# NMP What can it do for Users

June 2024

teagasc
Agriculture and Food Development Authority

NMP Online

# Table of Contents

## 1. What is NMP Online

NMP online https://nmp.teagasc.ie is an online system for developing nutrient management plans for environment and regulatory purposes once users are registered to use the system.

## 2. Where can I get information on NMP online

This link will bring you to the NMP page on the Teagasc Website
https://www.teagasc.ie/environment/soil/nmp/

There are some videos at the bottom of this page; which will show you how the mapping system works to draw in fields/plots/soil sample areas.

There are bulletins to help users located at
https://www.teagasc.ie/environment/soil/nmp/#Previous%20Bulletins

## 3. What can I do in NMP online

NMP online allows a user to create an individual farmer profile, add in soil samples, link these soil sampls to mapped areas, crops and start the NMP. The NMP system will allow users to work out fertiliser limits for individual farmers and also give timely advice of the correct products, and the correct rate for various crops and fields.

NMP online has several map based and pdf outputs which highlight the soil fertility status of individual fields, and can also give a field x field liming or organic manure plan. Some of these maps are shown in the appendixes.

NMP has additional functionality to look at map layers for the derogation 220:250 stocking rate layers, indicative high Organic matter layers and the new layers to assist Agri-Professionals discussion EPA water layers with clients. These Water layers include PIP-N, PIP-P and PIPP-P flow pathways.

NMP includes a mapping functionality to do farmyard sketches, add in storage facilities (Slurry tank and bedded shed location) and helps assist farmers with storage calculations for DAFM inspections and Local Authority planning applications where NMP's are required.

## 4. Appendix 1 – Example of some of the outputs from a Derogation Nutrient Management plan

**Derogation - Fertiliser Plan 2024** NMP Testing Agency

| | |
|---|---|
| **Name** | Derogation Test Exam |
| **Address** | Cork |
| **County (Zone)** | Carlow (A) |
| **Herd No.** | A!2345678 |

This fertiliser plan is based on the information provided to NMP Testing Agency. NMP Testing Agency cannot accept responsibility for inaccurate information being supplied.

This report contains the following:

1.)- Cover Page
2.)- Farm Summary of Soil fertility and fertiliser requirements
3.)- Lime Report
4.)- Fertiliser plan for the Farm
5.)- Summary of All Livestock on the holding
6.)- Soil Sample Results
7.)- Storage Facilities on Farm
8.)- Summary of Land areas, Cropping and max fertiliser allowances
9.)- Concentrate feed usage on the farm in 2023
10.)- Cereal crop yields where relevant

# Farm & Soil fertility Summary

| Fertiliser Plan Summary | Derogation Test Exam | 2024 |
|---|---|---|

| | |
|---|---|
| **Herd No.** | AI2345678 |
| **Address** | Cork |
| **County (Zone)** | Carlow |
| **Weeks Storage.** | 16 Weeks |

| **Land Areas** | Ha | % |
|---|---|---|
| **NMP Total Nitrates ha** | 43.76 | |
| Grassland | 41.71 | 95.32 |
| Arable | 2.05 | 4.68 |
| Sampled Areas | 40.82 | 93.28 |

**Closed Periods**

| | |
|---|---|
| **Soiled Water** | 1 December to 31 December |
| **Slurry** | 1 October to 12 January |
| **FYM** | 1 November to 12 January |
| **Chemical** | 15 September to 26 January |

*Derogation Farm – whole farm must be soil tested

**Stocking Rates**

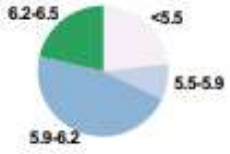
| | |
|---|---|
| **Current Years Net WFSR** | 249.99 kg/Ha |
| **Current Years GSR** | 262.28 kg/Ha |
| **Previous Years GSR** | 180.00 kg/Ha |
| **Grazing Platform SR** | 300 kg/Ha |

## Soil Fertility Summary

**Overall Fertility Status**
pH > 6.2, P & K index 3 or 4

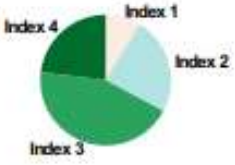

| | Ha's | % |
|---|---|---|
| Yes | 0.00 | 0% |
| No | 40.82 | 100% |

**Lime**
Soil pH > 6.2




| pH | Ha's | % |
|---|---|---|
| <5.5 | 9.50 | 23% |
| 5.5-5.9 | 3.57 | 9% |
| 5.9-6.2 | 19.02 | 47% |
| 6.2-6.5 | 8.73 | 21% |
| >6.5 | 0.00 | 0% |

