




**Operational Groups:
Innovation in practice**
EIP-AGRI Innovation Awards 2024

5 Sustainable management of natural resources in farming practices

10 Business models in food supply chains

15 Animal welfare and husbandry

20 Climate change mitigation and adaptation

25 Sustainable forest management

30 Digitalisation






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Celebrating EIP-AGRI Operational Groups

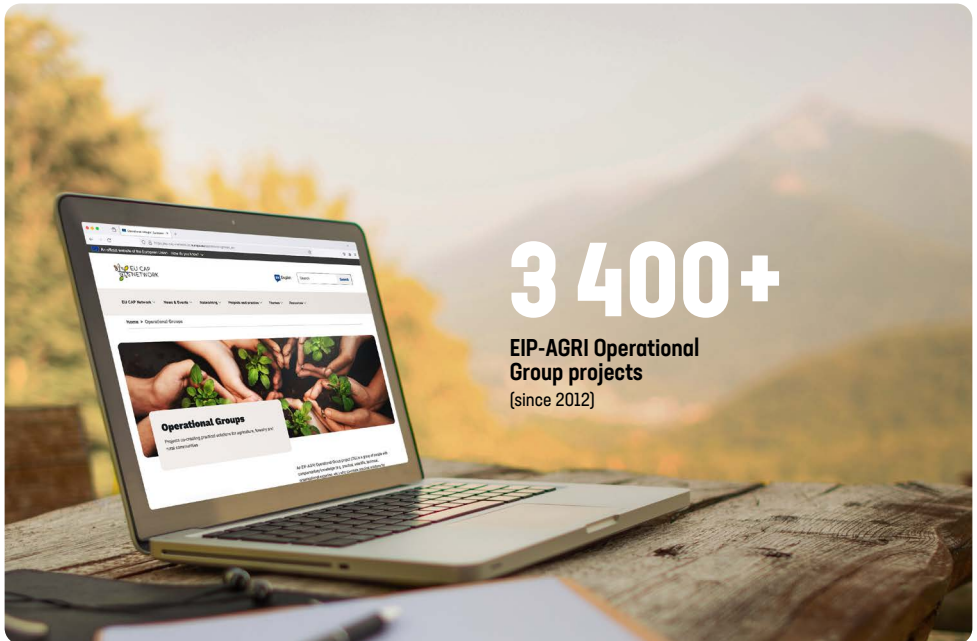
Since the establishment of the EIP-AGRI in 2012, more than 3 400 EIP-AGRI Operational Group projects (OGs) have contributed to higher productivity and sustainability in EU agriculture, forestry, and rural areas.

To celebrate these achievements, the EU CAP Network organised the **EIP-AGRI Innovation Awards 2024**, dedicated to recognising outstanding Operational Groups that have developed a variety of innovative practices and products. The awards highlighted five Operational Groups in each of the six categories, ranging from digitalisation to animal welfare. Over 11 000 votes were cast for a seventh public favourite award. Out of 240 candidates, 30 projects were nominated as finalists, with seven winners awarded at a dedicated ceremony during the **EU CAP Network conference 'EIP-AGRI Operational Groups: Innovation in practice'** in May 2024 in Portugal.



→ Watch the **project videos** of all 30 nominees.

→ What are **EIP-AGRI Operational Groups**?



3 400+
EIP-AGRI Operational Group projects
(since 2012)

These are the categories defined for the awards:



Sustainable management of natural resources in farming practices

This category includes Operational Groups that demonstrate innovative practices in resource efficiency and management, supporting sustainable transitions in agricultural systems. Topics include soil and water, habitat preservation, pest control, and agroecological practices.



Climate change mitigation and adaptation

Operational Groups in this category explore innovative practices for climate change mitigation and adaptation, helping to strengthen resilience in agriculture and rural areas.



Business models in food supply chains

Operational Groups in this category focus on food supply chains, marketing and consumption initiatives that have the potential to improve farm incomes, promote sustainable farming systems, and contribute to local economic development.



Sustainable forest management

In this category, Operational Groups showcase innovative forest management, including climate-smart forestry, pest and disease management, nature restoration, forest ecosystem services, new technologies, and circular bioeconomy.



Animal welfare and husbandry

This category focuses on Operational Groups that improve animal welfare and the sustainability of animal farms through innovative practices related to cage-free systems, precision livestock farming, and new commercial opportunities.



Digitalisation

This category awarded Operational Groups that demonstrate the great potential of digitalisation to increase profitability, improve working conditions for farmers, foresters, and others, and improve the environmental and climate impact of agriculture and forestry.



WINNER 2024



SUSTAINABLE MANAGEMENT OF NATURAL
RESOURCES IN FARMING PRACTICES

THE NETHERLANDS 

Colorado Beetle Catcher: Sustainable machine pest control

Hotter summers are increasing the occurrence of the Colorado potato beetle on Dutch farms. Farmers, designers, technicians and experts have worked together in this Operational Group to develop and test a mechanical pest control machine which takes advantage of the natural behaviour of Colorado beetles, catching them in a selective and sustainable manner. The use of this machine reduces the need for pesticides.

“Farmers have a real chance to change their farming practices towards more sustainable potato growing. They don't need to spray chemicals anymore. They can take out the beetles mechanically.”

JORIS VAN DER KAMP

Project leader



Dutch farmers now have the opportunity to receive an environmental subsidy to purchase this machine, and more than 20 orders have already been placed. Over 50 on-farm demonstrations are planned across Europe. In addition, an adapted version of the machine is now being used in France to fight the Weevil beetle in alfalfa production.



