

m^3 = 220 gallons 1 hectare = 2.47 acres

* refers to **Annexes J and G** in the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet

Planning the amount of phosphate (P_2O_5) to be applied to crops including grass (continued)

Phosphate (P_2O_5) planning sheet												
Grass/crop details					Organic manure (includes livestock manures)				Chemical (P_2O_5) fertiliser			Total P_2O_5 to be applied per ha (kg) ((H) + (K)) ÷ (B)
Field No.	Crop	Area of crop (ha)	Soil P index (from analysis)	P_2O_5 requirement for crop according to soil P index Annex J*	Type of organic manure to be applied Annex G*	Total amount of organic manure to be applied (m^3 or t)	Available P_2O_5 content of organic manure to be applied (kg per m^3 or t) Annex G*	Total amount of available P_2O_5 supplied to crop in organic manure (kg) (F) x (G)	Type of fertiliser product to be applied	Total amount of fertiliser product to be applied (kg)	Total amount of P_2O_5 from fertiliser to be applied (kg) (I) x (J)	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
8, 10, 13, 15, 16	2nd Cut silage	16.65	2+	25	Cattle slurry	150 m^3	1.2	180	None	None	None	10.8
17	Winter Wheat	4.22	2	60	Broiler litter	9 t	16	144	27:6:12	300	18	38
20	Forage Maize	3	2	55	Cattle slurry	111 m^3	1.2	133.2	None	None	None	44.4

m^3 = 220 gallons 1 hectare = 2.47 acres
* refers to **Annexes J and G** in the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet

Note:- Field 17 received chemical fertiliser but the total phosphate applied (38 kg per hectare) was less than the crop requirement for phosphate and therefore complies with the Regulations.

Annex A

8

Description of animal housing

What type of animal housing is on your farm?

Slurry based ✔

Straw bedded ✔

If other please specify _____

_____

_____

_____

_____

Annex A

9 Description and volume of manure storage

Tank	Description	Length **l** (m)	Breadth **b** (m)	Adjusted Depth **d** (m) (Depth – freeboard)(i)	Volume of facilities **(l x b x d)** (m^3)
1	Main cow house	25	4	1.8	180
2	Feeding area	25	8	1.8	360
3	Heifer house	15	4	1.8	108
4	Silo tank	8	3	1.5	36
5	Farm yard	30	4	2.1	252
6	Midden	15	8	1.8	216
Total capacity of rectangular tanks and lagoons/ middens					1,152 m^3

Tank	Description	Radius **rad** (m)	Adjusted height **h** (m) (Height – freeboard)(i)	Volume of facilities for slurry **= 3.14 x rad x rad x h** (m^3)
1	Yard	7	3	462m^3
2				
Total capacity of above ground circular stores				462 m^3

(i) Freeboard is the term given to the unfilled depth (safety margin) at the top of a slurry or effluent tank or compound. Freeboard allowances are 750 mm for earth bank lagoons and 300 mm for all other structures. Freeboard is not a legal requirement for structures which are exempt under the NAP 2014 Regulations (structures completed before 1 December 2003, unless substantially reconstructed). It is, however, considered best management practice to adhere to freeboard requirements in all structures.

Annex B

The following pages are an example format of a **fertilisation account** based on the farm scenario outlined on **page 9**.

The information can be presented in other formats if preferred. Fertilisation accounts must be submitted to be received by NIEA on or before 1 March of the following year. Failure to submit an account by that date will result in penalties being applied to Area-Based Scheme payments (including BPS) and will invalidate an application for derogation in that year.

Annex B

1 Area of crops

Complete this table with the areas of crops (including grass grown in 20XX and their nitrogen (N) requirement.

Refer to farm map and list of fields in your fertilisation plan for 20XX noting crop areas.

Crop grown	Area grown (ha)	N requirement* (kg per ha)
Grassland	56.78	272
Winter wheat	4.22	220
Forage maize	3.0	100

* Nitrogen requirement can be found in the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet, see **pages 42 & 43** for grassland and **pages 44-47** for crops.

Annex B

2 Livestock numbers

Complete this table with the average livestock kept/produced in 20XX.

Accurate average cattle numbers can be calculated from herd records, a computer recording system or Aphis online.
*If keeping calves or lambs for a part year use either the 0-6 and 6-12 months categories **OR** the 0-1 year category.

Stock type	Average number for 20XX
Dairy cows	100
Dairy heifer (over 2 years)	5
Dairy heifer (1 – 2 years)	30
Dairy breeding bull	
Dairy cattle (0-1 year) *	30
Heifer calves (6-12 months)*	
Heifer calves (0-6 months)*	
Suckler cows	
Beef breeding bull	
Bull beef (0-13 months)	
Beef cattle (0-1 year) *	
Bull beef (6-13 months)	
Calves (6-12 months) *	
Calves (0-6 months) *	
Ewe over 1 year	
Ram over 1 year	
Lamb (0-1 year)*	
Lamb (6-12 months)*	
Lamb (0-6 months)*	

Stock type	Average number for 20XX
For pig breeding farms only	
Boars	
Maiden gilts	
Lactating sows, dry sows, Served gilts	
Sale/transfer weight-18 kg	
Sale/transfer weight-35 kg	
Sale/transfer weight–105 kg	
For pig growing and finishing farms only	
Pigs (7-18 kg)	
Pigs (7-35 kg)	
Pigs (7-105 kg)	
Pigs (18-35 kg)	
Pigs (18-105 kg)	
Pigs (35-105 kg)	
Other	

Stock type	Number produced in 20XX	
Broilers (1,000s)	132	
Male turkeys (1,000s)		
Female turkeys (1,000s)		
Fattening ducks (1,000s)		
	Unit capacity	**No. of weeks occupancy**
Broiler breeders (0-18 wks)		
Broiler breeders (18-60 wks) Broiler breeders (0-60 wks)		
Pullets (1,000s)		
Layers (1,000s)		

Annex B

3 Imported and exported organic manures (from fertilisation plan 20XX)

Only complete this table if you have imported or exported any organic manure during 20XX.