**Phosphorus**
P Index




| Index | Ha's | % |
|---|---|---|
| 1 | 3.57 | 9% |
| 2 | 9.83 | 24% |
| 3 | 18.02 | 44% |
| 4 | 9.40 | 23% |

**Potassium**
K Index


| Index | Ha's | % |
|---|---|---|
| 1 | 12.42 | 30% |
| 2 | 14.65 | 36% |
| 3 | 8.95 | 22% |
| 4 | 4.80 | 12% |

**%reduction in farm capacity to perform based on current fertility levels compared to optimal fertility**

| pH, P and K | pH | P | K |
|---|---|---|---|
| 30 | 16 | 6 | 11 |

## Soil pH & Lime

**Lime Planned**

| | |
|---|---|
| **2024** | 69 Tonnes |
| **2025** | 3 Tonnes |
| **2026** | 0 Tonnes |
| **2027** | 0 Tonnes |
| **Four Year Total** | 72 Tonnes |

| Target pH | Grass | Tillage |
|---|---|---|
| **Mineral Soil** | 6.3 | 6.5 |
| **Organic Soil** | 5.5 | 5.5 |

## Organic Manure Plan

## Chemical Fertiliser Advice

**Nutrient Balance**

| | N(kg) | P(kg) | K(kg) |
|---|---|---|---|
| Chemical Recommended | 9,216 | 417 (89%) | 1,242 |

**Planned Fertilisers**

| Fertiliser | Tonnes |
|---|---|
| 18-6-12 | 9.17 |

## Lime Requirements

| | | | | | | | Advised Lime | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Plot Name | Crop | Area (Ha) | Soil Sample Id | Sample Date | Soil Sample pH | Lime Req (T/Ha) | 2024 (T/Ha) | 2025 (T/Ha) | 2026 (T/Ha) | 2027 (T/Ha) |
| Nellys | Grazing + Dairy | 1.30 | 6 | 21/12/2020 | 5.6 | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| McGuinness | 2 Cut + Grazing | 2.27 | 8 | 21/12/2020 | 5.8 | 6.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| The 10 acres | Grazing + Dairy | 4.30 | 2 | 21/12/2020 | 6.0 | 4.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| Doolough | 1 Cut + Grazing | 3.70 | 5 | 21/12/2020 | 5.9 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| The Bottoms | 2 Cut + Grazing | 4.15 | 7 | 21/12/2020 | 5.9 | 3.5 | 4.0 | 0.0 | 0.0 | 0.0 |
| The well field | 1 Cut + Grazing | 2.95 | 9 B | 21/12/2020 | 6.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Across from Darcys | 1 Cut + Grazing | 4.80 | 217 | 01/03/2022 | 3.0 | 3.0 | 3.0 | 0.0 | 0.0 | 0.0 |
| Yard Field 2 | Spring Barley | 2.05 | 1 | 21/12/2020 | 6.1 | 2.5 | 2.5 | 0.0 | 0.0 | 0.0 |
| Top of Lane | Grazing + Dairy | 1.87 | 10a/b | 21/12/2020 | 6.1 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Shinkins | Grazing + Dairy | 1.40 | 3 | 21/12/2020 | 6.2 | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 |
| Yard Field 1 | Grazing + Dairy | 3.70 | 4 | 21/12/2020 | 6.2 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Front of Nellys | Grazing + Dairy | 3.63 | 11 | 21/12/2020 | 6.2 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| OMplot | Grazing | 4.70 | 212 | 01/03/2022 | 2.0 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| Four Year Total (2024-2027): 72 tonnes | | | | | | Annual Totals (tonnes): | 69 | 3 | 0 | 0 |

# Fertiliser plan for the Farm

**Manure Allocations**

| Fertiliser | Estimated T | Applied T | Balance T |
|---|---|---|---|
| Cattle Slurry | 508 | 602 | 0 |
| Farmyard Manure | 119 | 191 | 0 |
| **Total P in Manures (Grazing + Non-Grazing 491.0)** | | | **491** |