- Meet the **winner**
- Watch the **project video**
- Read the **project sheet**



SUSTAINABLE MANAGEMENT OF NATURAL
RESOURCES IN FARMING PRACTICES

ITALY 



INPOSA: Innovation in tomato cultivation and sustainability in agriculture from molecular cuisine to the rural economy

This Sicilian Operational Group has explored different ways to harvest and process tomatoes at the veraison stage - when the tomato is not fully ripe and its colour is between green and golden. A Sicilian chef was the first one to use tomatoes from the veraison stage, the 'Pomodoro Pelato Dorato'.

Consumers and chefs appreciate the veraison tomato for its taste, lightness, health benefits, and other qualities. Harvesting at this stage limits waste and impact on the soil, and the use of inputs (water, labour, plant protection products, etc.), which reduces

farm costs. The project has produced guidelines so that other producers can apply the same process to any open-field tomato cultivation. The innovative and sustainable way of cultivating tomatoes benefits chefs in molecular cuisine as well as the broader rural economy.

"Our innovation is transferable to every region of the world. That is why we ask for your help to 'discover' the tomato once more. It can offer new development opportunities for the agricultural sector, a new taste, and lead to new research in the medical and health field."

MARIA SABRINA LEONE
Innovation broker



→ Watch the **project video**



SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES IN FARMING PRACTICES

PORTUGAL 

MoreSoil

In Ribatejo, Portugal, monoculture and crop intensification can lead to the persistence of pests and fungi, responsible for severe production losses. Integrating cover crops is a solution which contributes to sustainable pest control, improving soil fertility and carbon sequestration. Ana Paula Nunes of the

National Operational and Technological Centre for Fruits and Vegetables (COTHN) explains that the project initially started using cover crops and paying attention to bare soil during the winter season thanks to shared knowledge from networking with institutions and universities.



The Operational Group has developed a new biodiverse mixture of legumes and grains to use as cover crops that are well suited to the soil, climate, and agricultural practices in the area. Methods to monitor soil health were applied, and the project established a programme with local farmers that consisted of co-creation workshops, training, and demonstration plots. Scientific and technology representatives, industry, and consultants participated in the project. The project's innovative soil practices have become widely established in other regions in Portugal and abroad.



- Watch the [project video](#)
- Read the [project sheet](#)



SUSTAINABLE MANAGEMENT OF NATURAL
RESOURCES IN FARMING PRACTICES

FRANCE 

Preservation of the blackcurrant sector in Burgundy and Franche-Comté, securing production volumes and organoleptic quality in the face of climate change: adapting and developing innovative agro-ecological practices

This Operational Group from France has addressed the declining yields in blackcurrant production. The incomparable taste and aroma of the 'Noir de Bourgogne' variety have shaped the reputation of 'crème de cassis', a traditional Burgundy liqueur. In collaboration with farmers and industry stakeholders, the project has developed innovative agroecological practices to combat the effects of climate change, securing production volumes and quality of texture,

taste and smell. Keeping in mind the 99% decline in pollinators since the 1980s, the project focuses on bee species, which can significantly help to improve yields.

For example, farmers were trained to maintain *Osmia bicornis* bee nests and introduced flower strips. The project results can be applied to other crops such as cherry, apple, or plum. Better pollination improves fruit quality parameters, and can expand market opportunities such as organic certification, thanks to reduced pesticide use.



- Watch the [project video](#)
- Read the [project sheet](#)



SUSTAINABLE MANAGEMENT OF NATURAL
RESOURCES IN FARMING PRACTICES

IRELAND 

Sustainable Uplands Agri-environment Scheme (SUAS)

The SUAS project addresses the declining conditions of upland habitats in the Irish Wicklow and Dublin Mountains, brought on by the increasing number of farmers moving away from grazing in the area. This project has introduced Commonage Groups, which foster collective management and integrate habitat management with livestock practices. It has also promoted techniques such as supplementary feeding and GPS tracking. Training courses and a payment system rewarding farmers for habitat management were developed.

The project has led to a shift in farmer attitudes towards habitat management, diversifying farm income alongside animal production, and kept them from moving away. The results are transferable to other upland regions. Farmers, ecologists and government agencies have collaborated in the development of the project.



- Watch the **project video**
- Read the **project sheet**



WINNER 2024



BUSINESS MODELS
IN FOOD SUPPLY CHAINS

GERMANY 

Cultivation, harvesting and processing of hemp straw and hemp seeds

Despite its various uses, hemp is rarely cultivated in Germany. This Operational Group has focused on the implementation of new value chains of industrial hemp in the Werra-Meißner district, helping farmers generate more diverse sources of income. Through this project, nine farmers worked with regional businesses and an advisory institution for agriculture and horticulture. The farmers have started growing a dual-purpose hemp variety, to market both the hemp seeds and the hemp straw.



“While the seeds are marketed to oil mills and locally as cooking oil, the straw is processed into pellets, which make for excellent bedding in animal stables”, farmer Andreas Gleim explains. “Hemp is a valuable element in our crop rotation because we simply don’t need any crop protection and just little amounts of fertiliser.”

The Operational Group has given the farmers the opportunity to share harvesting and marketing efforts, and establish hemp cultivation in the region.