Remember that administrative details of manure exports must also be completed on **page 59.**

1 cubic metre (m^3) = 220 gallons

Slurry type	Nitrogen (N) content	Phosphorus (P) content	Imported Volume (m^3)	Exported Volume (m^3)
Cattle slurry – 2% DM	1.6	0.26		
Cattle slurry – 6% DM	2.6	0.52		
Cattle slurry – 10% DM	3.6	0.79		
Pig slurry – 2% DM	3.0	0.44		
Pig slurry – 4% DM	3.6	0.79		
Pig slurry – 6% DM	4.4	1.13		
Separated cattle slurry (liquid portion):-				
- Strainer box	1.5	0.13		
- Weeping wall	2.0	0.22		
- Mechanical separator	3.0	0.52		
Separated pig slurry (liquid portion)	3.6	0.70		
Other (e.g. digestate) (including N and P content)**				

** Manure type and N and P content of organic manures, excluding livestock manure, must also be provided in accordance with the Waste Management Licensing Regulations (NI) 2003.

Annex B
3

Imported and exported organic manures (from fertilisation plan 20XX) (continued)

Manure type	Nitrogen (N) content	Phosphorus (P) content	Imported quantity (tonnes)	Exported quantity (tonnes)
Cattle FYM – 25% DM	6.0	1.4		
Sheep manure FYM – 25% DM	7.0	1.4		
Pig FYM – 25% DM	7.0	2.6		
Broiler litter – 66% DM	33	7.0		141 t
Layer manure – 30% DM	16	5.7		
Turkey litter – 60% DM	30	11		
Duck manure – 25% DM	6.5	2.4		
Horse manure FYM – 30% DM	7.0	2.2		
Goat manure FYM – 25% DM	6.0	1.2		
Spent mushroom compost	8.0	1.5		
Separated cattle slurry (solid portion)	4.0	0.87		
Separated pig slurry (solid portion	5.0	2.0		
Other (including N and P content)**				

** Manure type and N and P content of organic manures, excluding livestock manure, must also be provided in accordance with the Waste Management Licensing Regulations (NI) 2003.

The information provided in **pages 54-57** will be used by the NIEA to calculate the livestock nitrogen loading for your farm for 20XX. You can check compliance with the limit of 250 kg N per ha per year by using the Livestock Manure Nitrogen Loading Calculator which is available at www.dardni.gov.uk/onlineservices or you can use the worksheets in the NAP 2015-2018 and Phosphorus Regulations Workbook from **pages 8-21**.

Annex B

4 Exported organic manures – administrative record details

Only complete this table if you have exported any organic manure during 20XX.

(the form can also be downloaded at www.doeni.gov.uk//nitrates-action-programme-nap-organic-manure-export-form

Notes:-

- For derogated farms, a record of all exports in a calendar year, containing all the required information set out in the example below, must be submitted to NIEA by 1 March of the following year. (Non-derogated farms must submit records by 31 January for the previous calendar year). You will also need to keep a copy of the record on the farm as it may be required during an inspection.
- Under the NAP Regulations and Cross-Compliance it is an offence to provide false or misleading information and penalties can apply, i.e., a fine under NAP or reduced Area-Based Scheme payments under Cross-Compliance.
- Any total nitrogen (kg) exported should be subtracted from the total nitrogen excretion value for the livestock manure nitrogen loading calculation.
- For organic manures other than livestock manure (for example, anaerobic digestate), it is normally the producer's responsibility to provide the user with a nutrient analysis, so that they can calculate nutrient loadings. However, this depends on the type of manure and the rules controlling its use. If you are exporting organic manures other than livestock manures (for example, sewage sludge or anaerobic digestate), contact NIEA to discuss whether you are required to provide a nutrient analysis and at what frequency.

Example:-

Exporter's name:	John Smith	**Exporter's Business ID:**	675256
Exporter's signature			

Required					**Optional**		
Date moved	**Type of livestock manure**	**Quantity (tonnes or m^3)(1) (A)**	**Transporter's name and address**	**Importer's name and Business ID(2)**	**Signature of importer(3)**	**Nitrogen content of manure kg/m^3 or kg/t (see Annex G) (B)**	**Total nitrogen kg(4) (AxB)**
01/03/xx	Broiler litter	141 t	John Smith, 1 Bigfarm Road, Ballyhome, BT2 7AG	A Farmer, Bus ID 123456	*A Farmer*	33	4,653

Annex B

4

Exported organic manures – administrative record details (continued)

Table for completion:-

Exporter's name:		**Exporter's Business ID:**	
Exporter's signature			

Required					Optional		
Date moved	**Type of livestock manure**	**Quantity (tonnes or m^3)[1] (A)**	**Transporter's name and address**	**Importer's name and Business ID[2]**	**Signature of importer[3]**	**Nitrogen content of manure kg/m^3 or kg/t (see Annex G) (B)**	**Total nitrogen kg[4] (AxB)**

[1] (m^3 = 220 gallons).
[2] For exports to RoI, importer's Herd No. should be included instead of Business ID.
[3] There is currently no requirement for the manure importer to sign this record, but it is recommended practice.
[4] There is no requirement to make this calculation, but it may help you assess your nitrogen loading status.

