

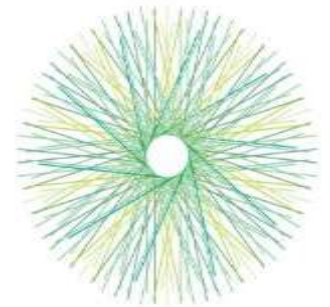
EIP-AGRI Focus Group Nutrient recycling



Koen Desimpelaere
EIP-AGRI Service Point
ESPP – IFOAM meeting on recycled nutrients in organic farming
Brussels 12 December 2017



EIP-AGRI in a nutshell



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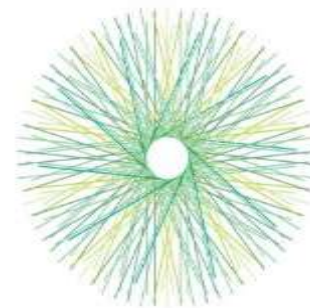
Aim: To foster a competitive and sustainable agriculture and forestry sector that "achieves more from less"

Approach: Closing the innovation gap between research and practice by:

- using the interactive innovation model
- linking actors via the EIP Network



Means to implement the EIP-AGRI



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Horizon 2020 (EU Research Policy)

- Multi-actor research projects involving the agricultural community
- Thematic networks, unlocking and exchanging knowledge across the EU

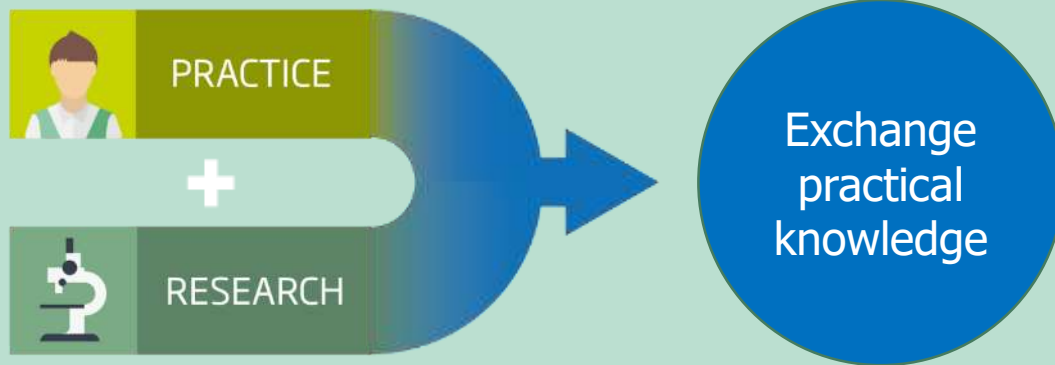


Rural Development Programmes

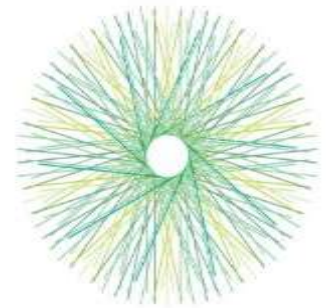
- Operational Groups
- Project funding
- Innovation support services

EIP-AGRI Network

EIP-AGRI Focus Groups, tackling agricultural challenges



Key question in nutrient recycling



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How to **improve the agronomic use of recycled nutrients** (N and P) from livestock manure and other organic sources?

Main conclusions



benefits and constraints of some emerging technologies

farmers' acceptance and appreciation

a real understanding of the fertiliser market and the end-user requirements is needed

on-farm tools and practices

contribution of biobased fertilisers to the soil organic matter

relevant legal frameworks



What can be done?



Operational groups

Rural development

Different competences
(practical and scientific)

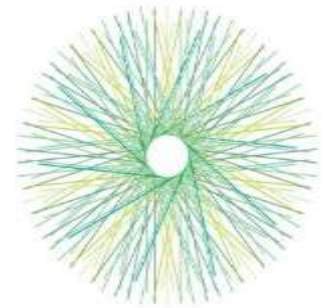
“Hands-on” groups: testing a
new idea/concept in practice

Research needs from practice

Horizon 2020

National & regional

Research Needs

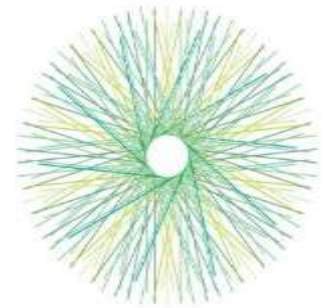


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- Organic contaminants
- Standardisation of LCA methodologies/risk assessment
- Assessment of the Nutrient Use Efficiency
- Acceptance of the use of organic fertilisers – social sciences
- Development of tailor-made products
- Use of remote sensing
- Development of farm tools



Ideas for Operational Groups (OG)



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- Process demonstration (general)
- Product demonstration (focusing on the products and the farmer)
- Integration of nutrient management in certifying schemes
- Cooperative business models
- Through the eyes of the farmer: exchange of information



Outcomes



EIP-AGRI Focus Group Nutrient Recycling

FINAL REPORT
November 2017



Improving nutrient recycling in agriculture

How to improve the agronomic use of recycled nutrients (N and P) from livestock manure and other organic sources?