- Meet the **winner**
- Watch the **project video**
- Read the **project sheet**



WINNER 2024
PUBLIC FAVOURITE



BUSINESS MODELS
IN FOOD SUPPLY CHAINS

ITALY 

SHEEP-UP: Ovine bio-diversity in Veneto: an economic opportunity for farmers and their territory



The SHEEP-UP project won the 'public favourite' award. The Operational Group from the Italian Veneto region has addressed the decline in alpine sheep farming by focusing on economic sustainability. In collaboration with farmers, researchers and public organisations, the project has aimed to enhance production and profitability through an integrated model. The model covers elements such as the characterising meat and milk for nutraceutical and sensorial qualities, managing secondary production like wool, evaluating ecosystem services, and marketing actions

emphasising the territory's history. Concrete results include diversification, enhanced territorial connections, networking and the creation of new transformed products. In terms of dissemination, training courses and exchanges with other Operational Groups were organised. The model is transferable to other European areas.

"The inspiration for this project is definitely awareness of the great added value that these small mountain farms produce for the community."

ANTONELLA TORMEN
Project manager



- Meet the **winner**
- Watch the **project video**
- Read the **project sheet**



BUSINESS MODELS
IN FOOD SUPPLY CHAINS

ITALY 



EbioScart – GO FICO: Extraction of bioproducts from waste from prickly pear production

This Operational Group from Sicily has introduced a green industrial process to extract bio-based products from fruit scraps, to create a new business model and income opportunities for farmers. The project focuses on the prickly pear supply chain, setting up a collaboration between producers, processing and service companies, and research centres to reuse the 'waste' in multiple ways. A 'collective laboratory' with a pilot processing plant was set up at one of the partner sites to separate the pulp, seeds and skins. The new bio-based products obtained are of interest to various industrial sectors, including oil for the cosmetic and

pharmaceutical sectors. The resulting solid and liquid digestates are being tested as natural fertilisers in three experimental fields.



"It is possible to make the process scalable right away by creating a production plant that can be profitable in five years."

CARMELO DANZI
Innovation broker



→ Watch the **project video**

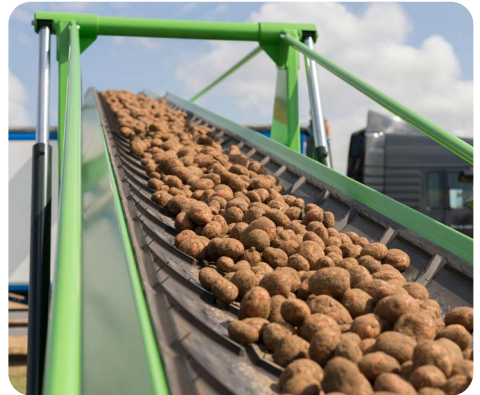


BUSINESS MODELS
IN FOOD SUPPLY CHAINS

POLAND 

Operational Group 'Zamojska Farma'

The Operational Group from Poland has focused on tackling challenges and creating new market opportunities in potato distribution. The project has set up a short supply chain to distribute and sell potatoes, giving the farmers in the Operational Group a stronger position in the supply chain. "Our main goal was to develop a fast, simple, and easily accessible distribution channel for edible potatoes, directly from the producer to the consumer", farmer Marcin Gryn explains. The primary distribution channel is an online store, which allows direct contact with customers.



Thanks to this Operational Group, affiliated farmers were able to increase their market share and eliminate intermediaries from the value chain, improving their market position. A follow-up project has been granted, which will further scale up the outcomes of the Operational Group.

→ Watch the **project video**





BUSINESS MODELS
IN FOOD SUPPLY CHAINS

ITALY 

Rosa Romana apple of the Bolognese Appennines territory: Organisation of a quality organic supply chain



Rosa Romana is an old, local apple variety from the Italian Apennine region near Bologna. In collaboration with regional growers, this Operational Group has made efforts to reintroduce this variety by facilitating the organisation of a new organic supply chain. A collective brand was created based on the requirements for organic farming.

In addition, the project has also developed processed products - juices, cider, dried products, and vinegar. Farmers received technical and scientific support from commercial and research partners. The technical aspects of the project activities were shared, resulting in at least 18 new Rosa Romana production plants and several nurseries that produce and sell seedlings.



- Watch the **project video**
- Read the **project sheet**



WINNER 2024

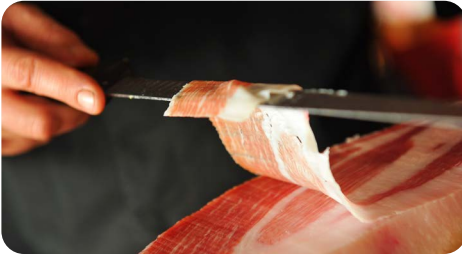


ANIMAL WELFARE
AND HUSBANDRY

ITALY 

Parsutt: Parma ham high sustainability standard

Consumers today want to be informed about the physical and ethical qualities of food. The objective of this Operational Group from the Emilia-Romagna region was to create a sustainability protocol for intensive pig farming based on animal welfare and biosecurity.



The main parameters for animal welfare relate to housing (size, absence of cages, conditions, etc.), while for farm biosecurity, they relate to preventing the spread of diseases.

The Parma Ham Consortium involved research institutes, ham producers, slaughtering and processing companies, and pig farms. The protocol was applied in 15 pig farms, and a consumer evaluation revealed that the majority of consumers thought a 10% increase in price was acceptable if it guaranteed higher animal welfare and biosecurity standards.