Annex B

5

Chemical fertiliser stock details

Complete this table with details of chemical fertiliser stocks, purchases and sales for 20XX.

Record the tonnage and N and P content of all chemical fertiliser stocks on 1 January and 31 December and the tonnage and N and P content of chemical fertiliser imported in and exported off the farm during 20XX. This will allow NIEA to determine if you have complied with the chemical nitrogen restrictions. You can check compliance with this limit by using the N Max for Grassland Calculator for grass and the Crop Nutrient Recommendation Calculator for crops other than grass which are available at www.dardni.gov.uk/onlineservices. Alternatively you can check the limits in the NAP 2015-2018 and Phosphorus Regulations Guidance Booklet **pages 42 & 43** for grassland and **pages 44-47** for crops and use the worksheets in the NAP 2015-2018 and Phosphorus Regulations Workbook from **page 40**.

This fertiliser record will also be used by the NIEA to check compliance with the P Balance.

Chemical fertilisers held on 1 January 20XX (held from previous year)

Fertiliser type for example 25:5:5			Quantity (tonnes)
N	P (P_2O_5)	K	
46	0	0	1.0

Annex B

5

Chemical fertiliser stock details (continued)

Chemical fertilisers (purchased/imported and sold/exported) in 1 January to 31 December 20XX

Date	N	P (P_2O_5)	K	Amount purchased or imported on to farm (tonnes)	Amount sold or exported off farm (tonnes)
09/02/20XX	27	0	0	25.0	
11/03/20XX	46	0	0	10.4	
12/03/20XX	27	6	12	1.9	
12/03/20XX	25	0	5	0.6	

Chemical fertilisers held on 31 December 20XX (not used during year and held for following year)

Fertiliser type for example 25:5:5			Quantity (tonnes)
N	P (P_2O_5)	K	
46	0	0	1.0

Annex B

6

Dirty water management

Complete this page with details of how you manage and store dirty water.

How is your dirty water managed?

Stored with slurry	✔
Stored separately	

If other please specify

Annex B

7

Agricultural products that contain phosphorus imported on and (inputs) and exported off (outputs) the farm (P balance)

Complete this section to allow NIEA to calculate the P balance for your holding and check if you have complied with the **10 kg P per ha per year limit** for 20XX.

If you want to calculate the P balance yourself (to assist you in ensuring that you have complied with the limit), you can complete the P Balance worksheet at Annex B and submit it with the rest of the Fertilisation Account. **You then do not have to complete this P Balance section**.

Alternatively, you can use the P Balance Calculator at www.dardni.gov.uk/onlineservices. if you use this Calculator you can print the "**Detailed Balance Summary** and submit it with the rest of your Fertilisation Account. Again, **you then do not have to complete this P Balance section**.

P Balance is the difference in kg per ha in agricultural products containing phosphorus (P) that are purchased/imported onto the farm (inputs) and those sold/exported off the farm (outputs):-

$$\textbf{P balance for the calendar year} = \frac{\text{Inputs} - \text{Outputs}}{\text{Eligible agricultural area controlled}}$$

Annex B
7

Agricultural products that contain phosphorus imported on and (inputs) and exported off (outputs) the farm (P balance) (continued)

Step 1 – P INPUTS

Inputs include:-

- P in chemical fertiliser purchased/imported (quantity and P content) (already entered in table at **page 60)**.
- P in any organic manure imported onto farm (quantity and P content) (already entered in table at **page 56).**
- P in feedstuffs (including concentrates/straights/silage/straw/hay) purchased/imported onto farm (quantity and P content) (enter into table on **page 65**).
- P in livestock bought in (enter into table on **page 67**).

Step 2 – P OUTPUTS

Outputs include:-

- P exported in organic manures (quantity and P content) (already entered in table at **page 56)**.
- P in produce sold/exported off the farm, e.g. meat, milk or crops (enter into table on **page 68**).
- P in livestock sold/exported off the farm (enter into table on **page 69**).

Please note:-

Standard P contents of common agricultural feedstuffs and products are shown in **Annex C, pages 72-73**.

For concentrates, if you wish to use lower P contents than those shown you must submit documentation from your feed supplier with your fertilisation account showing the P content of the feeds used. Failure to submit will mean that the standard value will be used. Evidence should include a letter/invoice from the meal supplier containing:-

- your name and address;
- the P content and tonnage of the feed;
- date supplied; and
- in the absence of a letterhead the note should be signed by the supplier together with their contact details. (See example note, **page 66**).

Annex B
7

Agricultural products that contain phosphorus imported on and (inputs) and exported off (outputs) the farm (P balance) (continued)

P INPUTS – Purchased feedstuffs including concentrates/straights/silage/straw/hay

Complete this table with all feedstuffs purchased during 20XX (do not include home grown feedstuffs).

