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Work programme 2025 feedback opportunity - Cluster 6 - Food, Bioeconomy, Natural Resources, Agriculture and Environment - Destination 2

Fields marked with * are mandatory.

The work programme 2025 will implement the key strategic orientations set out in the **Horizon Europe strategic plan 2025-2027**. Respondents are invited to consult the relevant cluster annexes of the strategic plan before answering the questionnaire.

Introductory questions

The feedback opportunity for the Horizon Europe work programme 2025 is carried out at the level of the 'Destinations'.

This is the survey about the **Cluster 6 – Food, Bioeconomy, Natural Resources, Agriculture and Environment work programme part, Destination 2 'Fair, healthy and environment-friendly food systems from primary production to consumption'**.

* Have you already replied to one of the other surveys related to the Horizon Europe work programme 2025?
  - ○ Yes
  - ◉ No

* 1. I am giving contribution as
  - ○ Individual, providing feedback in my personal capacity
  - ○ Representative of an academic/research organisation
  - ○ Representative of a company/business organisation
  - ○ Representative of a consumer organisation
  - ○ Representative of an environmental organisation
  - ○ Representative of a public authority
  - ○ Representative of a non-governmental organisation (NGO)
  - ○ Social partner
  - ◉ Other

* 2. Your name

Veronica

* 3. Your surname

Santoro

* Your email

veronica.santoro@phosphorusplatform.eu

* 5. The focus of your work is

- ○ Global
- ◉ European
- ○ National
- ○ Regional and / or local

* 6. What country are you / your organisation based in?

Belgium

* 7. Name of the organisation

Please mention N/A if you reply as an individual

European Sustainable Phosphorus Platform

* 8. What is the size of your organisation?

Please select N/A if you reply as an individual

- ◉ Less than 10 employees
- ○ Between 11 and 50 employees
- ○ Between 51 and 250 employees
- ○ More than 250 employees
- ○ N/A

* 9. What is your transparency register number?

Please mention N/A if you don't have one

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Questions on the orientations for work programme 2025

Please find here the orientations for the Cluster 6 – Food, Bioeconomy, Natural Resources, Agriculture and Environment work programme part, Destination 2 'Fair, healthy and environment-friendly food systems from primary production to consumption'. The **orientations provide the impacts and outcomes** expected from the actions to be funded in 2025.

Please click the link to download the orientations

Cluster_6_Destination_2.pdf

The questions below relate to the expected impacts and outcomes as outlined in the orientations document.

1. How relevant are the expected outcomes for achieving the expected impacts described in the orientations? Please select the answer from the scale where ‘1’ means that the expected outcome is not relevant at all, and ‘10’ – that it is very relevant.

1/2

	1	2	3	4	5	6	7	8	9	10
The European Partnership on ‘Agroecology’ (‘Accelerating farming systems transition: agroecology living labs and research infrastructures’) fosters the potential of agroecology for environmentally friendly agri-food systems, which contribute to climate-neutrality, are nature-positive, inclusive, place-sensitive, profitable and resilient. It enables farmers and value chain actors to successfully apply agroecology principles thanks to: a stronger R&I ecosystem for agroecology, increased knowledge on the benefits, challenges and potential of agroecology for farming, food and society, improved sharing of and access to knowledge, place-based innovations and improved governance and policies.	○	○	○	○	○	○	○	○	○	○
The European Partnership on ‘Animal health and welfare’ equips farmers aquaculture producers and other actors to protect animals against infectious diseases and improve animal welfare, while reducing the need for antimicrobials and enhancing food safety, quality and public health with a One health approach.	○	○	○	○	○	○	○	○	○	○
Transition scenarios for sustainable livestock systems are improved, including through animal breeding and tools for greenhouse gas footprint assessment.	○	○	○	○	○	○	○	○	○	○

