Brussels
Polish Science Contact Agency
Polish Academy of Sciences

Green Horizons Matchmaking: Building Partnerships for Sustainable Food Systems

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Brussels

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Spis treści

HORIZON-CL6-2025-01-BIODIV-11: Supporting the implementation of nature restoration measures for sustainable farming systems

Call: Cluster 6 Call 01	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 5.00 and 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 11.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [1].

Expected Outcome: In line with the targets of the European Green Deal, the common agricultural policy, and the EU biodiversity strategy for 2030, a successful proposal will contribute to the expected impact of this Destination by testing and implementing biodiversity-

[1] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

friendly practices while supporting long-term sustainability of farming and safeguarding food security. A successful proposal will contribute to facilitating the implementation of the EU Nature Restoration Law, aligning with the Union's overarching objectives of climate change mitigation and adaptation, for national authorities, by assessing and promoting the most suitable agricultural practices that support agrobiodiversity and a wide range of ecosystem services.

Projects are expected to contribute to all of the following expected outcomes:

- synergies between nature restoration/conservation and food production/availability are scientifically demonstrated to farmers, land managers, advisors and policymakers;
- suitable measures and strategies, along with evidence-based recommendations, are identified and developed to assist farmers in the implementation phase, while supporting Member States competent authorities in addressing specific targets of the EU Nature Restoration Law in agricultural landscapes;
- collaborations and exchanges between farmers, researchers, and policymakers from competent authorities are strengthened to enable the development of integrated and effective policies that restore natural capital, generate sustainable income for farmers, while also ensuring food availability and quality.

Scope: Farmers play a pivotal role in addressing biodiversity loss while ensuring food production and quality, thereby contributing to overall food security. To support biodiversity-friendly agriculture, it is essential to first list demonstrated farming practices that benefit biodiversity. Next, there is a need to assess the socio-economic impact of nature restoration measures on the agricultural sector and develop and improve existing incentives and their interplay. A key element for a wide adoption of such practices by farmers is demonstrating production benefits, or at least maintaining economic viability in the implementation of nature restoration measures. Moreover, specific targets for agricultural ecosystems outlined in the EU Nature Restoration Law necessitate that applied research lays the foundation for Member States to effectively comply and design appropriate strategies. Therefore, environmental and economic benefits, as well as potential trade-offs between nature restoration measures and the resilience and quality of food production/availability, should be demonstrated over different time frames. These should be developed with farmers in mind: short-term and immediate impact on production and nature, medium-, and long-term.

Proposals should:

- quantify the costs and benefits of restoration measures on farm productivity (referring to the ratio input/output) over short, medium, and long-term. Additionally, evaluate the impact of taking action versus non-action on the provision of ecosystem services, such as climate, water, pollination, nutrients, natural pest control, erosion prevention, etc., along with their associated economic impact;

- determine science-based targets for satisfactory levels of restoration for biodiversity in agricultural ecosystems considering Art. 11 of the EU Nature Restoration Law, a path for implementation by farmers, land managers and policymakers, and further develop and solidify existing indicators of biodiversity in agricultural landscapes;

- generate evidence to support and improve incentive schemes, including rewarding mechanisms for actions taken and results achieved in nature restoration/conservation on farmland, while considering synergies and trade-offs;

- assess and compare the potential of various farming approaches to contribute to ecosystem restoration. While considering all types of farming systems (conventional, organic, agroecological, etc.), prioritise those that are clearly defined to ensure compliance with legislation.

Proposals should adopt a transdisciplinary approach, engaging with relevant experts and stakeholders from farming, biodiversity and ecosystems, as well as from social sciences and humanities (SSH). Proposals must apply the multi-actor approach to ensure adequate involvement of researchers, policymakers, farmers, land managers and agricultural advisors among other relevant stakeholders. Proposals should aim to increase practical, ready to use knowledge and tools, and promote freely accessible dissemination and open capacity building channels.

Proposals should allocate appropriate resources to collaborate with topic projects funded under other topics in this work programme, in particular HORIZON-CL6-2025-01-BIODIV-06: Socio-economic impacts of nature restoration. Moreover, proposals should build on the results of other relevant projects and ensure cooperation with relevant Horizon Europe Partnerships, in particular ‘Biodiversa+’ and ‘Agroecology’.

The proposals should foresee cooperation with and input to potential requests by the EC Knowledge Centre for Biodiversity via its Science Service of the Joint research Centre, currently being set up by the Horizon Europe project BioAgora.

HORIZON-CL6-2025-01-BIODIV-12: Breeding for resilience: enhancing multi-stress tolerance in crops

Call: Cluster 6 Call 01	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 7.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 14.00 million.
Type of Action	Research and Innovation Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000. A maximum of 20% of the EU funding can be allocated to this purpose.

Expected Outcome: In line with the objectives of the European Green Deal, the common agricultural policy, the EU climate policy and the EU biodiversity strategy for 2030, a successful proposal will contribute to the expected impact of this destination by testing and implementing biodiversity-friendly practices while supporting long-term sustainability of farming and safeguarding food security. It will support the adaptation of agricultural production to the effects of climate change, increase biodiversity in agroecosystems, and promote low-input practices, thereby enhancing the resilience and adaptability of agricultural systems.

Projects are expected to contribute to all of the following expected outcomes:

- deeper knowledge and characterisation of relevant traits for tolerance and resistance to multiple stresses are more readily available to researchers and breeders;
- the identification of local varieties with high plasticity to cope with multi-stress conditions is enhanced, alongside the development of agro-ecological practices to improve stress tolerance while supporting biodiversity-friendly cropping systems;
- the capacities to evaluate the effects of multiple stresses in crops by researchers and breeders are enhanced;

- the knowledge to develop varieties versatile enough to withstand multiple stress factors, whether occurring simultaneously or sequentially, adapted to the local conditions, is accelerated;

- information and recommendations on variety performance and practices to cope with multi-stress are available to advisors and farmers.

Scope: Crop production faces significant challenges due to climate change and the need to adopt low-input practices, including efficient water use, to reduce the environmental impact while ensuring food security. Issues such as salinity, extreme weather conditions like droughts, waterlogging, high temperatures, and emerging patterns of pests and diseases severely impact crops, resulting in reduced productivity and yield losses. Crop responses to multiple stresses differ from their responses to single stresses. Therefore, attention should be given to enhancing crop tolerance to combinations of multiple abiotic and biotic stresses, thus better reflecting real-life agricultural conditions.

To address these challenges, it is crucial to evaluate local crop varieties, which are often better adapted to specific environmental conditions and stresses. Identifying local varieties with high plasticity enhances crop resilience and agro-biodiversity. Developing agro-ecological practices to improve stress tolerance will further support these efforts, promoting low-input practices and enhancing the overall adaptability of agricultural systems. Additionally, broad-spectrum strategies for improving stress tolerance in crops should be developed. Smart and future-proof breeding programmes need to systematically consider characteristics that enhance crop resilience and adaptation to these demands.

