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Bia agus Mara**  
Department of Agriculture,  
Food and the Marine



**An Roinn Tithíochta,  
Rialtais Áitiúil agus Oidhreacht**  
Department of Housing,  
Local Government and Heritage



# **NITRATES EXPLANATORY HANDBOOK**

for

## **Good Agricultural Practice for the Protection of Waters Regulations 2022**

## Important Note

The information contained in this revised Handbook is being provided as a guide to farmers and should not be regarded as a legal interpretation of the **Regulations**.

Statutory Instrument S.I. No. 113 of 2022 [European Union (Good Agricultural Practice for Protection of Waters) **Regulations** 2022] is available on the Department of Agriculture, Food and the Marine website:

<https://www.agriculture.gov.ie>

Statutory Instrument S.I. No. 393 of 2022 [European Union (Good Agricultural Practice for Protected of Waters) (Amendment) **Regulations** 2022] is also available on the Department of Agriculture, Food and the Marine website:

<https://www.agriculture.gov.ie>

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## Introduction



### Water Quality and Agriculture

The Nitrates Directive, implemented by means of the Nitrates Action Programme (NAP), is the key agricultural measure in Ireland's River Basin Management Plan for preventing and reducing water pollution from nutrients (nitrogen and phosphorus) arising from agricultural sources.

Ireland's NAP is recognised across the EU as one of the most comprehensive and robust national programmes across the Union. However, despite significant initial improvements in water quality in response to the NAP since its commencement in 2006, further improvements have not been observed over recent years. The EPA is responsible for carrying out the national water quality monitoring programme and produces annual reports on water quality outlining the condition and trends of Ireland's waters including the pressures causing the impacts.

Conclusions from the Environmental Protection Agency's (EPA) national assessment of water quality, covering the years 2013 - 2018<sup>1</sup>, include-

- *There is an overall net decline in our water quality of 5.5% since the last assessment with just over half of Ireland's monitored surface waters having satisfactory water quality*
- *Agriculture is the most widespread and significant pressure impacting on water*
- *The most widespread issue from agriculture is elevated nutrient concentrations and the trends are showing a continuous and sustained decline in water quality*
- *The main problems from agriculture are loss of excess nutrients and sediment to water with losses arising from point sources such as farmyards or diffuse sources such as spreading of fertilisers and manures*

Ireland's fifth NAP (contained in the Good Agricultural Practice for Protection of Waters Regulations 2022), effective for 2022-2025, takes account of the agricultural pressures on water quality. It provides a holistic approach to controlling nutrient and sediment loss and the measures are intended to help Ireland to meet its climate, biodiversity and water quality targets.

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<sup>1</sup> [Water-Quality-in-Ireland-2013-2018-\(web\).pdf \(epa.ie\)](#)

Taking account of the water quality improvement objectives in Ireland's River Basin Management Plan, it is crucial that implementation at farm level of the fifth NAP takes place over 2022-2025.

### **What is this Handbook and who is it for?**

Ireland's first Nitrates Action Programme under the Nitrates Directive came into operation in 2006. **Regulations** were introduced to put this Action Programme into law. A second Action Programme was finalised in 2010, a third in 2014, a fourth in 2021 and the fifth Action Programme has been agreed and given legal effect by ***Good Agricultural Practice for Protection of Waters Regulations 2022 (S.I. No. 113 of 2022) and Good Agricultural Practice for Protection of Waters Regulations 2022 (S.I. No. 393 of 2022) (Amendment)***. In this Handbook, these are called the **Regulations**.

This handbook is meant to explain the 2022 **Regulations** directly to farmers in a clear and straightforward way. The **Regulations** are available on the Department of Agriculture, Food and the Marine website, and it is recommended that you also read the **Regulations** to understand the specific detail contained in them.

Remember that if you apply for the **Basic Payment Scheme**, the **Regulations** are also part of cross-compliance. Not only will you be breaking the law if you do not follow them, you will also be putting your Basic Payment, Areas of Natural Constraint (ANC), Green, Low Carbon Agri-environment Scheme (GLAS), Agri-Climate Rural Environment Scheme (ACRES) and other co-funded scheme payments at risk. That is why it is very important to understand the **Regulations** and know exactly how they apply to you, and what to do on your farm.

Starting overleaf, there is detailed information explaining how you can follow the **Regulations** on your farm. For some farmers this will be relatively straightforward, but others may need to consult their Cross Compliance FAS (*Farm Advisory Service*) advisor/consultant if they **are unsure about any aspect of the Regulations**.

### **What is the Purpose of the Regulations?**

The purpose of the **Regulations** is to provide a basic set of measures to ensure the protection of waters, including drinking water sources, against pollution caused by nitrogen and phosphorus from agricultural sources, with the primary emphasis on the management of livestock manures and other fertilisers. The set of measures also provide some basic safeguards against possible harmful impacts on water quality arising from agricultural expansion. This basic set of measures has been strengthened over the last two reviews and this new programme provides a further strengthened set of measures to help reduce nitrogen and phosphorus losses from agriculture and contribute to improvements in water quality.

### **What are the main elements of the Regulations?**

While the **Regulations** are explained in some detail later in this Handbook the main points are as follows:

- You must not exceed 170 kg of nitrogen per hectare in a year in the form of animal excretion or organic fertiliser application in the form of Slurry, or Farmyard manure for example.

Farmers can apply for a nitrates derogation where the 170 kg N/ha limit will be exceeded up to a maximum of 250 kg N/ha.

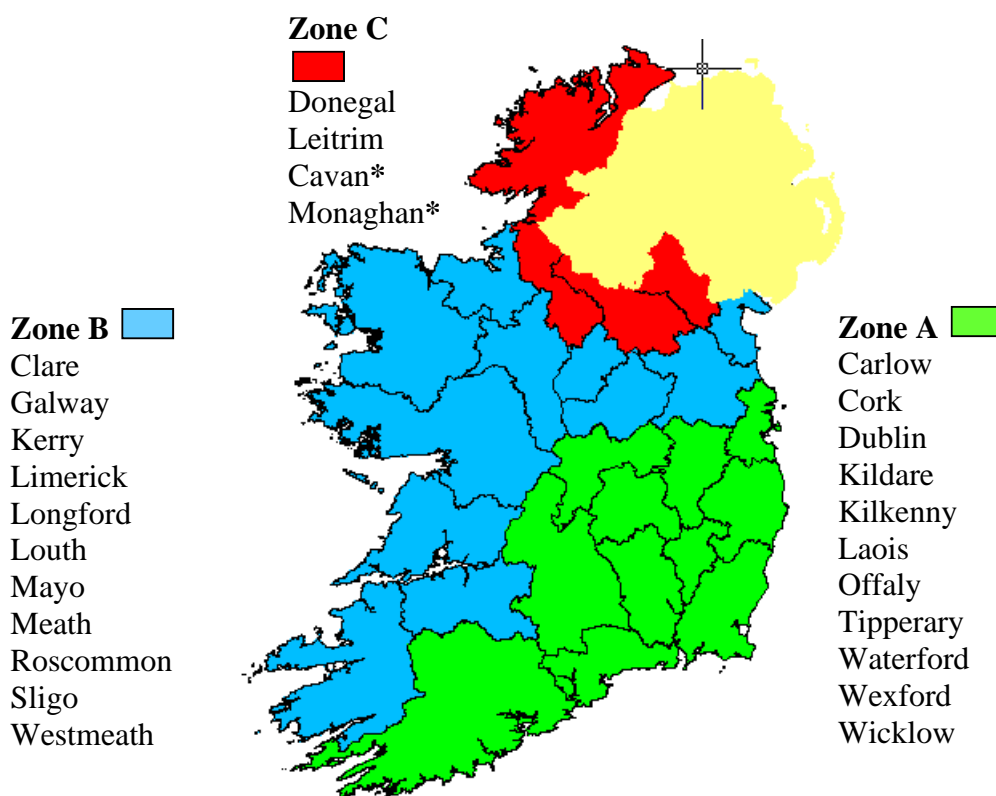
- There are times of the year when you must not spread any fertiliser, manure or soiled water on your land. These are called the **prohibited spreading periods**. Research has shown that prohibited periods are necessary to prevent nutrient losses to water during the most environmentally risky time of the year.
- You must keep within the overall maximum fertilisation rates for nitrogen and phosphorus (i.e., organic and chemical fertiliser combined), the basic rule being that you only apply as much nitrogen and phosphorus as your crops (including grass) need.
- You must have sufficient storage capacity to meet at least the minimum requirements of the **Regulations**, and all storage facilities must be kept leak-proof and structurally sound.
- You must follow the rules about ploughing and applying non-selective **herbicides**.
- You must keep various records, including records of the fertilisers and manures you bring onto your holding or send out of it. You have to keep records for each calendar year, which means 1 January to 31 December, and you must have them complete and available for inspection by **31 March** of the following year. For nitrates derogation farmers you are required to have records available by 31 March 2023 on area farmed, crops grown, types of livestock and numbers, storage facilities on farm etc. From 2023 onwards, you are required to have records available by 31 January.

You will already have most of this information on your Basic Payment application, stock registers and Animal Identification and Movement (AIM) system profiles. You must keep full records (including fertiliser/manure/concentrate details) as set down in **Section 5** of this Handbook (page 32).

### **The different Zones**

The map on the next page shows how the **Regulations** divide the country into zones. Below the map, you will find the rules for each zone about minimum storage capacity and the prohibited spreading periods (the times when you are not allowed to spread organic and chemical fertilisers). Zone C (the North West) is divided into two parts (Donegal/Leitrim and Cavan/Monaghan), which have different minimum storage requirements, but have the same rules about the times when fertilisers must not be spread.

## Zone Designation



### Storage periods for cattle manure & the prohibited periods for spreading fertilisers to land

ZONES	STORAGE PERIOD FOR CATTLE MANURE	PROHIBITED APPLICATION PERIODS		
		CHEMICAL FERTILISERS	ORGANIC FERTILISERS (other than FYM)	FARMYARD MANURE (FYM)
A	16 WEEKS	15 SEPT–26th JAN	*1 <sup>st</sup> OCT–12 JAN	1 NOV–12 JAN
B	18 WEEKS	15 SEPT–29 <sup>th</sup> JAN	*1 <sup>st</sup> OCT–15 JAN	1 NOV–15 JAN
C (Donegal and Leitrim)	20 WEEKS	15 SEPT–14 <sup>th</sup> FEB	*1 <sup>st</sup> OCT–31 JAN	1 NOV–31 JAN
C(Cavan and Monaghan)	22 WEEKS	15 SEPT–14 <sup>th</sup> FEB	*1 <sup>st</sup> OCT–31 JAN	1 NOV–31 JAN

Note; \*The prohibited period for application of organic fertilisers starts on 8<sup>th</sup> of October for each Zone 2022 and 1<sup>st</sup> October for each zone from 2023 onwards. Pre-defined scientific criteria for the application of slurry up to 15<sup>th</sup> October has been published<sup>2</sup> and where this criteria is met, farmers may be eligible to spread slurry up to the 15<sup>th</sup> October of that year

<sup>2</sup> <https://www.gov.ie/en/publication/3f44d-good-agricultural-practice-regulations-exemption-criteria-for-the-closed-period-and-shallow-cultivation/#>

## What does this Handbook cover?

This hand book is divided into the following main sections:

- What's new in these regulations
- Managing the farmyard
- Managing the farm to prevent losses
- Managing fertilisers and nutrients
- Keeping records
- Controls
- Helpsheets
- The Cross Compliance checklist
- Nitrates derogation

## The Helpsheets

There are three sets of **Helpsheets**, starting on page 41. They show you the steps that the Department of Agriculture, Food and the Marine use to check that you are complying with the **Regulations**. Other agencies, like your local authority, use similar checks. You can use the **Helpsheets** to check for yourself what you need to do.