Farmers are enabled with tools, innovations and practices to sustainably manage natural resources (in soil, water, nutrients, biodiversity).	○	○	○	○	○	○	○	○	○	◉
Improved circularity at farm and landscape levels is developed in innovative, sustainable ways, including inter alia by boosting agroecology and organic farming.	○	○	○	○	○	○	○	◉	○	○
Sustainable, resilient, productive and healthy cropping systems are fostered tackling new and emerging threats to plant health. This will be done, through prevention, early detection and integrated management strategies including low-input practices and innovative technologies.	○	○	○	○	○	○	○	○	○	○
The production of protein crops for food and feed is diversified and enhanced, helping to decrease reliance on imported products and bolster the resilience of agricultural systems.	○	○	○	○	○	○	○	○	○	○
The socioeconomic resilience of agriculture is improved by co-creating with farmers and relevant actors in agricultural primary sector new farming methods, technologies and business models while supporting sustainable farming agricultural policies.	○	○	○	○	○	○	○	○	○	○
Farmers and relevant actors in agricultural primary sector have better access to digital tools and are interconnected through the use of advanced digital and data technologies that support sustainable farming approaches.	○	○	○	○	○	○	○	○	○	○
Quality from alternative water sources is tested in order to improve water quality for irrigation. Long-term effects on soil quality, crop productivity and quality and food safety and security are assessed.	○	○	○	○	○	○	○	○	○	○

Aquaculture production in fresh and sea water is diversified and sustainable growth is facilitated based on the uptake of existing and new knowledge on species biology, food webs and pathology as well as on new production methods and monitoring. Wild fish, nursery habitats, as well as the populations and genetic diversity underpinning aquaculture production are maintained within safe biological limits. At the same time, the integrity, health and functioning of aquatic ecosystems is safeguarded, while also relieving pressure on land resources.	○	○	○	○	○	○	○	○	○	○
Sustainable production and harvesting of low-trophic edible aquatic species within limits is promoted in a way that allows biodiversity conservation and restoration in aquatic ecosystems, while information to consumers on the nutritional, environmental and health benefits of such aquatic food is fostered.	○	○	○	○	○	○	○	○	○	○

2/2

	1	2	3	4	5	6	7	8	9	10
Innovative technologies for more precise and efficient systems for monitoring, control and surveillance of fish stocks and other utilised biological resources are developed, to ensure both the quality of seafood products and the good status of commercial populations, but also that the stocks' quantities are accurately estimated.	○	○	○	○	○	○	○	○	○	○

The partnership for ‘Sustainable food systems for people, planet and climate’ is expected to start its activities in the first semester of 2024, building on the Food 2030 R&I initiative. Via this EU-wide targeted R&I partnership the transition towards healthy and low greenhouse gas-emitting diets that are safe and sustainably produced in resilient EU and global food systems will be accelerated. The partnership will help close knowledge gaps, and identify and deliver innovative solutions, including social innovation, which provide co-benefits for nutrition, climate, nature protection and restoration, environment, circularity and communities. It will also leverage investments and align multiple actors towards common goals and targets, and also contribute to the further build-up of the European Research Area in support of sustainable food systems transformation at various scales.	○	○	○	○	○	○	○	○	○	○
Food businesses and industries, including processing, wholesale, retail and food services are provided with opportunities and incentives to stimulate sustainable practices and production that are low greenhouse gas-emitting and energy efficient.	○	○	○	○	○	○	○	○	○	○
Consumers/citizens and communities’ behaviour/needs are better understood and equipped with capacity and tools that empower them and facilitate the shift to healthy, sustainable diets, enhanced also by social innovation, technology, behavioural change and marketing standards.	○	○	○	○	○	○	○	○	○	○

Improved knowledge and innovative solutions are used to contribute to eradicating all forms of malnutrition for the prevention of non-communicable diseases, such as mental health disorders, by developing and making accessible new healthy and sustainable food products, healthy diets for all citizens in particular for the vulnerable ones.										
The shift to sustainable and healthy diets is accelerated by improved knowledge and innovative technological solutions, resulting in innovative foods, and the use of macro and micronutrients, including alternatives sources of proteins, are explored.										
Food waste, including from households, are prevented and reduced through the development of innovative, circular economy-driven alternative markets, through better collaboration between countries inside and outside Europe, and through improved resource efficiency along the food value chains, including by reducing un-used biomass streams.										
The potential of the microbiome is further unlocked and used via existing and new technologies, for example to prevent food waste, to receive health benefits, to reduce environmental pollution, and to develop alternative sources of proteins, through the use of biotechnologies and biomanufacturing.										
A science-based information programme, which will enable citizens to understand the dietary shift towards alternative protein including those produced from biotechnology processes for food production, is developed.										

