



Knowledge grows

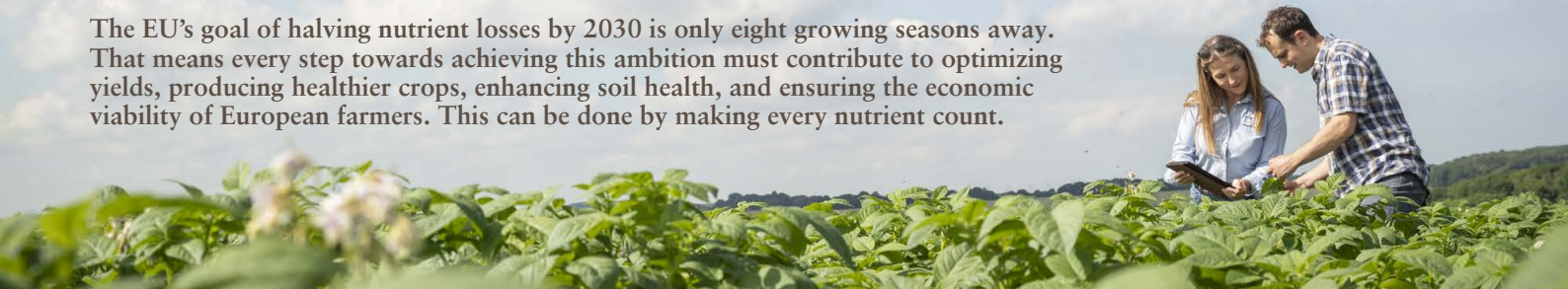
Making every nutrient count

Farm to Fork Strategy implementation



Nutrient management in Europe matters

The EU's goal of halving nutrient losses by 2030 is only eight growing seasons away. That means every step towards achieving this ambition must contribute to optimizing yields, producing healthier crops, enhancing soil health, and ensuring the economic viability of European farmers. This can be done by making every nutrient count.



The European Parliament's vision

The European Parliament adopted in October 2021 an own-initiative report¹ that sends a political signal to EU and national decision-makers - regarding fertilizer use, **the priority of the Farm to Fork Strategy (F2F) should be on reducing nutrient losses from both organic and mineral sources.**

Fact box 1: Highlights from the European Parliament's report on the F2F Strategy

14. Welcomes the Commission's commitment to act to reduce nutrient losses by at least 50 %, while ensuring that there is **no deterioration in soil fertility**; is convinced that this would be best achieved through the **closure of nutrient cycles, nutrient recovery and reuse** and encouraging and rewarding farmers to **plant leguminous crops**;" ...

14. ... highlights the importance of the application of modern and innovative technologies and solutions such as **precision farming, targeted fertilization** that is adapted to plant requirements, and **plant nutrition advisory services and management support**, as well as the need to install broadband in rural areas for that purpose"

Plant nutrition: a key piece of the puzzle

Several studies have shown that different targets set in the F2F and Biodiversity strategies can have a major impact on farmers' income, food production and food security globally. All studies have their strengths and limitations, and for instance don't address positive effects of the improved environmental aspects. Nevertheless, they all point to the fact that fertilizers are a key piece of the puzzle to keep up with EU's **ambition to produce food in a more sustainable way.** As also mentioned in the European Parliament's report, a dedicated impact assessment is needed to ensure that any further steps in the F2F Strategy implementation are science-based.

Fact box 2: Highlights from the JRC study related to nutrients²

In particular, there is a **need for global action to avoid leakage of pollution to other world areas** as shown by the high levels of leakage for GHG emissions. There is also a **need for productivity gains with respect to organic farming and nutrient management which can be achieved with precision farming, new digital technologies and other innovative techniques**, all part of the growth dimension of the Green Deal.

... meeting the targets for **land under organic farming and for reduction of gross nutrient surplus are the main drivers behind the reductions in production.** Special attention needs to be paid to how these targets are implemented and accompanied by CAP and other measures.

¹ Texts adopted - Farm to Fork Strategy - Wednesday, 20 October 2021 (europa.eu)

² JRC Publications Repository - Modelling environmental and climate ambition in the agricultural sector with the CAPRI model (europa.eu))

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How can we make every nutrient count?

Together with farmers, Yara Europe is actively working on upscaling best nutrient management practices, which are already well known. This enables targeted fertilization and ensures that nutrients actually reach the crops. In addition, decision-support tools, powered by precision farming and digitalization, should be used more broadly at farm level. **This can increase the overall efficiency of the nutrients used today in Europe by 20%.** Yara's crop nutrition toolbox enables farmers to make every nutrient count, regardless of the farming system. Organic and mineral nutrients are complementary, not mutually exclusive. Used in the right quantities and forms, both are needed to provide enough, sustainable food to consumers and to preserve soil fertility. Here are three best practices, in line with elements highlighted above:



“Together with farmers, best crop nutrient management practices can be upscaled. This will enable targeted fertilization and ensure that the nutrients used feed efficiently the plants. In addition, decision-support tools powered by precision farming and digitalization, should be used more broadly at farm level.”

Monica Andrès, EVP Yara Europe



Choosing the right mineral fertilizer and the right nitrogen form

Different fertilizing products have different environmental impacts. By choosing the right mineral fertilizer and the right nitrogen form, **farmers can contribute to the cleaner air in the EU and reduce nutrient losses to the air.** Replacing all urea-based fertilizers with ammonium nitrate could prevent 63% of overall ammonia emissions from fertilizer application in Europe.



Opting for low-carbon footprint mineral fertilizers

Considering the climate footprint of fertilizing products is an important step to reduce nutrient losses to the atmosphere. Yara's nitrate-based fertilizers have today a carbon footprint that is on average 50-60% lower than other similar products. This is because Yara has developed the best performing catalysts for the production process, which reduce N₂O emissions from fertilizer production by as much as 90%.



Adding precision and knowledge to crop nutrition planning

Plant nutrition is complex and changing weather conditions make it even more challenging for farmers to ensure that the different nutrients they apply end up in the harvest and not in the environment. Precision farming and digital tools, apps and sensors, as the ones developed by Yara (Atfarm, N-Sensor and N-Tester BT), empower farmers to optimize fertilization over the growing season. **This helps to improve the efficiency of the nutrients used and the quality of the harvested crops,** while reducing the losses to the environment.

A holistic approach with clear benefits

By using above mentioned and other best practices and solutions that exist today, European farmers can already:



Improve Nutrient Use Efficiency by 20%



Increase yields and income by 5-7%



Reduce the carbon footprint related to mineral fertilization at farm level by 20%

About Yara

Yara grows knowledge to responsibly feed the world and protect the planet. Supporting our vision of a world without hunger and a planet respected, we pursue a strategy of sustainable value growth, promoting climate-friendly crop nutrition and zero-emission energy solutions. Yara's ambition is focused on growing a climate positive food future that creates value for our customers, shareholders, and society at large and delivers a more sustainable food value chain.

Founded in 1905 to solve the emerging famine in Europe, Yara has established a unique position as the industry's only global crop nutrition company. We operate an integrated business model with around 17,000 employees and operations in over 60 countries. www.yara.com

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