OrganicClimateNET

A pilot network of organic farming actors

GRANT AGREEMENT NO. 101136880

D7.2

Practice Abstracts – batch 1 (5 PAs)

Document Type

R _ Report

Dissemination Level

Pu_Public

Document information

Document history			
Issue	Date	Comment	Author
V1	01/07/2025	1st version	Lauren Dietemann (FiBL CH)

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Document distribution		
Issue	Date	Distributed to
V1	25/07/2025	European Commission

Verification and approval		
	Date	Name
Verification final Draft by WP leader	25/07/2025	Lauren Dietemann (FiBL CH)
Approval Final Deliverable by coordinator	25/07/2025	Giulia Moretto (FiBL EU)

Disclaimer and acknowledgements

"This project has received funding from the European Union's Horizon Europe Research and Innovation programme under Grant Agreement No 101136880".

Funded by the European Union

Project funded by
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation
Federal Department of Economic Affairs, Education and Research EAER
State Secretariat for Education, Research and Innovation SERI

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Executive Summary

This deliverable 7.2 presents five Practice Abstracts (Pas) developed during the first reporting period of the OrganicClimateNET project, published on the EU CAP Network website in the EIP-AGRI format. The PAs address critical aspects of organic climate farming, representing a collaborative effort between project partners, national coordinators, and hub coaches to disseminate practical knowledge for climate-conscious agricultural practices.

The five practice abstracts cover: (1) foundational principles of Organic Climate Farming, (2) a comprehensive overview of organic farming's climate benefits, (3) cover crops: multiple benefits for organic farmers, (4) carbon farming policy considerations for organic agriculture, and (5) multi-species swards integration in crop rotations. These topics were strategically selected to address the most pressing needs identified within the network at the General Assembly held in April 2025 and during the Hub Coaches training sessions.

Key findings demonstrate that organic climate farming offers substantial environmental and economic benefits, including annual CO_2 reductions of 1,082 kg per hectare compared to conventional farming, 26% higher soil humus content, 137% improved water infiltration, and 19% higher energy efficiency. The abstracts provide practical implementation guidance, cost-benefit analyses, and policy considerations that support farmers in transitioning to more sustainable and climate-resilient agricultural systems.

The knowledge dissemination strategy adopted a coordinated approach, with FiBL Switzerland managing the writing, review, layout, and upload processes while leveraging the expertise of partner institutions across Europe. This collaborative model ensures both scientific rigor and practical applicability of the developed materials.

1 Introduction

Five Practice Abstracts (Pas) in the EIP-AGRI format were published on the EU CAP Network website in the first reporting period of the project (until M18).

The five topics were identified together with project partners, national coordinators, and hub coaches at the General Assembly held in April 2025 and during the different Hub Coach training. Each was authored by a different partner institution(s), while FiBL CH coordinated the process of writing, reviewing, laying out and uploading to relevant websites. The following chapter provides an overview of the PAs texts that were submitted to the EU CAP Network for publication. Additionally, some of the texts were or will be further developed into other knowledge material formats, such as PowerPoint or Factsheet. If the PAs are already available in another format, the link is provided.

2 Practice Abstract Overview

In the following sections, the text on the EU CAP Network and links to external website are provided.

2.1 PA1: Organic Climate Farming defined

The first project Practice Abstract (PA) was authored by the Research Institute of Organic Agriculture FiBL, Switzerland. The summarised text submitted to the EU CAP Network is reported below:

"Agriculture is directly affected by shifts in climate, for example, through changing growing conditions or extreme weather events resulting in droughts and floods. Agriculture also contributes to GHG emissions, accounting for around 10% of emissions in the EU. Agriculture can also provide solutions to help mitigate and adapt to climate change. This is often achieved through nature-based solutions that not only reduce emissions or store carbon through sequestration, but also provide additional co-benefits such as improved soil resilience, water storage capacity and biodiversity. Organic climate farming is an agricultural approach that integrates organic farming's nature-based and circular principles with climate-conscious practices. This combination provides innovative and impactful solutions to the challenges posed by climate change.

The principles of organic farming promote a healthy planet, integrating ecological systems and natural cycles in its work. This approach promotes healthy and fertile soils, biodiversity and ecosystem services, and provides other co-benefits, leading to resilient farming systems.Taking a climate perspective, organic farming increases climate resilience and supports wider climate change mitigation activities. Organic climate farming practices specifically support these benefits and actively seek to enhance the positive contribution for climate protection and beyond.

There are many organic climate farming practices that can be employed to mitigate and adapt to the challenges imposed by climate change. Within the project, knowledge on these practices will be made available - stay tuned. Graphic 1 highlights the six main elements of Organic Climate Farming."