## Tables 1–22

When this Handbook mentions Tables, it means the Tables in the **Regulations** themselves.



STATUTORY INSTRUMENTS.

**S.I. No. 113 of 2022**

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EUROPEAN UNION (GOOD AGRICULTURAL PRACTICE FOR  
PROTECTION OF WATERS) REGULATIONS 2022



## SECTION 1: What's new in this regulation?

Ireland's 5<sup>th</sup> Nitrates Action Programme (NAP) includes measures in the Good Agricultural Practice Regulations but also some measures outside the scope of the GAP Regulations including Register of Chemical Fertiliser Sales, Improving Compliance and Review of the Agricultural Sustainability Support and Advisory Programme (ASSAP). These measures will not be discussed in this handbook as they are not part of the GAP Regulations but important to note as they are part of the overall 5<sup>th</sup> Nitrates Action Programme.

The NAP came into effect on 11<sup>th</sup> March 2022 and has been given legal effect by Good Agricultural Practice for Protection of Waters **Regulations** 2022 (S.I. No. 113 of 2022). This has also been amended by SI 393 of 2022 which was published in August 2022.

The following is a summary of the new GAP regulation measures:

- Slurry storage and management – In order to reduce the impact of nutrient losses in the riskiest period of the year, the spreading of slurry must be applied as follows:
  - In 2022 all slurry must be applied by 8<sup>th</sup> October of that year.
  - In 2023 all slurry must be applied by 1<sup>st</sup> October of that year.

Pre-defined scientific criteria for the application of slurry, up to 15<sup>th</sup> October each year has been published and includes weather conditions, grass growth and situation on farms.

- Soiled water storage and management – To reduce the impact of nutrient losses in the riskiest period, the spreading of soiled water will be prohibited for all milk producers from the following dates:
  - Between 21<sup>st</sup> and 31<sup>st</sup> December 2022
  - Between 10<sup>th</sup> and 31<sup>st</sup> December 2023
  - Between 1<sup>st</sup> and 31<sup>st</sup> December 2024 with exception of winter/liquid milk producers
  - Between 1<sup>st</sup> and 31<sup>st</sup> December 2025 onwards for winter/liquid milk producers
  - All holdings producing soiled water must have minimum 31 days storage from 1<sup>st</sup> December 2024 with exception of winter milk producers where storage must be in place by 1<sup>st</sup> December 2025
- Livestock excretion rates – The excretion rate of the dairy cow will change from the single figure of 89 kg N/ha to the following banded system from 2023 onwards;
  - < 4,500 kg – **80 kg** organic N/ha and 12 kg organic P/ha
  - 4,501 – 6,500 kg – **92 kg** organic N/ha and 13.6 organic P/ha
  - >6,500 – **106 kg** organic N/ha and 15.8 organic P/ha
- Chemical fertiliser controls - 10% cut in nitrogen fertiliser allowances as outlined in Table 12 & Table 14 from March 2022. The closed period for spreading of chemical fertilisers will also be extended in January by 14 days. Pre-defined scientific criteria for the application of chemical fertiliser in the 14 days referred above has been published and includes weather conditions and grass growth.
- Green cover on tillage ground - Shallow cultivation or sowing of a crop must take place within 10 days of baling of straw post harvest. Where straw is chopped shallow cultivation or sowing a crop must take place within 10 days of harvest. In all circumstances, shallow

cultivation or sowing of a crop must take place within 14 days of harvesting. In certain weather conditions, the Minister of Housing, Local Government and Heritage in conjunction with the Minister for Agriculture, Food and the Marine, may advise when this should not apply.

- For late harvested crops, a minimum buffer of 6m shall be put in place to protect any intersecting watercourses.
- Soil tests – All farmers above a grassland stocking rate of 170 kg N/ha must take soil samples, where soil samples are not taken, index 4 for phosphorus will be assumed.
  - From 1<sup>st</sup> January 2023 all farmers above a grassland stocking rate of 130 kg N/ha must take soil samples and where soil samples are not taken, index 4 for phosphorus will be assumed.
  - All arable land sown from 1<sup>st</sup> January 2023 must take soil samples and where soil samples are not taken must assume index 4 for phosphorous.
  - The FAS advisor certification of mineral soils for soils identified as organic on the Teagasc-EPA Indicative soils map is no longer accepted and a soil test is now required.
- Grazing land management - The maximum stocking rate on commonage land is 50 kg N/ha with no chemical fertiliser allowed.
  - Reduced storage through outwintering is applicable to those with stocking rate below 130 kg N/ha and from 2025 onwards, will only be applicable to farmers stocked below 100 kg N/ha.
- Review of technical tables - The technical tables have been updated to include the most up to date Teagasc Green Book on Major and Micro Nutrient advice and includes:
  - Total N contained in 1 tonne of cattle slurry is reduced to 2.4 kg N
  - Total N contained in 1 tonne broilers/deep litter is increased to 28 kg N
- Low emission slurry spreading (LESS) - LESS equipment must be used for the application of slurry on holdings with grassland stocking rates of 170 kg nitrogen per hectare (N/ha) from grazing livestock manure or above prior to export of livestock manure from the holding. Further compulsory usage of LESS is being introduced on a phased basis:
  - 150 kg N/ha grazing livestock manure or above prior to export of livestock manure from the holding from 1st January 2023.
  - 130 kg N/ha from grazing livestock manure or above prior to export of livestock manure from the holding from 1st January 2024.
  - 100 kg N/ha from grazing livestock manure or above prior to export of livestock manure from the holding from 1st January 2025.
  - All slurry produced by pigs on any holding from 1st January 2023.
  - From 1st January 2023, LESS equipment shall be used to apply livestock manure to arable land or the livestock manure shall be incorporated within 24 hours.
- Crude Protein in Concentrate Feeds – From 1<sup>st</sup> Jan 2022 for holdings above 130 kg N/ha from grazing livestock or above prior to exporting manure, a maximum crude protein content of 15% is permissible in concentrate feed fed to grazing livestock between 15<sup>th</sup> April and 30<sup>th</sup> September.

## SECTION 2: Managing the Farmyard



The **Regulations** deal with three main aspects of farmyard management:

- Keeping soiled water to a minimum
- Collecting organic fertilisers and effluents etc.
- Storing organic fertilisers, effluents, etc. properly

### Keeping soiled water to a minimum

Soiled water includes water from concreted areas, hard standing areas, holding areas for livestock, and other farmyard areas where such water is contaminated by contact with any of the following:

- Livestock faeces, urine or silage effluent,
- Chemical fertilisers,
- Washings such as vegetable washings, milking parlour washings or washings from mushroom houses,
- Water used in washing farm equipment.
- If soiled water is stored together with slurry, it is considered slurry for the purpose of the regulation and is therefore subject to the same storage and management requirements.

For example, wash down water which becomes lightly contaminated with livestock faeces/urine in the milking parlour shall, (subject to not exceeding the dry matter content and BOD thresholds specified in the **Regulations**), be considered to be soiled water. Wash down water that is allowed to enter slurry storage tanks is deemed to be slurry for the purpose of the **Regulations** and must comply with the rules pertaining to slurry.

### You must:

- Divert all clean water from roofs to a clean water outfall. Rainwater gutters and downpipes required for this purpose must be kept in good working condition. Likewise, clean water from clean yards and clean water from higher ground must be diverted to a clean water outfall.
- Prevent clean water from becoming soiled. Keep the amount of soiled water that is produced on your holding to a minimum.



### **Collecting organic fertilisers**

Organic fertiliser means any fertiliser other than that manufactured by an industrial process and includes slurry, farmyard manure, soiled water, silage effluent, spent mushroom compost, sewage sludge, industrial sludges etc.

Until the time and conditions are right to apply organic fertilisers to land, all organic fertilisers, effluents and soiled waters produced in buildings and yards must be stored in a way that will prevent run-off or seepage, directly or indirectly, into groundwater and surface water.

### **Storing organic fertilisers properly**

You must have enough storage capacity for organic fertilisers, depending on the zone in which your holding resides i.e. 16, 18, 20 or 22 weeks, to meet the minimum requirements of the **Regulations**. Spreading fertilisers is not allowed during the prohibited spreading period and is also not permitted outside of the prohibited period if weather or ground conditions are unsuitable and there is a risk that the nutrients in the fertilisers might run off into surface water and groundwater. Therefore, you must also make sure that you have enough spare capacity to allow for bad weather.

All storage facilities for organic fertiliser, effluents and soiled water must be kept leak-proof and structurally sound. All new storage facilities must meet the construction specifications of the Department of Agriculture, Food and the Marine. (You can get more information about these specifications from your advisor/consultant, from your local Department office or on the Department's website [www.agriculture.gov.ie](http://www.agriculture.gov.ie)).



Loose concrete floor housing bedded with appropriate material with associated farmyard manure storage and run-off storage also meets the requirements of the regulation in terms of organic fertiliser storage. All concrete floors and storage facilities must be in good condition and fit for purpose.

If your holding lies in more than one zone the higher manure storage requirement applies to the holding if 20% or more of your holding lies in the zone with the greater requirement.

### How much storage capacity do you require for your livestock?

The minimum storage capacity required for the main types of livestock is shown in **Tables 1, 2 and 3** of the **Regulations**.

You must have 200mm freeboard in all covered tanks. In all uncovered tanks, you will need 300mm freeboard. When you are working out the storage capacity of an uncovered tank, you must make an allowance for the average net rainfall for your county. You must also allow for any soiled water coming from yards that can get into tanks. There is information in **Table 4** of the **Regulations** to help you to do this.

**Helpsheet A** of this Handbook, starting on page 41 will show you how to work out whether you have enough storage capacity. Your advisor can help you with this if you are not sure about it.

### Cattle manure

Look again at the table below. The minimum storage periods required for cattle manure is shown in the table. As you can see, the amount of storage required depends on which zone your holding is in.

#### Storage periods for cattle manure

Zones	A (Carlow, Cork, Dublin, Kildare, Kilkenny, Laois, Offaly, Tipperary, Waterford, Wexford, and Wicklow)	B (Clare, Galway, Kerry, Limerick, Longford, Louth, Mayo, Meath, Roscommon, Sligo, and Westmeath)	C (Donegal and Leitrim)	C* (Cavan and Monaghan)
Storage period for cattle manure	16 Weeks	18 Weeks	20 Weeks	22 Weeks

### Deer, goat and sheep manure

You must have a minimum of six weeks' storage capacity for deer, goat and sheep manure.





### **Reduced storage capacity for cattle (except dairy cows), sheep, deer or goats**

If your livestock are outwintered at any time during the **prohibited spreading periods** (the periods when you are not allowed to spread organic fertiliser), you may need less storage capacity. This rule applies to you if your **sheep, deer or goats** are outwintered during the full prohibited spreading period at a grassland stocking rate of not more than 130 kg of nitrogen to the hectare (this is the equivalent to 10 lowland ewes to the hectare) until 31<sup>st</sup> December 2024. From 2025 onwards this rule will apply to you if your **sheep, deer or goats** are outwintered during the full prohibited spreading period at a grassland stocking rate of not more than 100 kg of nitrogen to the hectare. This rule also applies to you if you have other livestock (excluding dairy cows, deer, goats and sheep) outwintered at a grassland stocking rate not exceeding 85 kg of nitrogen to the hectare.