Feedstuff type*	Amount purchased per year (t)	Phosphorus (P) content** (kg per t)***
Dairy cow concentrates	250	5.5
Heifer concentrates	30	5.3
Broiler concentrates	475	4.7

* The P content of feedstuffs, including different types of concentrates are listed in **Annex C, pages 72-73.**

** If you purchased a concentrate with a lower P content you must submit documentation from your feed supplier with your fertilisation account to show the P content in the feed.

*** To convert from % P to kg per t multiply the % by 10.

Annex B
7

Agricultural products that contain phosphorus imported on and (inputs) and exported off (outputs) the farm (P balance) (continued)

P INPUTS - An example of a note from a meal supplier if you are deviating from the standard phosphorus (P) figures per tonne of concentrates.

Inshalleen Mills

Ballymills
Co. Tyrone
BT2 9ZZ

4/1/2016

John Smith
1 Bigfarm Road
Ballyhome
BT2 7AG

Deliveries for the period 1 January 2015 to 31 December 2015

250 tonnes of supreme dairy mix feed with a P content of 0.55%

30 tonnes of heifer concentrates with a P content of 0.53%

475 tonnes of broiler concentrates with a P content of 0.47%

(To convert from %P to kg per t multiply the % by 10)

Annex B
7

Agricultural products that contain phosphorus imported on and (inputs) and exported off (outputs) the farm (P balance) (continued)

P INPUTS - Livestock bought in.

Complete this table with all livestock bought in during 20XX (all columns must be completed).

Livestock type	Number bought in year	Average live weight of livestock (kg)	Total live weight of livestock (kg)
Dropped calves (50 kg)		Weight not required	
Cattle	5	600	3,000
Cattle			
Cattle			
Cattle			
Cattle			
Cattle			
Cattle			
Cattle			
Sheep/lambs			
Sheep/lambs			
Sheep/lambs			
Sheep/lambs			
Sheep/lambs			
Pigs			
Pigs			
Pigs			
Other please specify			

Annex B

7 Agricultural products that contain phosphorus imported on and (inputs) and exported off (outputs) the farm (P balance) (continued)

P OUTPUTS – Crop produce sold/exported off farm.

Complete this table with all crop products sold/exported during 20XX

Crop produce type	Amount sold per year (t)
Silage	
Hay	
Straw	
Barley	
Potatoes	
Wheat	
Oats	
Other – please specify	

P OUTPUTs – Livestock produce sold/exported off farm

Complete this table with all livestock products sold/exported during 20XX

Livestock produce type	Amount/number sold
Milk (litres)	650,000
Wool (tonnes)	
1,000 broilers	132
1,000 broiler breeders 0-18 weeks	
1,000 broiler breeders 18-60 weeks (including eggs)	
1,000 broiler breeders 0-60 weeks (including eggs)	
1,000 layers (including eggs)	
1,000 pullets	
1,000 turkeys male	
1,00 turkeys female	
1,000 ducks	
Other	

Annex B
7

Agricultural products that contain phosphorus imported on and (inputs) and exported off (outputs) the farm (P balance) (continued)

P OUTPUTS – Livestock leaving the farm

Complete this table with all livestock sold/removed during 20XX (all columns must be completed).

Livestock type	Number sold in year	Average live weight of livestock (kg)	Total live weight of livestock (kg)
Dropped calves (50 kg)	50	Weight not required	
Cattle	30	500	15,000
Cattle			
Cattle			
Cattle			
Cattle			
Cattle			
Cattle			
Cattle			
Sheep/lambs			
Sheep/lambs			
Sheep/lambs			
Sheep/lambs			
Sheep/lambs			
Pigs			
Pigs			
Pigs			
Pigs			
Other please specify			

*Include fallen animals

Annex B
7

Agricultural products that contain phosphorus imported on and (inputs) and exported off (outputs) the farm (P balance) (continued)

Recommended record sources of agricultural products

Agricultural product	Recommended record source
Milk	Milk cheque details.
Livestock cattle	Herd record details.
Livestock sheep	Flock record details.
Livestock pig	Herd register/management records.
Livestock poultry	Industry flock records.
Fertiliser	Fertiliser invoices/fertiliser account.
Concentrates	Invoices. (Documentation showing phosphorus (P) content if deviating from standard figures must be submitted with your fertiliser account).
Imported/exported manures	Amounts and P content of manures imported and exported.
Crop products such as hay, straw or potatoes	Invoices from seller or purchaser.

A list of agricultural products and their P contents may be found in **Annex C, pages 72-73**.

A P balance does not have to be calculated but doing so will help you ensure you have complied with the limit. A worked example of how a P balance is calculated is outlined on **page 71** and a blank P balance worksheet is included at **Annex D**.