Proposals should:

- provide insight into the range of mechanisms and traits that underpin crop responses to multiple stresses, whether occurring simultaneously or sequentially, guiding the development of varieties and a crop system better equipped to withstand abiotic and biotic stresses, including reduced agricultural inputs;

- increase understanding of the causality between abiotic and biotic stress factors and propose strategies to improve multi-stress tolerance;

- integrate advanced technologies to assist in evaluating G x E x M (Genotype x Environment x Management) interactions in the context of multi-stress, combining multiple "omics" data sources, high-throughput phenotyping, computational modelling and artificial intelligence, to evaluate at different levels (e.g. greenhouses, experimental fields, production fields). This integration should assist breeders in developing local varieties optimised for resilience, sustainability, and climate change adaptation;

- develop location-specific breeding strategies and agroecological practices, incorporating models and artificial intelligence approaches for prediction of cropping systems output, under multiple stress conditions considering climate change scenarios and climate analogues. These strategies should promote agrobiodiversity, soil health, and ecosystem services;

- deliver robust methodologies for benchmarking and communicating the performance of crop varieties when they are challenged by multiple stresses.

Proposals should provide a clear explanation and justification for the selected crop(s) in alignment with the proposal's objectives and the topic's expected outcomes, considering as well that activities should be carried out in a range of agronomically relevant pedo-climatic conditions. All farming systems and approaches are in scope.

Proposals may provide financial support to third parties (FSTP) to, for instance, develop, test and demonstrate tools to evaluate G x E x M interactions in the context of multi-stress. Consortia need to define the selection process of organisations, for which financial support may be granted.

Proposals should ensure coherence and complementarities with ongoing relevant Horizon Europe projects, including the agroecology partnership, and capitalise on existing relevant research findings and tools, included those developed under previous research projects. The proposals should include a dedicated task in the workplan and appropriate resources to collaborate with the projects funded under this topic. Collaboration with European research infrastructures such as AnaEE-ERIC, EMPHASIS or other relevant research infrastructures[2] and with accredited laboratories is encouraged.

[2] The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/.

HORIZON-CL6-2025-02-FARM2FORK-04: Enhancing plant protein production to bolster the resilience of agricultural systems and EU self-sufficiency in plant protein feed

Call: Cluster 6 Call 02	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 11.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [3].

Expected Outcome: In line with the European Commission's food security communication[4], the successful proposals will support the reduction of the EU's import dependency on key

[3] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

[4] COM(2022) 133 final (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52022DC0133)

agricultural products and inputs by boosting EU plant proteins production and use for feed while increasing the sustainability and resilience of Europe's agricultural systems.

Successful proposals should support the objectives of the common agricultural policy (CAP), as well as the EU Green Deal strategies, the EU climate action, and the communication on boosting biotechnology and biomanufacturing in the EU.

Successful proposals will deliver on the expected impacts of the destination by enabling agri-food systems to contribute to EU strategic autonomy by fostering food and nutrition security and safeguarding long-term sustainability of EU farming systems'.

Projects results are expected to contribute to all of the following expected outcomes:

- farmers capacity to sustainably produce and use of protein crops for feed in the EU is fostered;
- farmers and advisors understanding about protein crops cultivation and share in animals' diets is improved;
- knowledge and innovation of the diverse actors across the protein crops value chain on preservation and transformation processes of protein crops for feed is increased;
- contributions to move towards a more competitive EU plant protein sector are provided, rendering agricultural systems more resilient to climate change, external shocks and supply chain disruptions, while more committed to biodiversity preservation and conservation.

Scope: Currently, protein crops[5] cultivation, such as grain legumes and fodder legumes, only accounts for a small proportion (around 3%) of the EU agricultural area. While there is little shortage in the protein supply for food purposes in the EU, there is a more important shortage in the feed sector[6], resulting in high levels of imports (especially of soya) originating from countries often with different environmental and social standards. It is, therefore, strategical for the EU to expand the domestic production of protein crops, including in mixed crops[7] as a feed source.

Increasing the EU' plant protein autonomy would allow for reducing imports of protein feed (chiefly soybeans) from third countries, and thereby, would contribute to the decrease of environmental and climate footprints. Additionally, promoting locally produced protein crops would contribute to the sustainable development of EU rural areas, in line with the EU long-

5 In this topic, protein crops refer to crops with a high content of proteins which can be used for animal feed.

6 EC (2023), EU agricultural outlook for markets, 2023-2035

7 Cereals and grain legumes or grass and fodder legumes are examples of mixed crops used for feed (maize and beans, clover and ryegrass, barley and peas, etc).

term vision on rural areas, for example through the development of new regional value chains that are self-sustaining. Developments in this area should at the same time be coherent with the new Regulation on deforestation-free products[8] by reducing the impact of plant protein feed needs on deforestation and forest degradation globally.

The benefits of increasing the share of protein crops, in particular nitrogen-fixing leguminous crops, in EU farming systems, are also reflected in the climate and the environment, through the improvement of soil quality (restoring and enhancing biodiversity, increasing soil fertility, cycling nutrients, improving soil structure, increasing water retention capacity, etc.) which in turn improve the sustainability and resilience of farms.

Proposals should:

- improve the knowledge about local production and utilization of various available protein crops used for animal feed across different regions;
- identify gaps, needs, barriers and enablers for uptaking and upscaling sustainable protein crops intended for feed use in the EU, from production to processing and trade levels. draw up a strategic roadmap with research and innovation priorities based on the identified challenges, including for the optimization of manufacturing processes of locally produced plant protein into feed;
- identify, test and showcase biodiversity-friendly management practices in farming systems (crop production and livestock raising) containing protein crops intended for feed use. Prioritise the use of climate and pest resilient protein crops adapted to different EU pedoclimatic conditions;
- assess the social, economic and environmental impacts and trade-offs for up- and downstream actors of the feed value chain, of the increased share of different protein crops in different farming systems;
- generate comprehensive capacity building material, trainings and information tools for farmers, advisors and extension services, including a visualization tailored to different geographical regions and pedoclimatic zones in the EU. Address the most cost-effective production systems with protein crops and combinations of crops, based on local agronomic features as well as on local market data such as demand for feed.

All farming approaches, including organic farming, are in the scope of this topic.

Proposals must implement the 'multi-actor approach' and ensure adequate involvement of the main actors relevant for domestic plant protein feed value chain, such as farmers, other land managers, advisors, feed manufacturers, industry (including small and medium enterprises),

[8] Regulation - 2023/1115 - http://data.europa.eu/eli/reg/2023/1115/oj

policy-makers, etc. Proposals should ensure an effective knowledge, co-creation and exchange between researchers and field actors as well as with the whole feed value chain actors concerning the benefits, challenges and opportunities of producing and integrating local protein crops for feed in the EU. To this end, proposals should develop diverse practice-oriented dissemination materials presenting R&I solutions (e.g. audiovisuals, brochures, fact sheets, etc) and should share all generated data and knowledge through existing digital tools or platforms.

Proposals should include a dedicated task, appropriate resources, and a plan on how they will collaborate with the other project funded under this topic and with relevant activities to be carried out under topic HORIZON-CL6-2024-FARM2FORK-02-5-two-stage[9] and HORIZON-CL6-2025-02-FARM2FORK-07[10]. Proposals should ensure coherence and complementarity with ongoing relevant Horizon Europe projects and with relevant activities of the Horizon Europe Partnership 'Agroecology'. Likewise, proposals should capitalise on existing relevant research findings and tools, such as those resulting from Horizon 2020 projects.