**Planned Fertilisers**

| Fertiliser | Tonnes |
|---|---|
| 18-6-12 | 9.17 |
| Urea (46%N) + Protected | 12.71 |

**Nutrient Balance**

| | N(kg) | P(kg) | K(kg) |
|---|---|---|---|
| Chemical Recommended | 9,216 | 417 (89%) | 1,242 |
| **Max Chemical Allowed** | 9,582 | 574 | ⚠ |
| Chemical Usage | 7,499 | 550 | 1,100 |

| Plot | Crop | Area(Ha) | Soil Sample | Index N\|P\|K | Nutrients Applied (Units/Acre) N \| P \| K | Nutrients Advice (Units/Acre) N \| P \| K | Organic Manures: Cattle Slurry (Gals/Acre) | Organic Manures: Farmyard Manure (T/Ha) | Chemical Fertilisers: 18-6-12 (Bags/Acre) | Chemical Fertilisers: Urea (46%N) + Protected (Bags/Acre) |
|---|---|---|---|---|---|---|---|---|---|---|
| Across fromDarcys | 1 Cut + Grazing | 4.80 | 217 | 1\|3\|4 | 195 32 131 | 192 27 0 | 3000.0 | 0.0 | 3.0 | 2.5 |
| Doolough | 1 Cut + Grazing | 3.70 | 5 | 1\|3\|2 | 200 25 71 | 192 27 121 | 0.0 | 15.0 | 3.0 | 3.0 |
| Front of Nellys | Grazing + Dairy | 3.63 | 11 | 1\|2\|3 | 178 5 64 | 176 19 28 | 2000.0 | 0.0 | 0.0 | 3.5 |
| McGuinness | 2 Cut + Grazing | 2.27 | 8 | 1\|1\|1 | 210 33 175 | 210 51 198 | 4000.0 | 0.0 | 4.0 | 2.3 |
| Nellys | Grazing + Dairy | 1.30 | 6 | 1\|1\|1 | 186 23 100 | 176 27 77 | 2000.0 | 0.0 | 3.0 | 2.5 |
| OMplot | Grazing | 4.70 | 212 | 1\|3\|1 | 184 0 0 | 176 11 77 | 0.0 | 0.0 | 0.0 | 4.0 |
| Shinkins | Grazing + Dairy | 1.40 | 3 | 1\|4\|3 | 189 5 23 | 176 0 28 | 0.0 | 10.0 | 0.0 | 4.0 |
| The 10 acres | Grazing + Dairy | 4.30 | 2 | 1\|4\|2 | 189 5 23 | 176 0 53 | 0.0 | 10.0 | 0.0 | 4.0 |
| The Bottoms | 2 Cut + Grazing | 4.15 | 7 | 1\|2\|1 | 213 39 179 | 210 43 198 | 3000.0 | 10.0 | 5.0 | 2.0 |
| The well field | 1 Cut + Grazing | 2.95 | 9B | 1\|3\|2 | 192 18 36 | 192 27 121 | 0.0 | 0.0 | 3.0 | 3.0 |
| Top of Lane | Grazing + Dairy | 1.87 | 10a/b | 1\|3\|3 | 17 9 64 | 176 11 28 | 2000.0 | 0.0 | 0.0 | 0.0 |
| Yard Field 1 | Grazing + Dairy | 3.70 | 4 | 1\|4\|2 | 35 15 43 | 176 0 53 | 0.0 | 10.0 | 1.7 | 0.0 |
| Yard Field 2 | Spring Barley | 2.05 | 1 | 1\|2\|3 | 17 5 64 | 109 28 69 | 2000.0 | 0.0 | 0.0 | 0.0 |