In addition a Phosphate Balance Calculator is available on the website www.dardni.gov.uk/onlineservices

Annex B

8 Example of a calculated P Balance (for a 64 ha, 100 cow dairy farm with 132,000 broilers per year)

This is a worked example of a P balance calculation. To calculate the P balance yourself you can complete the P Balance worksheet at **Annex B**, or use the P Balance Calculator at www.dardni.gov.uk/onlineservices and print the "**Detailed Balance Summary",** and submit this with the rest of the Fertilisation Account. **You then do not have to complete Section 7**

	Amount	Phosphorus (P) content (kg per unit)	Kg P in (P bought or imported)	Kg P out (P sold or exported)
Chemical fertiliser type*				
Fertiliser 27:6*:12	**1.9 t**	(6 x 4.36) **26.16**	(1.9 x 26.16) = **49.7 kg**	**-**
Concentrates**				
Concentrates dairy cow	**250 t**	**5.5**	(250 x 5.5) = **1,375 kg**	**-**
Concentrates heifer	**30 t**	**5.3**	(30 x 5.3) = **159 kg**	**-**
Concentrates broilers	**475 t**	**4.7**	(475 x 4.7) = **2,232.5 kg**	**-**
Other products				
Litres of milk sold	**650,000**	**0.001**	**-**	(650,000 x 0.001) = **650 kg**
Dropped calves sold	**50**	**0.33**	**-**	(50 x 0.33) = **16.5 kg**
Cattle sold	**15,000**	**0.0066**	**-**	= **99 kg**
Cattle bought	**3,000**	**0.0066**	**= 19.8 kg**	**-**
Broilers (1,000)	**132**	**12**	**-**	(132 x 12)= **1,584 kg**
Exported broiler litter	**141 t**	**7**	**-**	(141 x 7) = **987 kg**
		Totals	**3,836 kg A**	**3,336.5 kg B**
		P balance (A-B)	(3,836 kg – 3,336.5 kg) = **+ 499.5 kg**	
		P balance/(eligible agricultural area)	(499.5 kg per 64 ha) = **+ 7.80 kg per ha**	

* (multiply P_2O_5 % level on fertiliser bag by 4.36 to convert to kg P in 1 tonne)

** (every 0.1% P in a ration equates to 1 kg P per t)

This is below the P balance limit of + 10 kg per ha per year, therefore, compliant with this aspect of the derogation.

Annex C

Phosphorus (P) content for common agricultural products and feedstuffs

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Product	Phosphorus (P) content (kg per unit)
Concentrates	
1 t poultry concentrate (or use actual declared figures)	5
1 t pig concentrate (or use actual declared figures)	4.8
1 t ruminant concentrate (or use actual declared figures)	5.5
1 t other concentrates (or use actual declared figures)	5.8
Livestock	
Dropped calf (50 kg)	0.33
Cattle 1 kg	0.0066
Pigs/sows per 100 kg	0.5
Lambs/sheep per 100 kg	0.54
Kids/goats per 100 kg	0.54
*1,000 broilers	12.0
*1,000 broiler breeders 0-18 weeks	11.4
*1,000 broiler breeders 18-60 weeks (eggs included)	33.5
*1,000 broiler breeders 0-60 weeks (eggs Included)	44.9
*1,000 turkeys male	34.6
*1,000 turkeys female	31.7
*1,000 ducks	11.4
*1,000 pullets	7.9
Produce from livestock	
Eggs from 1,000 layers (including eggs)	42.48
1 litre milk	0.001

Product	Phosphorus (P) content (kg per unit)
Produce from livestock (continued)	
Wool per tonne	0.4
Crop products	
1 t straw	1.0
1 t silage	0.6
1 t hay	3.0
1 t potatoes	0.4
1 t oats	2.9
1 t barley	3.0
1 t wheat	2.6
1 t maize	2.5
1 t full fat soya	4.5
1 t linseed	8.1
1 t rape	11.0
1 t soya	6.8
1 t sunflower	9.3
1 t gluten	9.6
1 t citrus	1.0
1 t wheat distillers	7.7
1 t corn distillers	7.7
1 t peas	4.4
1 t palm kernel	6.3
1 t pollard	10.0
1 t soya hulls	1.4
1 t sugar beet	1.0
1 t grass fresh	0.6
1 t whole crop wheat fresh	0.9

* Figures take into consideration the P in stock entering and leaving the farm.

Annex C

Phosphorus (P) content for common agricultural products and feedstuffs (continued)

Product	Phosphorus (P) content (kg per unit)
Crop products (continued)	
1 t whole crop wheat silage	0.9
1 t forage maize fresh	0.7
1 t forage maize silage	0.7
Slurries	
1 m^3 cattle slurry 2% DM	0.26
1 m^3 cattle slurry 6% DM (typical)	0.52
1 m^3 cattle slurry 10% DM	0.79
1 m^3 pig slurry 2% DM	0.44
1 m^3 pig slurry 4% DM (typical)	0.79
1 m^3 pig slurry 6% DM	1.13
Separated pig slurry (liquid portion)	0.70
Separated cattle slurries (liquid portion)	
Strainer box	0.13
Weeping wall	0.22
Mechanical separator	0.52

Product	Phosphorus (P) content (kg per unit)
Solid manures	
1 t broiler litter	7.0
1 t layer manure	5.7
1 t turkey litter	11
1 t duck manure	2.4
1 t cattle FYM	1.4
1 t sheep FYM	1.4
1 t goat manure	1.2
1 t pig FYM	2.6
1 t horse manure	2.2
Spent mushroom compost	1.5
Separated cattle slurry (solid portion)	0.87
Separated pig slurry (solid portion)	2.0
Chemical fertiliser	
1 t fertiliser	Multiply the $\%P_2O_5$ content by 4.36

Annex D

P Balance Worksheet

For 1st January 20XX to 31st December 20XX

This worksheet will assist you to comply with the P Balance limit of 10kg P per ha per year. You do not have to complete this worksheet. However, if you do this worksheet can be submitted with the rest of the Fertilisation Account and you do not have to complete the P Balance section of the Fertilisation Account on **pages 63-70**.