Knowledge and technology innovations between food system actors on food safety and food fraud is better shared and exchanged.	○	○	○	○	○	○	○	○	○	○
The prediction, identification, assessment and management of existing and emerging food safety issues across food systems and their interconnectedness is enhanced.	○	○	○	○	○	○	○	○	○	○
Innovative tools and approaches to improve resilience and sustainability of agriculture and food systems in Africa are developed.	○	○	○	○	○	○	○	○	○	○

2. For the expected outcomes mentioned above, please explain why you find them relevant/not relevant.

1500 character(s) maximum

Empowering farmers with sustainable resource management practices and promoting circularity in agriculture represent indispensable steps towards a more resilient and regenerative food system. By investing in innovative approaches, agricultural sustainability can be enhanced and pressing environmental challenges can be addressed. Soil health is currently under threat from erosion, degradation, resulting in loss of fertility and release of nutrients (nitrogen and phosphorus) in water bodies, causing severe environmental damages. Equipping farmers with knowledge and technology for sustainable soil management can ensure the preservation of this resource, increasing soil health and contributing to carbon sequestration and climate change mitigation. An efficient water management strategy can as well help farmers optimising water use, minimising waste, and safeguarding freshwater ecosystems, in a context of frequent draughts or storm events. Finally, a balanced nutrient management is needed to reduce risks to environmental and human health. A better management of nutrients will also reduce farmers input costs and improve their net income. Therefore, empowering farmers with knowledge on sustainable utilization of (recycled) nutrients and promoting circular agriculture can minimise adverse environmental effects and fosters nutrient cycling.

3. For the orientations presented, what is missing, should be further expanded or reformulated? Please explain why?

3000 character(s) maximum

Agriculture plays a pivotal role in the EU economy and food security, but faces significant challenges. Climate change is likely to accentuate land nutrient (nitrogen and phosphorus) losses (especially through modified precipitation and increased storm runoff events, soil nutrient mineralisation) and to worsen eutrophication and harmful algal blooms, as well as deteriorating crop Nutrient Use Efficiency. Nutrient losses and eutrophication will also accentuate climate change emissions, in particular aquatic methane emissions and in some cases CO2 efflux from surface water. We think that further research is needed to support policy action addressing links between climate change and nutrient losses/eutrophication, and between nutrient management and climate emissions, including in different climatic regions of Europe. Moreover, phosphorus is a finite resource, and its excessive use and loss can exacerbate the challenge of exceeding planetary boundaries for phosphorus. This aspect should be considered, together with more research on improving plant phosphorus use efficiency. By enhancing the ability of plants to absorb and utilise phosphorus from soil or fertilisers, farmers can optimise nutrient use, reduce losses, and mitigate environmental impacts. Research and innovation in plant breeding, agronomic practices, and nutrient management technologies are key to achieving higher phosphorus use efficiency in agricultural systems. Finally, nutrient recycling is a key strategy for reducing reliance on synthetic fertilisers and minimising nutrient losses in agricultural systems. By recycling organic materials, such as crop residues, manure, and food waste, farmers can replenish soil fertility, improve soil health, and reduce environmental impacts. Encouraging the use of composting, biochar application, and other organic amendments can enhance nutrient recycling and promote circularity in agriculture. By enabling farmers with tools, innovations, and information for sustainable resource management, we can mitigate environmental impacts, improve resilience, and ensure the long-term viability of agricultural systems. Collaboration, research, and innovation are key to achieving these goals and building a more sustainable future for European agriculture.