The possible participation of the JRC in the project could consist of support analysis, applying its tools such as the integrated agro-economic modelling platform (iMAP), for scenario assessment.

9 HORIZON-CL6-2024-FARM2FORK-02-5-two-stage: 'Animal nutritional requirements and nutritional value of feed under different production management conditions', under wp-9-food-bioeconomy-natural-resources-agriculture-and-environment_horizon-2023-2024_en.pdf (europa.eu).

10 HORIZON-CL6-2025-02-FARM2FORK-07: 'Improving grassland management in European livestock farming systems', under this work programme.

HORIZON-CL6-2025-02-FARM2FORK-05: Emerging and future risks to plant health

Call: Cluster 6 Call 02	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [11]. Beneficiaries may provide financial support to third parties (FSTP). In this case, the proposals must define the process of selecting entities for which financial support will be granted, within open calls for tenders to be evaluated in a fair and transparent process. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60000. A maximum of 10% of the EU funding can be allocated to this purpose.

[11] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

Expected Outcome: Successful proposals should contribute to the objectives of the common agricultural policy, as well as to the European Green Deal's goals for resilient and sustainable agri-food systems, the EU biodiversity strategy for 2030, and support Regulation 2016/2031[12] on protective measures against pests of plants.

Successful proposals will deliver on the expected impacts of the destination by enabling agri-food systems to enhance the EU's strategic autonomy through promoting food security and long-term sustainability with multidisciplinary approaches, including One Health. They will also empower farmers and key actors in the agricultural sector to manage sustainable, efficient, profitable, and circular farming systems with low greenhouse gas emissions, contributing to climate-neutrality and resilience.

Project results are expected to contribute to all of the following expected outcomes:

- the understanding of drivers of plant pest emergence, including the influence of climate change, ecosystem degradation and globalisation, is increased;
- cost-effective preventive and/or curative measures to new and/or emerging plant pests are developed;
- economic, social, and environmentally sound solutions for effective pest management in farming and/or forestry in line with the principles of integrated pest management are developed;
- scientific support, recommendations, and policy advice are provided to strengthen plant health policies in the EU and Associated Countries.

Scope: Plant health is crucial for agriculture, forestry, ecosystems, ecosystem services and biodiversity on a global scale. The current EU plant health legislative framework plays a vital role in protecting the EU from the introduction of new plant pests and as well as tackling existing plant pests more effectively. Maintaining healthy crops is increasingly challenging due to factors like globalisation, international trade, and climate change, which accelerate the spread of pests and diseases. These threats can severely damage crops, native plants, and the environment, jeopardising agricultural sustainability, biodiversity, and food security.

To address these issues, proposals should target one or more new or emerging[13] plant pests[14] (regulated, non-regulated, introduced or native) that are causing or likely to cause, significant socio-economic and/or environmental impact to agriculture and/or forestry in the EU and/or Associated Countries, well as the impact on trade and the wider environment, including soil

12 https://eur-lex.europa.eu/eli/reg/2016/2031/oj
13 EFSA Scientific Colloquium XVI
14 A pest is defined here as any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products (EU legislation, Regulation 2016/2031)

and water, considering potential exacerbation under climate change[15]. Within the scope of this topic are pests exhibiting an altered and higher probability of entry, establishment and spread in a new area that might be the result of changes in their biology or changes in agriculture or forestry pest management practice or rapid spread in new areas.

Proposals should:

- enhance understanding of pest(s) biology, introduction pathways, interaction with crop-soil ecosystems (if relevant), and mechanisms of spread, especially considering the challenges posed by climate change, biodiversity crisis, land use, and globalisation, thereby reducing uncertainties and lack of data in pest risk assessments;
- develop rapid and cost-effective tools and methods for preventing pest(s) entry, spread, and establishment; this includes early detection, surveillance, treatment[16], and (bio)control measures (including innovative agro-ecological practices), in line with sustainable and integrated pest management;
- assess the social, economic, and environmental impacts of plant pest(s) establishment and spread on farmers and/or forest owners and develop strategies to mitigate these impacts effectively;
- contribute to the identification and development of resistant and/or tolerant varieties and the development of crop diversity and agro-ecological process as a lever for pests regulation to enhance the resilience and long-term sustainability of the sector;
- foster a holistic understanding and management of plant pests following a One Health approach, recognising the interconnection between people, animals, plants and their shared environment.

International cooperation with countries affected or threatened by the same pest(s) is strongly encouraged.

Proposals must implement the ‘multi-actor approach’ including a range of actors to ensure that knowledge and needs from various sectors such as research, plant health services, farming/forestry sectors, advisory services, and industry are brought together.

Results should benefit diverse farming systems/approaches, including conventional and organic farming.

15 Applicants are expected to explain and justify the choice of pest(s) in alignment with the proposal’s objectives and the topic’s expected outcomes.

16 See IPPC Secretariat. 2024. Glossary of phytosanitary terms. International Standard for Phytosanitary Measures No. 5. Rome. FAO on behalf of the Secretariat of the International Plant Protection Convention.

Proposals may provide financial support to third parties (FSTP) to, for instance, develop, test and demonstrate tools and methods for early detection, surveillance, treatment, and (bio)control measures. Consortia need to define the selection process of organisations, for which financial support may be granted.

Proposals are encouraged to consider, where relevant, the services offered by European research infrastructures[17].

Proposals should ensure coherence and complementarities with ongoing relevant Horizon Europe projects and capitalise on existing relevant research findings and tools, included those developed under previous research projects.

The proposals should include a dedicated task in the workplan and appropriate resources to collaborate with the projects funded under this topic.

[17] The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/

HORIZON-CL6-2025-02-FARM2FORK-05: Emerging and future risks to plant health

Call: Cluster 6 Call 02	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [18]. Beneficiaries may provide financial support to third parties (FSTP). In this case, the proposals must define the process of selecting entities for which financial support will be granted, within open calls for tenders to be evaluated in a fair and transparent process. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60000. A maximum of 10% of the EU funding can be allocated to this purpose.

[18] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

Expected Outcome: Successful proposals should contribute to the objectives of the common agricultural policy, as well as to the European Green Deal's goals for resilient and sustainable agri-food systems, the EU biodiversity strategy for 2030, and support Regulation 2016/2031[19] on protective measures against pests of plants.

Successful proposals will deliver on the expected impacts of the destination by enabling agri-food systems to enhance the EU's strategic autonomy through promoting food security and long-term sustainability with multidisciplinary approaches, including One Health. They will also empower farmers and key actors in the agricultural sector to manage sustainable, efficient, profitable, and circular farming systems with low greenhouse gas emissions, contributing to climate-neutrality and resilience.

Project results are expected to contribute to all of the following expected outcomes:

- the understanding of drivers of plant pest emergence, including the influence of climate change, ecosystem degradation and globalisation, is increased;
- cost-effective preventive and/or curative measures to new and/or emerging plant pests are developed;
- economic, social, and environmentally sound solutions for effective pest management in farming and/or forestry in line with the principles of integrated pest management are developed;
- scientific support, recommendations, and policy advice are provided to strengthen plant health policies in the EU and Associated Countries.

