The nutrients beneath our feet – How to make every nutrient count for healthy soils?

Wednesday 1st March 2023, 14:15 – 15:30 CET

Hosted by MEP Franc Bogovič

Speakers:

- **MEP Franc Bogovič**
- **Célia Nyssens-James**, Senior Policy Officer for Agriculture and Food Systems, EEB
- **Jessica Fitch**, Manager, Secretariat of the European Consortium of the Organic-Based Fertilizers Industry (ECOFI)
- **Tiffanie Stephani**, Vice President for European Government Relations and External Communications, Yara
- **Anne-Catherine Dalcq**, Vice President, European Council of Young Farmers (CEJA)
- **Emma Hjelm**, Project Manager, Greppa Näringen
- **Kirstine Bille** (DK, Greens), Coordinator for the NAT Commission, Committee of the Regions (CoR)
- **Gaëlle Marion**, Head of B2 Unit on 'Environmental Sustainability', DG AGRI, European Commission

Opening Remarks

MEP Franc Bogovič

> *"There are opportunities in crop rotation and other agroecology methods that go hand in hand with the goal of having less losses of nutrients in the soil and water, which is also the basic goal of the Farm to Fork Strategy."*

As an opening statement, **MEP Franc Bogovič** emphasised the importance of **nutrient losses** and their influence on the market. This topic, along with the impact of prices of nutrients and fertilisers on the market, has been talked about a lot in the European Parliament lately. The **Integrated Nutrient Management Action Plan** and the **Soil Health Law**, which will be delivered in the upcoming months, are important steps forward for EU law. Mr. Bogovič emphasised the importance of **tackling CO2 emissions** connected with the production of fertilisers. Feasible solutions to this problem are **crop rotations** and other **agroecology methods** that go hand in hand with the **Farm to Fork Strategy.** Other issues were underlined such as the livestock sector and its concentration throughout member states, and the lack of organic manure across countries. All in all, these topics should be acknowledged and solutions must be found in order to make agricultural systems more sustainable, ensure better food systems and healthier soils. Lastly, he mentioned that it is important to speak about **facts and solutions** and not just regulations.

Panel discussion

Speakers that took part in the panel discussion:

- **Célia Nyssens-James**, Senior Policy Officer for Agriculture and Food Systems, EEB

- **Jessica Fitch**, Manager, Secretariat of the European Consortium of the Organic-Based Fertilizers Industry (ECOFI)
- **Tiffanie Stephani**, Vice President for European Government Relations and External Communications, Yara
- **Anne-Catherine Dalcq**, Vice President, European Council of Young Farmers (CEJA)
- **Emma Hjelm**, Project Manager, Greppa Näringen

The panel discussion started with a question directed to all speakers on which nutrient practice is best for sustainable nutrient management. **Ms. Nyssens-James** stated that there is no single practice that can be the basis for sustainable soil management, since soil by nature are complex ecosystems, therefore **complex solutions** are needed. This means that a **holistic set of management solutions** are needed, like long and diverse crop rotation, and bringing diversity to the plants. These practices could be summed up into **agroecology**, which is necessary to reduce nutrient losses. **Ms. Fitch** underlined the importance of the use of **refined organic based fertilisers**, which use recycled nutrients that would otherwise be discarded. These nutrients are made into safe fertilisers which help grow plants and make soils healthier. **Ms. Stephani** emphasised **soil testing** and assessing the physical and biological properties of the soil. **Ms. Dalcq** supported this argument by stating that soil needs to be **measured** through indicators to catch the complexity of the soil itself. Measurement tools for farmers are therefore needed to do so. Lastly, **Ms. Hjelm** mentioned one practice that focuses on **nitrogen fertilisation**, which looks at assessing nitrogen in the soil throughout the season by using satellite systems and precision farming.

A second question was asked to **Ms. Nyssens-James** about the work of the EEB, and why making every nutrient count is important from a civil society perspective. She underlined that the EU uses nutrients three times above the safe operating space, causing pollution that damages the environment as well as human health, the cost of which is borne by taxpayers. Hence, it is important to **use less nutrients and use them more efficiently** to reduce emissions as well. As

soil degradation is threatening food production, there is a stringent need to shift the polluting and inefficient system into a **more resilient system**, starting from the agricultural sector and making the latter more circular and resilient to climate change. Ms. Roncucci then asked a question concerning the communication of EEB on organic and agroecological approaches, and whether there is a silver bullet for reducing nutrient losses. She answered by saying that **agroecology is not a silver bullet**, since it is a holistic approach both in terms of land management, and in terms of reconnecting diets, livestock rearing, and the land's carrying capacity. The EEB promotes agroecology as a **holistic method of sustainable farming**. She also stated that it is crucial to look at food production and livestock, since it is important to eat and produce what the land can handle and carry.