Background Documents

Privacy_statement.pdf

Contact

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Contribution ID: da21b8c9-761f-4ecb-8b98-9b835d9c874b
Date: 06/05/2024 10:19:11

Work programme 2025 feedback opportunity - Cluster 6 - Food, Bioeconomy, Natural Resources, Agriculture and Environment - Destination 3

Fields marked with * are mandatory.

The work programme 2025 will implement the key strategic orientations set out in the **Horizon Europe strategic plan 2025-2027**. Respondents are invited to consult the relevant cluster annexes of the strategic plan before answering the questionnaire.

Introductory questions

The feedback opportunity for the Horizon Europe work programme 2025 is carried out at the level of the 'Destinations'.

This is the survey about the **Cluster 6 – Food, Bioeconomy, Natural Resources, Agriculture and Environment work programme part, Destination 3 'Circular economy and bioeconomy sectors'**.

* Have you already replied to one of the other surveys related to the Horizon Europe work programme 2025?
  - (●) Yes
  - ( ) No

* Your email

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Questions on the orientations for work programme 2025

Please find here the orientations for the Cluster 6 – Food, Bioeconomy, Natural Resources, Agriculture and Environment work programme part, Destination 3 'Circular economy and bioeconomy sectors'. The **orientations provide the impacts and outcomes** expected from the actions to be funded in 2025.

Please click the link to download the orientations

Cluster_6_Destination_3.pdf

The questions below relate to the expected impacts and outcomes as outlined in the orientations document.

1. How relevant are the expected outcomes for achieving the expected impacts described in the orientations? Please select the answer from the scale where '1' means that the expected outcome is not relevant at all, and '10' – that it is very relevant.
1/2

	1	2	3	4	5	6	7	8	9	10
New value chains using upcycled or recycled resources, with minimal loss of value and material quality while increasing the uptake of recycled material are established.	○	○	○	○	○	○	○	○	○	◉
The increase in resource efficiency along and across value chains through circular interventions and the related reduction in GHG emissions and other environmental pollution, are measured as well as the expected increase of carbon removals.	○	○	○	○	○	○	○	○	○	◉
New circular business practices, including the uptake of repair, reuse and remanufacturing but also practices that form part of the sharing economy, including fair pricing practices, are developed, established and spread. The impact of the transition to circular economy for society, also with reference to Product Environmental Footprint methods and civil society-oriented actions, is analysed.	○	○	○	○	○	○	○	○	○	○
Ecodesign elements and Extended Producer Responsibility schemes are developed and tested.	○	○	○	○	○	○	○	○	○	◉
Key circular economy stakeholders (citizens, businesses, investors and public institutions) are engaged in circular, climate-neutral and resilient practices and the transfer of circularity knowledge between cities, regions and their partners is facilitated. Improved knowledge and innovative solutions lead to long-	○	○	○	○	○	○	○	○	○	○

term viability, increased replicability and scalability of circular systemic solutions at territorial level.										
Public awareness about social engagement with and acceptance of circular and bio-based solutions is sought.	○	○	○	○	○	○	○	○	◉	○
Innovative circular governance and business practices are established to increase resource valorization, support resilience, create job opportunities, and develop macro-economic models focusing on circular economy's labor market, skills, and social impacts.	○	○	○	○	○	○	○	○	○	○
Supporting tools (including digital solutions) are developed to facilitate the adoption of circular business practices, especially for businesses like SMEs, while also demonstrating advanced digital solutions (e.g., through AI, robotics, IoT, and blockchain) for waste management and recycling.	○	○	○	○	○	○	○	○	◉	○
Income and business opportunities are diversified for stakeholders and actors (including primary producers) and new job opportunities are created in the bio-based sector, particularly in rural and coastal areas.	○	○	○	○	○	○	○	○	○	○

