

# Nutrient Management and Nutrient Recovery Thematic Network

## Results in Brief



## Free, easy access to information on novel biofertiliser technologies and products

Farmers will need support with how to comply with the new EU Fertilising Products Regulation on replacing unsustainable fertilisers beyond 2022. The NUTRIMAN project helps by offering an online Farmer Platform presenting novel technologies and solutions to facilitate the switch from chemical-processed mineral fertilisers to safe biofertilisers at lower cost.



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The majority of Europe's agricultural land is fertilised using chemically processed nitrogen and phosphorus. The problem however is that they cause algae to grow faster than ecosystems can handle, pollute water, release greenhouse gases, are made from non-renewable resources and are produced using fossil energy and water-intensive processes.

Mineral phosphorus – which originates from rock phosphate with cadmium and uranium toxic metal content – is also on the EU's list of highly important Critical Raw Materials (as per COM 2020/474) risking supply shortage. It is almost exclusively imported and has a very low recycling rate, if any at all.

The conclusion is clear. To keep agri businesses afloat, improve food safety, ensure continued soil quality and preserve our environment, farmers will need to switch to bio-based fertilisers. But there are many obstacles ahead. The availability of highly concentrated and pure biofertilisers is limited, and a new EU regulation significantly reducing the amount of cadmium allowed in all fertilisers – including bio-based ones – will enter into force in July 2022. Meanwhile, farmers' knowledge of and confidence in bio-based fertilisers are still low.

“We need more trust and knowledge across the entire value chain. Farmers should understand the real benefits of bio-based fertilisers and how to practically use them in their farming processes,” says Edward Someus, Recycling and Upcycling engineer at 3R-BioPhosphate Ltd. So far, basic research programmes have failed to truly grab farmers' attention. Farmers are more interested in innovations that are ‘ready for practice’ and already proven and demonstrated under real field conditions with market competitive performance.

## **A web platform for all farmers**

This is where the NUTRIMAN (Nutrient Management and Nutrient Recovery Thematic Network) project kicks in. Since October 2018, 3R-BioPhosphate and other actors from across the value chain have been working on a free-of-charge web platform where new, user-driven innovations are showcased to farmers. The platform specifically focuses on innovative nitrogen/phosphorus nutrient recovery solutions, which are key to a sustainable farming model using safe bio-based fertilisers.

“Our platform lists and presents ‘ready for use’ and ‘close to market’ novel recovery technologies and products focusing on the most urgent needs of farmers. The database is continuously expanded and will continue to be until 2031,” Someus explains. “It presents all innovative solutions with a status just before they are introduced to the market or slightly after.”

As they looked for such innovative solutions, the team was surprised by the low number of new innovations, competitive and market-driven technologies and products above TRL 6. From the over 1 000 projects/developments invited to join, only 80 have made it to the NUTRIMAN Farmer Platform so far. Someus expects this number to reach 100 by September 2021.

NUTRIMAN has already contributed to a large-scale take-up of innovative, recovered nitrogen and phosphorus fertilisers. These include, for instance, a zero-emission pyrolysis technology (3R Recycle-Recover-Reuse) enabling phosphorus recovery from food grade animal bone grist at industrial scale. “The resulting biophosphate does not contain any chemicals or contaminants and boasts a P<sub>2</sub>O<sub>5</sub> nutrient density as high as 35 % while being safe and efficient at low cost,” Someus

notes. On the nitrogen front, another example is the Poul-AR® technology which enables the production of ammonia sulfate/nitrate from poultry manure.

The full training documents for products, technologies and best practices are available for farmers in English. Over 40 solutions are already translated into seven other languages. The NUTRIMAN partners are also in the process of organising more than 50 workshops across Europe to disseminate their results. The project team hopes to reach over 1.5 million farmers by the end of the project and many more within the following 10 years.

As they keep updating their platform’s database, Someus and his colleagues can undoubtedly provide significant support to farmers with solutions delivering high economic, environmental, climate and improved safety impacts, most importantly in compliance with actions under the new [EU Fertilising Products Regulation](#) beyond 2022.

## Keywords

NUTRIMAN, biofertiliser, sustainable, farming, agriculture, online platform, biophosphate, phosphorus, nitrogen

### Project Information

#### NUTRIMAN

Grant agreement ID: 818470

[Project website](#) 

#### Status

Ongoing project

#### Start date

1 October 2018

#### End date

30 September 2021



#### Funded under

H2020-EU.3.2.1.1.

H2020-EU.3.2.1.3.

H2020-EU.3.2.2.3.

H2020-EU.3.2.4.1.

H2020-EU.3.2.1.4.

H2020-EU.3.2.1.2.

#### Overall budget


€ 1 999 927,50

#### EU contribution

€ 1 999 927,50

#### Coordinated by

3R-BioPhosphate Ltd.

 Hungary

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**Last update:** 21 March 2021

**Record number:** 422254

**Permalink:** <https://cordis.europa.eu/article/id/422254-free-easy-access-to-information-on-novel-biofertiliser-technologies-and-products>

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