## Soil Samples Results

| | | | | | | | | | Trace Elements | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sample Id | Sample Code | Sample Date | Sampled Area (ha) | pH | Lime Req | P Value | K Value | Soil Type | Mg | Cu | ER Mn | Zn | Bo | Co | Tot. Mn |
| | 217 | null | 01/03/2022 | 4.80 | 3.0 | 3.0 | 6.0 | 220.0 | Clay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 212 | null | 01/03/2022 | 4.70 | 2.0 | 2.0 | 4.1 | 6.0 | Clay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 B | 9b | 21/12/2020 | 2.95 | 6.0 | 3.0 | 6.9 | 70.0 | Loam | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 8 | 21/12/2020 | 2.27 | 5.8 | 6.0 | 2.8 | 43.0 | Loam | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 7 | 21/12/2020 | 4.15 | 5.9 | 3.5 | 3.1 | 49.0 | Loam | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 6 | 6 | 21/12/2020 | 1.30 | 5.6 | 8.0 | 2.1 | 47.0 | Loam | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 5 | 5 | 21/12/2020 | 3.70 | 5.9 | 4.0 | 7.0 | 67.0 | Loam | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 4 | 4 | 21/12/2020 | 3.70 | 6.2 | 2.0 | 9.0 | 90.0 | Loam | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 3 | 3 | 21/12/2020 | 1.40 | 6.2 | 2.0 | 9.0 | 120.0 | Loam | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 2 | 2 | 21/12/2020 | 4.30 | 6.0 | 4.0 | 10.0 | 73.0 | Loam | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 11 | 11 | 21/12/2020 | 3.63 | 6.2 | 2.0 | 4.0 | 150.0 | Loam | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 10a/b | 10a/b | 21/12/2020 | 1.87 | 6.1 | 2.5 | 7.0 | 138.0 | Loam | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 1 | 1 | 21/12/2020 | 2.05 | 6.1 | 2.5 | 5.2 | 101.0 | Loam | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**5. Example of an output to help farmers with Stocking Rate Calculations**

## Nitrates Stocking Rate Calculations 2024 NMP Testing Agency

| | |
|---|---|
| **Name** | Derogation Test Exam |
| **Address** | Cork |
| **County (Zone)** | Carlow (A) |
| **Herd No.** | A!2345678 |

### BISS Reference Hectares and Calculated N

| From DAFM Letter or DAFM National Water Quality Review Implementation Map for 2024 | Ha | Total N (Kg N) |
|---|---|---|
| BISS Reference ha 250 kg/ha | 0 | 0.00 |
| BISS Reference ha 220 kg/ha | 0 | 0.00 |
| BISS Reference ha 170 kg/ha | 43.76 | 7,439.20 |
| *BISS Commonage Reference ha x Commonage Share* | 0 | |
| BISS Commonage Claimed ha x 0.2941 (Nitrates Adjusted) | 0.00 | 0.00 |
| | | |
| **BISS Total Nitrates ha** (commonage adjusted) = **DAFM N&P Statement** | 43.76 | 7,439.20 |

### Stocking Rate

| | kg/ha | Total N (Kg N) |
|---|---|---|
| **Max permitted**<br>kg/ha = Total N ÷ BISS Total Nitrates ha<br>Total N = Total N shown in BISS Total Nitrates ha | 170.00 | 7,439.20 |
| **Projected**<br>kg/ha = Total N from NMP ÷ BISS Total Nitrates ha<br>Total N = Total N from NMP (Animals + Non Animals + Imports) - Exports | 250.00 | 10,940.00 |
| **Reduction required of** | 80 | 3,500.80 |

This stocking rate is **NOT** compliant.
Projected 2024 Stocking Rate/ha (Total N) is greater than Max permitted 2024 Stocking Rate/ha (Total N).

### Farm management options to meet the reduction required

**(Any one option will result the stocking rate being compliant)**

| | | |
|---|---|---|
| **A. Reduce 0-1 and 1-2 year olds**<br>This is the number of 0-1 and 1-2 yr olds to be reduced in both age groups | 44 (0-1 and 1-2 year olds) | |
| **B. Reduce Yr. Av. Dairy Cow numbers** | 39 (Dairy cow 92kg N/hd (4,500 - 6,500kgs)) | |
| **C. Export Cattle Slurry** | 1,459 $m^3$ | (320,862 gallons) |
| **D. Increase BISS Reference Ha** | | |
| (iii) BISS Reference ha @250 kg N/ha | 14.00 ha | (34.60 acre) |
| or | | |
| (ii) BISS Reference ha @220 kg N/ha | 15.91 ha | (39.32 acre) |
| or | | |
| (i) BISS Reference ha @170 kg N/ha | 20.59 ha | (50.89 acre) |