2/2

	1	2	3	4	5	6	7	8	9	10
Standards, criteria and sustainability assessment methods for bio-based value chains are developed, and the biomass provision for industrial bio-based value chains, is demonstrated, including from marginal lands.	○	○	○	○	○	○	○	○	○	○
High value compounds are obtained by bioprospecting terrestrial and marine ecosystems.	○	○	○	○	○	○	○	○	○	○
Full potential of bio-based solutions (non-harmful to biodiversity and able to support nature restoration), in	○	○	○	○	○	○	○	○	○	○

conflict areas is assessed and seized.										
Farmers leverage the sustainability opportunities offered by on-farm innovation including by fostering circular systems.	○	○	○	○	○	○	○	○	○	○
The sustainability of bio-based products is improved throughout the whole life cycle, including developing and demonstrating sustainable end-of-life solutions. Assessment methods of sustainability are advanced and demonstrated.	○	○	○	○	○	○	○	○	○	○
The sustainability, resilience and the strategic autonomy of the European bio-based industry is improved due to the unleashing the full potential of Artificial Intelligence, digitalisation and IT solutions, supporting the bio-based innovation.	○	○	○	○	○	○	○	○	○	○
The EU Biotechnology and Biomanufacturing Initiative is supported.	○	○	○	○	○	○	○	○	○	○
The discovery pipeline of marine natural products which find applications such as industrial products (biocatalysts) and public health (pharma, bioinspired materials) is broadened with optimised environmental footprint.	○	○	○	○	○	○	○	○	○	○
The partnership Forests and Forestry for a Sustainable Future equips forests managers and other key actors with the necessary knowledge and skills to choose the most appropriate management strategies for a successful green transition towards a sustainable and circular bioeconomy while contributing to biodiversity and climate goals.	○	○	○	○	○	○	○	○	○	○

2. For the expected outcomes mentioned above, please explain why you find them relevant/not relevant.

1500 character(s) maximum

Ensuring EU transition to a competitive, circular economy, and sustainable bioeconomy centres on several pivotal measures. We think that the ones we highlighted are relevant for the following reasons: fostering new value chains to increase the adoption of recycled materials is crucial to reduce wastes and to conserve

valuable resources. Enhancing resource efficiency within value chains through circular interventions, i.e., minimising waste and maximising reuse, can significantly reduce greenhouse gas emissions and environmental pollution. A better management of nutrients (using recycled biobased fertilisers) also reduces farmers input costs and improve their net income. Implementing extended producer responsibility schemes holds producers accountable for the entire lifecycle of their products, encouraging more sustainable production and consumption patterns. Finally, raising public awareness and fostering acceptance of circular and biobased
solutions can provide the necessary cultural shift to drive consumer demand for eco-friendly, recycled, biobased products, while advanced technologies such as AI, robotics, and IoT for waste management and recycling streamlines processes can make these processes more efficient and effective. Together, these measures can help reach the EU Green Deal objectives of lower resource consumption and less environmental impact.

3. For the orientations presented, what is missing, should be further expanded or reformulated? Please explain why?

3000 character(s) maximum

To achieve the expected impacts and outcomes of the orientation “Circular economy and bioeconomy”, we think that support test and demonstration actions for nutrient recycling, footprinting, and stewardship should be further addressed, complementing results from previous projects. In particular, more research is needed on nutrient flows and fertiliser LCAs. Regionalised data on nutrient flows is rarely available, whereas this is important for developing recycling and for optimising action on nutrient losses, because there are significant differences between regions and between Member States. Data on nutrient content and fate of many nutrient-containing wastes and by-products is largely inadequate to support development of recycling. Nutrient footprinting of food products and data on nutrient content of food waste are needed to support decision making. Further Life Cycle Analysis studies of different nutrient management routes and nutrient recycling technologies are needed, in order to assess long-term benefits including climate change impacts, contaminants, nutrient conservation, and to ensure sustainability of long-term investment decisions in manure, food waste and sewage biosolids management. These LCAs should integrate the climate impacts of composting, anaerobic digestion or pyrolysis.
Full scale demonstration projects of nutrient recycling, optimising fertiliser use and reducing field nutrient losses are needed, as well as long term field tests of bio-based fertilisers and economic and operational evaluation of already well established technologies. It is also important to update our knowledge on longterm effectiveness, cost and feasibility of nutrient-loss mitigation actions, in different farming systems, and updating of online fact sheets and other tools for communicating this information to farmers, agricultural outreach services and to water basin managers. Finally, more research should be devoted to innovating technologies for P and N recovery, and to study the health safety of animal by products for recycling to fertilisers and animal feed, to remove the regulatory obstacles to safe recycling of nutrients from these sources.
Nutrient recycling is often “not economic”: recovery of nutrients from waste streams can be more costly than primary fertilisers, because of small scale, contaminants and safety requirements, decentralised logistics. Environmental & social benefits, as primary resource savings, nutrient pollution abatement, soil preservation, local job creation, are not monetarised by the EU regulatory and fiscal framework. To address this, market and policy tools are needed to support nutrient recycling and internalising external costs, implemented across the EU to avoid market distortion, in cooperation with Member States. Financial balance mechanisms should ensure that, overall, farmers are not penalised.