“The idea for Parsutt was born from Parma Ham Consortium’s need to verify whether it is technically and economically feasible to produce ham with animal and biosecurity standards that are higher than the legal minimum.”

ANNUNZIATA PALAMARA
Researcher and project partner



- Meet the **winner**
- Watch the **project video**
- Read the **project sheet**



ANIMAL WELFARE
AND HUSBANDRY

GERMANY 

Animal welfare dairy cattle in Hesse: Provision and further development of a practical animal welfare tool for dairy farms

This Operational Group from Germany, consisting of advisory services, scientists and dairy farmers, has developed a smartphone tool that can be used on the farm to monitor the animal welfare of dairy cattle. "It was important for us to develop a practical tool", says Hans-Joachim Herrmann of an educational and advisory organization involved in the Group. "That is why we have tested the application on 40 dairy farms and have discussed the results with the farmers."

Farmers input data according to ten criteria, such as cleanliness and water supply. The tool provides pictures to easily assess a cow's status, and it automatically integrates the health and calving data of the herd. The tool shows results and compares them to target values, past assessments, and results from other farms. Farmers can download these assessments and use them to identify possibilities for further improving the welfare of their animals. The app will be freely available to be used by farmers in other German regions and other countries.



- Watch the [project video](#)
- Read the [project sheet](#)



ANIMAL WELFARE
AND HUSBANDRY

ROMANIA 

BEE SMART, BEE HEALTHY

In beekeeping, extreme weather events increase the risks associated with diseases and pests. This Operational Group from Romania has tested a monitoring and alert system based on a smart device for identifying diseases. The device can be easily adapted to small and large beehives.

“The main goal of our project was to develop an innovative smart tool and to implement the ‘living lab’ concept among beekeepers and researchers.”

BRIGITTA TANASĂ

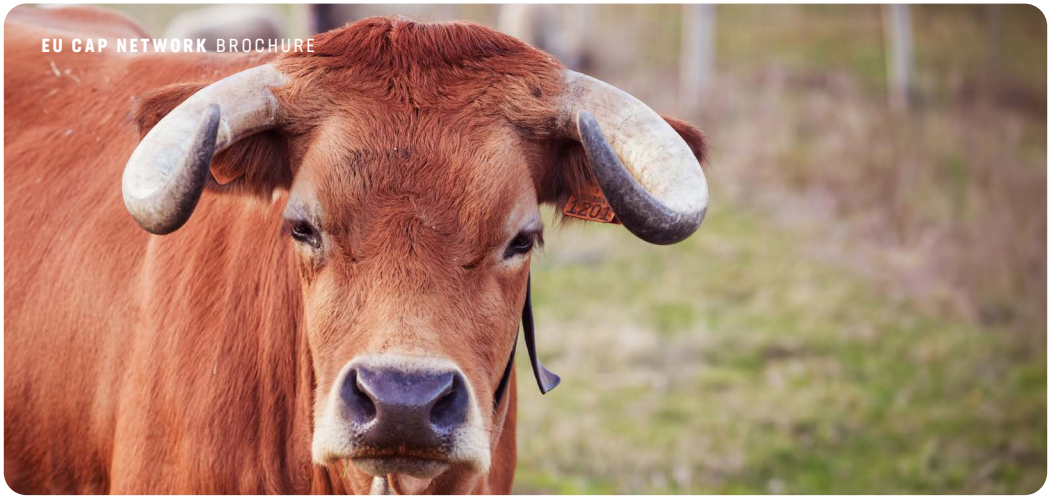
Assistant project manager

The project has launched beekeeping living labs to ensure cooperation between beekeepers and researchers in identifying natural solutions for treating pests and diseases. In the co-creation process, the Operational Group has engaged with beekeepers from different regions, a university, a veterinary school, technology companies, and innovative start-ups. The natural treatments that were developed are beneficial to bee families, strengthen their immune systems, and ensure that the end products do not contain any

chemicals. This offers beekeepers additional options to add value to their products.



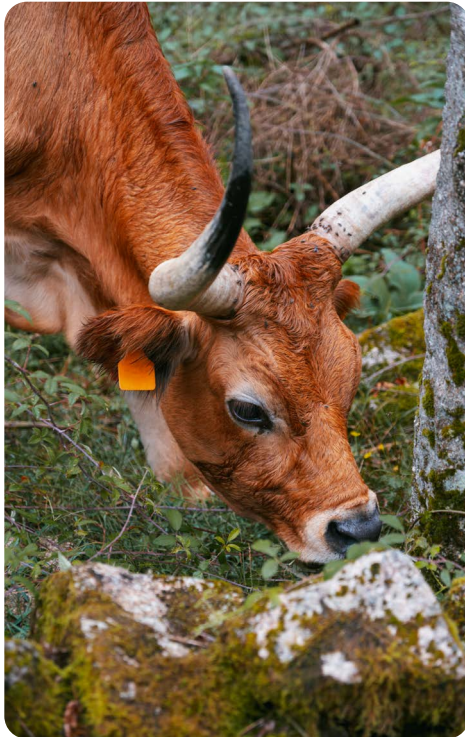
- Watch the [project video](#)
- Read the [project sheet](#)



ANIMAL WELFARE
AND HUSBANDRY

PORTUGAL 

Preserving quality in 'Arouquesa' meat



Meat from the 'Arouquesa' breed (Protected Designation of Origin) is renowned for its excellent taste and texture. The exceptional properties of the meat rely on the breed and on the semi-extensive traditional mountain landscapes in which the animals are raised.