Scope: Plant health is crucial for agriculture, forestry, ecosystems, ecosystem services and biodiversity on a global scale. The current EU plant health legislative framework plays a vital role in protecting the EU from the introduction of new plant pests and as well as tackling existing plant pests more effectively. Maintaining healthy crops is increasingly challenging due to factors like globalisation, international trade, and climate change, which accelerate the spread of pests and diseases. These threats can severely damage crops, native plants, and the environment, jeopardising agricultural sustainability, biodiversity, and food security.

To address these issues, proposals should target one or more new or emerging[20] plant pests[21] (regulated, non-regulated, introduced or native) that are causing or likely to cause, significant socio-economic and/or environmental impact to agriculture and/or forestry in the EU and/or Associated Countries, well as the impact on trade and the wider environment, including soil

19 https://eur-lex.europa.eu/eli/reg/2016/2031/oj
20 EFSA Scientific Colloquium XVI
21 A pest is defined here as any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products (EU legislation, Regulation 2016/2031)

and water, considering potential exacerbation under climate change[22]. Within the scope of this topic are pests exhibiting an altered and higher probability of entry, establishment and spread in a new area that might be the result of changes in their biology or changes in agriculture or forestry pest management practice or rapid spread in new areas.

Proposals should:

- enhance understanding of pest(s) biology, introduction pathways, interaction with crop-soil ecosystems (if relevant), and mechanisms of spread, especially considering the challenges posed by climate change, biodiversity crisis, land use, and globalisation, thereby reducing uncertainties and lack of data in pest risk assessments;

- develop rapid and cost-effective tools and methods for preventing pest(s) entry, spread, and establishment; this includes early detection, surveillance, treatment[23], and (bio)control measures (including innovative agro-ecological practices), in line with sustainable and integrated pest management;

- assess the social, economic, and environmental impacts of plant pest(s) establishment and spread on farmers and/or forest owners and develop strategies to mitigate these impacts effectively;

- contribute to the identification and development of resistant and/or tolerant varieties and the development of crop diversity and agro-ecological process as a lever for pests regulation to enhance the resilience and long-term sustainability of the sector;

- foster a holistic understanding and management of plant pests following a One Health approach, recognising the interconnection between people, animals, plants and their shared environment.

International cooperation with countries affected or threatened by the same pest(s) is strongly encouraged.

Proposals must implement the 'multi-actor approach' including a range of actors to ensure that knowledge and needs from various sectors such as research, plant health services, farming/forestry sectors, advisory services, and industry are brought together.

Results should benefit diverse farming systems/approaches, including conventional and organic farming.

[22] Applicants are expected to explain and justify the choice of pest(s) in alignment with the proposal's objectives and the topic's expected outcomes.

[23] See IPPC Secretariat. 2024. Glossary of phytosanitary terms. International Standard for Phytosanitary Measures No. 5. Rome. FAO on behalf of the Secretariat of the International Plant Protection Convention.

Proposals may provide financial support to third parties (FSTP) to, for instance, develop, test and demonstrate tools and methods for early detection, surveillance, treatment, and (bio)control measures. Consortia need to define the selection process of organisations, for which financial support may be granted.

Proposals are encouraged to consider, where relevant, the services offered by European research infrastructures[24].

Proposals should ensure coherence and complementarities with ongoing relevant Horizon Europe projects and capitalise on existing relevant research findings and tools, included those developed under previous research projects.

The proposals should include a dedicated task in the workplan and appropriate resources to collaborate with the projects funded under this topic.

[24] The catalogue of European Strategy Forum on Research Infrastructures (ESFRI) research infrastructures portfolio can be browsed from ESFRI website https://ri-portfolio.esfri.eu/

HORIZON-CL6-2025-02-FARM2FORK-06: Developing innovative phytosanitary measures for plant health - focus on systems approach for pest risk management

Call: Cluster 6 Call 02	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties (FSTP). In this case, the proposals must define the process of selecting entities for which financial support will be granted, within open calls for tenders to be evaluated in a fair and transparent process. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60000. A maximum of 10% of the EU funding can be allocated to this purpose.

Expected Outcome: Successful proposal contribute to the objectives of the common agricultural policy, as well as to the European Green Deal's objectives for resilient and sustainable agri-food systems, the EU biodiversity strategy for 2030 and support Regulation (EU) 2016/2031[25] on protective measures against pests of plants.

[25] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32016R2031

Successful proposals will deliver on the expected impacts of the destination by enabling farmers and relevant actors in the agricultural sector to manage sustainable, efficient, profitable, circular, low greenhouse gas-emitting farming systems contributing to climate-neutrality and climate-resilience.

Project results are expected to contribute to all of the following expected outcomes:

- cost-effective measures using a systems approach, implemented across the entire agri-value chain, are developed and tested, with a thorough assessment of their combined effects and interactions to ensure efficiency and sustainability;
- the capacity of farmers and actors in the agri-value chain to manage pest risks more effectively, in an environmentally friendly and fair manner, across various agricultural and trade contexts is strengthened through collaborative efforts, with particular attention to the challenges posed by climate change;
- scientific support, recommendations and policy advice are provided to enhance plant health policies, fostering international cooperation and strengthening global efforts to combat plant pests.

Scope: Plant health is critical for agriculture, forestry, ecosystems, and biodiversity on a global scale. However, maintaining healthy crops is becoming increasingly challenging due to globalisation, international trade, and climate change, which accelerate the spread of pests and diseases. These threats can severely harm crops, native plants, and the environment, jeopardising agricultural sustainability, biodiversity, and food security.

Effective plant health measures play a vital role in protecting sustainable agriculture and enhancing global food security, safeguarding the environment, forests, and biodiversity, and facilitating economic and trade development. A systems approach to plant health is a comprehensive pest risk management strategy that integrates different measures, at least two of which act independently, with cumulative effect and of high efficacy[26]. The systems approach is designed to effectively meet phytosanitary import requirements, allowing for the consideration of measures and procedures that contribute to effective pest risk management throughout the entire value chain, from pre-planting and pre-harvest stages to harvest, post-harvest handling, transport, and distribution. By integrating multiple measures, this approach enhances the ability to manage pest risks comprehensively and sustainably, ensuring the health of plants and the safety of agricultural products across borders. Proposals should target one or

[26] International Standard for Phytosanitary Measures No. 14. The use of integrated measures in a systems approach for pest risk management [https://www.ippc.int/en/publications/607

more plant pests[27], providing a clear explanation and justification for the selected pest(s) in alignment with the proposal's objectives and the topic's expected outcomes.

Proposals should:

- develop innovative climate and environmental-friendly measures for a highly efficacious pest risk management to be implemented across the value chain to meet the phytosanitary requirements in a variety of economic contexts;
- evaluate risk reduction, cost-effectiveness, scalability, and sustainability, of each proposed innovative measures;
- design and validate protocols targeting systems approaches, considering the whole value chain;
- assess the combined effect of all measures and their interactions across the value chain, including cost-effectiveness, scalability, and overall sustainability (economic, social and environmental aspects);
- support capacity building and training of the actors within the value chain, enabling the large-scale adoption of innovative, cost-effective measures.