The requirement for full storage for those holdings stocked between 100 kg N/ha and 130 kg N/ha applies from 1st January 2025.

If sheep, deer or goats are outwintered with cattle, then the maximum stocking rate that applies is the rate for cattle (e.g. in 2022 - 89 kg of nitrogen to the hectare).

- You can use **Helpsheet C** of this Handbook (beginning on page 50) to work out your grassland stocking rate. You will also need to know your eligible grassland area in hectares, which for most holdings is on your application form for the Basic Payment Scheme. If you want to use this rule to avail of reduced storage capacity for cattle (except dairy cows), sheep, deer, or goats, you must also meet these extra conditions:
- The total amount of livestock manure produced on your holding must not be more than 130 kg nitrogen per hectare per year. From 1<sup>st</sup> January 2025 onwards the total amount of livestock

manure produced on your holding must not be more than 100 kg nitrogen per hectare per year. All the lands used for outwintering must be part of your holding, and

- The outwintered stock must have free access at all times to the required land, and
- There must be no severe poaching, and
- The reduction in storage capacity requirement must match the actual number of livestock that you have outwintered.

**You cannot avail of reduced storage capacity requirement on holdings with a dairy cows.**



### **Pig manure**

The general rule is that you must have 26 weeks storage capacity for pig manure. However, 16/18/20/22 week's storage capacity (depending on which zone you are in) will be enough if:

- There are no more than 100 pigs on your holding at any time, and
- Your own holding is large enough to take all the livestock manure produced, without exceeding the nitrogen or phosphorus limits in the **Regulations**.

### **Poultry manure**

The general rule is that you must have 26 weeks storage capacity for poultry manure. However, 16/18/20/22 week's storage capacity (depending on which zone you are in) will be enough if:

- There are no more than 2,000 poultry places on your holding, and
- Your own holding is large enough to take all the livestock manure produced, without exceeding the nitrogen or phosphorus limits in the **Regulations**.

### **Another way of reducing the storage capacity you need**

Another way that you may need less storage capacity on your holding is if you have one of these contracts:

- A contract giving you, and no-one else, access to enough storage somewhere else, outside your holding, or
- A contract with a treatment facility for processing livestock manure, or

- A contract with an authorised person or body who undertakes the collection, recovery, or disposal of waste.

### **Soiled water**

Currently, you must have enough soiled water storage to be able to store the equivalent of at least 10 days of soiled water at any time of the year. For soiled water storage facilities constructed on or after 1<sup>st</sup> Jan 2015 you must have enough storage to be able to store the equivalent of at least 15 days of soiled water at any time of the year.

From 2023 onwards there will be closed periods for the spreading of soiled water and further requirements for storage of soiled water for milk producers. All milk producers must have sufficient storage for soiled water to match the prohibited period and must have minimum of 21 days soiled water storage capacity in place by 1<sup>st</sup> December 2023 and minimum 31 days soiled water storage from 1<sup>st</sup> December 2024 with exception of winter milk producers where this storage must be in place by 1st December 2025.

The spreading of soiled water will be prohibited on a phased basis as follows:

- From 1<sup>st</sup> January 2022 – prohibited between 21<sup>st</sup> December and 31<sup>st</sup> December
- From 1<sup>st</sup> January 2023 - prohibited between 10<sup>th</sup> December and 31<sup>st</sup> December
- From 1<sup>st</sup> January 2024 – prohibited between 1<sup>st</sup> December and 31<sup>st</sup> December
- From 1<sup>st</sup> January 2025 onwards – prohibited between 1<sup>st</sup> December and 31<sup>st</sup> December

### **Effluents produced by ensiled forage**

You must have enough storage for silage effluent or effluent from other crops as shown in **Table 5** of the **Regulations**.



### Nutrient Excretion Rates

The nutrient excretion rates of all livestock are outlined in Table 6 of the Regulations. Teagasc conducted research which concluded that as the milk yield of the dairy cow increased, the nutrient output also increased. From 2023 onwards the banding of the dairy cow will be introduced which will be calculated on a rolling three year average. The bands will be as follows:

Milk Yield (kg)	Total N (kg/year)	Total P (kg/year)
>4500kg	80	12
<4500 - >6,500kg	92	13.6
<6,500kg	106	15.8

### Example:

In 2019 a holding has 75 dairy cows for full year with 480,000 litres of milk produced.  
Using CSO conversion factor of 1.0297 -  $480,000/1.0297 = 466,155$  kg

In 2020 a holding has 80 dairy cows for full year with 500,000 litres of milk produced.  
Using CSO conversion factor of 1.0297 -  $500,000/1.0297 = 485,578$  kg

In 2021 a holding has 85 dairy cows for full year with 505,001 litres of milk produced.  
Using CSO conversion factor of 1.0297 -  $505,001/1.0297 = 484,578$  kg

Average cow numbers –  $(75 + 80 + 85)/3 = 80$  cows

Average milk yield –  $(466,155 + 484,578 + 484,578)/3 = 485,578$  kg

$485,578/80 = 6070$  kg average milk yield per cow = **92 kg N**

Example of calculation is outlined in the table below:

Year	Milk Supplied for period 1st January to 31st December (Litres)	Milk Supplied for period 1st January to 31st December (kg)*	Average Number of Dairy Cows for period 1st January to 31st December	Average Milk Yield (kg)	Livestock Excretion Rate (N)
2019**	480,000	466155	75	6215	
2020	500,000	485578	80	6070	
2021	520,000	505001	85	5941	
Average (2019/2020/2021)	500,000	485578	80	<b>6070</b>	<b>92</b>



### SECTION 3: Managing the Farm to prevent losses

This section deals with measures that have a focus on breaking the pathway of nutrient and sediment loss to waters:

- Preventing direct run-off from farm roadways to waters (i.e. watercourses and dry drains)
- Prevention of run-off to waters (i.e. watercourses and dry drains) as a result of poaching
- Preventing cattle access to watercourses (as identified on 1:5000 OSI mapping or better) for farms at a grassland stocking rate of 170 kg N ha or above
- Water troughs to be located at least 20m away from watercourses for farms at a grassland stocking rate of 170 kg N ha or above

#### **Preventing direct run-off from farm roadways to waters**

This measure is to prevent direct run-off to waters (i.e. watercourses and dry drains) from farm roadways and applies to all farms. There are a range of potential options to prevent run-off to waters, some of which are:

- Cambering of the roadway directing water to one side into the field
- Measures to reduce the speed of water flow
- Earth bunding along the road

This measure applies to all farmers regardless of stocking rate. The Department farm roadway specification (S.127) gives guidance on the construction of new farm roadways and sets out how existing farm roadways can be modified to comply with the requirements.



#### **Prevention of run-off as a result of poaching**

This measure is to ensure that the risk of soil erosion and runoff to waters (i.e. watercourses and dry drains) from poaching is minimised by means of appropriate management. Farmers are required to manage livestock grazing to ensure the risk of poaching is minimised. This measure applies to all farmers regardless of stocking rate.



### **Preventing cattle access to watercourses:**

This measure is to prevent cattle access to watercourses (as identified on 1:5000 OSI mapping or better) on farms with a grassland stocking rate of 170 kg N/ha or above. It is required to fence watercourses 1.5m from the top of the riverbank or water's edge as the case may be.

Fencing of watercourses will potentially reduce nutrient and sediment loss to watercourses as well as allow vegetation to recover on river banks, helping to break the nutrient loss pathway and reduce losses.

### **Water troughs & supplementary drinking points to be located 20m from watercourses:**

This measure is to ensure that all water troughs are located at least 20 metres away from watercourses on farms with a grassland stocking rate of 170 kg N/ha or above. Where there is a farm roadway between a water trough and a watercourse the 20m requirement does not apply.

Under the **Regulations**, farmers with stocking rates below 170 kg N/ha are not required to move water troughs or fence watercourses. The determination of the grassland stocking rate for fencing of watercourses and setback of water troughs is based on the previous year's grassland stocking rate, and exceptional circumstances will be addressed as they arise.



### **Shallow cultivation following harvest on tillage ground:**

This measure is to reduce any potential losses of nutrients post-harvest and 'mop-up' any residual N that remains or is mineralised following harvest. Shallow cultivation is only required in counties:

Carlow, Cork, Dublin, Kildare, Kilkenny, Laois, Louth, Meath, Offaly, Tipperary, Waterford, Westmeath, Wexford, Wicklow

The requirement is that shallow cultivation must take place within 10 days of baling of straw or where straw is chopped, within 10 days of harvest. In all circumstances, shallow cultivation must take place within 14 days of harvesting. There is flexibility in the Regulations where this measure should not take place due to extreme weather conditions being forecast.

Soil consolidation (rolling) can be used as an alternative to shallow cultivation where oilseed rape is harvested or where a parcel is certified by a FAS advisor as containing certain grass weeds as follows:

*Bromus hordeaceus, Bromus commutates, Bromus secalinus, Black grass - Alopecurus myosuroides*

Where soil consolidation is practiced as an alternative to shallow cultivation, it must also take place within 10 days of baling of straw or where straw is chopped within 10 days of harvest. In all circumstances, it must be completed within 14 days of harvest.

To allow space for seed-eating birds that rely on over-winter stubble as a habitat, a minimum of 20% of land and a maximum of 25% of cereal land is not subject to shallow cultivation after harvest.

The most free-draining land should be prioritised for shallow cultivation and heavier land on sloped ground should be prioritised for the 20 – 25% not to be cultivated. The 20 – 25% of land that is not cultivated must not have any herbicides applied until at least 1<sup>st</sup> February the following year, unless a crop has been planted.

In addition to the space for the birds there are certain instances where shallow cultivation is not required:

- Where the farmer is certified organic in accordance with Regulation EU 2018/848
- Where root crops or late harvested crops have been harvested
- Where a cereal crop or beans have been harvested after 15<sup>th</sup> September
- Where a cereal crop is undersown with another crop
- Where a winter cereal crop, oilseed rape or beans is due to be sown by 15<sup>th</sup> September
- Where land will be used by the National Ploughing Association later in the year or in January or February the following year – farmer must provide evidence to prove this.



## SECTION 4: Managing Fertilisers and Nutrients



This Section deals with managing fertilisers and nutrients on your holding. For the purposes of the **Regulations**, a **fertiliser** is any substance containing nitrogen or phosphorus used on land to help to grow crops (including grass).

The two main points about managing fertilisers are:

- The total amount of livestock manure applied to your land in a calendar year must not contain more than 170 kg of nitrogen to the hectare (or must not contain more than 250 kg of nitrogen if in derogation).
- The total quantity of fertilisers (organic and chemical combined) that you apply to your land must not be more than the crops need (this includes grass).

### **The 170 kg/ha/year nitrogen limit — what does it mean? How will you know that you are not exceeding the limit?**

The amount of livestock manure that you apply to land on your holding in any year, added to what your livestock deposit directly, must not amount to more than 170 kg of nitrogen to the hectare. (This is what two dairy cows would produce on a hectare of land.) Livestock other than dairy cows produce less nitrogen, and the amounts are shown in **Table 6** of the **Regulations**. See also **Helpsheet B on page 47** of this Handbook. The majority of holdings are under the 170kg limit. It is only the more intensively stocked holdings or holdings importing livestock manure that may be at risk of going over the limit.



