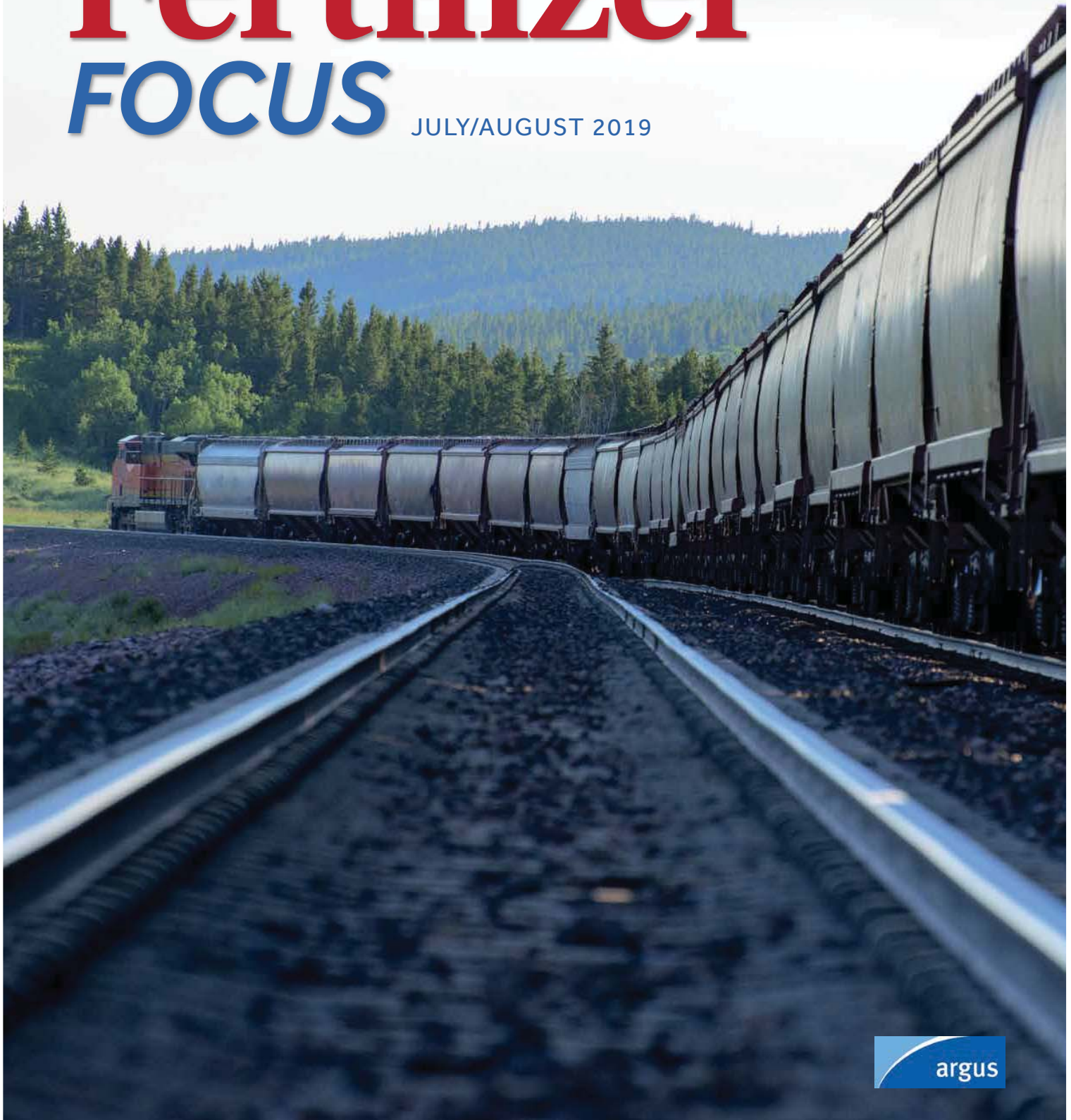


Fertilizer

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Fertilizer Focus
Argus
Lacon House, 84 Theobald's Road,
London, WC1X 8NL, UK
Tel: +44 (0)20 7780 4340
Email: fertilizer@argusmedia.com
www.argusmedia.com/fertilizer



Front cover image:
Freight train with hopper
cars beneath mountains

Conference review: Summit of the Organic Fertiliser Industry in Europe (SOFIE)

The SOFIE summit in June 2019 brought together, for the first time ever, the European carbon-based fertilizer sector. The meeting was organised by the European Sustainable Phosphorus Platform (ESPP) in partnership with the International Fertiliser Society (IFS).