Background Documents

Privacy_statement.pdf

Contact

Contact Form

Contribution ID: 773531ef-5289-4dcd-bd42-b3fd003eb5e9
Date: 06/05/2024 10:21:09

Work programme 2025 feedback opportunity - Cluster 6 - Food, Bioeconomy, Natural Resources, Agriculture and Environment - Destination 4

Fields marked with * are mandatory.

The work programme 2025 will implement the key strategic orientations set out in the **Horizon Europe strategic plan 2025-2027**. Respondents are invited to consult the relevant cluster annexes of the strategic plan before answering the questionnaire.

Introductory questions

The feedback opportunity for the Horizon Europe work programme 2025 is carried out at the level of the 'Destinations'.

This is the survey about the **Cluster 6 – Food, Bioeconomy, Natural Resources, Agriculture and Environment work programme part, Destination 4 'Clean environment and zero pollution'**.

* Have you already replied to one of the other surveys related to the Horizon Europe work programme 2025?
  - (●) Yes
  - ( ) No

* Your email

veronica.santoro@phosphorusplatform.eu

Questions on the orientations for work programme 2025

Please find here the orientations for the Cluster 6 – Food, Bioeconomy, Natural Resources, Agriculture and Environment work programme part, Destination 4 'Clean environment and zero pollution'. The **orientations provide the impacts and outcomes** expected from the actions to be funded in 2025.

Please click the link to download the orientations

Cluster_6_Destination_4.pdf

The questions below relate to the expected impacts and outcomes as outlined in the orientations document.

1. How relevant are the expected outcomes for achieving the expected impacts described in the orientations? Please select the answer from the scale where '1' means that the expected outcome is not relevant at all, and '10' – that it is very relevant.

	1	2	3	4	5	6	7	8	9	10
The efficiency of science-based air quality measures and planning processes is increased through new and improved cost-effective monitoring and modelling tools, techniques and approaches for characterization and source apportionment of air pollution, including pollutants of great and emerging concern, directly supporting the revised EU air quality legislation.	○	○	○	○	○	○	○	○	○	○
The understanding of the cumulative effects and risks of marine pollution on marine organisms and ecosystems, through new analytical tools, methods and sensors is improved as well as the assessment of ecotoxicological effects, environmental fate and risks including through bioaccumulation processes.	○	○	○	○	○	○	○	○	○	○
A pan-European strategy for monitoring litter including plastic and microplastics in freshwater, coastal and marine waters is developed.	○	○	○	○	○	○	○	○	○	○
Standards, criteria and evaluation methods of the environmental sustainability of biomass supply to bio-based industries as well as of bio-based systems – from the supply chain and along the value chain – are developed and assessed, to prevent the release of pollutants to air, water and soil.	○	○	○	○	○	○	○	○	○	○
The remediation and restoration of polluted environments, through bio-based and nature-based solutions, including in the international context and towards disaster relief, also	○	○	○	○	○	○	○	○	○	○