## Requirements to use Low Emission Slurry Spreading (LESS) equipment

In 2022 it is currently compulsory for all holdings stocked at or above 170 kg organic N per hectare prior to exports to use LESS equipment when spreading slurry. Building on this requirement, it will be rolled out on a phased basis for lower grassland stocking rates (GSR) prior to export as follows:

From 1<sup>st</sup> January 2023 – compulsory for all holdings at or above GSR 150 kg N/ha prior to export

From 1<sup>st</sup> January 2024 – compulsory for all holdings at or above GSR 130 kg N/ha prior to export

From 1<sup>st</sup> January 2025 – compulsory for all holdings at or above GSR 100 kg N/ha prior to export

In addition from 1<sup>st</sup> January 2023 all pig slurry applied to land must be applied using LESS equipment and all organic manure applied to arable land must either be applied using LESS equipment or incorporated within 24 hours.



## Nitrogen & Phosphorus Statements

Nitrogen and Phosphorus statements are available online on the Department's website to all farmers (registered users). Farmers not already registered for agfood.ie can do so by logging onto [www.agfood.ie](http://www.agfood.ie) and clicking the 'Register' button. To register a mobile phone number for future SMS text alerts log on to <https://www.agriculture.gov.ie/mobileupdates/> to access the sign-on form, or alternatively contact the regional office.

These statements relate to those who in the previous year (a) had cattle recorded on the Department's AIM system and (b) made application under the Basic Payment Scheme. The Statement sets out the quantities of nitrogen and phosphorus produced by cattle during the previous year. This will give you a clear indication of your livestock manure nitrogen status and help you to establish whether you were within the 170 kg limit in the previous year. It will also help you to plan for the year ahead. Interim statements are also available online. They usually cover the first 6-month period January to June followed by statements for 8 months, 9 months, 10 month, 11 months and complete year

Remember that the statement shows the nitrogen and phosphorus produced by cattle only, so if you have other livestock on your farm (such as sheep, pigs, poultry, horses etc) you will need to work out the N and P that they produced and add this to the figure for cattle to get the total figure. Similarly if

you import livestock manure this must be accounted for when calculating compliance with the 170 kg N/ha limit.

### **Nutrient Management Planning**

- For the purposes of determination of grassland stocking rates under Tables 12, 13A and 13B, the previous year's stocking rate is used, e.g. for 2022 calculations the 2021 stocking rate will be used to calculate the maximum N and P allowed for 2022, unless a farmer is going into derogation for the first time where derogation rates apply. The other exception is in the situation where a farmer was in derogation in 2021 and is not applying for derogation in 2022, where the maximum N and P allowed is based on 2022 stocking rate.

#### **Examples**

- Grassland stocking rate in 2021 was 125 kg N/ha; the predicted stocking rate for 2022 is 165 kg N/ha. For 2022 the maximum fertilisation rate is based on 2021 stocking rate i.e. 114 kg N/ha, 10 kg P/ha (for P index 3 soil, no build up).
- Grassland stocking rate in 2021 was 165 kg N/ha; the predicted stocking rate for 2022 is 180 kg N/ha (derogation for first time). For 2022 the maximum fertilisation rate is based on derogation rates i.e. 225 kg N/ha, 19 kg P/ha (for P index 3 soil, no build up).
- Grassland stocking rate in 2021 was 180 kg N/ha (derogation); the predicted stocking rate for 2022 is 165 kg N/ha (no derogation being applied for). In this situation as there is no derogation in 2022 the maximum fertilisation rate is based on 2022 stocking rate i.e. 185kg N/ha, 13 kg P/ha (for P index 3 soil, no P build up)
- Nitrogen and Phosphorus maximum limits as contained in Tables 12, 13A and 13B are in addition to N and P in grazing livestock manures on the holding. This means it is not required to deduct the N and P in livestock manures in order to calculate allowances, thereby simplifying the calculations.
- Where livestock fertiliser is imported onto a farm, the calculation of the maximum amount of nitrogen that can be imported in the manure is based on the current year's stocking rate data. Please note that nitrates derogation holders are prohibited from importing livestock manure.
  - E.g. if importing organic fertiliser onto a farm in 2022 and the stocking rate in 2022 is 140 kg N/ha then the maximum manure that can be imported will be 30 kg N/ha.

### **Are you stocked at more than 170 kg nitrogen to the hectare?**

In excess of 90% of the holdings in Ireland are stocked at less than 170 kg of nitrogen to the hectare per year. If you want to farm above this limit you may need to apply for a Nitrates derogation (up to a limit of 250 kg of nitrogen per hectare per year). The terms and conditions applicable to nitrates derogation are available on the Department's website or alternatively contact the Nitrates Section, Johnstown Castle, Wexford, telephone 053-9163425 or email [nitrates@agriculture.gov.ie](mailto:nitrates@agriculture.gov.ie)



## Managing nitrogen and phosphorus

Every farmer must keep within the overall maximum fertilisation rates for nitrogen and phosphorus (i.e., organic and chemical fertilisers combined). The basic rule is that you can only apply as much nitrogen and phosphorus as your crops need (including grass). You must never apply more than the maximum fertilisation rates, which you can find in **Tables 12-22** of the **Regulations**.

Research has shown that there is significant scope to improve farm nutrient management planning, on Irish farms, and soil testing is central to achieving this. Having a nutrient management plan for your farm is the best way to:

- Identify soil fertility problems,
- Make the best use of the available nutrient resources on your farm,
- Calculate your fertiliser requirements for the year,
- Increase farm productivity.

To maximise these benefits it is important that a plan is prepared early and on a field-by-field basis and followed throughout the year. You should get soil tests done to find out the phosphorus index of your soil. The higher allowances allocated to soil phosphorus indices 1 and 2 in **Tables 13A, 13B 15, 17, 19 and 21** of the **Regulations** can only be used if you have valid soil test results. You must have soil tests done in the way that is specified in **Schedule 1** of the **Regulations**. Soil tests are valid for four years. A soil sample is required to be taken for a maximum of every 5 ha of land. If you do not get soil tests done, you must assume that your soil is phosphorus Index 3, and you cannot avail of the higher allowances for soil phosphorus indices 1 and 2.

In the previous Regulation, farmers located in a designated high organic matter (OM) area with OM content above 20% (as designated according to the Teagasc EPA Indicative soils map) were required to include a test for organic matter determination under article 16 (3) of the **Regulations**, unless the Farm Advisory Service (FAS) advisor certifies that the soil is a mineral soil (in such a situation the OM test is not required when soil testing).

From 2022 onwards all soils in the indicative Teagasc/EPA layer with OM content above 20% and above are required to be tested for organic matter. Where the holding accepts the OM content of 20% or above, then a soil test is not required. Where the holding does not accept the OM content of 20% and above then a soil test including organic matter determination must be taken and FAS advisory certification is no longer accepted.

The P fertilisation rate for soils with 20%+ OM must not exceed the amount permitted for P index 3. The soil OM map layer is available on the Departments LPIS mapping system.



### **Allowances for P build-up rates for soil indices 1 and 2**

Grassland phosphorus rates are outlined in **Table 13A** of the **Regulations**. There is a higher allowance of P build-up rates on P index 1 and 2 soils and these are outlined in **Table 13B** of the **Regulations**. These increased P allowances apply only for grassland on farms with grassland stocking rates of 130 kg N/ha or above.

- Farmers wishing to avail of these P build-up allowances must submit a nutrient management plan (NMP) to DAFM using the Teagasc on-line NMP, prepared by an approved Farm Advisory Service (FAS) advisor. Soil analysis is required, including soil organic matter unless it is certified to be mineral soil by a FAS advisor.
- For farmers applying for a Nitrates Derogation in 2022 and who wish to use the new P build-up rates (as contained in table 13B of S.I 113 of 2022), the on-line NMP satisfies DAFM notification requirement.
- For non-derogation farmers who wish to use the new P build-up rates, a copy of the Teagasc on-line NMP must be emailed to the Department at [pbuildup@agriculture.gov.ie](mailto:pbuildup@agriculture.gov.ie) by 31<sup>st</sup> December 2022.
- To ensure the protection of the environment, farmers using the increased P build-up rates are required to participate in a dedicated training programme in the first year of the P build up programme.

### **Additional important points about managing Fertilisers and Nutrients, including the new changes to the Regulations**

- The **Regulations** specify that there are certain amounts of nitrogen and phosphorus in organic fertilisers. **Tables 7 and 8** of the **Regulations** show what these amounts are. In the case of spent mushroom compost, the total phosphorus concentration is 1.5 kg/tonne (**Table 8**). If you wish, you can use different figures for any pig and poultry manure produced on your holding but you must have these figures certified by the Environmental Protection Agency or by the Department of Agriculture, Food and the Marine.

- Nitrogen and phosphorus availabilities for different fertilisers are outlined in **Tables 9 and 9A** of the **Regulations**. On phosphorus Index 1 and 2 soils the phosphorus in all organic fertilisers is considered to be 50% available (subject to a valid soil test result).
- If you are using 5% or more of your holding to grow crops other than grass and your grassland stocking rate is greater than 170 kg N per hectare per year, you can use the higher fertilisation rates in **Tables 12, 13A and 13B** of the **Regulations**, appropriate to your grassland stocking rate.
- When you are working out how much phosphorus you can spread on your holding, you must count in the phosphorus coming from concentrates in excess of 300 kg per 85 kg stocking rate that you brought in, or concentrates you produced yourself (such as cereals), and fed to your grazing livestock in the previous year. The **Regulations** specify that in the absence of known P concentrations (book value or P content provided by feed supplier) every 100 kg of concentrated feedstuff fed to your grazing livestock is equal to 0.5 kg phosphorus spread on a hectare of land under article 16 (6).
- The phosphorus fertilisation rates for soils that have more than 20% organic matter (peat soils) cannot be higher than the amounts allowed for Index 3 soils. These are known as maintenance amounts, which means the amounts that are needed to replace whatever the crop takes up.
- Once you have spread enough manure from grazing livestock on your holding to meet the phosphorus requirements of all the crops that you are growing on Index 1, 2 & 3 soils, you can spread the rest on any Index 4 soil you have as long as you stay within the nitrogen limit of 170 kg.
- In the case of grassland, an added allowance of 15 kg of phosphorus per hectare may be applied at soil phosphorus indices 1, 2, or 3 for each hectare of pasture establishment undertaken.
- In the case of lowly stocked farms (<85 kg N/ha grassland stocking rate), there is an allowance to avail of the fertilisation rates in **Table 15** for those areas of the farm where hay or silage is produced for sale off the holding. Documentary evidence such as sales receipts is required to avail of the higher P allowance in this case.
- In the case of maize, there is an additional annual phosphorus allowance for crops grown on Index 4 soils which must be incorporated. This additional allowance is subject to a valid soil test result (**Table 17**).
- In the case of certain tillage crops, there is an additional allowance of 20 kg phosphorus/ha where a valid soil test result indicates a pH greater than or equal to 7.0 (**Table 17**).
- If you are growing cereals with a higher than average yield, **Table 16** of the **Regulations** allows for higher nitrogen fertilisation rates. However, if you want to use these higher fertilisation rates, you will need documentary evidence such as sales receipts, or a milling contract to show that you got the higher yields or that you were growing the wheat for milling purposes.
- Where malting barley is grown under a contract to a purchaser of malting barley, an extra 20 kg N/ha may be applied where it is shown on the basis of agronomic advice that additional nitrogen is needed to address proven low protein content in the grain (**Table 16**).
- Where proof of higher yields is available, **Table 17** of the **Regulations** allows an additional 3.8 kg P/ha to be applied to cereals for each additional tonne above a reference yield of 6.5 tonnes/ha.

