POLICY BRIEF NO.2

NUTRI-CHECK NET
OPTIMISING CROP NUTRITION

Title

Strengthening AKIS for the Nitrate Directive: The Strategic Role of National and Regional Expert Groups

Objective

- This Policy Brief summarizes evidence from the NUTRI-CHECK NET project on how France can improve crop nutrient management (CNM) by mobilizing expert networks at national and regional levels.
- In France, nutrient applications must meet a triple objective:
  (1) secure adequate crop yields,
  (2) ensure product quality that meets market standards, and
  (3) protect the environment.
- Farmers are required to match nutrient applications to crop needs under the national and regional Nitrates Action Plans, implementing the EU Nitrate Directive. The eight mandatory measures include respecting closed periods for fertiliser applications, ensuring adequate manure storage capacity, balanced fertilisation, maintaining fertilisation records, and soil cover requirements.
- Additional planning obligations may apply in "zones d'actions renforcées" within Nitrate Vulnerable Zones, which encourage improved anticipation, monitoring and adaptation of nutrient applications throughout the cropping season.
- To define technical references and ensure consistent implementation, the legislation relies on several levels of expertise:
  - GREN (Groupes Régionaux d'Experts Nitrates) – mandatory expert groups at regional scale.
  - CST-GENEM – the national scientific and technical committee on water and nutrient management.
  - A joint working group (RMT Bouclage Nutriments – COMIFER) – supporting GREN expertise by producing national methodological guides, nutrient management references, and harmonised approaches.

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

1. Expert groups ensure consistency and coherence between national and regional implementation

National (CST-GENEM, COMIFER, RMT BOUCLAGES) and regional (GREN) expert committees play a crucial role in translating the EU Nitrate Directive into operational rules adapted to French agro-ecosystems.

Their coordinated work ensures that:

- technical references remain scientifically robust,
- regional derogations remain consistent with national objectives,
- farmers face harmonised rules rather than fragmented interpretations.

This alignment is essential in a country where cropping systems, climate and soil conditions vary significantly.

2. Expert networks produce and validate the technical references that underpin regulations

The credibility of the Nitrates Action Plans depends on expert-validated references such as:

- crop nutrient requirements,
- estimation methods for soil mineral nitrogen (e.g. REH),
- local nitrogen leaching risks and sensitive periods,
- fertilisation practices adapted to crop types and regions.

These references are the backbone of measures such as closed spreading periods, soil cover obligations, and balanced fertilisation requirements.
Without expert-generated evidence, the Action Plans would lack scientific legitimacy.

3. Experts ensure transparent and science-based evaluation of decision-support tools

France is a unique case in Europe with a formal evaluation system such as the Prev'N label. Experts play a central role in:

- defining evaluation criteria and protocols,
- ensuring transparency, independence and repeatability,
- validating tools before they are recommended to farmers.

This helps reduce misinformation, strengthens trust, and accelerates the uptake of tools that genuinely contribute to reducing nitrogen losses.

4. Expert groups connect policy goals with operational field realities

By involving researchers, advisors, technical institutes, chambers of agriculture and NGOs, expert networks create a two-way flow between field experience and policymaking:

- Problems encountered by farmers (e.g. cost of tools, unrealistic constraints) are passed upstream to regulators.
- Policy expectations (e.g. soil cover, reduced leaching risks) are translated into practical

guidelines adapted to different cropping systems.

This iterative feedback loop is key to designing measures that are both effective and acceptable.

5. Experts identify gaps, barriers and priorities that guide future regulatory evolution

Through regular consultations and feedback from the field, expert groups are able to:

- detect gaps in nutrient management knowledge or methods,
- identify regions or practices requiring additional support,
- highlight inconsistencies between tools, datasets or policies,
- propose updates to improve the Action Plans.

Their long-term vision helps anticipate emerging challenges such as climate variability, new digital tools, or evolving market requirements.

6. Expert networks contribute to building capacity through training and knowledge dissemination[1]

Experts are essential actors within the French AKIS (Agricultural Knowledge and Innovation System):

- producing methodological guides,
- supporting continuous training for advisors,
- developing shared resources (MOOCs, e-learning),
- facilitating local demonstrations and multi-actor platforms.

This widespread dissemination ensures that the scientific basis of the Nitrate Directive is effectively translated into operational practice.

Policy Implications & Recommendations

- **Strengthen expert networks** by ensuring stable coordination between GREN, CST-GENEM and national working groups (RMT – COMIFER).
- **Improve the evaluation and transparency** of decision-support tools through labelling schemes such as **Prev'N**, extending them progressively to phosphorus and potassium management.
- **Support training and advisory services** to help farmers navigate regulatory complexity and adopt efficient CNM practices.
- **Facilitate access to tools** through financial incentives, interoperability standards, and targeted support in "zones d'actions renforcées".
- **Encourage systematic review practices** (post-season evaluation[2]) to close the loop between planning, adjustment and learning.

Key References

1. 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
2. Kendall, S. (2025). NUTRI-CHECK NET's 3 step checking approach to nutrition management. International Fertiliser Society Conference Proceedings No. xxx.