As well as market and agronomic opportunities, the meeting addressed the implications for the organic fertilizers sector of the new EU Fertilizing Products Regulation. This regulation is now formally adopted (expected to be published before end June 2019) and will cover mineral, organic and organo-mineral fertilizers, soil improvers, growing media, biostimulants and liming materials.

Opening up the single market

The European Commission (Johanna Bernsel and Theodora Nikolakopoulou, DG GROW) explained that this new EU Fertilizing Products Regulation will radically restructure the carbon-based fertilizers and soil amendments markets in Europe, by opening up the entire EU market for products bearing the CE mark as evidence of complying with the EU criteria. Even if derived from waste or animal by-products, the CE marked products will be able to be sold freely across the entire EU without further regulatory restrictions under national fertilizer rules or waste or animal by-product rules. This will mark a big change compared with

today, where organic fertilizers have to face a plethora of different national regulations. Furthermore, it will be a big opportunity for processing technology providers possessing the know-how how to comply with the new EU rules.

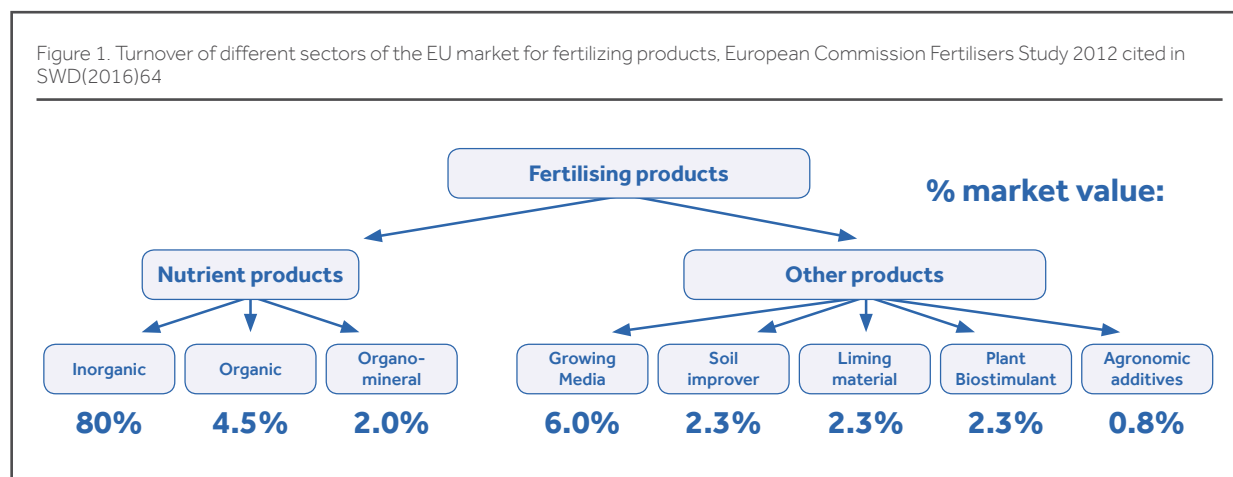
This first SOFIE summit attracted over 125 participants, from industry, regulators, stakeholders and R&D, covering 14 European countries, as well as India and North America.

Presentations and stands included industry federations, agronomists and experts, R&D and recycling technology providers.

SOFIE sessions addressed:

- Industry and markets: examples of companies with new products, providing added value to farmers, export growth, circular economy for nutrients and organic carbon
- Agronomic evidence: scientific knowledge of how carbon-based amendments impact soil health, the environment and crop yields

“New regulations will restructure carbon-based fertilizer market”



- Opportunities and challenges for industry from developments in European regulations, in particular the future CE-Mark for organic fertilizers under the new EU Fertilizing Products Regulation.

Organic fertilizers - products and markets

Presentations demonstrated that the organic and organo-mineral fertilizer industry is both innovative and open, with a range of different types of product delivered to farmers. Organic fertilizer products are linked to related sectors such as biostimulants, growing media, composts, digestates and liming materials.