International cooperation is strongly encouraged. Results should benefit diverse farming systems/approaches, such as conventional and organic farming.

Proposals must implement the 'multi-actor approach' including a range of actors to ensure that knowledge and needs from various sectors such as research, plant health services, farming/forestry sectors, advisory services, and other relevant actors of the value chain are brought together. This topic should involve the effective contribution of social sciences and humanities (SSH) disciplines.

Proposals may provide financial support to third parties (FSTP) to, for instance, develop, test and demonstrate innovative measures. Consortia need to define the selection process of organisations, for which financial support may be granted.

The possible participation of the JRC in the project could involve supporting the analysis to understand the acceptance and adoption of innovative measures across the value chain.

Proposals should ensure coherence and complementarities with ongoing relevant Horizon Europe projects and capitalise on existing relevant research findings and tools, included those developed under previous research projects.

[27] A pest is defined here as any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products (EU legislation, Regulation 2016/2031)

The proposals should include a dedicated task in the workplan and appropriate resources to collaborate with the projects funded under this topic.

HORIZON-CL6-2025-02-FARM2FORK-07: Improving grassland management in European livestock farming systems

Call: Cluster 6 Call 02	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 8.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 16.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).

Expected Outcome: Proposals should contribute to the objectives of the common agricultural policy (CAP), as well as to the EU Green Deal's goals for resilient and sustainable agri-food systems, the EU biodiversity strategy, the Nature Restoration Law, the climate policy, and the EU action plan for the development of organic production. Proposals will also contribute to the expected impacts of the destination by enabling farmers and relevant actors in the agricultural sector to manage sustainable, efficient, profitable, circular, low greenhouse gas-emitting farming systems contributing to climate-neutrality and climate-resilience.

Project results are expected to contribute to all the following expected outcomes:

- the availability of data, models and methodologies to measure, monitor, assess and valorise the multifunctionality of grassland farming systems is improved, benefitting all relevant actors involved in grassland management;
- the availability for, accessibility and use by farmers of sustainable grassland management knowledge, innovative solutions/practices and strategies is increased;

- networking, participatory approaches and knowledge mobilisation among relevant stakeholders for sustainable grassland management is enhanced;

- scientific support and recommendations for the development, implementation and evaluation of EU policies relevant for grasslands, including the Common agricultural policy (CAP), the EU climate policy and the Nature Restoration Law is provided.

Scope: Well managed grasslands are key for the sustainability of European agriculture and for the delivery of multiple ecosystem services, including water purification, erosion and flood prevention, carbon sequestration and food production, as well as for preserving biodiversity. Grasslands can also play an important role as protein crop supply for feed. They also constitute key elements of European socio-cultural landscapes. However, grasslands maintenance and functions in the EU are under threat for several reasons, which may include sub-optimal input management, intensification, farm concentration, climate change and abandonment.

Ensuring the sustainable management of grasslands and preventing their disappearance is essential for a sustainable European farming sector. This calls for increasing scientific evidence on grasslands across Europe, including on their performance, benefits and trade-offs (e.g., climate, environment, biodiversity, socio-economic). There is also a need to further develop and demonstrate approaches that allow assessing the climate change adaptation and mitigation potential of grazing livestock systems, along with the other important benefits they can deliver. Moreover, farmers need new knowledge, innovative solutions and dedicated support and advice to sustainably maintain grasslands, and to restore degraded grassland habitats.

In this context, the role of and coherence among policies is crucial, and Research and Innovation have a key role to play in demonstrating that properly managed grasslands systems are viable options for farmers.

This topic focuses on grazing livestock systems and involves both permanent grasslands, as per the definition set in the Regulation (EU) 2021/2115[28], as well as temporary grasslands, understood as arable land with grasses, or grass mixtures with other species, that has been included in the crop rotation before reaching the five years that are necessary to be considered as permanent grassland.

Proposals should address all the following activities and should cover various farming systems/approaches, one of which should be organic farming:

- develop and operationalise methodologies to measure, monitor, benchmark and assess the performance of grassland farming systems in different contexts in terms of the delivery of ecosystem services (e.g., productivity, carbon sequestration, nutrient cycling, resilience to climate change, soil health, forage value), biodiversity restoration, reducing emissions of

[28] http://data.europa.eu/eli/reg/2021/2115/oj

greenhouse gas (GHG) and air pollutants, and social aspects such as profitability for farmers and for other stakeholders. This should include analysis of synergies and trade-offs between the above elements in the short- to medium- and long-terms. The benchmark of the performance of grassland farming systems should also include comparison between different levels of grass-based ruminants' farming systems in similar pedo-climatic contexts;

- develop new knowledge, innovative solutions/practices, and manageable strategies for creating, maintaining and restoring grasslands systems that are productive, cost-effective, sustainable, environmentally sound, and resilient to a changing climate. These strategies should include assessment of innovations in the social, environmental and economic domains, such as possible market uptakes by value chain actors and consumers through, for instance, standards and labelling related to grassland management;

- develop farm- and landscape level decision tools and strategies to support farmers in managing grasslands sustainably, so as to improve forage productivity and quality and livestock production, as well as the delivery of other ecosystem services, based on documented cases or in-situ demonstrators;

- organise activities to mobilise the sharing of relevant knowledge (scientific, but also practical and traditional), and networking among relevant actors. Proposals should develop diverse practice-oriented dissemination materials, e.g. audiovisual materials, brochures, etc., presenting solutions, and make them publicly available;

- assess relevant public policies at various levels and provide policy recommendations with a view to improving their impact and coherence in supporting sustainable grassland systems;

- perform economic cost-benefit analysis of applying/using the R&I solutions developed during the project and explore the potential of financing or incentive tools specific to the sustainable management of grassland farming systems, including lower-polluting and lower-GHG-emitting grazing livestock systems, and where relevant, restoration of degraded grasslands habitats.

Proposals must implement the 'multi-actor approach' and ensure adequate involvement of the main stakeholders involved in grassland management in Europe, e.g., farmers (including farmers managing protected grassland habitats), shepherds and related organisations notably in the ruminants' sectors, advisors, policy-makers, landscape and territorial planners, industry including small and medium enterprises, consumers, environmental Non-Governmental Organisations, etc.

Proposals should capitalise on relevant research findings and tools, included those developed under previous research projects.

Proposals should cover a variety of grasslands systems in different pedo-climatic conditions and biogeographical regions across the EU and consider among those, marginal areas at risk of abandonment or with other constraints, and areas in intensification trends towards arable crop farming.

Activities should allow for the comparison in terms of performance and sustainability between grasslands systems presenting mixtures of plant species, including legumes, compared to mono-species grasslands.