- You can apply 20 kg P/ha chemical fertiliser up to October 31<sup>st</sup> on winter cereals on index 1 and 2 soils which must be incorporated prior to or at sowing. This is 20 kg of the total annual allowance of chemical P and is not an extra allowance.
- The maximum allowable N and P allowances for potato and vegetable crops have been updated and are outlined in **Tables 16, 17, 18 and 19.**

**Helpsheet B** of this Handbook (starting on page 47) shows you how to work out whether you are below the limit of 170 kg of nitrogen to the hectare. **Helpsheet C** (starting on page 50) shows you how to work out the maximum nitrogen and phosphorus allowed for your holding.



## **Rules applying to Movement of Livestock (Cattle and Sheep) for grazing on a temporary basis**

The Nitrates **Regulations** have implications for farmers moving their animals to another holding for grazing on a temporary basis. Where **cattle** or sheep are involved and no sale or purchase has taken place, farmers can obtain credit for the fertiliser produced by these animals only if they follow the following procedures:

a. **Temporary Movement to a holding where there are cattle.**

In such a situation cattle are officially moved under the AIM system either on line (using your agfood logon) or by completing an **NBAS31A** form. This applies where cattle are moving to a holding that has cattle and also applies to B & B arrangements.

b. **Temporary Movement to a holding where there are no cattle.**

Where cattle are being moved to a holding which does not have cattle, Record 4 (Notification of Temporary Movement of cattle or sheep) must be used. This form must be submitted by **31<sup>st</sup> December** of the relevant year to Nitrates Section, Johnstown Castle, Co. Wexford Y35 PN52 , or email [nitrates@agriculture.gov.ie](mailto:nitrates@agriculture.gov.ie)

### **Rules Applying to Movement of Sheep on a Temporary Basis**

c. **Temporary Movement of sheep to a holding.**

Where sheep are moved to a holding, regardless of whether there are sheep/cattle/no stock on the receiving holding, Record 4 (Notification of Temporary Movement of cattle or sheep) must be used and submitted by 31<sup>st</sup> December of the relevant year.

As there are different nitrogen rates applicable depending on age or type of animal, the onus is on both parties to comply with the 170 kgs of nitrogen per ha limit.

## Precautions you must take when you are applying fertilisers

In order to prevent waters from being polluted by nitrogen and phosphorus, the **Regulations** require that you must do the following:

- You must spread chemical fertilisers, livestock manure and other organic fertilisers, effluents and soiled water as accurately and as evenly as you can.
- You must not use an upward-facing splash plate or sludge irrigator on a tanker or umbilical system for spreading organic fertiliser or soiled water.
- You must not spread organic fertilisers or soiled water from a road or passageway, even if the road or passageway is on your own holding.
- You must not spread chemical fertilisers, livestock manure, soiled water or other organic fertilisers when:
  - The land is waterlogged;
  - The land is flooded, or it is likely to flood;
  - The land is frozen, or covered with snow;
  - Heavy rain is forecast within 48 hours (you must check the forecasts from **Met Éireann**).
  - The ground slopes steeply and there is a risk of water pollution, when factors such as surface run-off pathways, the presence of land drains, the absence of hedgerows to mitigate surface flow, soil condition and ground cover are taken into account.
- You must not spread chemical fertiliser on land within 2 metres of a surface watercourse.
- The following table shows the different buffer zones for different kinds of water bodies (lakes, rivers, wells etc.). You must not spread soiled water, effluents, farmyard manures or other organic fertilisers inside these buffer zones.

Buffer zones for spreading organic fertilisers	
Water body/Feature	Buffer zone
Any water supply source providing 100m <sup>3</sup> or more of water per day, or serving 500 or more people	200 metres (or as little as 30 metres where a local authority allows)
Any water supply source providing 10m <sup>3</sup> or more of water per day, or serving 50 or more people	100 metres (or as little as 30 metres where a local authority allows)
Any other water supply for human consumption	25 metres (or as little as 15 metres where a local authority allows)
Lake shoreline	20 metres
Exposed cavernous or karstified limestone features (such as swallow holes and collapse features)	15 metres
Any surface watercourse where the slope towards the watercourse exceeds 10%	10 metres
Any other surface waters	5 metres*

\*The 5 metre buffer zone is increased to 10 metres for a period of two weeks preceding and two weeks following the periods when application of fertilisers to land is prohibited as set out in Schedule 4 of the **Regulations** (check the table and map on page 7). The objective of increased setback distances at the shoulders of the closed period is to help retain as much of the applied nutrient in the field as possible thereby reducing its risk of loss through overland flow.

In the case of water for human consumption, your Local Authority may vary buffer widths from those specified above, and will inform you if they do so.

### Take care when you are spreading soiled water

You can spread soiled water all the year round if the weather is suitable, if the condition of the land is suitable and if you do it in the way that the **Regulations** tell you to do it. However there are some restrictions as follows:

- You must not spread more than 50,000 litres to the hectare in any six-week period.
- You must not spread more than 5 mm an hour by irrigation.

There are extra restrictions in areas that are identified, on maps produced by the Geological Survey of Ireland, as **Extreme Vulnerability Areas on Karst Limestone Aquifers**. In these areas:

- You must not spread more than 25,000 litres to the hectare in any six-week period.
- You must not spread more than 3 mm an hour by irrigation.

### Storing farmyard manure in a field

You must not store farmyard manure in a field during the **prohibited spreading period** for farmyard manure (check the map and table on page 7). You can store it in a field during the spreading season, but you must store it in a compact heap and you cannot store it within the buffer zones in the following table. Farmyard manure is the only organic fertiliser that may be stored in a field during the spreading season and no organic fertiliser may be stored in the field during the **prohibited spreading period**.

Buffer zones applicable when farmyard manure is stored in a field	
Water body/Feature	Buffer zone
Any water supply source providing 100m <sup>3</sup> or more of water per day, or serving 500 or more people	250 metres
Any water supply source providing 10m <sup>3</sup> or more of water per day, or serving 50 or more people	250 metres
Any other water supply for human consumption	50 metres
Lake shoreline	20 metres
Exposed cavernous or karstified limestone features (such as swallow holes and collapse features)	50 metres
Any other surface waters	20 metres

### Silage bales

Silage bales may not be stored outside of farmyards within 20 metres of waters or a drinking water abstraction point in the absence of adequate facilities for the collection and storage of any effluent that may arise.

### Supplementary feeding

No supplementary feeding points may be located within 20 m of surface water or on bare rock.

### No till zone

No ploughing or tilling may take place within 2 m of a watercourse (stream/river) marked on the modern 1:5000 OSI scale OSI map or better except in the case of grassland reseeding or establishment. The no till zone does not apply to field drains.

### **Ploughing and using non-selective herbicides**

- Arable land ploughed between 1 July and 30 November must have a green cover from a sown crop within 6 weeks of ploughing.
- Grassland ploughed between 1 July and 15 October must have a green cover from a sown crop by 1 November.
- You must not plough grassland between 16 October and 30 November.
- If you use a non-selective herbicide on arable land or grassland between 1 July and 30 November, there must be green cover from a sown crop or from natural regeneration within 6 weeks from when you use the herbicide. In the case of seed crops and crops for human consumption where the contract prohibits the use of non-selective herbicide pre-harvest the requirement to provide green cover is reduced to 75% of the contract area after 15<sup>th</sup> October.
- If you provide green cover to abide by the rules in regard to ploughing or using a non-selective herbicide, you must not remove it by ploughing or by use of a non-selective herbicide before 1<sup>st</sup> December, unless a crop is sown within two weeks of removing it.





## SECTION 5: Keeping Records

- Under the **Regulations**, you have to keep records. You must keep the records for each calendar year and they must be finalised by **31 March** of the following year. For nitrates derogation farmers records must be finalised by 31 March 2023 and from 2024 onwards records must be finalised by 31 January. For 2021, you are required to have records available by 31 March 2022 on area farmed, cropping regime, types of livestock and numbers, and storage facilities on farm. You will already have most of this information on your Basic Payment application, stock registers and AIM profiles. You must keep full records (including fertiliser/manure details) as set down in this Section of the Handbook. You must keep the records for five years.

### These are the records you must keep:

- The total area of your holding in hectares (this is on your application form for the Basic Payment Scheme if you are an applicant).
- The eligible area of the holding in hectares (this is on your application form for the Basic Payment Scheme if you are an applicant).
- The areas of grass and any other crops on your holding (this is also in your application form for the Basic Payment Scheme).
- An estimate of how much fertiliser your holding requires for the year, and a copy of any Nutrient Management Plan (for example a GLAS plan) that might have been done for your holding (it is recommended that you do this estimate early in the year using the record of the areas of grass and any other crops on your holding). Remember to take into account fertilisers applied in autumn for autumn-sown crops.
- The numbers and type of livestock you have (see **Table 6** of the **Regulations** for a description of livestock types), as follows:
  - In the case of cattle, you do not need to keep any records additional to the Bovine Herd Register or bovine electronic herd register.
  - In the case of sheep, you do not need to keep any records additional to the Flock Register.
  - In the case of pigs and poultry, you can just write in the number of pig or poultry places.
  - You should also record the number of each livestock type other than the above types on the holding on the first day of each quarter.
- The quantities and types of chemical fertilisers moved on to or off your holding, including opening stock, records of purchase and closing stock.
- The total amount of concentrates (including cereals produced on your holding) that you fed to grazing livestock during the previous year. You should also keep a copy of all dockets showing amounts of concentrates purchased during the previous year
- Livestock manure and other organic fertilisers moved on to or off the holding including quantities, type, dates and details of exporters/importers, as the case may be.
- Completed record of movement of organic fertiliser form in the format specified (on-line on the [www.agfood.ie](http://www.agfood.ie) portal, see page 35 ) must be submitted to Nitrates Section, Department of Agriculture, Food and the Marine, Johnstown Castle Estate on or before 31<sup>st</sup> December each year in respect of all exports of livestock manure (e.g. cattle manure, pig slurry, poultry



**Note:** When you are estimating how much fertiliser you need, make sure to take account of any organic fertilisers that you apply in autumn for autumn-sown crops.

**Record 2: Chemical fertilisers coming onto your holding (“imported”) or being sent out of it (“exported”)**

Date		Type of fertiliser			Quantity (tonnes)  (iii)	kg of N  (i) x (iii) x 10	kg of P  (ii) x (iii) x 10
		N % (i)	P % (ii)	K %			
Opening stocks							
01/01/							
Purchases/moved onto holding	Name/address of supplier						
Sales/moved off holding	Name/address of receiver						
Closing stocks							
31/12/							
Total kg of chemical nitrogen and phosphorus used (opening stock + purchases – sales – closing stock)							

Total concentrates (kg) fed to grazing livestock during the previous year: \_\_\_\_\_

## Declaring Movements of Organic Manures:

Movements of organic manures must be declared on-line (and also verified on-line by the receiving or importing holding) by the 31<sup>st</sup> December of the relevant year. Client's wishing to record an online movement must have an agfood.ie account or can have an associated agent act on their behalf. If you do not already have an agfood.ie account, to register please contact e-mail: [agfood@agriculture.gov.ie](mailto:agfood@agriculture.gov.ie) or by phone (049) 4368288.

An Agent is not required to record a movement, a farmer can create or verify a movement on line themselves if they wish to do so. Farmers can of course engage their Agent to do it for them if they so choose.