The carbon-based fertilizer industry covers a continuum of markets from

stabilised by-products (manures, composts, digestates, food industry wastes and animal by-products) through to processed, bespoke, high-value products for specialist markets. The industry's circular economy added value combines gate-fees from waste management and recycling local secondary resources with delivery to farmers of products adapted to their specific requirements, including accompanying information and services.

A European Commission study estimates that organic and organo-mineral fertilizers represent 6.5% of fertilizing products (by value), which is a turnover of EUR1.5 bn in Europe (see figure 1). However, one market study from Allied Market Research suggests a higher turnover of EUR2.5 bn (EU sales only). The European Commission study was based on responses from 61 SMEs in 10

member states, The EC estimates there are a total of over 3 000 SMEs operating across Europe. Overall, it is not a clearly defined sector at the EU level.

Measures to be considered

SOFIE identified a number of areas where better information is needed or specific actions should be engaged to further nutrient and organic matter recycling in organic soil amendments

As emphasised by Tiffanie Stephani, Fertilizers Europe, organic and mineral fertilizers are complementary products, acting together to provide different functions which can harmoniously ensure optimal nutrient supply to crops, optimal soil functions and together a full range of services to farmer. The ultimate

Product quality and consistent characteristics

Industry and agronomists underlined the importance of delivering consistent and quality organic fertilizer products to farmers, adapted to their specific agronomic requirements and to practical considerations (logistics, use of existing spreading equipment, packaging, accompanying advice and information). This applies to markets from stabilised manures through to processed export products. Reliable information is needed about nutrient contents of materials delivered, with reliably consistent nutrient levels, but also expected release patterns (crop availability over time).

Quality assurance for farmers, and for their customers (food industry, supermarkets), also implies traceability of secondary materials sourcing and processing.



Chiara Manoli, Vice President of ECOFI and Regulatory Affairs Officer at ILSA, explained ECOFI's vision of the sector, based on credibility (traceability of components, standardized processes, scientific evidences) and clarity (harmonized rules at European level) which will lead to products with high added-value being placed on the market.



Laetitia Fourié, Compliance Manager at ECOFI and Veolia group, provided more details on how to achieve those objectives.

Examples of company success through innovation and service to farmers.



Geert Brosens, CEO, Fertikal, Belgium. 270 000 t/y of organic fertilizing products, EUR28 mn turnover, 99% exported outside Belgium, of which around three quarters outside Europe (mainly Asia, South America, northern Africa). Rapid growth in organic farming certified products, and in processed pellets, which ensure a homogenous, consistent, easy to handle product for farmers.



Becky Wheeler, Director, 4R Group, UK. EUR11 mn turnover with 45 staff working with over 150 contractors delivering 750 000 t/y of bulk organic amendments to farmers in the UK. 4R delivers accredited operational, technical and farm assurance services, ensuring compliance for producers and end users.



Hannamajja Fontell, Director of R&D and Business Development, Biolan Oy, Finland. 100 000 t/y organic fertilizing products, produced from a range of secondary raw materials (manures, wood by-products, food industry by-products) and from renewable sphagnum moss. Export to 50 countries worldwide.



Eljas Jokinen, CEO, Soilfood Oy, Finland. Around 145 000 t/y of processed organic fertilizers, recycled limes and amendments. Distribution through to field application, with accompanying farmer advice service. Using secondary raw materials from forestry, bio-energy and food industry.



Vincent Walker, Research and Innovation Manager, OvinAlp, France. 45 000 t/y of organic fertilizers, from local PGI (Protected Geographical Indication) Sisteron Lamb sheep manure and from food industry by-products. Development and marketing of innovative active ingredients derived from bio-fermentation of green organic materials.

The changing regulatory context opens new opportunities

A key conclusion from the SOFIE conference is the significance of new opportunities for industry, and for nutrient recycling, opened by the new EU Fertilizing Products Regulation (FPR) and by other public policies (circular economy, carbon mitigation and soil health).

Under the new FPR CE-Mark, companies in sectors which until today have been operating in nationally separated markets (organic and organo-mineral fertilizers, composts, digestates, biostimulants) will have access without barriers to the whole European market. This will open new possibilities for both fertilizing product manufacturers and for suppliers of processing technologies.

