



Optimising bio-based fertilisers in agriculture

Providing a knowledge basis for new policies

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Bio-based fertilisers (BBF) have the potential to minimise the environmental impact of existing fertilisers and improving sustainability through recycling of nutrient-rich side-streams. This will be achieved by developing a profound knowledge basis and new coherent methods to take full advantage of BBFs, focusing on the most promising technologies for BBF production and evaluating their fertilisation potential and other properties against national and European fertilisation requirements.

Objectives

LEX4BIO aims to decrease the European dependency on finite and imported, apatite-based phosphorus and energy-intensive mineral nitrogen fertilisers. This will be achieved through the implementation of several objectives including:

- **Identifying novel BBFs for crop production** and determining their effect on soil quality and crop growth
- **Determining the logistic costs, public perceptions and political actions required** for optimal use of BBFs

- **Determining the risks related to food safety, human health and environmental losses** after application of BBFs and producing guiding principles for the safe use of BBFs
- **Assessing the integrated ecological impacts** over the entire lifecycle of the production and use of BBFs
- **Mapping at local, regional and European scale the nutrient availability** to produce BBFs, assessing their potential and identifying legal barriers and constraints

KEY INFORMATION

PROGRAMME: Horizon 2020 (Rural Renaissance)

DURATION: June 2019 – May 2023

TYPE OF ACTION: Research & Innovation Action (RIA)

COORDINATOR: Natural Resources Institute Finland (Luke)

CONSORTIUM: 21 partners in 14 European countries

CALL: CE-RUR-08-2018: Closing nutrient cycles

EU CONTRIBUTION: 5 999 969 EUR



Funded by the Horizon 2020
Framework Programme of the EU

THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME UNDER GRANT AGREEMENT No. 818309 (LEX4BIO). THIS OUTPUT REFLECTS ONLY THE AUTHOR'S VIEW AND THE EUROPEAN UNION CANNOT BE HELD RESPONSIBLE FOR ANY USE THAT MAY BE MADE OF THE INFORMATION CONTAINED THEREIN.

Expected Results



Providing a knowledge basis for developing safe and efficient BBFs to ease EU transition towards circular economy and fertiliser self-sufficiency by using BBFs.



Replacing conventional, non-renewable mineral fertilisers with BBFs, reducing the external dependence and risks related to depletion, market variability, security and foreign policy.



Creating a coherent policy framework for sustainable production and use of organic-based fertilisers.



Balancing nutrient concentrations between or within regions, thus increasing resource efficiency.



Reducing the environmental impact linked to the dispersion of nutrients present in waste flows, or to the production of fossil-based fertilisers.

PARTNERS

Research organisation

SME & Industrial partners

- ① NATURAL RESOURCES INSTITUTE FINLAND (Luke)
- ② PROMAN MANAGEMENT GMBH (PM)
- ③ JULIUS KÜHN-INSTITUT (JKI)
- ④ UNIVERSITY OF COPENHAGEN (UCPH)
- ⑤ UNIVERSITY OF NATURAL RESOURCES AND LIFE SCIENCES VIENNA (BOKU)
- ⑥ UNIVERSITY OF AMSTERDAM (UvA)
- ⑦ UNIVERSITY OF HOHENHEIM (UHOH)
- ⑧ RESEARCH INSTITUTE OF ORGANIC AGRICULTURE (FiBL)
- ⑨ UNIVERSITY OF SEVILLA (US)
- ⑩ UNIVERSITY OF PANNONIA (UP)
- ⑪ GHENT UNIVERSITY (UG)
- ⑫ NORWEGIAN GEOTECHNICAL INSTITUTE (NGI)
- ⑬ UNIVERSITY OF HELSINKI (UH)
- ⑭ AGRO INNOVATION INTERNATIONAL (AII-RG)
- ⑮ ECOPLANT (ECP)
- ⑯ FINISH FOOD AUTHORITY RUOKAVIRASTO
- ⑰ SOIL CARES RESEARCH (SC)
- ⑱ EUROPROJECT OOD (EP)
- ⑲ FIELDSENSE A/S (FS)
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