However, famers/agents are encouraged to declare movements through out the year as the on-line system will also update the Departments Nitrates & Phosphorus Statements for each farmer periodically though the year to allow them to see the effect an export/import has on their overall (cattle only) N&P levels.

The movement **must** be verified (accepted) on-line by the importing holding to complete the transaction by 31 December of the relevant year. Unverified movements will remain on the N calculations of the exporter until verified. All actions must be completed by 31 December.

To use the on-line system farmers must be registered to use the Department's on-line portal [www.agfood.ie](http://www.agfood.ie). The exporting farmer will log the movement on the portal and a text message will issue to the importing farmer alerting him to log on to the online system to accept the movement.

A user manual and also a short demonstration video also, to assist in the use of the system is available here: <https://www.gov.ie/en/publication/c9563-rural-environment-sustainability-nitrates/#nitrates-records>

Manual Record 3 Forms will only be accepted in limited circumstances, namely:

if the exporter/importer:

- does not have a valid Department identifier (herd/pig number),
- where clients are deceased



### RECORD 3 (MOVEMENT OF LIVESTOCK MANURES)

Note the deadline for submission: Derogation applicants: 31<sup>st</sup> October 2022, Non Derogation applicants: 31<sup>st</sup> December 2022. Form to be submitted by Express or Registered post to: Nitrates Section, Department of Agriculture, Food & the Marine, Johnstown Castle Estate, Wexford Y35 PN52, OR by email to [nitrates@agriculture.gov.ie](mailto:nitrates@agriculture.gov.ie) (if emailing, **DO NOT** send a copy by post)

**Please Note:** in order to comply with Data Protection legislation, this form should only be used for a single transaction. Multiple forms may be submitted as necessary. Importers in breach of 170kg limit may be liable to penalty.

**This form will only be accepted for movements to and from Northern Ireland, where the importer does not have a Herdnumber, where importer/exporter is deceased. In all other cases movements must be recorded and verified on-line on [www.agfood.ie](http://www.agfood.ie). Please see [gov.ie](http://gov.ie) - Rural Environment & Sustainability - Nitrates ([www.gov.ie](http://www.gov.ie))**

#### SECTION 1 (mandatory) - Date, Type of Fertiliser, Quantity Type and Quantity Moved.

Date of Movement	Type of Fertiliser (e.g. Cattle Slurry, Pig Slurry, FYM etc)	Quantity Type (tick relevant box)	Quantity Moved
/ /2022		Cubic Meters <input type="checkbox"/> Tonnes <input type="checkbox"/> Gallons <input type="checkbox"/> Kg's <input type="checkbox"/> Litres <input type="checkbox"/>	

#### Nutrient Content Section

(ONLY to be completed where fertiliser type/rates are <u>not</u> listed on SI 113/2022)			
Nutrient content of fertiliser		Total N (kg)	Total P (kg)
N kg/m <sup>3</sup>	P kg/m <sup>3</sup>		

#### SECTION 2 (mandatory) - Amount of Slurry Spread by LESS (One or more options can be indicated)

Trailing Shoe \_\_\_\_\_ (%) Trailing Hose/Dribble Bar \_\_\_\_\_ (%) Splash Plate \_\_\_\_\_ (%) Injection System \_\_\_\_\_ (%) Other \_\_\_\_\_ (%)

#### SECTION 3 (mandatory) - Exporter / Importer Name, Signature & Herd No required for the Exporter and Importer.

Exporter	Importer - * If Importer does not have a herd no please complete Section 4
Name:	Name:
Herd No:	Herd No:
Signature:	Signature:

#### SECTION 4 - Only applicable if Importer has no Herd Number

\*Either LPIS OR Folio Number(s) must be provided, maps are required to be submitted if no LPIS available.

Incomplete details will be returned for completion.

**No amendments will be accepted after submission.**

For exports to anaerobic digestors, nurseries, sports pitches, etc, only the Eir Code is required.

LPIS No(s)	Folio No(s)	Eir Code

**Record 4 – Notification of Temporary Movement of Cattle or Sheep**

**The owner of the holding from which the animals move, is responsible for submitting the Record 4 to Nitrates.**

Deadline for submission of Record 4 is on or before **31<sup>st</sup> December 2022**. Completed records can be posted to: Nitrates, Dept of Agriculture, Food & the Marine, Johnstown Castle Estate, Wexford Y35 PN52 or e-mailed to:

[nitrates@agriculture.gov.ie](mailto:nitrates@agriculture.gov.ie) (if emailing, DO NOT send a copy by post).

The only acceptable proof of postage will be Express Post or Registered Post Receipt.

The owner of the holding from which animals move, is responsible for ensuring that a copy of the completed Record 4 is submitted to Nitrates Section by the above deadline.

**Please ensure all details are provided, an incomplete Record 4 will be returned for completion. Date out and date moved back should only be in 2022 calendar year. Where movement relates to 2022 and 2023, a separate Record 4 should be submitted for 2023.**

**Owner of holding from which the animals moved:**

Name: \_\_\_\_\_ Herd Number: \_\_\_\_\_

Address: \_\_\_\_\_

**Owner of holding to which the animals moved:**

Name: \_\_\_\_\_ Herd Number: \_\_\_\_\_

Address: \_\_\_\_\_

**LPIS/Folio Number(s) of land plots to which animals moved:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**CATTLE Movements**

Date of movement out: \_\_\_\_\_/2022

Date of movement back: \_\_\_\_\_/2022

Tag numbers of Cattle moved: (use extra sheet(s) if necessary)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature of holding owner from which animals moved: \_\_\_\_\_ Date: \_\_\_\_\_/2022

Signature of holding owner to which animals moved: \_\_\_\_\_ Date: \_\_\_\_\_/2022





## Record 5 - Rental/Grazing Agreement

Deadline for submission of Record 5 is 31<sup>st</sup> December 2022. Completed forms can be posted to: Nitrates, Dept of Agriculture, Food & the Marine, Johnstown Castle Estate, Wexford Y35 PN52 or e-mailed to: [nitrates@agriculture.gov.ie](mailto:nitrates@agriculture.gov.ie) (if emailing, DO NOT send a copy by post). The only acceptable proof of postage will be Express Post or Registered Post Receipt. The owner of the holding is responsible for ensuring that a copy of the completed Record 5 is submitted to Nitrates Section by the above deadline.

Please ensure all details are provided, an incomplete Record 5 will be returned for completion. Commencement date and end date should only be in 2022 calendar year. Where movement relates to 2022 and 2023, a separate Record 5 should be submitted for 2023.

Name of Land user (TRANSFeree).....

Address: .....

Herd No: .....

Name of Land owner (TRANSFEROR) .....

Address: .....

Herd No: .....

### Period of the Rental/Grazing Agreement:

Commencement date: \_\_\_\_ / \_\_\_\_ / 2022

End Date: \_\_\_\_ / \_\_\_\_ / 2022

Agreements are subject to the Land Availability rule contained in the 2022 BPS Terms and Conditions. In the case of the ANC scheme, the land must be available to the farmer for the entire calendar year.

*Note: A copy of the Rental/Grazing Arrangement shall be made available if requested*

### Location of Land subject to the Agreement:

LPIS/Folio No(s).....

**Map(s) must be submitted**

Townland(s).....

(where townland is given adjacent LPIS should be provided)

Signature of Transferee: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/2022

Signature of Transferor: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/2022



## **SECTION 6: Controls**

Local Authorities are the bodies which carry primary responsibility for implementing these **Regulations** and may in this regard visit farms when undertaking their responsibilities. A person may be prosecuted for breaches of the **Regulations**.

The **Regulations** are also part of the Cross Compliance requirements under the Basic Payment Scheme and other area-based schemes. The Department of Agriculture, Food and the Marine by agreement with the Department of the Environment, Community and Local Government, has taken on responsibility for the undertaking of Cross Compliance inspections for the Basic Payment Scheme and other area-based schemes. In addition, the Department carry out a proportion of farm inspections on behalf of local authorities.

### **CROSS COMPLIANCE INSPECTIONS**

Cross Compliance inspections for these **Regulations** are undertaken in conjunction with the other statutory management requirement measures applicable to each individual applicant. There is a checklist for these **Regulations** starting on page 54. This checklist is also to be found on the Departments website at [www.agriculture.gov.ie](http://www.agriculture.gov.ie). Compliance infringements of a negligent nature, relating to the agricultural activity of the farmer or the agricultural area of the holding, may incur sanctions of 1%, 3%, 5%, 20% or 100 % depending on the nature, severity and intent of the infringement. More serious breaches may incur a higher sanction. The penalty may be trebled in the case of the same infringement occurring more than once within 36 months of each other. While Local Authorities will not be undertaking Cross Compliance inspections, they are required under EU law to report breaches of these **Regulations**, which they may discover during inspections, to the Basic Payment Unit who will then determine if a sanction under the Basic Payment Scheme is appropriate.

### **APPEALS**

Farmers who are unhappy with the outcome of Cross Compliance decisions may appeal their cases to the Agriculture Appeals Office.

A breach of the **Regulations** may also put part or all of your payments under the Basic Payment Scheme and other area-based schemes at risk. If Local Authorities find farmers contravening these **Regulations**, they must report them to the Cross Compliance Unit of the Department of Agriculture, Food and the Marine.

## SECTION 7: HELPSHEETS

See this Section for Helpsheets to check for yourself that you are complying with the **Regulations**.

## HELPSHEET A

### Have you enough storage capacity for organic fertilisers?

This Helpsheet takes you through what you need to do to work out whether you have enough storage capacity on your holding.

You need to make out a list of the kind of storage facilities you have for livestock manure and other organic fertilisers, soiled water and effluents from dungsteeds, farmyard manure pits or silage pits. You must also work out how much they can hold. Then you must work out whether you have enough storage to comply with the **Regulations**.

If you find that you have not got enough storage capacity then you must put matters right. There are a number of things you can do. Some of them are:

- building extra storage,
- renting storage capacity off your holding (exclusive access),
- reducing your livestock numbers to what you have enough storage for,
- outwintering in a way that meets the requirements of the **Regulations**.

#### Step 1: Working out how much slurry storage capacity you need for your livestock

Livestock type	No. of livestock during storage period <sup>1</sup>	Volume of slurry m <sup>3</sup> /week (Table 2 of Regulations)	Weeks storage required (16, 18, 20 or 22)	Total volume required m <sup>3</sup>
	(a)	(b)	(c)	(d) = (a) x (b) x (c)
Dairy cow		0.33		
Suckler cow		0.29		
Cattle > 2 years		0.26		
Cattle (18-24 months old)		0.26		
Cattle (12-18 months old)		0.15		
Cattle (6-12 months old)		0.15		
Cattle (0-6 months old)		0.08		
Lowland ewe <sup>2</sup>		0.03	6	
Mountain ewe <sup>2</sup>		0.02	6	
Lamb-finishing <sup>2</sup>		0.01	6	
Poultry - layers per 1,000 birds (30% DM)		0.81		
Breeding unit (per sow place)				
Integrated unit (per sow place)				
Finishing unit (per pig)				
Other (specify)				
Slurry storage capacity required (m <sup>3</sup> )				A

<sup>1</sup> Average number of livestock over the prohibited spreading period or alternatively average number of livestock over the storage period beginning on a date nominated by the farmer between 15<sup>th</sup> October and 1<sup>st</sup> December (inclusive)

<sup>2</sup> 6 weeks storage is sufficient for sheep

**Step 2: Working out how much storage capacity you require for rainfall and soiled water draining into the tank**

The average net rainfall in **Table 4** of the **Regulations** is used to calculate the storage capacity required for rain falling directly (on a weekly basis) onto uncovered storage tanks and onto other surface areas draining to the storage tank.