Alternatively you can use the P Balance Calculator at www.dardni.gov.uk/onlineservices. If you use the P Balance Calculator print the "Detailed Balance Summary" and this can be submitted with the rest of your Fertilisation Account and you do not have to complete the P Balance section of the Fertilisation Account.

P Balance Worksheet (continued)

Calculating P Balance - Step 1 – P Inputs

P INPUTS – Chemical Fertilisers

1. Enter the fertiliser type and the amount purchased per year.
2. Multiply the amount purchased per year by the P_2O_5 % and then by 4.36 (to convert to kg P in 1 tonne).
3. Total the P content of fertilisers purchased and insert in **Box A.**

Example:-

Fertiliser type			**Amount purchased or imported (t)**		**% P_2O_5**	X 4.36		**Quantity of phosphorus (kg)**
N	**P P_2O_5**	**K**						
27	**6**	**12**	**1.9**	**x**	**6**	**x 4.36**	**=**	**49.7**
				x		x 4.36	=	
				x		x 4.36	=	
				x		x 4.36	=	
				x		x 4.36	=	
				x		x 4.36	=	
				x		x 4.36	=	
				x		x 4.36	=	
				x		x 4.36	=	
				x		x 4.36	=	
				x		x 4.36	=	
Total P content of chemical fertilisers (kg P/year)							=	**49.7 (A)**

P Balance Worksheet (continued)

P INPUTS – Imported Organic Manures

1. Select the organic manure type and enter the amount imported per year. If 'Other' also enter the P content from the lab report.
2. Multiply the amount imported per year by the P content.
3. Total the P content of imported organic manures and insert in **Box B.**

Example

Organic manure type	Amount imported (m^3 or t)		P content (kg P/m^3 or t)		Quantity of phosphorus (kg)
Cattle slurry – 2% DM		x	0.26	=	
Cattle slurry – 6% DM		x	0.52	=	
Cattle slurry – 10% DM		x	0.79	=	
Pig slurry – 2% DM		x	0.44	=	
Pig slurry – 4% DM		x	0.79	=	
Pig slurry – 6% DM		x	1.13	=	
Separated cattle slurry (liquid portion):-					
- Strainer box		x	0.13	=	
- Weeping wall		x	0.22	=	
- Mechanical separator		x	0.52	=	
Separated pig slurry (liquid portion)		x	0.70	=	
Cattle FYM – 25% DM		x	1.4	=	
Sheep manure FYM – 25% DM		x	1.4	=	
Pig FYM – 25% DM		x	2.6	=	
Broiler litter – 66% DM		**x**	**7.0**	**=**	
Layer manure – 30% DM		x	5.7	=	
Turkey litter – 60% DM		x	11	=	
Duck manure – 25% DM		x	2.4	=	
Horse manure FYM – 30% DM		x	2.2	=	
Goat manure FYM – 25% DM		x	1.2	=	
Spent mushroom compost		x	1.5	=	
Separated cattle slurry (solid portion)		x	0.87	=	
Separated pig slurry (solid portion		x	2.0	=	
Other		x	P content from analysis	=	
Total P content of imported organic manures (kg/year)				**=**	**0 (B)**

P Balance Worksheet (continued)

P INPUTS – Purchased feedstuffs including concentrates/ straights/ silage/ straw/ hay (Do not include home grown feedstuffs)

1. Enter the feedstuff type and amount purchased per year.
2. Multiply the amount purchased per year by the P content of the feed, (or use the actual declared P content figure if known). Standard P contents are:-
   - Unspecified concentrates is taken as 5.8 kg per tonne or 0.58%.
   - Ruminant concentrates is taken as 5.5 kg per tonne or 0.55%.
   - Poultry concentrates is taken as 5.0 kg per tonne or 0.50%.
   - Pig concentrates is taken as 4.8 kg per tonne or 0.48%.

   If you purchased a concentrate with a lower P content you must supply documentation to demonstrate the P content. Evidence must include a letter/ invoice from the feed supplier containing your name, address, the P content in the meal and dated. In the absence of a letterhead the note should be signed by the supplier together with their contact details. Failure to supply this documentation may have implications for your basic payment scheme.
3. Total the P content of feedstuffs used and insert in **Box C.**

Example:-

Feedstuff type	Amount purchased per year (t)		P content (kg/t)		Quantity of phosphorus (kg)
Dairy Cow concentrates	**250**	**x**	**5.5**	**=**	**1375**
Heifer Concentrates	**30**	**x**	**5.3**	**=**	**159**
Broiler Concentrates	**475**	**x**	**4.7**	**=**	**2232.5**
		x		=	
		x		=	
		x		=	
		x		=	
		x		=	
Total P content of feedstuffs purchased/imported(kg P/year)				=	**3766.5 (C)**

In this example the P content of the heifer and broiler concentrates are lower than the standard rates given at **Point 2** above. For an example of evidence to support these lower rates see **Page 66**.