This Operational Group from Portugal has been working to improve the animal productivity of the animals, increase the value of the meat, and thus increase income for breeders. The project has worked with researchers, a feed production company, a breeders' association, and an organisation of meat producers to create a new feed supplement. This supplement helps to balance the diet of the traditional production system, standardise the carcasses, and preserve the quality of the meat. The innovative solution helps plan and maximise resources and appropriate feeding solutions. The results can be transferred to other cattle breeds in similar mountain farming systems in Portugal and beyond.

→ Read the **project sheet**





ANIMAL WELFARE
AND HUSBANDRY

FINLAND 

SMART FEED: Smart measurements in cattle feeding and health

This Operational Group from Finland has created an on-farm system for monitoring silage quality, and for determining energy and protein nutrition balance in dairy cows. The idea for this project originated in a need to monitor dairy cow feed more closely, as the dry matter content in silage affects the composition and nutrient content of the Total Mixed Ration (TMR) in animal feed. This can affect milk yield and cow health, and raise feeding costs.

The developed system allows farmers to measure dry matter content in feed via a silage sampler which is attached to a bale gripper and a halogen dryer. In close collaboration with farmers, the project has developed a mobile application, called FeedApp, to minimize TMR composition and calculate water needs.

The overall aim of the application was to improve cattle health and increase farm efficiency, productivity and competitiveness. Within a few months after the start of the project, nine farmers had already bought the device to use on their farms.



- Watch the **project video**
- Read the **project sheet**

WINNER 2024

CLIMATE CHANGE MITIGATION
AND ADAPTATIONSPAIN 

SUBALMA: Improving the productivity and sustainability of underground drip irrigation systems that use oil mill waste as fertiliser through the use of nanobubbles

The Subalma project from Spain has developed strategies to save water and optimize fertiliser use in the context of climate change, as well as introducing new business opportunities for farmers beyond olive oil production. The project has established circular economy strategies for reusing the liquid oil mill by-products as fertilisers, through techniques that guarantee maximum efficiency in water use.

“We had to modernise irrigation systems to increase crop productivity and to enhance the efficiency of resources, including water, energy, and nutrients.”

BEATRIZ MASDEMONT
Project coordinator

The focus is on using subsurface irrigation and injecting nanobubbles in oil mill effluents, reducing the use of synthetic fertilisers in precision irrigation. This increases the productivity of olive groves, saves water, reduces labour, minimises the use of herbicides, and increases the efficiency of fertilisers. Farmers have collaborated with an innovation consultancy, technology developers, research centres, and the regional government. A follow-up project on a wider scale is being set up.



- Meet the **winner**
- Watch the **project video**
- Read the **project sheet**

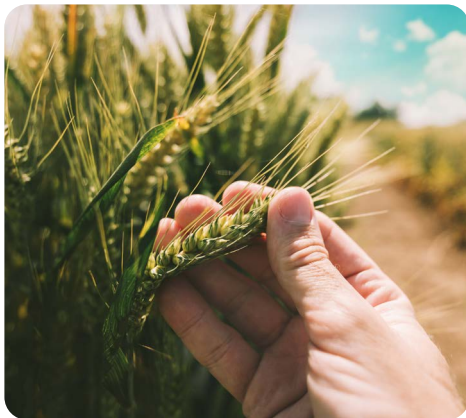


CLIMATE CHANGE MITIGATION
AND ADAPTATION

ITALY 

CEREALI RESILIENTI 2.0: Cereals diversity for adaptation to climate change

Cereali Resilienti 2.0 (the second phase of the project Cereali Resilienti) from Tuscany helps cereal-based farming systems adapt to climate change in the long run. Farmers, researchers, and others in the cereal supply chain have come together to increase the availability of cereal varieties that are specifically adapted to farm needs and organic cultivation by creating a regionally integrated seed system.



The project has focused on the population of 'SOLIBAM FLORIDDIA' soft wheat. Local networks of farmers have contributed to the reproduction of the seed. Outcomes showed that enhancing wheat genetic diversity at the population level can effectively enhance grain yield in drought and high temperatures. The innovation has been disseminated with an open-source licence to guarantee wide uptake by others in the cereal supply chain.



- Watch the [project video](#)
- Read the [project sheet](#)



CLIMATE CHANGE MITIGATION
AND ADAPTATION

FINLAND 

Development of a carbon footprint guidance and calculator for recycled fertiliser products

This Operational Group from Finland has developed the very first 'Carbon Footprint Calculator' for recycled fertilisers, so that manufacturers can reliably and transparently calculate and demonstrate the climate and environmental benefits of these products. Guidelines ensure that calculations are measurable, comparable, and easier to communicate. A detailed and clear model for calculating the carbon footprint of a product is available to manufacturers. The lower footprint of recycled fertiliser products could offer a competitive advantage compared to mineral-based fertiliser products.



The project involved bioenergy and biogas associations, industry, manufacturers, NGOs, a waterworks association, a meat processing company, and agricultural advisors. According to the project's executive director Anna Virilainen-Hynnä, "no similar calculator has previously been available for recycled fertiliser products, either in Finland or elsewhere." The calculator is translated into English. The model is based on international standards so it can be transferred to other countries.