enabled by biotechnological solutions, are supported.										
Hazardous substances of concern and of new concern (e.g., Per- and Polyfluorinated Substances (PFAS) and Endocrine-Disrupting Chemicals (EDCs)) are mapped and assessed in industrial releases (sources, quantify the releases and assess risks for environment) from bio-based systems and from bio-based products.	○	○	○	○	○	○	◉	○	○	○
Innovative methods are analysed, developed and deployed to effectively track, prevent, and reduce pollution from the food and drink industries.	○	○	○	○	○	○	○	○	○	○
The environmental footprint and pollution from the food value chains are significantly reduced.	○	○	○	○	○	○	○	○	○	○
Advanced water-nutrient-soil management tools that integrate multidimensional data from sampling, remote sensing and other data sources to enable context-specific decision making at farm level, thus enhancing the monitoring of water, nutrients and greenhouse gas balances to reduce pollution are developed.	○	○	○	○	○	○	○	○	○	◉

2. For the expected outcomes mentioned above, please explain why you find them relevant/not relevant.

1500 character(s) maximum

Advanced water-nutrient-soil management tools that merge multidimensional data from sampling, remote sensing, and diverse sources are needed to tackle the “clean environment and zero pollution” objectives. By integrating these data streams, farmers gain a comprehensive understanding of their specific context, enabling precise decision-making at the farm level. Tools provided by precision agriculture (variable rate tecniques, GPS guiding, ...) may help farmers to tailor their management (especially of nutrients) strategies according to specific farms characteristics (soil type, topography, climate, cropping practices), optimising resource use and minimising waste. With accurate data on water availability, soil nutrient levels, and crop health, farmers can allocate resources more efficiently. This means applying water and nutrients precisely where and when they are needed, reducing overuse and preventing pollution from runoff. These tools also enable farmers to track their resource inputs and outputs, identifying areas of improvement. In addition, increasingly stringent regulations on water and nutrient management require farmers to monitor and report their practices accurately. These tools facilitate compliance by providing transparent data on resource usage and environmental impact, fostering accountability and trust within the agricultural sector. In addition, mapping hazardous substances as PFAS is needed to achieve clean environment and zero pollution targets.

3. For the orientations presented, what is missing, should be further expanded or reformulated? Please explain why?

3000 character(s) maximum

Transitioning the EU towards a competitive, circular economy, and sustainable bioeconomy requires concerted efforts to overcome various obstacles hindering the efficient recycling of resources. One significant challenge is the contamination of secondary resources, such as nutrients and organic carbon flows. The presence of contaminants not only increases the costs associated with depollution but also leads to consumer rejection, posing substantial barriers to recycling initiatives. Investing in research, innovation, and policy interventions aimed at enhancing the quality and safety of recycled materials is therefore important to achieve EU sustainability objectives. Reduction of contaminants at the source should be addressed. By actively engaging in strategies to minimise the introduction of pollutants into the environment, it is possible to mitigate their adverse effects on recycling processes. This approach is particularly crucial in tackling contaminants present in municipal wastewater, which can impede the agricultural valorisation of composted or digestated sewage biosolids. Efforts should focus on comprehensive research aimed at developing effective methods for the removal of contaminants, including per- and polyfluoroalkyl substances (PFAS), pharmaceuticals, and microplastics, from sewage sludge streams. Various techniques, such as pyrolysis and anaerobic digestion, should be explored to detoxify nutrient cycles and improve the quality of sewage biosolids, manure, and other secondary nutrient streams. Moreover, addressing contaminants at their source is paramount to prevent their accumulation and proliferation in the environment. This entails implementing measures to mitigate the discharge of pharmaceuticals, veterinary medicines, microplastics, and industrial or consumer chemicals into wastewater systems. These initiatives align with the objectives of the Urban Wastewater Treatment Directive, particularly its provisions regarding phosphorus reuse and recycling targets. By effectively managing and treating wastewater streams, we can enhance the sustainability and resilience of agricultural systems while simultaneously promoting circularity in resource utilization. Furthermore, attention must be paid to the levels of veterinary pharmaceuticals, copper, and zinc present in manures, as these substances can pose significant environmental and health risks. Implementing measures to monitor and regulate the use of veterinary medicines and antimicrobials in animal husbandry is essential to minimise their impact on soil and water quality.

Background Documents

Privacy_statement.pdf

Contact

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