POLICY BRIEF No.1

NUTRI-CHECK NET
OPTIMISING CROP NUTRITION

Title: Supporting self-evaluation to increase the success of nutrient management on farm

Objective:

- This Policy Brief aims to summarize the evidence collected by the NUTRI-CHECK NET project on how UK crop nutrient management strategies can be made more effective by incentivizing a formal review step into nutrient management.
- Inappropriate applications of nutrients to crops carry both economic and environmental risks. Farmers in England are currently obligated to match crop nutrient applications to crop needs under the "Farming Rules for Water"[1]. They are further incentivized to create a nutrient management assessment and produce a review report through the "Sustainable Farming Incentive- NUM1[2]". In Wales, farms must create a nitrogen management plan as part of "The Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021"[3]. In Scotland, the "PEPFAA Code"[4] encourages farmers to match nutrients to crop demand and also consider nutrient budgeting. In Northern Ireland, the Nutrient Action Programme requires all farmers to plan both their nitrogen and phosphorus applications[5]. Across many countries, further planning may be required within Nitrate Vulnerable Zones. Whilst these encourage the appropriate planning of nutrient applications in arable systems, and some reflection on the season, there is no standard format towards assessing how the seasonal conditions may have impacted the nutrient demands of the crop and how to refine future nutrient applications based on an accumulation of knowledge.
- Defra statistics show that in England only 64% of holdings had a nutrient management plan in 2025, showing there is still currently a gap in farms utilizing plans[7].

Methodology:

- A 9-nation Thematic Network called 'NUTRI-CHECK NET' was formed from 2023 to 2025, with 26 Crop Nutrition Clubs (CNCs) of farmers & advisors and 9 National Expert Groups (NEGs). Project partners reviewed stakeholder (CNC & NEG) attitudes, costs and benefits to addressing CNM challenges and adopting available tools.
- Crop nutrient management (CNM) guidelines and tools to support farmers and advisors were reviewed across the 9 partner countries. Information was categorized into broader management stage categories - 1. Planning, 2. Checking & Adjusting and 3. Reviewing.
- Stakeholders were surveyed and interviewed, including to understand whether reviewing and reflecting on nutrient management success formed a common aspect of nutrient management approaches.
- Stakeholders were also surveyed and interviewed on common needs, gaps and barriers of tools to support nutrient management decision making.

Key Findings:

- CNM tools are available for each stage in the management process, some tools are old and used widely whilst some are new but used less.
- Stakeholders involved in making nutrient management decisions rarely reviewed the success of a nutrient management plan[7].
- Where nutrient management strategies were reviewed in terms of success, the most common indicator of success was crop yield. Commercial tools and services could aid stakeholders in reviewing nutrient management strategy success[8], but a recurring barrier remains as how to incorporate the results of these tools and

services into future nutrient management plans[7].

Policy Implications & Recommendations:

- It is recommended that current guidelines for nutrient management planning in the UK (i.e RB209) include information on how to review the success of a nutrient management plan. This should include guidance on how to interpret the results of common nutrient management review tools, as well as yield.
- Farms and other CNM stakeholders should be incentivized to monitor nutrient offtakes and balances field by field, especially to gauge efficiencies of Nitrogen & Phosphorus management, but ideally efficiencies for all 12 crop nutrients.
- Incentives for creating nutrient management plans, such as Sustainable Farming Incentive NUM1, should be updated to include a formalized step for reviewing the success of the plan at the end of the season. Future nutrient management plans developed by the stakeholder should then accommodate learnings from previous years.
- By encouraging reviewing and reflection of the outcomes of nutrient management plans, crop nutrition managers reduce the risk of inappropriate nutrient applications in future years.
    - Where the risk of under-application of nutrients to reach an optimized yield is reduced, this will have positive impacts on farm economics through increased gross-margins, food production security and contribute to efficient land use area.
    - Where the risk of over-application of nutrients is reduced, this will have positive impacts on farm economics through increased gross-margins, reduced reliance on fertilisers and reduced risks to the environment through fertilizer related pollution, contributing to targets such as reducing ammonia emissions[9].

Key References:

1. The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018, available at: https://www.legislation.gov.uk/uksi/2018/151/made
2. Guidelines for SFI NUM1, available at: https://www.gov.uk/guidance/how-to-do-the-sfi-actions-for-nutrient-management
3. The Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021: guidance for farmers and land managers, available at https://www.gov.wales/water-resources-control-agricultural-pollution-wales-regulations-2021-guidance-farmers-and-land
4. PEPFAA – Prevention of Environmental Pollution From Agricultural Activity Code of Good practice, available at https://www.farmingandwaterscotland.org/pepfaa-code-of-good-practice/
5. DEARA 2025, Nutrients Action Programme. Available at: https://www.daera-ni.gov.uk/articles/nutrients-action-programme
6. DEFRA 2025, https://www.gov.uk/government/statistics/farm-practices-survey-february-2025/nutrient-management
7. Wall et al., (2023). Report: Drivers, needs, challenges and barriers for farmers to improve arable crop nutrition and the adoption of nutrient management decision tools and technologies. NUTRI-CHECK NET. Available at https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e506b3d0ef&appId=PPGMS
8. Kendall, S. (2025). 3 Step checking approach to nutrition management at Nutri-Check Net final conference: Final Conference | 18th November 2025 | Brussels - YouTube
9. Code of Good Agricultural Practice (COGAP) for Reducing Ammonia Emissions, available at https://www.gov.uk/government/publications/code-of-good-agricultural-practice-for-reducing-ammonia-emissions/code-of-good-agricultural-practice-cogap-for-reducing-ammonia-emissions#:~:text=The%20government%20has%20agreed%20to,the%20measures%20in%20this%20Code.