Mineral nutrients are vital for producing the food on our plates, as well as for a wide variety of other products and materials which we use every day. Agricultural intensification using mineral fertilisers has allowed the world to sustain population growth and prosperity. However, the production of this type of fertiliser requires a lot of energy and the dependency on fossil resources needs to be re-thought. More attention must be paid to closing nutrient loops throughout the entire agro-food chain. The EIP-AGRI Focus Group (FG) on Nutrient Recycling brought together 20 experts to gather practical and scientific knowledge to discuss how to improve nutrient recycling in agriculture and discuss how bio-based fertilisers can be better taken up in the market.

The FG discussed the benefits and constraints of some emerging technologies that allow the recovery and re-use of nutrients on the farm. The list of existing treatment techniques is ever-expanding. The FG identified farmers' acceptance and appreciation as one of the key issues to promote the wider use of recycled nutrients in practice. To increase the adoption of organic waste processing technologies and the production of new types of bio-based fertilisers on a large scale, a real understanding of the fertiliser market and the end-user (e.g. arable farmers, fruit or vegetable producers, etc.) requirements is needed.

In addition to a concise overview of the most relevant legal frameworks at the EU level, the Focus Group identified possible policy measures for further discussion and debate, such as financial incentives, environmental taxation schemes, labelling obligations and possible incentives under the Common Agricultural Policy (CAP).

On-farm tools and practices were identified including for the assessment of the composition of fertilisers (e.g. N/P ratio), the release pattern of nitrogen from bio-based fertilisers, the emission of ammonia, etc. Also the contribution of bio-based fertilisers to the soil organic matter must not be ignored. The challenge is that nutrients contained within a bio-based fertiliser have more complex dynamics, making their release more difficult to predict and plan than mineral fertilisers. The FG suggests to distinguish between 'organic soil improvers' and 'bio-based fertilisers' based on the ratios EDM/mineral N and EDM/P₂O₅ (EDM = Effective Organic Matter)

"Promoting nutrient recycling is not only about technologies to produce bio-based fertilisers, but also about practical tools to better understand the behaviour of nutrients and their management on the farm."

- Emile Snaauwaert (Belgium), expert from the EIP-AGRI Focus Group on nutrient recycling -



EIP-AGRI Focus Group - Nutrient recycling

Mini-paper - Available technologies for nutrients recovery from animal manure and digestates

David Parnham¹, Erika Bracco², George Pridmore³, Juliana Holgado⁴, Verónica Aledo⁵, Christian Kuhn⁶, Agnieszka Borkowska⁷, Søren Steenfeldt⁸



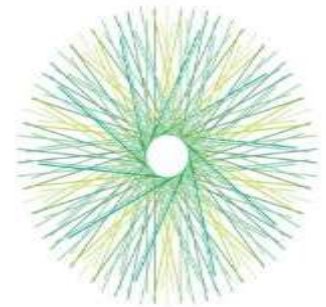
Inspirational ideas: Agro-industrial waste put to good use as biofertiliser

Reported under the EIP-AGRI Focus Group on Nutrient Recycling

A further process is also in being finished under the EIP-AGRI Focus Group on Nutrient Recycling as a follow-up initiative. A specific process has also been developed using EIP-AGRI to ensure that it is both being applied on the field.



The words from the experts



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*"Promoting nutrient recycling is not only about technologies to produce biobased fertilisers, but also **about practical tools** to better understand the behaviour of nutrients and their management on the farm."*

Emilie Snauwaert (Belgium), expert in the Focus Group

*"It is vital to **understand the end-user acceptance and requirements** of recycled nutrients - so the opinion of farmers, retailers and consumers. The **market uptake needs to be driven from the demand side**, not solely from pushing technologies that aim to recover nutrients from manure and other waste to resolve regional problems related to nutrient excesses."*

Lars Stoumann Jensen (Denmark), expert in the Focus Group

Community group on nutrient recycling



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- About the Cluster
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- News
- Events
- Links

EIP-AGRI Focus Group on Nutrient Recycling finds after-life...



The focus groups under the European Innovation Partnerships (EIP) of the European Commission have a dedicated task for 2-3 years, after which an end-report brings conclusion to the expert activities. In light of furthering collaboration and raising awareness, the Focus Group on Nutrient Recycling has decided to continue the collaboration after this period.

This community group will be developed further within the larger BioRefine Cluster Europe community and will be broadened in an open-access and free-of-charge setting. The development of community groups around specific topics which cross-cut across projects and experts is a novel strategy deployed to introduce focal points in our collaboration.

If you are interested to join this community group, don't hesitate to drop us a line at yasmine.mertens@ugent.be

Thank you for your attention!

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Register today!