Proposals should include a dedicated task, appropriate resources and a plan on how they will collaborate with other projects funded under this topic. Proposals should, where relevant, consider the use of Earth Observation data. Proposals should ensure complementarities with other relevant activities carried out under other initiatives in Horizon Europe, including those funded under the topic HORIZON-CL6-2025-CLIMATE-04: 'Non-CO_2 greenhouse gas emissions from agriculture: innovative solutions for mitigation and for monitoring, reporting and verification', the topic HORIZON-CL6-2025-02-FARM2FORK-04: 'Enhancing the EU plant protein production to bolster the resilience of agricultural systems and EU self-sufficiency in plant protein feed', as well as with relevant activities of the Horizon Europe Partnership 'Agroecology' and other relevant future Horizon Europe Partnerships and R&I projects.

In order to enhance the societal and long-term impact of the activities beyond the life cycle of the project, proposals should apply social innovation and citizen engagement and include a strong involvement of citizens/civil society, together with academia/research, industry/SMEs/start-ups and government/public authorities.

This topic should involve the effective contribution of social sciences and humanities (SSH) disciplines. In order to achieve the objectives of this topic, international cooperation is encouraged.

To better address the objectives of this topic, international cooperation is encouraged.

HORIZON-CL6-2025-02-FARM2FORK-08: Fostering animal breeding and genetics for climate change adaptation and mitigation, improved robustness and resilience

Call: Cluster 6 Call 02	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Technology Readiness Level	Specified activities are expected to achieve TRL 7 by the end of the project – see General Annex B. Activities may start at any TRL.

Expected Outcome: Successful proposals will contribute to more sustainable and environmentally responsible land-based agricultural production systems, which are among the objectives of the EU Green Deal, including the methane strategy, the action plan for the development of organic production and the common agricultural policy (CAP) among others. The proposals will help tackle the issues linked to emissions from livestock and will support EU Member States and Associated Countries to implement cost-effective mitigation efforts and better quantifying their expected impacts. Successful proposals will also contribute to the expected impacts of the destination by enabling farmers and relevant actors in the agricultural sector to manage sustainable, efficient, profitable, low greenhouse gas emitting farming systems contributing to climate-neutrality and climate-resilience.

Project results are expected to contribute to all the following expected outcomes:

- the understanding of interactions between management, genotype and environment is enhanced, with the aim of improving the sustainable management of livestock population and achieving efficient animal/plant recoupling from farm to landscape scale;

- genomic and phenotypic characteristics that could be applied in breeding schemes for the selection and use of animals having desirable traits for lower greenhouse gas emissions and other climate-change related challenges for the livestock sector are widely known and considered by breeders;

- contributions of breeding and genetics in livestock to sustainability and production efficiency, including trade-offs among other breeding objectives, are known, improvement paths are undertaken and options to overcome obstacles to their adoption are provided;

- scientific support and recommendations/policy advice for the development, implementation and evaluation of EU policies and strategies, including the CAP and other policies relevant for sustainable livestock production, is provided.

Scope: Breeding and genetic improvements are among the tools with potential to help livestock to increase production efficiency and sustainability, to adapt to the changing environment (e.g., harsh climates, health hazard, changes in feed quality or availability) as well as to help to mitigate emissions. By selecting specific traits that are important for adaptation and mitigation purposes, and integrating them in breeding programmes, livestock farmers and breeders can contribute to more sustainable livestock farming systems. Balancing multiple breeding objectives, including reduction of methane emissions and other environmental considerations, is complex and requires careful consideration of trade-offs, including with animal well-being, and of gender aspects. Proposals should enhance animal breeding programmes by identifying, validating and upscaling easily accessible and low-cost protocols, which can be used at farm level in diverse environments and production systems, for measuring and selecting existing and new traits with low environmental and climate footprint.

The aim is to optimise the selection of animals with genotypes that are best suited to thrive in different production systems and environmental conditions, with different diets and rumen microbiota by incorporating adaptation and mitigation objectives into breeding and sustainable management decisions.

Proposals should address all the following activities and should cover various terrestrial livestock farming systems/approaches, one of which should be organic farming:

- identify new traits, including proxy indicators from -omic or meta-omic data, that consider genotype-environment interactions on the whole animal lifespans to renew breeding goal, i.e. desirable traits for lower greenhouse gas emissions and other climate-change related challenges, validate and integrate them into indexes used to benchmark farm performance;

- develop tools/systems/methods to measure genotype-environment interaction and traits of interest, predicting the breeding value at animal and population levels in diverse farming conditions, while maintaining genetic diversity;

- demonstrate in an operational environment breeding programs and management practices for improving robustness, lifetime efficiency and resilience, including the contribution of livestock to climate change mitigation efforts and the adaptation to climate change conditions (TRL 7) while demonstrating gender-responsive strategies where relevant;

- analyse the cost effectiveness of the identified breeding programmes and assess private and/or public incentives or rewarding schemes for the use of certain mitigation-related traits currently used in some European regions or countries, with their advantages, limits, and ways to overcome them.

Proposals must implement the 'multi-actor approach' and ensure adequate involvement of the main stakeholders involved in livestock breeding in Europe, including farmers, breeders, advisors, private sector/industry, and policy-makers.

The proposal should include a dedicated task, appropriate resources, and a plan on how it will collaborate with other projects funded under this topic, and ensure coherence and complementarities with ongoing relevant Horizon 2020 and Horizon Europe research projects, including relevant infrastructures. Proposals should interact with relevant structures or organizations at European level and beyond such as FAO, Livestock Environmental Assessment and Performance Partnership (LEAP, FAO)[29], Global Research Alliance on Agricultural Greenhouse Gases[30].

To better address the requirements of the topic, international cooperation is encouraged.

[29] https://www.fao.org/partnerships/leap/en/
[30] https://globalresearchalliance.org/research/livestock/networks/

HORIZON-CL6-2025-02-FARM2FORK-09: Innovating for on-farm post-harvest operations, storage and transformation of crops into food and non-food products

Call: Cluster 6 Call 02	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 12.00 million.
Type of Action	Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: The proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Technology Readiness Level	Activities are expected to achieve TRL 6-7 by the end of the project – see General Annex B.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties (FSTP). In this case, the proposals must define the process of selecting entities for which financial support will be granted, within open calls for tenders to be evaluated in a fair and transparent process. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60000. A maximum 30% of EU funding can be allocated to this purpose.

Expected Outcome: Successful proposals will support the European Green Deal goals for resilient and sustainable agri-food systems objectives, the common agricultural policy, the EU Climate Law, the EU bioeconomy strategy, and the successful implementation of the unfair trading practices directive as well as the EU's action plan for the development of organic production. Proposals will deliver on the expected impact of the destination by enabling farmers

and relevant actors in agricultural primary sector to manage sustainable, efficient, profitable, circular, low greenhouse gas-emitting farming systems.

Project results are expected to contribute to all of the following expected outcomes:

- Farmers employ a wide range of innovative solutions to improve post-harvest handling, processing and storage of crops;
- farmers improve their capabilities to shorten supply chains, contribute to climate mitigation and add value to their food and non-food[31] products at farm level and thereby improve their competitiveness;
- SMEs improve their business models and increase their opportunities to engage in food and non-food value chains.

Scope: Farmers do not always profit from the added value of their agricultural produce, which may avoid greater financial returns. At the same time, farmers need to respond to changing consumer demands as well as support climate change mitigation efforts. The greater availability of innovative solutions that allow to shorten supply chains, adding value and extending the shelf life of harvested crops at farm level, can help to leverage farmers position in the value chain and improve financial viabilities. It may also foster SME-led business models and increase the opportunities for farmers engaging in food and non-food agricultural output processing and storage.