Ms. Fitch addressed a question about organic based fertilisers and nutrient recycling systems in the EU. The arguments were made that **organic based fertilisers are circular by nature** since they revalorise waste streams and recycle nutrients which would be discarded otherwise. However, the scalability of this industry is difficult due to a complex set of regulatory requirements and issues such as managing end of waste and use of animal by-products. Concerns have also risen about the public perception of waste valorisation. Nevertheless, she emphasised some opportunities to address these challenges. It is crucial to improve **harmonisation of regulatory requirements** for organic based fertilisers across member states and across value chains. There should be the opportunity to improve circularity and waste. Concerning the question about the efficiency of organic based and mineral fertilisers, Ms. Fitch replied by stating that both fertilisers are **complementary**, and more and more **cooperation** between both has been seen lately, as combining both fertilisers result in better yields and higher soil fertility. All in all, **organic mineral fertiliser** was highlighted as an efficient method that combines both mineral nutrients with organic coating.

In regards to a question on how technology can reduce nutrient loss, **Ms. Stephani** mentioned **precision farming** as a viable solution. The latter can help farmers be more sustainable in the way they manage nutrients. **Digital platforms** can also help compile an amount of data and assess the properties of the field. Overall, this technology could help reduce nutrient losses and improve efficiency by 10%. These digital platforms are free for farmers and it helps them monitor nutrient quantity and variations throughout the season. Precision and digital farming tools help make sustainable farming more efficient. Moreover, looking at a question on how mineral fertilisers contribute to nutrient losses and agricultural emissions, Ms. Stephani emphasised that too many **nutrients are being lost during agricultural practices**. Reasons for this are the type of soil, the weather and the requirements of each plant. However, precision farming could be seen as a solution to this problem, since it assesses what is best for the soil. The efficiency of each nutrient must be evaluated as well, such as nitrates and urea. All in all, it is important to highlight **measurements** and to assess how much nitrogen goes into the crops and how much leaves after the harvest, and see whether we are in a safe operating space.

Ms. Dalcq tackled the question on how young farmers address societal demands on agricultural practices. She made the argument that no farmer is willing to do bad for the environment, as young farmers are willing to face new challenges along their careers. Moreover, in regards to the question about the needs of farmers to optimise the use of soil, Ms. Dalcq underlined **research and alternative methods** as economically viable options. Options like **organic fertilisers** and **management systems** at territorial scale are important. In addition, more **research** is needed on the properties of the plants. Lastly, investments in **technologies** are crucial to make them available for all. Concerning whether to make approaches voluntary or mandatory for farmers, she focused on **voluntary approaches**, as the latter help find an equilibrium with the environment and with different soils.

In light of a question about the results and best practices in reducing nutrient loss in Sweden, **Ms. Hjelm** focused on **advisory programmes for farmers** used to discuss important issues on nutrient loss and sustainable agricultural practices. Even though nutrient loss is still a big part, there are numerous sustainability approaches in Sweden. One of them is **nutrient balance**, which enables farmers to look at the nutrient balance in their land. This method assesses whether there is an excess in nutrients, like nitrogen and potassium in the soil, and if changes occur. While looking at conventional farmers in Sweden, a number of excess nutrients has been found in the soil, especially in phosphorus. However, branches of production like milk production have lowered their excess in phosphorus. For beef and pig production the surplus is also balanced. Overall, nutrient balance is one way of looking at getting down the losses of nitrogen and phosphorus. Better results can also be achieved if farmers take into account the crop type and measure the crop effects during fertilisation. Furthermore, in regards to a question about how advisory services are perceived by farmers, Ms. Hjelm answered by stating that these advisory programmes are **independent, free of charge and not mandatory for farmers**.

A final question was asked to all panellists about their expectations for the Integrated **Nutrition Management Action Plan** and the **Soil Health Law**. **Ms. Nyssens-James** emphasised that the Commission should adopt a **holistic approach** to bring nutrient flows back to sustainable levels. She also addressed the need to include binding targets in the Soil Health Law and put the EU on the right track to **achieve healthy soils by 2050**. **Ms. Fitch** underlined the need to **empower and collaborate with farmers**, and adopt a **holistic and integrated approach** on sustainable initiatives. **Ms. Stephani** said that the Action Plan should be scaled up and refer to **specific regional needs**. **Innovation** and indicators are also key. **Ms. Dalcq** highlighted **soil testing** and specific indicators to measure soil, thus emphasising that a **one size fits all approach would be inefficient**. Lastly, **Ms. Hjelm** supported the **no one size fits all approach**, as needs are different from country to country.

Reactions by the Committee of the Regions

Kirstine Bille (DK, Greens), Coordinator for the NAT Commission, Committee of the Regions

> *"We hope that the current crisis will not be used to undermine the Farm to Fork Strategy targets"*