## Notes

| Farmer Notes |
| --- |
| |

## Animal Numbers, Exports & Imports

### Projected Animal Numbers

| Animal | No. Animals | Nhead | NTotal |
| --- | --- | --- | --- |
| Cattle (1-2 year old) | 20 | 57.0 | 1,140.0 |
| Cattle (0-1 year old) | 25 | 24.0 | 600.0 |
| Dairy cow 92kg Nhd (4,500 - 6,500kgs) | 100 | 92.0 | 9,200.0 |
| | | Total N | 10940 |

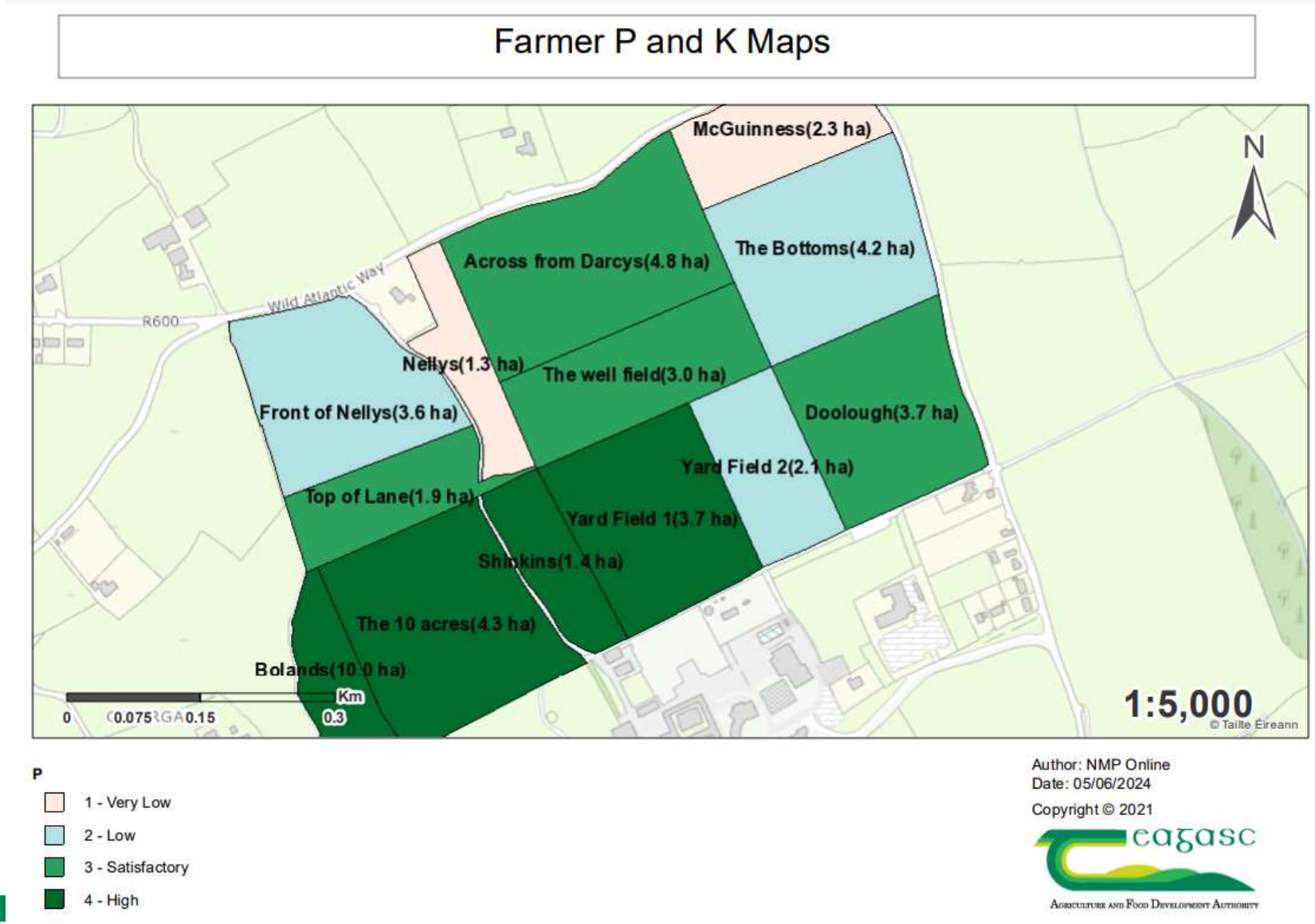
### Projected Exports

| Manure Type | Date of Export | Quantity (t) | Total N (kg) |
| --- | --- | --- | --- |
| No data available in table | | | |