For the P content of a range of feedstuffs please see Annex A

P Balance Worksheet (continued)

P INPUTS – Livestock bought in

1. Enter the number of livestock purchased and total live weight of these livestock.
2. Multiply the total live weight by the P Content.
3. Total the P content of all livestock bought in and insert in **Box D.**

Note: Poultry numbers are not required here as P inputs are accounted for in livestock produce in P outputs.

Example:-

Livestock type	Number bought in per year		Average live weight (kg)		P content (kg/unit)		Quantity of phosphorus (kg)
Dropped calves (50 kg)*				x	0.33	=	
Cattle	**5**	**x**	**600**	**x**	**0.0066**	**=**	**19.8**
Cattle		x		x	0.0066	=	
Cattle		x		x	0.0066	=	
Cattle		x		x	0.0066	=	
Cattle		x		x	0.0066	=	
Cattle		x		x	0.0066	=	
Sheep/lambs		x		x	0.0054	=	
Sheep/lambs		x		x	0.0054	=	
Sheep/lambs		x		x	0.0054	=	
Pigs		x		x	0.0050	=	
Pigs		x		x	0.0050	=	
Pigs		x		x	0.0050	=	
Other please specify		x		x		=	
	Total P content of livestock purchased/imported (kg P/year)					=	**19.8 (D)**

*For dropped calves the weight is not needed.

P Balance Worksheet (continued)

Step 2 – P Outputs

P OUTPUTS – Crop Produce

1. Select the crop produce type and enter the amount sold off the farm per year.
2. Multiply the amount sold per year by the P content.
3. Total the P content of crop produce sold and insert in **Box E.**

Crop produce type	Amount sold per year (t)		P content (kg/t)		Quantity of phosphorus (kg)
Silage		x	0.6	=	
Hay		x	3.0	=	
Straw		x	1.0	=	
Barley		x	3.0	=	
Potatoes		x	0.4	=	
Wheat		x	2.6	=	
Oats		x	2.9	=	
Other please specify		x			
Total P content of crop produce sold (kg P/year)				=	**0 (E)**

P Balance Worksheet (continued)

P OUTPUTS – Exported Organic Manures

1. Select the organic manure type and enter the amount exported per year. If 'Other' also enter the P content from the lab report.
2. Multiply the amount imported per year by the P content.
3. Total the P content of exported organic manures and insert in **Box F.**

Example:-

Organic manure type	Amount exported (m^3 or t)		P content (kg P/m^3 or t)		Quantity of phosphorus (kg)
Cattle slurry – 2% DM		x	0.26	=	
Cattle slurry – 6% DM		x	0.52	=	
Cattle slurry – 10% DM		x	0.79	=	
Pig slurry – 2% DM		x	0.44	=	
Pig slurry – 4% DM		x	0.79	=	
Pig slurry – 6% DM		x	1.13	=	
Separated cattle slurry (liquid portion):-					
- Strainer box		x	0.13	=	
- Weeping wall		x	0.22	=	
- Mechanical separator		x	0.52	=	
Separated pig slurry (liquid portion)		x	0.70	=	
Cattle FYM – 25% DM		x	1.4	=	
Sheep manure FYM – 25% DM		x	1.4	=	
Pig FYM – 25% DM		x	2.6	=	
Broiler litter – 66% DM	**141**	**x**	**7.0**	**=**	**987**
Layer manure – 30% DM		x	5.7	=	
Turkey litter – 60% DM		x	11	=	
Duck manure – 25% DM		x	2.4	=	
Horse manure FYM – 30% DM		x	2.2	=	
Goat manure FYM – 25% DM		x	1.2	=	
Spent mushroom compost		x	1.5	=	
Separated cattle slurry (solid portion)		x	0.87	=	
Separated pig slurry (solid portion		x	2.0	=	
Other		x	P content from analysis	=	
Total P content of imported organic manures (kg/year)				**=**	**987 (F)**

P Balance Worksheet (continued)

P OUTPUTS – Livestock Produce Sold/Exported Off Farm

1. Select the livestock produce and enter the amount/number sold per year.
2. Multiply the amount/number sold per year by the P content.
3. Total the P content of livestock produce sold and insert in **Box G.**

Example:-

Livestock produce type	Amount/number sold		P content (kg/unit year)		Quantity of phosphorus (kg)
Milk (litres)	**650,000**	**x**	**0.001**	**=**	**650**
Wool (tonnes)		x	0.4	=	
1000 Broilers	**132**	**x**	**12**	**=**	**1584**
1000 Broiler breeders 0-18 weeks		x	11.4	=	
1000 Broiler breeders 18-60 weeks (including eggs)		x	33.5	=	
1000 Broiler breeders 0-60 weeks (including eggs)		x	44.9	=	
1000 Layers (including eggs)		x	42.5	=	
1000 Pullets		x	7.9	=	
1000 Turkeys male		x	34.6	=	
1000 Turkeys female		x	31.7	=	
1000 Ducks		x	11.4	=	
Other		x		=	
		x		=	
Total P content of livestock produce sold (kg P/year)				=	**2234 (G)**

P Balance Worksheet (continued)

P OUTPUTS – Livestock Leaving the Farm

1. Select the livestock type and enter the number leaving the farm and the total live weight of the animals.
2. Multiply the total weight by the P content.
3. Total the P content of all livestock moved off the farm and insert in **Box H.**

Note: The P outputs for poultry are already accounted for in animal produce P outputs.