**Form 1B Storage capacity required for rainfall entering tank (m<sup>3</sup>)**

Tank	Area of uncovered storage tank <i>plus</i> area of other surfaces draining to tank (m <sup>2</sup> )	Millimetres per week	Weekly rainfall volume into storage tank (m <sup>3</sup> )	Weeks storage required (16, 18, 20 or 22)	Additional storage required for rainfall m <sup>3</sup>
	(a)	(b)	(c) = (a) x (b) / 1000	(d)	(e) =(c x d)
Storage required for rainfall entering tank (m <sup>3</sup> )					<b>B</b>

**Step 3: Working out how much storage you need altogether**

You can work out how much slurry storage capacity you need altogether (in m<sup>3</sup>) by adding A in Step 1 to B in Step 2. Write down the result here:

You may be able to reduce this to take account of any livestock that you have outwintered in accordance with the **Regulations**.

You must have 200mm freeboard in all covered tanks and 300mm freeboard in all uncovered tanks.



**Step 4: How much slurry storage capacity have you got in covered tanks?**

Tank	Length (m)	Breadth (m)	Depth – 200mm (m) <sup>1</sup>	Capacity m <sup>3</sup>
	(a)	(b)	(c)	(d) = (a x b x c)
Total capacity of existing covered tanks (m <sup>3</sup> )				C

<sup>1</sup> Freeboard specified for covered tanks (200mm)

**Step 5: How much slurry storage capacity have you got in uncovered tanks?**

Tank	Length (m)	Breadth (m)	Depth – 300mm (m) <sup>1</sup>	Capacity m <sup>3</sup>
	(a)	(b)	(c)	(d) = (a x b x c)
Total capacity of existing uncovered tanks (m <sup>3</sup> )				D

<sup>1</sup> Freeboard specified for uncovered tanks (300mm)

**Step 6: How much slurry storage have you got in covered circular tanks?**

Tank	Diameter (m)	Radius (m)	Depth – 200mm (m) <sup>1</sup>	Capacity m <sup>3</sup>
	(a)	(b) = a/2	(c)	(d) = (b <sup>2</sup> x 22/7 x c)
Total capacity of existing covered circular tanks (m <sup>3</sup> )				E

<sup>1</sup> Freeboard specified for covered tanks (200mm)

**Step 7: How much slurry storage have you got in uncovered circular tanks?**

Tank	Diameter (m)	Radius (m)	Depth – 300mm (m) <sup>1</sup>	County Rainfall (m)	Nitrates zone (weeks)	Capacity m <sup>3</sup>
	(a)	(b) = a/2	(c)	(d)	€	(f) = (b <sup>2</sup> x 22/7 x c – (d*e))
Total capacity of existing covered circular tanks (m <sup>3</sup> )						F

<sup>1</sup> Freeboard specified for uncovered tanks (300mm)

**Step 8: How much slurry storage capacity have you got altogether?**

You can work out the total storage capacity you have (in m<sup>3</sup>) by adding C from Step 4, D from Step 5, E from step 6 and F from step 7. Write down the result here:

**Step 9: Have you got enough storage capacity?**

Is the figure in the second box (Step 8 above) greater than the figure in the first box (Step 3) on page 40? If the answer is YES, then you are complying with the Regulations. If the answer is NO and you don't have any straw bedded housing which complies with the Regulations, then you do not have enough storage and you must do something about it — perhaps by building extra storage, by renting storage capacity off your own holding, by reducing your livestock numbers down to what you have enough storage for, or by outwintering in a way that meets the requirements of the Regulations.

**Step 10: Have you got enough storage for dungsteads?**

		Solid fraction			Seepage	
Livestock type	No. of livestock during storage period <sup>1</sup>	Solid fraction (m <sup>3</sup> /week) (Table 3 of Regulations)	Weeks storage required (16, 18, 20 or 22)	Dungstead capacity required (m <sup>3</sup> )	Seepage fraction (m <sup>3</sup> /week) (Table 3 of Regulations)	Storage required (m <sup>3</sup> ) <sup>1</sup>
	(a)	(b)	(c)	(a x b x c)	(d)	(a x c x d)
Dairy cow		0.28			0.04	
Suckler cow		0.25			0.03	
Cattle > 2 years		0.23			0.02	
Cattle (18-24 months)		0.23			0.02	
Cattle (12-18 months)		0.13			0.01	
Cattle (6-12 months)		0.13			0.01	
Cattle (0-6 months)		0.07			0.01	
<b>TOTAL MINIMUM CAPACITY REQUIRED (M<sup>3</sup>)</b>						

<sup>1</sup>Average number of livestock over the prohibited spreading period or alternatively average number of livestock over the storage period beginning on a date nominated by the farmer between 15<sup>th</sup> October and 1<sup>st</sup> December (inclusive)

**Note:** You must make an allowance for net rainfall (**Table 4 of Regulations**) during the specified storage period, for the surface area of the dungstead and also for the seepage tank if it is not covered.

## HELPSHEET B

### Working out whether you are within the limit of 170 kg of nitrogen to the hectare per year from livestock manure

If you follow the Steps on this Helpsheet, you can work out whether you are complying with the limit of 170 kg of organic nitrogen to the hectare per year.

#### Step 1: Working out the total N and P produced by grazing livestock on your holding

Grazing livestock	Annual average numbers	Nitrogen excretion (kg/year) (Table 6 of Regulations)	Total Nitrogen <sup>1</sup> (kg)	Phosphorus excretion (kg/year) (Table 6 of Regulations)	Total Phosphorus <sup>1</sup> (kg)
	(a)	(b)	(a x b)	(d)	(a x d)
Dairy cow (2022 only)		89		13	
Dairy cow band 1 (from 2023)		80		12	
Dairy cow band 2 (from 2023)		92		13.6	
Dairy cow band 3 (from 2023)		106		15.8	
Suckler cow		65		10	
Cattle (0-1 year old)		24		3	
Cattle (1-2 year old)		57		8	
Cattle > 2 years		65		10	
Mountain ewe & lambs		7		1	
Lowland ewe & lambs		13		2	
Mountain hogget		4		0.6	
Lowland hogget		6		1	
Other <sup>3</sup> (specify)					
<b>Total N produced by grazing livestock</b>			<b>(a) <sup>2</sup></b>		
<b>Total P produced by grazing livestock</b>					<b>(b) <sup>2</sup></b>

<sup>1</sup> The Annual Nitrogen and Phosphorous Statement from the Department of Agriculture, Food and the Marine will provide figures for the total amounts of nitrogen and phosphorus produced by all cattle on your holding.

<sup>2</sup> The available nitrogen or phosphorous to be taken into account as a source of such nutrients for the holding can be derived from these figures.

<sup>3</sup> See **Table 6** of the **Regulations** for excretion rates for other livestock

In 2022 the N excretion rate for the dairy cow is 89 kg N/ha and from 2023 onwards the N excretion rate will be determined by the milk yield per annum (for the 3 preceding years) as follows:

Band 1 <4,500 kg milk yield

Band 2 4,501 – 6,500 kg milk yield per annum

Band 3 > 6,500 kg milk yield per annum

**Step 2: Working out the total nitrogen and phosphorus produced by non-grazing livestock on your holding**

<b>Non grazing livestock</b>	Annual average numbers	Nitrogen excretion (kg/year) (Table 6 of Regulations)	<b>Total Nitrogen (kg)</b>	Phosphorus excretion (kg/year) (Table 6 of Regulations)	Total Phosphorus (kg)
	(a)	(b)	(a x b)	(d)	(a x d)
Breeding unit (per sow place)		35		8	
Integrated unit (per sow place)		87		17	
Finishing unit (per pig place)		9.2		1.7	
Laying hen per bird place		0.56		0.12	
Broiler per bird place		0.24		0.09	
Turkey per bird place		1		0.4	
Other <sup>1</sup> (specify)					
<b>Total nutrients produced by other livestock on the holding</b>			(c)		(d)

<sup>1</sup> Contact the Department of Agriculture, Food and the Marine for excretion rates for other non-grazing livestock

**Step 3: Are you within the 170 kg limit ?**

<b>Total N produced by grazing livestock (kg)</b> (a from Step 1 page 44)	(e)
<b>Total N produced by other livestock on the holding (kg)</b> (c from Step 2 page 45)	(f)
<b>Total N from SMC produced on the holding (kg)</b> Based on amount of mushroom compost used	(g)
<b>Total N produced on the holding (kg)</b> (e + f + g)	(h)
<b>Eligible area of the holding (ha)</b>	(k)
<b>Nitrogen from livestock manure produced on the holding kg/N/ha/yr</b> (h / k)	(l)
Adjustments for import and export	
<b>Total Nitrogen from imported livestock manure and SMC (kg)</b> calculated from Record 3 page 31	(m)
<b>Total Nitrogen in exported livestock manure and SMC (kg)</b> calculated from Record 3 page 31	(n)
<b>Total Nitrogen from livestock manure on the holding</b> (produced on the holding and imported - exported) (h + m - n)	(o)
<b>Nitrogen from livestock manure kg/N/ha/yr</b> (o / k)	(p)

You have complied with the 170 kg N/ha/yr limit from livestock manure when (p) in this table is less than or equal to 170. However, if (l) is greater than 170 you must take action to achieve compliance by for example, reducing livestock numbers or taking extra land or exporting livestock manure or applying for a derogation.



## HELPSHEET C

### Calculating your grassland stocking rate and the maximum nitrogen and phosphorus allowed on the holding

#### Step 1: Working out your grassland stocking rate

Total N produced by grazing livestock (kg) [ (a) from the table in Step 1 on page 44 ]	(a)
Eligible grassland area of the holding (ha)	(b)
Grassland stocking rate kg N/ha/year (a / b)	(c)

#### Step 2: Working out how much nitrogen you are allowed

To calculate the maximum available nitrogen allowance for grassland on your holding, select the appropriate fertilisation rate from **Table 12** of the **Regulations** corresponding to (c) from Step 1 above.

Grassland						
Grassland stocking rate (kg N/ha/year)	Area (ha)		Max. fertilisation rate available N (kg) <b>(Table 12 of Regulations)</b>		Total available N allowed (kg)	
		x		=		
<b>Maximum available nitrogen for grassland</b>					(d)	
Other Crops (including grass, cut only, no grazing livestock on holding)						
Crop	N Index <b>(Table 10 of Regulations)</b>	Area (ha)		Max. fertilisation rate available N (kg) <b>(Tables 14, 16, 18, 20 of Regulations)</b>		Total available N allowed (kg)
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
<b>Maximum available nitrogen for crops on holding</b>					(e)	
<b>Maximum available nitrogen for holding</b> (d + e)					(f)	

**Step 3: How much available nitrogen can you bring into your holding?**

<u>SOURCE OF NITROGEN</u>	Total N (kg)
<p><b>Available nitrogen from livestock manure other than grazing livestock and SMC produced on the holding</b></p> <p>(c) from Step 2 (page 45) X appropriate nitrogen availability as follows from <b>Table 9</b>:                      Pig and poultry X <b>0.5</b>                      SMC X <b>0.2</b></p>	(g)
<p><b>Maximum amount of available nitrogen (chemical and organic) that may be imported onto the holding</b></p> <p style="text-align: right;">(f from Step 2 on page 47) – g)</p>	(h)
Adjustments for import and export of organic fertilisers	
<p><b>Available nitrogen from organic fertiliser imported onto the holding</b></p> <p>Total N calculated from Record 3 (page 31) X appropriate nitrogen availability as follows from <b>Table 9</b>:                      Pig and poultry X <b>0.5</b>                      Farmyard manure X <b>0.3</b>                      SMC X <b>0.2</b>                      Cattle manure and other organic fertilisers X <b>0.4</b></p>	(i)
<p><b>Available nitrogen from organic fertiliser exported from the holding</b></p> <p>Total N calculated from Record 3 (page 31) X appropriate nitrogen availability as follows from <b>Table 9</b>:                      Pig and poultry X <b>0.5</b>                      Farmyard manure X <b>0.3</b>                      SMC X <b>0.2</b>                      Cattle manure and other organic fertilisers X <b>0.4</b></p>	(j)
<p><b>Maximum amount of nitrogen from chemical fertiliser for the holding</b></p> <p>(h - i + j)</p>	(k)

#### Step 4: Working out how much phosphorus you are allowed on your holding

To work out the maximum phosphorus allowance for grassland on your holding, select the appropriate fertilisation rate from **Table 13A or 13B if availing of P build-up** of the **Regulations (paying particular attention to Table footnotes)** corresponding to your grassland stocking rate (kg N/ha/yr; (c) from Step 1 on page 45).