- Watch the [project video](#)
- Read the [project sheet](#)



CLIMATE CHANGE MITIGATION
AND ADAPTATION

FRANCE 

European Hemp Pole

Grand Est (France) is an important region in Europe for hemp production, but most of the industrial transformation takes place outside of its territory. This Operational Group therefore aimed to bring back some of this value to the region, and set up the 'Hemp European Hub' to share the region's experiences and knowledge. The objective of the project was to ensure the sustainability and efficiency of different hemp-related markets (textiles, building materials, etc.).

"The true legacy of this project is the transformation of mindsets and cooperative practices that resonate far and wide. This work has been documented and allows us to support other initiatives in structuring hemp ecosystems."

ESTELLE DELANGLE

Director of the European Hemp Cluster

Technological innovation is a significant element, but the hub also addresses the importance of social and organisational innovation. The project has involved over 300 farmers, processors, researchers, industry, and local authorities.



→ Watch the **project video**





CLIMATE CHANGE MITIGATION
AND ADAPTATION

PORTUGAL 

GOEfluentes: Livestock effluents: Strategic approach to the agronomic/energy valorisation of the flows generated in agricultural activity

This Operational Group from Portugal offers concrete solutions in the circular economy, to reduce waste and add value to effluents from intensive livestock systems. Two new processes were developed: bioremediation by Black Soldier Fly (BSF) insect larvae via an effluent recovery system, and the use of biochar in manure storage pits to reduce methane emissions.

These processes can help add value to livestock effluents and provide new economic resources for producers. They enable two new production lines to be set up, including larvae for biorefinery, and a new type of fertiliser.

These solutions help achieve a more efficient use of water and nutrients, reduce the environmental impact of livestock farming, and add value to waste products.

The results are beneficial to farmers, who can lower costs in waste management and fertiliser use. Some of the developed techniques can be adapted to other types of waste, such as olive pomace, which is a residue from olive oil extraction.



- Watch the [project video](#)
- Read the [project sheet](#)



WINNER 2024



SUSTAINABLE
FOREST MANAGEMENT

IRELAND 

Illaun Farm-Forest Alliance

The Illaun Farm-Forest Alliance Operational Group project has developed an innovative approach to farm forests in Ireland, fostering habitat restoration, improved biodiversity, social engagement, and knowledge dissemination. Pioneering a catchment-sensitive farming approach, which raises awareness of diffuse pollution from agriculture, the project has closely collaborated with farmers to enhance forestry management, water quality and biodiversity.

“Our idea was to work with local farmers to expand and connect up these little disjointed pockets of woodland, but also integrating them into their farms in ways that made sense for them.”

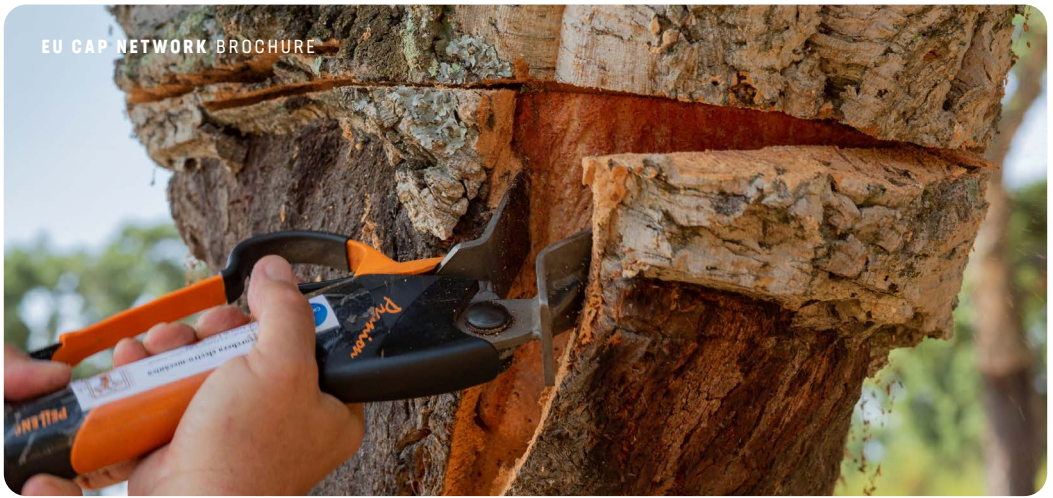
RAY Ó FOGHLÚ
Development Lead



Measures have included fencing, connective planting, and understorey enhancement. Landowners, forest managers and industry professionals have taken part in the development of the project. The Operational Group has resulted in afforestation licences being secured, planting thousands of trees, overcoming landowner scepticism, and delivering a practical, transferable model for achieving sustainability and creating on-farm value.



- Meet the **winner**
- Watch the **project video**



SUSTAINABLE
FOREST MANAGEMENT

SPAIN 

GO SUBER: Global modernisation of the cork harvesting sector: mechanisation, improvement of work environment, optimisation of organisation and commerce

The GO SUBER project addresses challenges in cork harvesting by fostering innovations and new protocols that promote safety and gender diversity in the sector. The project has developed patented tools such as electromechanical tongs for debarking, and new debarking work protocols based on latest technologies.



The project has also set up occupational health and safety protocols and has aimed to improve women's access to the profession of cork debarking. The project has developed new applications for granulated and virgin cork and explored the various uses of cork as an industrial raw material. A 'CorkClass' training programme and quality guide will help to explore new uses and applications for cork products. The project results have sparked increased interest for cork technologies, demonstrated in patent licensing and adoption by industry leaders. The outcomes may be transferred to Portugal, France, Italy and North Africa.