Ms. Bille underlined how discussions around best nutrient management practices for healthy soil have not reached a conclusion. From the point of view of the local and regional authorities, the use of fertilisers also has an **impact on socio-economic factors**. The global food crisis coming from Covid and the War has confirmed what the Committee of the Regions has pointed out in the **opinion on agroecology from 2020**. Indeed, many specialised farmers who invested in innovative resources are now more economically vulnerable due to higher production cost. European funds were hit by **soaring mineral fertilisers prices** on top of higher costs for energy. **Funding for farmers is of primary importance**. On the opinion made on the CAP reform, the proposal focused on the **impacts and resources indicators** to monitor the reduction in the use of mineral and synthetic fertilisers. However, these proposals **were not included** in the reform. Nevertheless, she reminded that local and regional authorities implement 70% of the climate mitigation measures, 90% of climate adaptation policies and 65% of the SDGs, representing at the same time ⅓ of public spending and ⅔ of public investment. Overall, the call is for the **GHG emission reduction target to be increased to at least 55% by 2030**, and in order to achieve this, **agro-ecological practices must be promoted**. Measures like crop diversification, crop rotation, cultivation of determinate plants are also key. The introduction of a circular economy system should focus on the **treatment of livestock waste**. The Commission communication for ensuring availability and affordability of fertilisers is a significant attempt but **more is needed to achieve farm resilience and achieve green deal objectives**: a new European regulation on agricultural

soil is needed, and the hope is for the Action Plan on Integrated Nutrient Management to be ambitious and for the current crisis not to be used to put in question the Farm to Fork Strategy targets. All in all, the Committee of the Regions asked for **more flexibility in the national implementation of actions** under the Action Plan and the new soil strategy considering the consistent differences between soil structures and use across countries.

Reactions by the European Commission

Gaëlle Marion, Head of B2 Unit on 'Environmental Sustainability', DG AGRI, European Commission

> *"Soil cover in sensitive periods is key to avoid more nutrient leakage"*

Ms. Marion underlined the role of nutrients in promoting sustainable and circular economy, but also for food security, and even for economic sustainability. She recalled that in the Farm to Fork Strategy this issue has already been recognised, by issuing the **target to reduce by 50% nutrient losses by 2030**. However, she underlined that the extent of the challenge in nutrient management is not equally spread across territories, as nutrient leakage depends on the type of soils and the land uses. The CAP was addressed, reminding how the new framework will set **new conditions that will apply to all farmers benefiting from the area-based support**, which represent nearly all CAP beneficiaries. More specifically, the **standards for good agricultural and environmental conditions of land** will have to be respected, especially to lower the risk of erosion (i.e.: soil covers) which contributed to nutrient loss, the maintenance of buffer strips along water courses, and most importantly the obligation to ensure soil cover during sensitive periods.

Ms. Marion also emphasised measures that go beyond these conditions, and address specifically the issue of better nutrient management. About 15% of the agricultural areas are expected to have dedicated practices. Frequently used practices within the CAP strategic plan are the use of **catch crops, rotation with leguminous crops, practices to increase the soil organic matter** and **the replacement of mineral and synthetic fertilisers by organic alternatives**. Investments for **precision farming** equipment will be needed as well. Under the CAP, there will also be **advisory services**, which farmers can access. These services should include, as from 2024 at the latest, a **Farm Sustainability Tool for Nutrients**, which will take the form of any digital application which will notably provide a balance of main nutrients at field scale. She concluded underlining how the CAP supports **innovation**.

In addition, the Commission is preparing a **Communication on Integrated Nutrient Management Action Plan**, which will set priorities and actions about optimising the use of nutrients at the source, the reuse and recycling of nutrients, the enhancement of cooperation to fully implement EU policies and legislation, and a reassessment of existing laws. A **Soil Health Law** is also in preparation, which aims to secure healthy conditions for all soil ecosystems by 2050, providing a flexible policy framework with some key definitions, as well as a common monitoring system and basic common obligations on sustainable management.

Q&A session

A question was asked by the Environmental Defense Fund on where resources and financing to farmers will come from, and how to get these tools in a more democratised way. Ms. Stephani addressed an online platform available for farmers to facilitate the access of crop rotation recommendations. In addition, there is an opportunity to look into investment support from the CAP for enabling more precision farming. There are also devices that help read crop needs in the leaves, which is an affordable tool where all the data gets collected. Overall, it is key to look at new business models and promoting tools that are driven by renewable energy with a low carbon

footprint. Ms. Hjlem added that Sweden is using satellite pictures to offer recommendations to farmers. Programmes are used as efficient tools to evaluate the fertility of the soil. A second question was asked about nutrient recycling and sludge. Ms. Stephani addressed it by stating that sludge is compatible with food safety, making sure the food chain is clean and safe. Concerns and barriers about sludge need to be overcome. Ms. Nyssens also added concerns around contamination with other chemicals. Improvements are needed in recycling systems to capture nutrients.

Concluding remarks

MEP Franc Bogovič made his closing remarks stating the following points. First, he highlighted the need to have a **holistic solution**, and agreed that **agroecology is key** in agricultural practices. Second, it is important to **connect production with food consumption**. Livestock quantity should be managed more, since some areas of the EU face more production, especially in the north west, while other countries are facing less production. The role of livestock is therefore very important. Third, **young farmers** were mentioned as valuable stakeholders. Voluntary systems, knowledge and awareness were emphasised. Sources for implementation like **precision farming** are crucial and need to be ensured for small farmers in order to change habits from farmers. Lastly, **land needs to be managed**. If the land becomes smaller, then the pressures will become bigger. It is therefore important that the upcoming regulations will make these voices heard.