Grassland						
Grassland stocking rate (kg N/ha/year)	P Index (Table 11 of Regulations)	Area (ha)		Max. P fertilisation rate (kg) (Table 13A and 13B of Regulations)		Total P allowed (kg)
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
<b>Maximum phosphorus for grassland</b>						<b>(l)</b>
Other Crops (including grass, cut only, no grazing livestock on holding)						
Crop	P Index (Table 11 of Regulations)	Area (ha)		Max. P fertilisation rate (kg) (Tables 15,17,19,21 of Regulations)		Total P allowed (kg)
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
			x		=	
<b>Maximum phosphorus for crops on holding</b>						<b>(m)</b>
<b>Maximum phosphorus for holding</b>				<b>(l + m)</b>		<b>(n)</b>

**Step 5: How much phosphorus can you bring into your holding?**

<u>SOURCE OF PHOSPHORUS</u>	Total P (kg)
<b>Phosphorus from other livestock manure other than grazing livestock and SMC produced on the holding</b> (d) from Step 2 on <b>page 45</b> ) X appropriate phosphorus availability from <b>Table 9<sup>2</sup></b>	(o)
<b>Phosphorus from concentrated feedstuffs fed to grazing livestock on the holding</b> during the previous year <sup>3</sup> . Phosphorus content is as provided by the feed supplier in the case of compound feedingstuffs, standard P value in the case of straight feedingstuffs or default P concentration of 0.5 kg P for each 100 kg fed	(p)
<b>Total phosphorus produced on holding (o + p)</b>	(q)
<b>Maximum amount of phosphorus that may be imported onto the holding</b> (n from step 4 page 49 – q)	(r)
Adjustments for import and export of organic fertilisers	
<b>Phosphorus from organic fertiliser imported onto the holding</b> Total P calculated from Record 3 (page 31) X appropriate phosphorus availability from <b>Table 9<sup>2</sup></b>	(s)
<b>Phosphorus in organic fertiliser exported from the holding</b> Total P calculated from Record 3 (page 31) X appropriate phosphorus availability from <b>Table 9<sup>2</sup></b>	(t)
<b>Organic P spread from animals in form of slurry/FYM</b> Organic P spread on index 1 and 2 soils x 0.5% availability	(u)
<b>Maximum amount of phosphorus from chemical fertiliser for the holding</b> (r - s + t + u)	(v)

<sup>2</sup> On phosphorus index 1 and 2 soils the phosphorus in organic fertilisers is considered to be 50% available

<sup>3</sup> The first 300 kg concentrate used per dairy cow (or each 85 kg livestock manure N equivalent) can be discounted

Transitional provisions for the use of pig manure are outlined on page 23 of this handbook.

## Cross Compliance Checklist

### Minimisation of Soiled Water

- Is there evidence that clean water is not being diverted to a clean water outfall to minimise soiled water generation?

### Livestock Manures and other Organic Fertilisers

- Is there visual evidence of inadequate collection of livestock manure, other organic fertilisers, soiled water or silage effluent?
- Is there visual evidence of inadequate management of the storage facilities for livestock manure, other organic fertilisers, soiled water or silage effluent?
- Is there visual evidence of structural defects in the storage facilities in use leading to direct or indirect runoff to groundwater or surface water?
- Is there evidence that farmyard manure is or has been stockpiled on land during the prohibited spreading period?
- Is the applicant availing of reduced storage through outwintering?
- Is the applicant meeting the outwintering requirements?
- Is there evidence that silage bales are stored outside of farmyards within 20m of a watercourse or drinking water abstraction point without adequate facilities for the collection and storage of effluent?
- Is there evidence of supplementary feeding of animals taking place within 20m of a watercourse or drinking water abstraction point?
- Is there supplementary feeding of animals taking place on bare rock?
- Is there evidence of direct discharge of soiled water to waters as a result of poaching?
- Is there evidence that surface waters are not fenced off to a minimum of 1.5m from the top of the river bank or waters edge (applicable to those at stocking rates at or above 170 kg N/ha)?
- Is there evidence that supplementary drinking points are located within 20m of surface waters (applicable to those at stocking rates at or above 170 kg N/ha)?
- Is there evidence of direct discharge of soiled water from farm roadways to waters

### Landspreading of Chemical and Organic Fertiliser

- Is there evidence that chemical fertiliser has been applied within 2m of a surface watercourse?
- Is there evidence that organic fertiliser or soiled water has been applied within the minimum buffer zones for water extraction points as specified in the **Regulations**?
- Is there evidence that organic fertiliser or soiled water has been applied within 20 m of a lake shoreline or a turlough likely to flood?
- Is there evidence that organic fertiliser or soiled water has been applied within 15 m of exposed cavernous or karstified limestone features?
- Has organic fertiliser or soiled water has been applied within 5 m of a surface watercourse or other distances as specified in the **Regulations**?
- Has FYM, where stockpiled in a field, been stored in such a way or location that it breached the requirements of the **Regulations** including buffer zones?
- Is the holding importing/exporting organic manures?

## Application Conditions of Organic Fertilisers

- Is there evidence of a poor spread pattern of livestock manure, other organic fertilisers or soiled water on the land?
- Is there evidence of the application of fertilisers or soiled water to land that is waterlogged, flooded, snow covered, frozen or when heavy rain is forecast?
- Is there evidence of the application of fertilisers or soiled water to steeply sloping ground where there is a risk of water pollution, when factors such as surface run-off pathways, the presence of land drains, the absence of hedgerows to mitigate surface flow, soil condition and ground cover are taken into account?
- Is there evidence of the application of organic fertiliser or soiled water using an upward facing splashplate, or sludge irrigator mounted on a tanker?
- Is there evidence of the application of organic fertiliser or soiled water from a road or passageway?
- Is there evidence of the application of soiled water in quantities exceeding 25,000 l/ha (3mm per hour by irrigation) in any 42 day period in extreme vulnerability areas or 50,000l/ha (5mm per hour by irrigation) in other areas?
- Is there evidence of the spreading of chemical fertiliser or organic fertiliser including farmyard manure during a prohibited period?
- Is there evidence that non-LESS spreading equipment has been used in the application of slurry to land? (applicable to certain stocking levels)?

## Ploughing and Green Cover

- Is there evidence that grassland has been ploughed between 16th October and 30th November?
- Is there evidence of insufficient emergence of green cover from a sown crop by 1st November after the ploughing of grassland between 1st July and 15th October?
- Is there evidence, where arable land has been ploughed between 1st July and 30th November, of insufficient emergence of green cover within 6 weeks of the ploughing?
- Is there evidence of insufficient emergence of green cover within 6 weeks of the application of a non-selective herbicide between 1st July and 30th November? **Note:** In the case of seed crops and crops for human consumption where the contract prohibits the use of non-selective herbicide pre-harvest the requirement to provide green cover is reduced to 75% of the contract area after 15<sup>th</sup> October.
- Is there evidence of the complete removal of required green cover, which was established to comply with these **Regulations** by ploughing or the use of non-selective herbicide, before the 1st December unless a crop is sown within two weeks of its removal?
- Is there evidence of ploughing or cultivation for non-grass crops within 2m of a watercourse marked on the modern 1:5000 OSI mapping or better.
- Is there evidence that a 6m buffer is not in place to protect intersecting watercourses which are contiguous to late harvested crops?
- Is there evidence that shallow cultivation, or the sowing of a crop, has not taken place within 14 days of cereal harvesting?



## Other Issues

- Is there evidence that all required records are not being maintained correctly?
- Is there evidence of inadequate storage capacity for livestock manure and other organic fertilisers on or off the farm?
- Was the N limit from livestock manure exceeded on the holding in the relevant calendar year?
- Did the holding exceed the maximum fertilisation rate of available fertiliser in the relevant calendar year?

## Nitrates derogation

Nitrates derogation allows the application of higher amounts of livestock manure than that provided for in the **Regulations** subject to certain conditions. Successful applicants will be able to apply livestock manure in excess of 170 kg N/ha in accordance with their fertiliser plan and up to a maximum of 250 kg N/ha.

### Conditions of nitrates derogation:

There are a certain set of conditions that must be adhered to under the nitrates derogation which are as follows:

- An annual online application for nitrates derogation must be made to the Department.
- The farm must have at least 80% grass
- Nitrates derogation is only available for farms with grazing livestock
- Nitrates derogation applicants **cannot** import livestock manure.
- Soil samples must be taken as per the **Regulations** (1 sample every 4ha and valid for 4 years)
- A fertiliser plan based on soil sample results must be in place by March 1<sup>st</sup> and must be submitted to the Department
- A farm map must be submitted indicating the location of individual fields and corresponding soil samples
- A farmyard sketch must be submitted showing manure storage facilities and livestock housing
- Fertiliser accounts must be submitted online no later than 31<sup>st</sup> March the following year.
- 50% of all slurry produced on farm must be spread on or before 15<sup>th</sup> June
- All slurry must be spread using low emission slurry spreading equipment (LESS).
- All derogation farms must have sufficient storage required for all livestock manure, soiled water and silage effluent.
- A maximum crude protein content of 15% in concentrate feed for grazing livestock must not be exceeded between April 15<sup>th</sup> and September 30<sup>th</sup>.
- Clover must be incorporated when reseeding swards with at least 1.5 kg/ha of naked clover seed or at least 2.5 kg/ha of pelleted clover.
- Grassland can only be ploughed from 1<sup>st</sup> March to 31<sup>st</sup> May.
- Derogation farmers must leave at least one mature whitethorn/blackthorn tree within each hedgerow or maintain hedges on a 3 year cycle by cutting in rotation rather than all at once
- Derogation farmers must record the grass produced annually on the farm. In 2022 derogation farmers may attend two workshops and take at least 3 grass measurements in place of annual grass recording but must record grass from 2023 onwards.
- Derogation farmers must have completed training in nutrient use efficiency and the protection of waters. New applicants have until end of 1<sup>st</sup> application year to complete.
- If a nitrates derogation application is found to be non-compliant with the requirements then the nitrates derogation will be rejected and will **not** be eligible to apply the following year.

The nitrates Terms and Conditions can be found at [gov.ie - Rural Environment & Sustainability - Nitrates \(www.gov.ie\)](http://gov.ie - Rural Environment & Sustainability - Nitrates (www.gov.ie))