Example:-

Livestock type	Number sold		Average live weight (kg)		P content (kg/unit)		Quantity of phosphorus (kg)
Dropped calves (50 kg)*	**50**			x	0.33	=	**16.5**
Cattle	**30**	x	**500**	x	0.0066	=	**99**
Cattle		x		x	0.0066	=	
Cattle		x		x	0.0066	=	
Cattle		x		x	0.0066	=	
Cattle		x		x	0.0066	=	
Cattle		x		x	0.0066	=	
Sheep/lambs		x		x	0.0054	=	
Sheep/lambs		x		x	0.0054	=	
Sheep/lambs		x		x	0.0054	=	
Pigs		x		x	0.0050	=	
Pigs		x		x	0.0050	=	
Pigs		x		x	0.0050	=	
Other please specify		x		x		=	
	Total P content of livestock purchased/imported (kg P/year)					=	**115.5 (H)**

Remember to include fallen animals.
For dropped calves the weight is not needed.

P Balance Worksheet (continued)

Step 3 – Total P Inputs and Outputs

Transfer the answers from the relevant sections and enter the amount of P inputs and P outputs on your farm.

P inputs		P outputs	
Chemical fertilisers (**A** from page 2)	**49.7**	Crop produce (**E** from page 6)	**0**
add	**+**	**add**	**+**
Imported organic manures (**B** from page 3)	**0**	Exported organic manures (**F** from page 7)	**987**
add	**+**	**add**	**+**
Purchased feedstuffs (**C** from page 4)	**3766.5**	Livestock produce (**G** from page 8)	**2234**
add	**+**	**add**	**+**
Livestock bought in (**D** from page 5)	**19.8**	Livestock moved off farm (**H** from page 9)	**115.5**
equals	**=**	**equals**	**=**
Total P inputs (I)	**3836**	**Total P outputs (J)**	**3336.5**

Step 4 – Land Area Controlled

Calculate the total land area (ha) which you control. Exclude non-agricultural areas, including farm roads, paths, buildings, woodland, river, ponds and quarries.

Total eligible agricultural area (ha)	**N**	**64**

P Balance Worksheet (continued)

Step 5 – P Balance

Calculate the P balance by subtracting the P output from the P input and dividing it by the land area controlled.

Total P inputs	**I**	**3836**
	less	**-**
Total P outputs	**J**	**3336.5**
	divided by	**÷**
Total eligible agricultural area	**N**	**64**
	equals	**=**
P Balance		**7.80**

P Balance should be below 10 kg/ha/year to be compliant with this aspect of the derogation.

Annex E

Contact Details

Northern Ireland Environment Agency (NIEA)

Water Management Unit, 17 Antrim Road, Lisburn BT28 3AL – www.doeni.gov.uk/northern-ireland-environment-agency

Useful NIEA telephone numbers

Agriculture Regulation Team:- Nitrates Action Programme, Nitrates Derogations, Phosphorus Regulations and Field Storage of Poultry Litter.	**028 9262 3184**
Silage and Slurry Issues:- Contact NIEA before planning to substantially alter any existing storage facility or commission new silos or slurry tanks.	**028 9262 3205** **028 9262 3190**
Ground Water Authorisations:- (Authorisation for disposal of spent sheep dip).	**028 9262 3279**
Applying Sewage Sludge to Land	**028 9263 3445**
Registration of Waste Carriers	**028 9056 9360**
Simple Waste Management Exemptions	**028 9056 9358**
Other Waste Management Exemptions	**028 9056 9358**
Hazardous Waste Queries	**028 9056 9710**
Pollution Prevention and Control (PPC) licensing	**028 9056 9299**
24hr Pollution Hotline Number **Freephone**	**0800 80 70 60**

Contact Details (continued)

Department of Agriculture and Rural Development (DARD)

Useful DARD telephone numbers (Note:- DARD 0300 numbers are charged at local rate)

Environment Awareness:- Agri-environment scheme information. Countryside Management advice including Cross-Compliance, Nitrates Directive, Codes of Good Agriculture Practice, Farm Waste Management, Uncultivated Land Regulations and Field Boundary Removals.	**0300 200 7842**
Education and Training:- The College of Agriculture, Food and Rural Enterprise offers training on topics including Cross-Compliance, Nitrates and Nutrient Management Planning. (www.cafre.ac.uk).	**0300 200 7841**
DARD Corporate Services:- DARD Headquarters, Press Office, Information Services and Systems, Human Resources and Facilities Management.	**0300 200 7850**
DARD Animal By-Products Section	**028 9052 5275**
Textphone:- For people with hearing difficulties.	**0300 200 7851**
Calls from non-UK numbers or networks/international calls	**+44 (0)28 9049 5780**
A list of DARD contact numbers can be obtained by visiting the Contact Us section of the DARD Website:- www.dardni.gov.uk	

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Department of
Agriculture and
Rural Development
www.dardni.gov.uk

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Forbartha Tuaithe

MÄNNYSTRIE O
Fairms an
Kintra Fordèrin

NIEA Northern Ireland Environment Agency
www.ni-environment.gov.uk

An Agency within the Department of the
Environment
www.doeni.gov.uk

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