Proposals should:

- develop and assess innovative on-farm solutions to produce, transform and store food and/or, non-food crops preventing and reducing (food) losses and adding value to the agricultural products. This includes the development of post-harvest and digital technologies and strategies to maximise their effectiveness. Innovations proposed should have a positive climate change mitigation effect;
- focus on flexible and optimised innovative small-scale post-harvest, processing and storage innovations with demonstrated practical applicability and tailored to the needs of farmers ensuring links between processing and storage adapted to the seasonal character of raw material production;
- assess the impact of proposed innovations on the overall sustainability of farmers resulting activities and businesses (environmental, social, economic). The climate change

[31] non-food refers to products from crops that are not edible for human consumption or feed, such as chemicals, textiles, materials, or other biomass uses

mitigation and carbon footprint reduction potential of the proposed innovations should be especially analysed;

- consider requirements from relevant EU regulatory frameworks including where relevant needs for pre-market authorisation;
- explore appropriate new business and cooperation models adapted to proposed solutions, taking into account organisation and distribution concepts, and marketability of the resulting products.

Activities must fall under the concept of the 'multi-actor approach' and allow for adequate involvement of relevant actors including farmers, SMEs, innovation brokers and digital technologies developers. Proposals should benefit various farming systems/approaches, one of which should be organic farming.

Proposals should perform economic cost-benefit analysis of applying/using the R&I solutions developed within the project.

Proposals should describe a clear exploitation pathway through the different necessary steps (research, manufacturing, regulatory approvals and licensing, IP management etc.) in order to accelerate exploitation of the results.

The involvement of SMEs is essential for this topic. Proposals may involve financial support to third parties, particularly for SMEs providing and/or developing testing, or validating the proposed innovative technologies/solutions. Consortia need to define the selection process of organisations, for which financial support may be granted. Maximum 30% of EU funding can be allocated to this purpose.

Proposals should develop publicly available diverse practice-oriented dissemination materials, e.g., audiovisual materials, brochures, presenting R&I solutions.

HORIZON-CL6-2025-02-FARM2FORK-10: Exploring the potential of controlled environment agriculture (CEA)

Call: Cluster 6 Call 02	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 6.00 million would allow these outcomes to be addressed

	appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 6.00 million.
Type of Action	Research and Innovation Actions
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in the form of grants. In this case, the proposals must define the process of selecting entities for which financial support will be granted, within open calls for tenders to be evaluated in a fair and transparent process. The maximum amount to be granted to each third party is EUR 60000. A maximum 30% of EU funding can be allocated to this purpose.

Expected Outcome: By exploring the potential of controlled environment agriculture (CEA) as a transformative contribution to global food security and sustainability challenges, the successful proposal will support the common agricultural policy (CAP), the European Green Deal's goals for resilient and sustainable agri-food systems and the EU Climate Law. It will also deliver on the expected impact of the destination by enabling farmers and relevant actors in the agricultural primary sector to manage sustainable, efficient, profitable, circular and low emissions farming systems contributing to climate-neutrality and climate-resilience. This will be achieved by new knowledge, innovation and the upscaling and replication of existing and new sustainable farming approaches while making farming a professionally attractive and remunerative life choice.

Project results are expected to contribute to all the following expected outcomes:

- a holistic understanding of CEA is provided, comprising technological needs, trade-offs, sustainability, societal and environmental impacts and policy implications;
- the knowledge of CEA sustainability is advanced, in its economic, environmental and societal dimensions (profitability, energy efficiency, greenhouse gas emissions (GHG), environmental sustainability and circularity, social dimension, etc.);
- novel and diverse crop varieties with potential in CEA are identified, and next generation of CEA systems are explored;
- adoption, expansion and uptake of CEA best practices are enhanced.

Scope: Controlled Environment Agriculture (CEA) refers to any form of agriculture that controls and optimises environmental conditions such as temperature, humidity, carbon dioxide, light or nutrient concentration. Examples of CEA include greenhouses, vertical farms, grow rooms, building-integrated agriculture, hydroponics, aquaponics, aeroponics and other practices where technological advancements enable precise regulation of growing conditions farming. Optimising CEA offers advantages in terms of resource efficiency, environmental sustainability and crop quality, providing a promising alternative to traditional agriculture for meeting the growing global demand for food, especially in the face of climate change and urbanisation. More research on CEA is essential to address its challenges, from addressing technological gaps to expanding crop diversity and reducing environmental impacts, so to unlock its full potential as a sustainable solution for future food production.

Proposals should:

- assess the state-of-the-art technologies and innovations in CEA, evaluating their effectiveness, assessing resource efficiency (including energy and water demands) and identifying opportunities for optimisation through technological innovations and management practices;
- analyse the socio- economic feasibility and viability of implementing CEA systems at different scales and evaluating their cost-effectiveness compared to conventional agriculture. Analysing the economic viability of sustainable CEA practices.
- investigate the environmental sustainability and environmental footprint[32] of CEA systems (including GHG emissions);
- assess the current state of crop varieties grown in CEA systems, identifying gaps and opportunities for the development of novel crop varieties and challenges hindering the adoption of novel crop varieties in CEA;
- provide insights into the future trajectory of CEA, examining emerging trends, investigating technological innovations (like IoT, artificial intelligence, robotics, biotechnologies, etc.), and their implications for sustainable food production in the coming decades. Identify key challenges hindering CEA adoption and provide strategies for enhancing the expansion of best practices in CEA.

Proposals should capitalise on relevant research findings and tools, included those developed under previous research projects.

[32] Commission Recommendation (EU) 2021/2279 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations

HORIZON-CL6-2025-02-FARM2FORK-17: Research and innovation for food waste prevention and reduction at household level through measurement, monitoring and new technologies

Call: Cluster 6 Call 02	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 4.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: the proposals must apply the multi-actor approach. See definition of the multi-actor approach in the introduction to this work programme part.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [33].

Expected Outcome: Successful proposals will be in line with the European Green Deal priorities, notably the farm to fork strategy, the revised Waste Framework Directive and the EU's climate targets for 2030 and 2050. Actions will also be in line with the overall challenges

[33] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

highlighted in the updated Food 2030 pathways for action report published in December 2023[34] on food waste and resource efficient food systems.

Project results are expected to contribute to all of the following expected outcomes:

- successful implementation of the harmonisation of food waste measurement across Europe, supported by the development of new tools, producing reliable and comparable data on food and waste at household level;
- alleviate the burden of reporting of household food waste data for Member States, by making use of technological innovations;
- the main factors influencing the disposal of food at household level are better understood by policymakers and stakeholders;
- in line with targets set by the Waste Framework Directive revision, contribute to the reduction of food waste at household level, thereby reducing greenhouse gas emissions and pressure on natural resources.

Scope: In the EU, over 58 million tonnes of food waste (131 kg/inhabitant) are generated annually[35], with an associated market value estimated at 132 billion euros.

