

BIOBASED FERTILISERS: PART OF THE SOLUTION

BIO-BASED FERTILISERS AS A PIECE OF THE PUZZLE IN THE
TRANSITION TOWARDS MORE SUSTAINABLE FOOD SYSTEMS

SHORT SUMMARY FOR PRACTITIONERS

EN version

With the Farm to Fork strategy, Europe formulates the ambition for a transition towards a more sustainable food system. Europe presents an integral and unique policy that covers the entire food chain: production, processing and consumption. The strategy breaths ambition and calls for, among others, the need to reduce mineral fertilization. The European Commission also mentions the production of bio-based fertilizers as 'a largely untapped potential for farmers and their cooperative'.

In this practice abstract, we summarise three key challenges to the adoption of sustainable farming practices as a whole, and bio-based fertilisers in particular.

First, sustainable farming requires the integration of various farming practices. Second, there is a need for profitable business models related to sustainable farming systems. Third, research on the development of bio-based fertilisers should be organised in an interdisciplinary and transdisciplinary manner.

SHORT SUMMARY FOR PRACTITIONERS

NATIVE version

Met de Farm to Fork-strategie formuleert Europa de ambitie voor een transitie naar een duurzamer voedselsysteem. Europa presenteert een integraal en uniek beleid dat de hele voedselketen bestrijkt: productie, verwerking en consumptie. De strategie ademt ambitie en roept onder meer op tot het terugdringen van minerale bemesting. Ook de Europese Commissie noemt de productie van biobased meststoffen als 'een grotendeels onbenut potentieel voor boeren en hun coöperaties'.

In deze praktijksummarie vatten we drie belangrijke uitdagingen samen voor de invoering van duurzame landbouwpraktijken in het algemeen, en biogebaseerde meststoffen in het bijzonder.

Ten eerste vereist duurzame landbouw de integratie van verschillende landbouwpraktijken. Ten tweede is er behoefte aan winstgevend bedrijfsmodellen die verband houden met duurzame landbouwsystemen. Ten derde moet het onderzoek naar de ontwikkeling van biogebaseerde meststoffen op een interdisciplinaire en transdisciplinaire manier worden georganiseerd.

Demonstration of circular
bio-based fertilisers and
implementation of optimized
fertiliser strategies and value
chains in rural communities

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CONTEXT

The RUSTICA project provides a technical solution to convert organic residues from the fruit and vegetable sector into novel bio-based fertiliser products of high quality that address the needs of modern (organic) agriculture. The project's ambition goes beyond the simple recovery of nutrients and also includes the developments of economically viable and environmentally sustainable alternatives to mineral fertilisers with the same or improved agronomic value.

PROBLEM

- ✓ Sustainable farming includes various practices like organic, regenerative, and agroecological farming, which must coexist and adapt to different constraints.
- ✓ Combining mineral and bio-based fertilisers often enhances soil biodiversity and resilience.
- ✓ Viable business models are essential to support sustainable investments, considering both environmental and socio-economic diversity across regions.
- ✓ Interdisciplinary collaboration is crucial for addressing the broad impacts of sustainability, from agronomic to socio-economic factors.
- ✓ Early cross-sector cooperation is key to developing marketable bio-based fertilisers to maximise product viability and impact.

APPROACH

We adopt a comprehensive approach to addressing the challenges of developing more sustainable food systems. By evaluating the outcomes of the RUSTICA project, we critically assess these findings in the context of current European policies.

OUTCOME

International recognition of various sustainability approaches should encourage the coexistence of different farming practices. Bio-based fertilisers have the potential to contribute to sustainability across all farming systems. Furthermore, the economic realities of the international food system must be acknowledged. A significant opportunity lies in fostering stakeholder dialogue, which can help policy makers develop market-aligned policies and contribute setting realistic goals.

PRACTICAL RECOMMENDATIONS

- ✓ Encourage international recognition and coexistence of diverse sustainable farming practices, allowing bio-based and conventional methods to complement each other.
- ✓ Promote bio-based fertilisers as a sustainable option across all farming systems, recognising their contribution to overall agricultural resilience.
- ✓ Develop market-aligned policies that consider the economic realities of the global food system and regional differences in agricultural practices.
- ✓ Foster stakeholder dialogue to ensure that policy goals are realistic, regionally adaptable, and support both sustainability and economic viability.

