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POSITION PAPER

Biostimulants – A Key Enabling Technology for the Circular Economy

The European Biostimulants Industry Council (EBIC) was formed in June 2011 to foster the role of the biostimulants sector in helping agriculture to produce more with less. To do this, EBIC advocates an operating environment that creates a truly European market for biostimulants and recognises their contribution to sustainable agricultural production, green innovation, economic growth and other European Union (EU) policy objectives.

EXECUTIVE SUMMARY

Biostimulants are a Key Enabling Technology of the Circular Economy and one of the innovative tools that can help EU agriculture become more sustainable. The biostimulants industry can contribute to many of the objectives of the Circular Economy and the Europe 2020 strategy, including 1) resource use efficiency, 2) recycling and using renewable resources, and 3) the creation of jobs, growth, and rural development. In turn, meeting these objectives will allow EU farmers to increase both the quantity and the quality of yields to feed growing populations, meet increasing non-food demands for agricultural products and improve performance on key environmental indicators like greenhouse gas (GHG) emissions, water use, etc.

For biostimulants to deliver on these objectives, the industry needs a functioning European single market, something that will for the first time be possible under a revised and broadened Fertilisers Regulation. This is why our industry needs the Commission to include the Fertilisers Regulation revision in its forthcoming Circular Economy package and to make sure that biostimulants are covered by the new regulation.

BIOSTIMULANTS' CONTRIBUTION TO THE CIRCULAR ECONOMY

The biostimulants industry brings many direct and indirect benefits to the Circular Economy:

I Biostimulants contribute to the resource efficiency goals of the Circular Economy

- 1.1 **Improving the efficiency of conventional crop inputs.** Experience has shown that improved management practices alone do not suffice to achieve optimal use of crop inputs like fertilisers, pesticides and water. Without catalyst technologies like biostimulants, objectives for improved efficiency cannot be met.¹ Thanks to improved yields and quality, biostimulants make it possible for farmers to achieve environmental targets profitably.
- 1.2 **Reducing human impacts on the nitrogen cycle.** It is estimated that one of every two people on Earth today can eat thanks to the use of nitrogen fertilisers. But not all of the nitrogen applied to crops is used; losses to the environment of plant-available nitrogen can cause a cascade of unwanted environmental (and even health) impacts. Biostimulants increase the proportion of applied nitrogen taken up by plants and reduce losses to the environment.

¹ The efficiency of fertilisers is documented to be increased by a minimum of 5% (and may go as high as 25% or more) when biostimulants are applied.

- 1.3 Mitigating issues related to critical raw material phosphorus.** Phosphorus is essential for European agriculture and has been classified as a critical raw material² by European policymakers. By improving the efficiency of phosphorus use, biostimulants can help reduce the EU's dependence on imports. They can also help cut the costs and environmental impacts of transporting phosphorus fertilisers (generally bulky and heavy) and limit the amount of naturally occurring contaminants (like cadmium) that are added to soils by increasing the fertilizing power of each unit of fertiliser applied.



Fundamental Principle: Biostimulants are critical catalysts for meeting resource efficiency goals for agriculture. The objectives for sustainable agriculture cannot be met without the contribution of biostimulants.

2 The production and use of biostimulants exemplify the closed-loop principles of the Circular Economy

- 2.1 Renewable raw materials.** Biostimulants help to improve the quality and quantity of biological materials used in agriculture. As an example, many biostimulants are sourced from renewable resources, such as plant and seaweed extracts. The resulting biostimulant products are then channelled into the production of more plants, including those used as sources for biostimulants.
- 2.2 Reducing waste streams.** Some biostimulants are derived from re-valorized animal by-products from the agrifood chain or parallel industrial activities. In other cases, discarded plant materials are repurposed as raw materials for biostimulant production. This conversion of wastes into raw materials for certain biostimulants helps to reduce waste streams.




Fundamental Principle: In addition to their role as a Key Enabling Technology, the biostimulants sector is an example of a mostly circular sector.

3 Biostimulants provide jobs, skills and investment relevant for the Circular Economy

- 3.1 A source of jobs and rural development.** The European biostimulants industry provides over 2000 direct jobs across Europe, not counting the thousands of jobs created downstream through the multiplier effect. Many biostimulant companies are small enterprises located outside of major economic centres – areas that may be sorely in need of diversification. These companies provide welcome sources of employment and demand for local services in rural areas.
- 3.2 Boosting investment in green innovation.** The biostimulants industry conducts R&D that fuels innovation for the Circular Economy. The European industry generates more than €500 million in annual sales, with much of it reinvested back into R&D activities (most companies reinvest between 3% and 10% of annual turnover into R&D). Many companies have up to a third of their staff engaged in R&D activities.
- 3.3 Developing skills.** The industry contributes to the knowledge economy by working in partnership with universities and other public research institutes (150 such R&D


² “Raw materials are called critical, when their high supply risk is mainly due to the fact that a high share of the worldwide production is concentrated in few countries. This concentration is in many cases compounded by low substitutability and low recycling rates.” See the [European Commission's website](#) for more information.

partnerships were identified in 2011). Working through universities helps to train tomorrow's highly skilled workforce capable of achieving a Circular Economy.


Fundamental Principle: If European policymakers truly want to foster green innovation, they need to break old regulatory habits and meet the real needs of emergent technology sectors like biostimulants, which provide knowledge-intensive jobs, often in rural areas or secondary cities.

BIOSTIMULANTS ARE CENTRAL TO THE SUCCESS OF THE CIRCULAR ECONOMY PACKAGE

There is currently a tension between producing more and better quality crops to meeting growing demand for food, feed, fibre and energy on the one hand and reducing environmental impacts from agriculture on the other. To resolve this tension, it is essential to revise the EU's Fertilisers Regulation to include products like biostimulants, organic fertilisers and efficiency-enhancing fertiliser additives. An updated Fertiliser Regulation therefore must be part of the Circular Economy package, and the new regulation must accommodate Key Enabling Technologies like biostimulants and ensure that only products safe to human health and the environment can enter the market. A failure to regulate biostimulants at the EU level and to create a sorely needed single market for them would be a missed opportunity that will negatively affect the ability to meet the Circular Economy objectives, European's green innovation leadership and Europe's farmers.


Fundamental Principle: The revised Fertiliser Regulation is an essential component of the Circular Economy package, and biostimulants must be included in the revised regulation.

RELATED POSITION PAPERS

For more detailed information regarding the biostimulant industry's key regulatory asks please refer to EBIC's position paper on an 'Optimal Regulatory Framework'³.

³ <http://www.biostimulants.eu/wp-content/uploads/2015/07/EBIC-PP-Optimal-Regulatory-Framework-Biostimulants-v4-270715.pdf>