- Watch the **project video**
- Read the **project sheet**

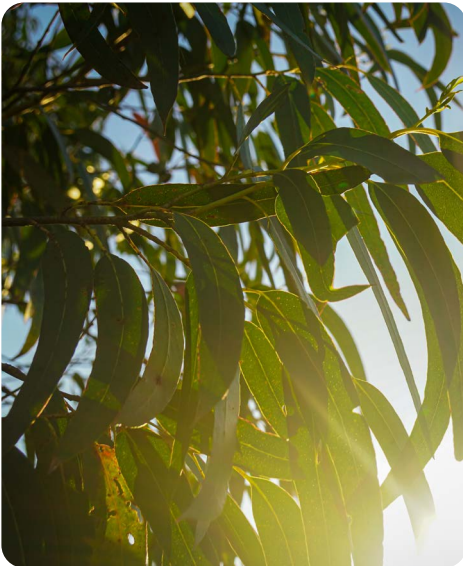


SUSTAINABLE
FOREST MANAGEMENT

PORTUGAL 

IEPE - Efficient installation of eucalyptus stands

This Operational Group promotes sustainable forestry practices among eucalyptus plantation owners in Portugal. The aim is to make specific technical knowledge available to foresters to improve soil fertility and ecosystem sustainability.



The project has developed a decision support tool to optimise the installation of eucalyptus stands based on sustainable forestry techniques. It has provided tailored information, including cost comparisons between practices, empowering owners to make informed decisions. Forest owners, technicians, researchers, and entrepreneurs have collaborated to ensure effectiveness. Through IEPE, private forest owners can now use a user-friendly tool, which allows them to obtain information that is needed for the proper establishment of their stands.

Thanks to various dissemination activities, users have adapted the tool for other forest species and regions, demonstrating its flexibility and applicability.



- Watch the **project video**
- Read the **project sheet**



SUSTAINABLE
FOREST MANAGEMENT

PORTUGAL 



FERTIPINEA: Nutrition and fertilisation of stone pine in rainfed and irrigated systems

Pinus pinea L. (stone pine) plays a significant ecological, social and economic role in the Mediterranean. This tree produces pine nuts, which are highly valued for their nutritional properties. However, the yearly production of pinecones can vary greatly. On several sites in Portugal, this Operational Group has studied the nutrition and fertilisation of stone pine, considering environmental and cultural factors that may influence the trees in terms of nutrition and irrigation water, and the impact on pinecone yields.



The project has produced a technical manual on how best to fertilise stone pine, designed for national pine producers, forestry technicians, forestry organisations and others from the Mediterranean and other pine stone producing regions.



- Watch the [project video](#)
- Read the [project sheet](#)



SUSTAINABLE
FOREST MANAGEMENT

PORTUGAL 

PLATISOR: Methods for the management of cork oak forest with 'Platypus cylindrus' attacks in the region of Sor

Cork oak forests are highly complex ecosystems with significant economic, social and ecological value. An increase in the pest *Platypus cylindrus* has contributed to the decline of cork oak forests in Portugal. To reverse this decline, this Operational Group has promoted practices that support the biological and

biotechnical control of *Platypus cylindrus*. A set of procedures was developed to increase the resistance of cork oaks, ranging from methods for managing affected wood to installing insect traps.

The project partners are foresters who have provided experimental plots, an agro-forestry association, a scientific organisation, and a plant-health product company. The procedures can easily be adopted by any cork oak and holm oak forest manager across Portugal and beyond.



- Watch the **project video**
- Read the **project sheet**

WINNER 2024



DIGITALISATION

GERMANY 

Precision liming in Brandenburg

In the German State of Brandenburg, only 26% of arable land is in the optimal soil pH range. This results in considerable yield losses and reduced nutrient efficiency. To counteract soil acidification, this Operational Group has developed a fully digitised decision support system for variable-rate liming, which can help manage soil acidity. The system offers site-specific information on soil texture, soil organic matter content, and pH value of the soil, which is of great

benefit to farmers. It includes sensor-based mapping, which is a novel approach for calculating lime requirement, and generates variable-rate lime application maps. The partnership consisted of research institutes, three farms, a consulting company, and an IT service provider. The tool can also be used in various other smart farming applications throughout Germany.

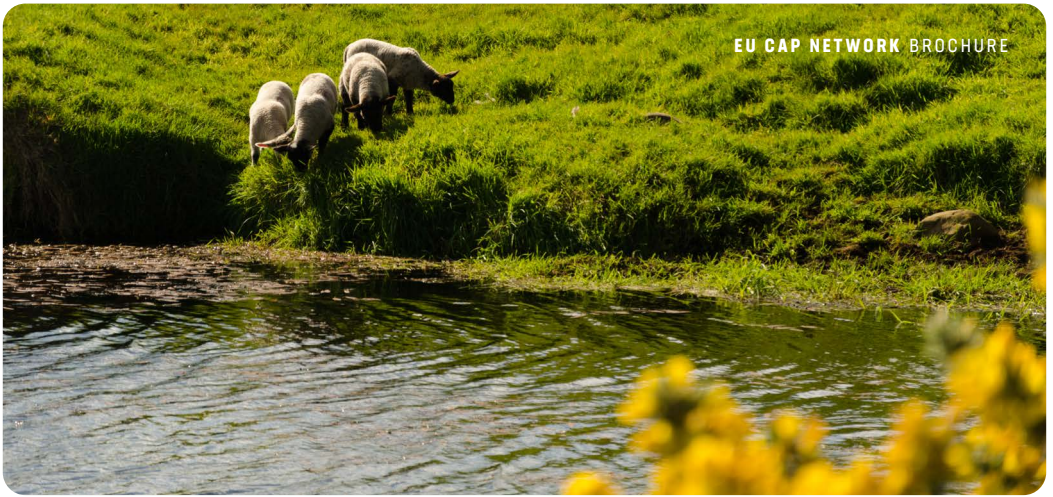
“The aim of the Precise Liming Project for Brandenburg is to make farmers more aware of the importance of liming, to give them information and practical solutions for implementing site-specific liming strategies.”