Eurostat roughly estimates that around 10% of food made available to EU consumers (at retail, food services and households) may be wasted. At the same time, over 37 million people cannot afford a quality meal every second day[36]. In the EU, households generate more than half of the total food waste (54%).

Wasting food is not only an ethical and economic issue but it also depletes the environment of limited natural resources. Food waste has a huge environmental impact, accounting for about 16% of the total greenhouse gas emissions from the EU food system. Therefore, by reducing food waste we can also support the fight against climate change.

Proposals should contribute to all of the following aspects:

- develop and validate new tools and methods to measure and estimate food waste at household level, including the food waste discarded as or with wastewaters and that would help distinguish between amounts of avoidable (edible) fraction of food waste and non-

34 European Commission, Directorate-General for Research and Innovation, Bizzo, G., Fabbri, K., Gajdzinska, M. et al., *Food 2030 – Pathways for action 2.0 – R&I policy as a driver for sustainable, healthy, climate resilient and inclusive food systems*, Publications Office of the European Union, 2023, https://data.europa.eu/doi/10.2777/365011

35 Eurostat (2023), Food waste and food waste prevention – estimates, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Food_waste_and_food_waste_prevention_-_estimates

36 Ibidem

avoidable (inedible) food waste. The potential of AI and other technologies (including ones that are currently available) to simplify the collection of data and the reporting (by being integrated in advanced monitoring solutions) should be considered. Interoperable metadata standards accompanying indicators coming from these new tools and methods should be provided. The metadata standards for edible and inedible food waste indicators should allow data to be federated through the European Open Science Cloud (EOSC) infrastructure;

- these new tools and methods should be applied across a large enough sample of diverse type of products and target groups (in terms of gender, age, socio-economic status, ethnic and/or cultural origins, etc.), allowing for a more precise assessment of food waste fractions (edible and inedible), across several years and in a significant number of Member States, and potentially in Associated Countries. This should generate robust measurement/estimation of food waste at household level for different target groups, at national and EU levels. The potential for extensive uptake of the proposed solution should be clearly highlighted;

- in addition to measurement, the direct and indirect drivers and root causes of food waste at household level should be thoroughly investigated. Particular attention should be paid to the identification of consumer behaviours (food consumption and disposal patterns) and other factors that influence food waste at household level, to assess the potential for a reduction strategy based on change in consumer behaviours;

- explore potential eco-friendly, low-input and efficient technological solutions to prevent edible food from being discarded in households, e.g. by preventing product degradation.

The required multi-actor approach must be implemented by conducting inter- and trans-disciplinary research and involving a wide diversity of food system actors, with special attention paid to consumers and civil society organisations.

Proposals are encouraged to build on past or ongoing EU-funded research (in particular, the EU-funded CHORIZO and WASTELESS projects, expected to be finalised in 2025) and on the work carried out by the European Consumer Food Waste Forum, and create synergies with relevant initiatives including the EU Platform on Food Losses and Food Waste.

This topic should involve the effective contribution of SSH disciplines. Citizen science is encouraged at all stages of the research activities for this topic and should be integrated in the research methodology. Proposals should take into account and address inequalities (e.g. by addressing the risk of AI bias in terms of gender, disability, ethnicity, etc.).

HORIZON-CL6-2025-02-FARM2FORK-18: Additional activities of the European partnership on sustainable food systems for people, planet and climate

Call: Cluster 6 Call 02	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 35.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 35.00 million.
Type of Action	Programme Co-fund Action
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The proposal must be submitted by the coordinator of the consortium under HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate. This eligibility condition is without prejudice to the possibility to include additional partners.
Procedure	The procedure is described in General Annex F. The following exceptions apply: The evaluation committee will be composed partially by representatives of EU institutions. If the proposal is successful, the next stage of the procedure will be grant agreement amendment preparations. If the outcome of amendment preparations is an award decision, the coordinator of the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate will be invited to submit an amendment to the grant agreement, on behalf of the beneficiaries.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: This action is intended to be implemented in the form of an amendment of the grant agreement concluded pursuant to topic HORIZON-CL6-2023-FARM2FORK-01-9.

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	For the additional activities covered by this action: • The funding rate is 30% of the eligible costs. • Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in theform of grants. • Financial support provided by the participants to third parties is one of the primary activities of this action in order to be able to achieve its objectives. The EUR 60 000 threshold provided for in Article 204(a) of the Financial Regulation No 2018/1046 does not apply. • The maximum amount of FSTP to be granted to an individual third party is EUR 10 000 000. This amount is justified since provision of FSTP is one the primary activities of this action and it is based on the extensive experience under predecessors of this partnership. The starting date of grants awarded under this topic may be as of the submission date of the application. Applicants must justify the need for a retroactive starting date in their application. Costs incurred from the starting date of the action may be considered eligible (and will be reflected in the entry into force date of the amendment to the grant agreement).
Total indicative budget	The total indicative budget for the duration of the partnership is EUR 175 million.

Expected Outcome: The second instalment of the partnership is expected in continuation to contribute to expected outcomes specified in topic HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate, for continuation of the activities and the continuation of already agreed outcomes.

Scope: The objective of this action is to continue to provide support to the European Partnership identified in the Horizon Europe Strategic Plan 2021-2024 and that will be implemented under the topic HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate, and in particular to fund additional activities (which may also be undertaken by additional partners) in view of its intended scope and duration, and in accordance with Article 24(2) of the Horizon Europe Regulation.

The consortium which applied to and is under grant agreement preparations under HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people,

planet and climate is uniquely placed to submit a proposal to continue the envisioned partnership. The foreseen consortium has expertise in relation to the objectives of the Partnership and the activities to be implemented by calls and internal activities. In practice, another consortium could not continue the activities of the Partnership underway without significant disruption to the ongoing activities, if at all.

The scope of the application for this call on the European partnership on sustainable food systems for people, planet and climate should focus on the partnership's co-created strategic research and innovation agenda for seven to ten years which includes inspiration for calls for research projects and horizontal activities to allow the Partnership to operate and to achieve its specific objectives.

The partnership should seek to include additional partners, in particular from Member States and Associated countries not yet in the consortium funded under HORIZON-CL6-2023-FARM2FORK-01-9.

It is expected that the partnership organises joint calls on an annual base and therefore it should factor ample time to run the co-funded projects. The partnership should collaborate closely with relevant partnerships in Horizon Europe Cluster 6 and beyond, the partnership should describe specific activities foreseen to strengthen the synergies with other related Missions and Partnerships.

While the award of a grant to continue the Partnership in accordance with this call should be based on a proposal submitted by the coordinator of the consortium funded under HORIZON-CL6-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate and the additional activities (which may include additional partners) to be funded by the grant should be subject to an evaluation, this evaluation should take into account the existing context and the scope of the initial evaluation as relevant, and related obligations enshrined in the grant agreement.

Taking into account that the present action is a continuation of topic HORIZON-CL6-2023-FARM2FORK-01-9: European partnership on sustainable food systems for people, planet and climate and foresees an amendment to an existing grant agreement, the proposal should also present in a separate document the additional activities and additional partners, if any, to be covered by the award in terms of how they would be reflected in the grant agreement.

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