



Soil: fertility, biological life and fighting against erosion



AGRI Innovation summit 2019

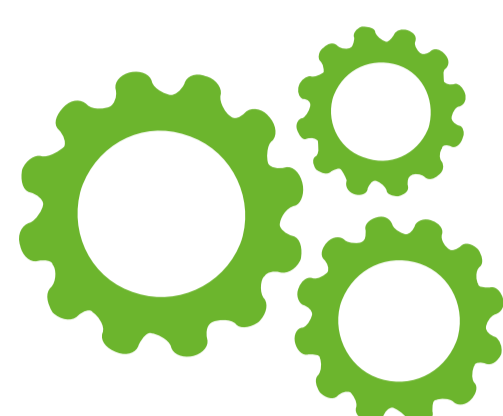


Newfert

H2020 Multiactor Project

NEWFERT - Nutrient Recovery from bio-based waste for Fertilizer Industry

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Practical problem

Europe is a net importer of nutrients. Large amounts of the nutrients that Europe has been importing for several years end their lives in waste.



Partners

FERTIBERIA (LC); DRAGUE & MATE INTERNATIONAL (SME); PROMAN (SME); UNIVERSIDAD DE LEÓN (RTO); IRSTEA (RTO); KWB (RTO).



Calendar

Start: 01/07/2015
End: 31/12/2018



Budget

Total amount:
€2,419,740

Objectives of the project

NEWFERT project tackles the design and development of different enabling technologies to allow the re-use and valorisation from bio-wastes making them suitable as a secondary raw material in the fertiliser industry: a new brand of cost-effective, eco-friendly and healthy advanced fertilisers. NEWFERT targets a highly plant available combination of specific organic and mineral components and sets up ranges of their concentration in NPK fertilisers. NEWFERT aims to decrease raw material dependency, prevent resource depletion and reduce the environmental impact, increasing significantly the sustainability of the fertiliser industry.

Main activities

- Characterisation of bio waste streams.
- Recovery technologies from solid waste.
- Recovery technologies from liquid waste.
- Industrial valorisation.
- Agronomic evaluation of the new fertilisers.
- Life cycle assessment.

Expected results

Determine the suitability of different biobased waste streams to the fertiliser industry. A diagnosis of the suitability from at least 8 different types of biowaste streams and residues. Design and development of dedicated nutrient recovery bio and chemical processes (N, P and K) from solid waste and liquid waste applied to the fertiliser production. Validation of nutrient recovery technologies applied to fertiliser production, maximising biowaste recovery ratios. Research and development of biobased NPK fertilisers with recycled compounds. Development of biobased NPK fertilisers, free of hazardous compounds, reducing the production cost. Life cycle approach.

Results so far/first lessons

More than 45 types of bio-waste from different areas of Europe have been identified and analysed. Less than 30% mostly fulfill the initial acceptability criteria defined. A chemical process to free-up the phosphate from ashes with low input and energy costs has been developed. Besides, an alternative process has been developed to obtain struvite from pig slurry that reduces costs by substituting the reagents with the action of bacteria naturally grown in the medium. Complex fertilisers with 15% of nutrients from bio-waste recycling were produced. The use of NEWFERT's fertilisers did not alter the soil biological properties which even improved compared with the soil without fertilisation.

Who will benefit

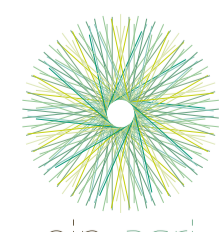
Reduce Europe's nutrient dependence from abroad at the same time as improving waste management. European industry will reduce the import of raw materials and specialise production through the development of new, advanced fertilisers. A new economic activity in rural areas will appear – the recycling and use of bio-waste, promoting and diversifying employment.

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