ECKART KRAMER

Eberswalde University for Sustainable Development



- Meet the **winner**
- Watch the **project video**
- Read the **project sheet**



DIGITALISATION

IRELAND 

The BRIDE project: Biodiversity regeneration in a dairying environment

The Operational Group Biodiversity Restoration In a Dairying Environment (BRIDE) addressed farmland biodiversity loss by incentivising farmers to improve habitats through a results-based payment system, rewarding farmers for improvements in biodiversity. Working with over 40 farms (e.g. beef, lamb, milk) in the River Bride Valley, Ireland, the aim was to create a minimum of 10% 'Space For Nature' on each farm. A web portal and app were developed to help farmers measure, map, and manage biodiversity.

"With Farming with Nature, we are hoping to establish a national standard whereby all the processors have this Farming with Nature standard, which is 10% of your farm in space for nature."

DONAL SHEEHAN

Dairy farmer and project coordinator

The app generates a 'Farmland Biodiversity Index', which allows farmers to rate farmland habitats based on their ecological quality, also enabling them to document biodiversity over time. Two labels have been registered for farmers and food products that meet biodiversity criteria. The project helped to improve farmer-consumer connections, and its outcomes can be transferred to other regions.



- Watch the **project video**
- Read the **project sheet**



DIGITALISATION

SPAIN 



PHYTODRON - Validation and safety of aerial drone applications in the agroforestry environment

The integration of drone technology in agriculture, particularly for plant protection product (PPP) applications, is the focus of this Operational Group from Spain. Drones offer unparalleled precision, minimising waste and environmental impact. Addressing regulatory challenges, the project has aimed to validate the safety, sustainability, and efficacy of drone use for PPP applications.

Farmers from various sectors have collaborated to develop this solution alongside representatives from agri-food industries, research institutions, and regulatory institutions. Concrete results include regulatory and trial protocols and awareness-raising activities, including field demonstrations. The protocols are adaptable to EU-wide implementation and across different agricultural scenarios.



- Watch the **project video**
- Read the **project sheet**



DIGITALISATION

ITALY 

RIPRESO: Improving vineyard efficiency and sustainability by managing within-field variability through variable rate applications

This Operational Group from Italy applies precision viticulture to target inefficiencies in traditional vineyard management in the Colli Piacentini wine district caused by within-field variability. Their innovation centres on novel management protocols, using variable-rate technologies. The MECS-VINE sensor facilitates high-resolution canopy growth mapping,

enabling tailored management strategies such as variable cover crop sowing, adaptive canopy spray, and selective harvesting. Growers, researchers, consultants, and tech companies have collaborated to develop, implement, and disseminate these solutions, which promote sustainability and profitability in a changing climate. Results have shown increased adoption of precision vineyard management and selective harvesting methods, which can enhance product diversification and generate higher revenues for producers.



- Watch the **project video**
- Read the **project sheet**



DIGITALISATION

THE NETHERLANDS 

WeedBuster: Prototype Andela robot weeder

The WeedBuster is a prototype robot developed by a Dutch Operational Group that automatically recognises and removes weeds. For organic arable farmers, in particular, this can replace manual labour with automation. The robot has high-tech features such as AI-driven weed detection and robotic arms. It addresses the drawbacks of manual weeding, such as high costs and labour requirements. Organic farmers and weed specialists have collaborated with a tech company to refine the robot's functionality based on actual needs.

“Weeds are one of the biggest problems for organic farmers. They use hand weeders instead of pesticides. Every year, organic farmers increasingly struggle to find suitable hand weeders.”

PAUL ANDELA
Project coordinator

A marketable version of the prototype is now available. The project demonstrates how technology-driven solutions can revolutionise agriculture, reduce costs, and promote environmental sustainability.



- Watch the **project video**
- Read the **project sheet**

Operational Groups: Innovation in practice

The EIP-AGRI Innovation Awards 2024 were held during the EU CAP Network conference 'EIP-AGRI Operational Groups: Innovation in practice'.

- **Download the factsheet** to get all the information from the conference.
- Find all main outcomes **on the conference event page**.

Contact Operational Groups to find out more

The **EIP-AGRI project database** features 3521 innovative projects from across Europe that boost innovation and knowledge exchange for agriculture, forestry, and rural areas. Get in touch with the coordinator of the Operational Groups and have a look at their project sheets in the database to further elaborate these topics.



The EU CAP Network brochure '**EIP-AGRI Operational Groups: Collaboration and funding opportunities**' highlights examples of collaboration, funding sources, support platforms, and activities that can inspire National CAP Networks, Operational Groups, and other innovators to connect and boost innovation across the EU.

Need more inspiration?

Subscribe to the monthly **newsletter on Innovation and Knowledge Exchange | EIP-AGRI** to discover inspiring projects and events in agriculture, forestry and rural areas.

Colophon

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