### Projected Imports

| Manure Type | Date of Import | Quantity (t) | Total N (kg) |
| --- | --- | --- | --- |
| No data available in table | | | |

**6. Example of Map outputs for Phosphorus (P) and (K) results from soil test results**



# Farmer P and K Maps


K

- 1 - Very Low
- 2 - Low
- 3 - Satisfactory
- 4 - High

Author: NMP Online
Date: 05/06/2024



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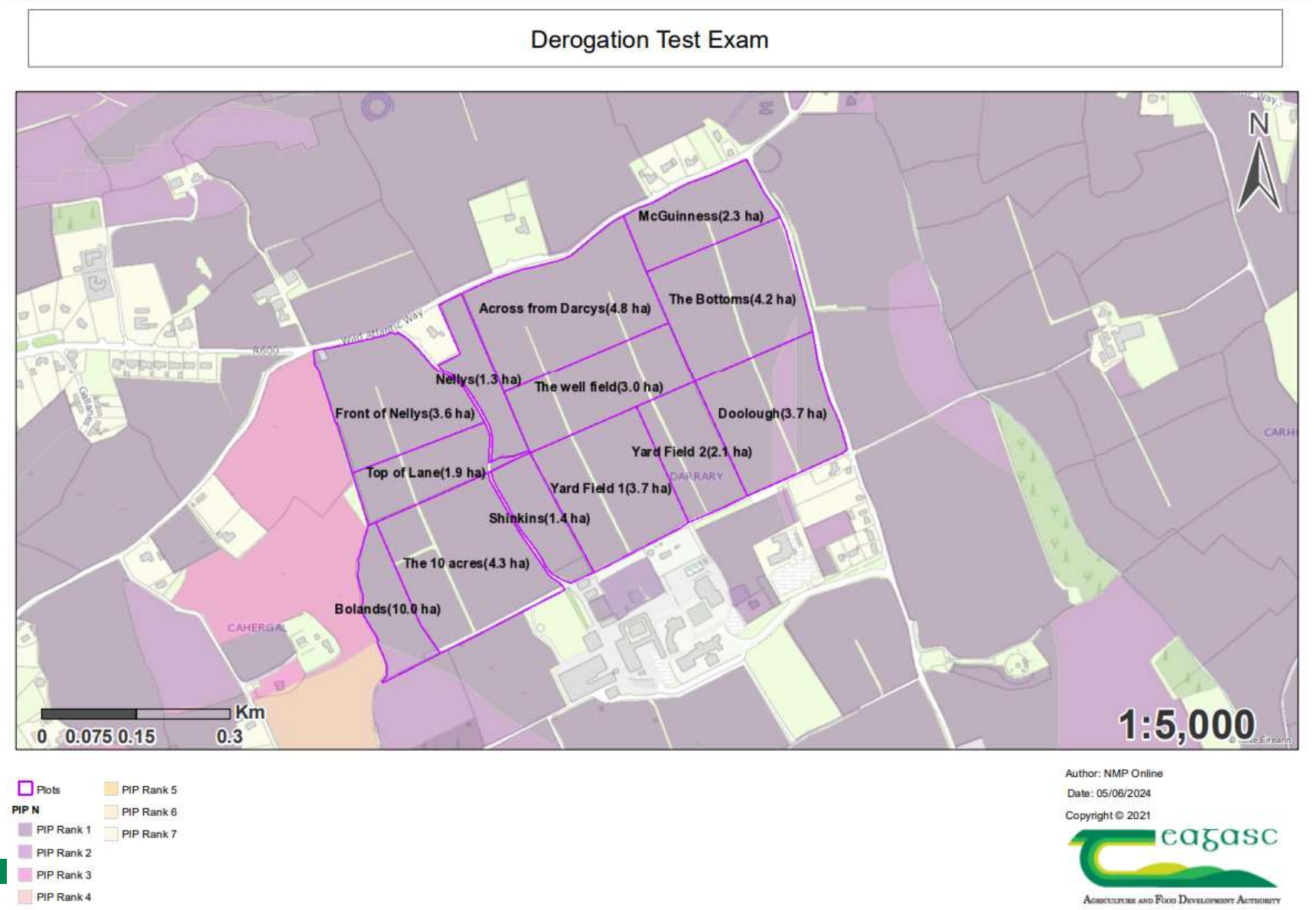
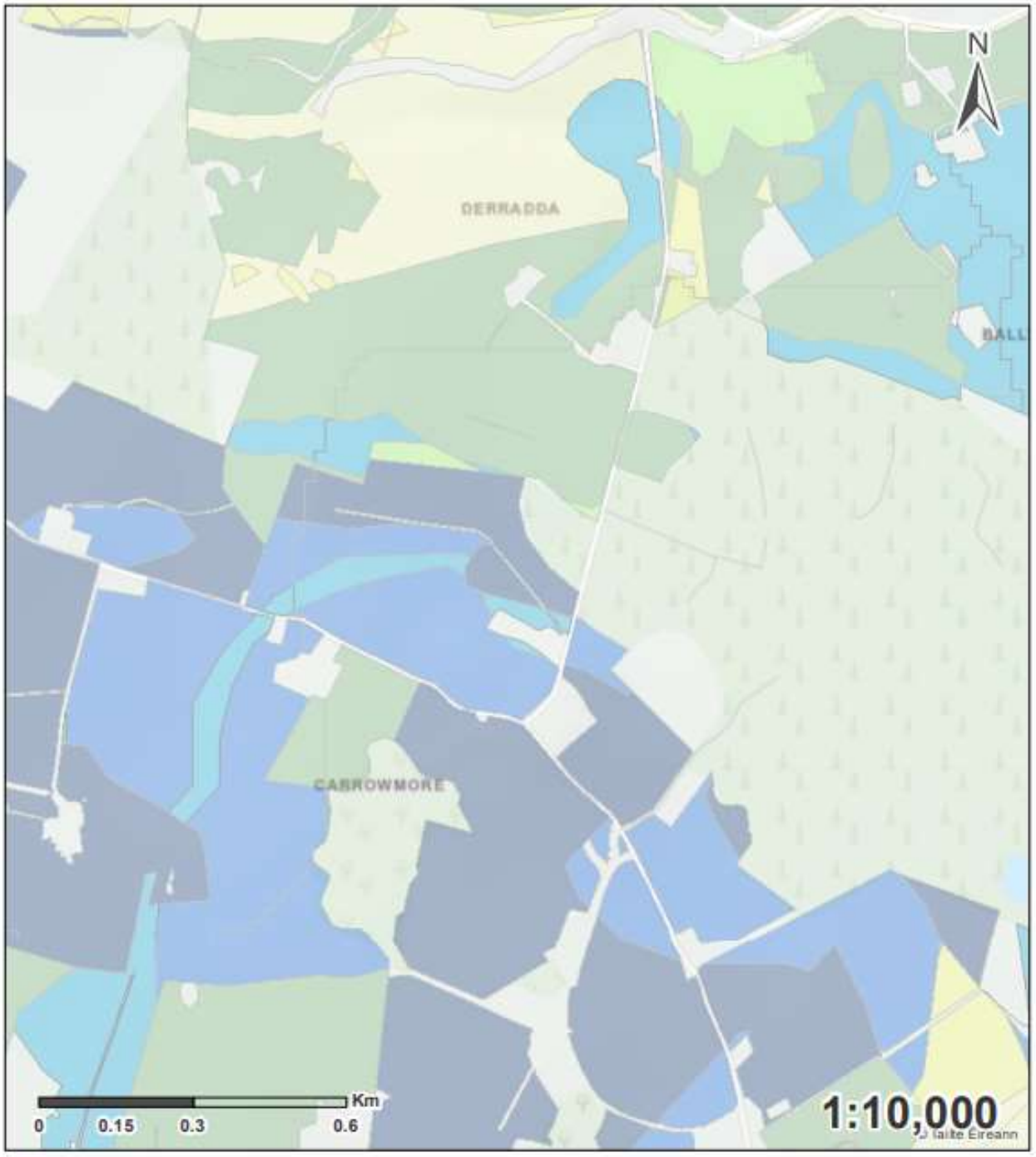
Agriculture and Food Development Authority

## 7. Example of PIP-N Maps available



## 8. Example of PIP-P Maps available



**9. Example of PIP-P Pathway and Delivery Points maps available**