However, there is a clear need for the organic and organo-mineral (carbon-based) fertilizer industry sector to engage with the European Commission and with stakeholders to prepare implementation and adaptation of the new EU Fertilizing Products Regulation (FPR) and to address interfaces other regulations. In particular, actions are already engaged concerning inclusion in the FPR of by-products (industrial and organic, CMC 11) and Animal By-Products (ABPs) (CMC 10) and industry input is solicited by the European Commission.

Presentations at SOFIE addressed practical aspects of this context for the organic fertilizers industry:



The perfect storm of evolving regulations (**Mariano Alessio Verni**, SILC Fertilizzanti): REACH, Animal By-Products, Plant Protection Products, as well as the new EU Fertilizing Products Regulation.



The 240 new EU harmonised testing methods which will be developed by CEN to accompany the new EU Fertilizing Products Regulation (**Laurent Largent**, AFAIA).

These will include adapting existing standards to new materials, specific new test methods, and some completely new standards.



How to obtain the new CE-Mark for organic fertilizing products in five steps (**Leon Fock**, Eurofema)

goal is reducing environmental impacts of fertilization by increasing Nutrient Use Efficiency.

How can mineral fertilizers and organics be better incorporated into hybrid products and/or be combined in crop nutrition regimes? What challenges need to be overcome to achieve this? The organic (carbon-based) fertilizer industry is not well identified and there is very little data available concerning overall market size, different products, companies. This is partly because of confusion between carbon-based fertilizers and products certified for organic farming. Data collection is difficult because the market is mainly SMEs operating today at the national level and because of the overlap with related markets such as biostimulants and soil improvers, as well as with operators in waste recycling and by-product valorisation. How can the organic fertilizer industry be better defined and measured?

Lack of data

There is a need for agronomic evidence on the performance of processed organic fertilizer products, whereas to date the field trial data available concerns mainly unprocessed organic amendments, such as manures or biosolids.

What specific agronomic, scientific and field trial data is required to fill the current knowledge gaps? There is a lack of scientific data on the stability in soil of organic carbon from organic soil amendments, and therefore difficulties in assessing the real net greenhouse gas impact of use of these products over time.

Nitrogen losses in processing of secondary raw materials and in field application is significant in terms of climate and air pollution and development of processes to recover and recycle nitrogen emissions need to be addressed

Different organic soil amendments will have different agronomic effects, contributing to soil structure, soil biology, nutrient content, nutrient retention and mobilisation. Benefits will also depend on soil and climate conditions. Information and advice for farmers means added-value.

Future growth

Organic and organo-mineral fertilizers have specific benefits in the Mediterranean region, addressing low soil carbon and improving water retention and drought resilience.

Organic (carbon-based) fertilizers are not necessarily eligible for use in certified organic farming. However, organic farming is a growing and added-value market for organic fertilizers, subject to appropriate raw material sourcing and processing

There are close links between organic fertilizers and biostimulants, because organic substances can reduce nutrient immobilisation in soil or facilitate plant uptake and with growing media, which require nutrient sources.

Plastic contamination in secondary raw materials poses important perception and acceptance problems. In order to prevent this becoming an increasing obstacle to organic fertilizer development and to nutrient and carbon recycling, upstream responsibility should be engaged, by packaging producers, supermarkets and collection systems. Biodegradable plastics are evolving faster than composting or digestion processes.

How can the national-based organic fertilizer companies develop towards pan-European operation and markets? How can producers of organic fertilizers better get to market? Which markets can be targeted? And which routes can products take to reach these markets? Are all questions that still need to be tackled. ■

SOFIE was organised in partnership with the IFS (International Fertiliser Society) technical conference, 4-5 June 2019, which addressed mineral fertilizers production and regulation. IFS proceedings are available at <https://fertiliser-society.org/event/2019-ifs-technical-conference.aspx> SOFIE (Organic Fertiliser Industry in Europe summit), Atelier des Tanneurs, Brussels, 6-7 June 2019: presentation slides and summary (SCOPE Newsletter n°130) soon at www.phosphorusplatform.eu/SOFIE2019