Link to the Organic Farm Knowledge Tool entry: https://organic-farmknowledge.org/tool/54512

2.2 PA2: Organic Climate Farming: an overview

The second project PA was authored by BIOLAND, Germany. The summarised text submitted to the EU CAP Network is reported below:

"*Organic farming delivers significant climate benefits while maintaining farm productivity. Research shows organic farms produce 1,082 kg less CO2 per hectare annually compared to conventional farming, primarily through enhanced carbon storage and reduced emissions. Organic systems demonstrate 26% higher humus content, 137% better water infiltration, and 19% higher energy efficiency.*

Practical Recommendations & Benefits

Cost-Saving Opportunities:

- *Reduce energy costs by 50% through eliminated synthetic fertilizer production*
- *Lower input costs by eliminating synthetic pesticides and mineral fertilizers*
- *Implement renewable energy solutions like agri-photovoltaics for additional income*

Productivity & Resilience Gains:

- *Improve soil water retention (137% better infiltration) reducing irrigation needs*
- *Enhance drought resilience through diverse crop rotations and cover crops*

- *Achieve protein autonomy through optimized grazing and reduced feed dependence*

Climate-Smart Practices:

- *Direct seeding eliminates plowing costs while storing more carbon*
- *Intercropping maximizes land use efficiency and reduces pest pressure*
- *Agroforestry provides additional income streams while sequestering carbon*
- *Precision robotics reduce labor costs for weeding and sowing*

Implementation Value

Farmers adopting these practices benefit from improved soil health, reduced input dependency, enhanced climate resilience, and potential carbon credit opportunities. The systematic approach creates more stable, profitable farming systems adapted to changing climate conditions while meeting growing demand for sustainable food production."

Link to the Organic Farm Knowledge Tool entry: https://organic-farmknowledge.org/tool/55928

2.3 PA3: Cover crops: multiple benefits for organic farmers

The third project PA was authored by FIRAB, Italy. The summarised text submitted to the EU CAP Network is reported below:

"Cover crops offer significant economic and operational advantages for organic farmers by addressing multiple farm challenges simultaneously. Main outcomes include:

- *Soil health & productivity: Cover crops improve soil structure, increase organic matter, and enhance water retention, leading to better crop yields and reduced irrigation costs. Leguminous covers fix atmospheric nitrogen naturally, reducing fertilizer expenses, while other species act as "catch crops" preventing nutrient losses worth hundreds of euros per hectare.*
- *Weed management: Strategic cover crop use significantly reduces weed pressure through competition and natural allelopathic compounds, cutting manual weeding costs and labor requirements - a major expense in organic systems.*
- *Pest & disease control: Diversified rotations with flowering covers support beneficial insects and natural predators, reducing pest damage and crop protection costs while breaking disease cycles.*
- *Climate resilience: Enhanced water infiltration and soil cooling protect crops during extreme weather, reducing crop losses. Carbon sequestration in soil improves long-term fertility.*

Key success factors include careful species selection, precise timing of seeding and termination, and matching cover crop choice to local conditions and farm objectives. When properly implemented, cover crops typically pay for themselves through reduced input costs, improved yields, and enhanced farm resilience while building long-term soil capital.

Cover crops provide dual climate benefits through adaptation and mitigation, enhancing resilience while capturing CO2 for stable soil organic matter sequestration."

The PA is currently being developed into a factsheet and will be uploaded to the OFK platform as soon as it is ready.

2.4 PA4: Carbon farming in organic agriculture: Challen-ges and considerations under EU policy

The fourth project PA was authored by IFOAM EU, Belgium. The summarised text submitted to the EU CAP Network is reported below:

"The EU aims for climate neutrality by 2050, with agriculture responsible for 10% of greenhouse gas emissions. The CRCF, adopted in November 2024, creates a voluntary system for certifying carbon removals to reward farmers for climate-positive actions. However, current schemes don't adequately reflect organic farming's systemic benefits.

Organic farming offers holistic climate mitigation through reduced synthetic inputs, improved soil carbon sequestration via crop rotation and cover crops, and enhanced biodiversity that supports ecosystem resilience.

Key challenges for organic farmers

- *Narrow approach: Schemes focus on individual fields rather than whole-farm carbon balance, missing organic farming's systemic benefits and enabling "leakage effects" where emissions shift between areas.*
- *Limited co-benefits recognition: Current schemes inadequately value biodiversity and ecosystem services that organic farming provides alongside carbon sequestration.*
- *Assessment limitations: Complex, diverse organic systems are harder to assess than uniform conventional farms, increasing certification costs and reducing accessibility.*
- *First-mover disadvantage: Organic farmers with already high soil carbon levels may show minimal additional gains, receiving no credit for maintaining existing carbon stocks.*

Before participating, organic farmers should assess: payment structures and costs, profitability based on carbon prices, contract duration and exit conditions, liability mechanisms for external factors, co-benefits recognition, and available farmer support. While carbon farming offers income opportunities, current schemes need better integration of organic farming's holistic approach and co-benefits."

The PA is currently being developed into a factsheet and will be uploaded to the OFK platform as soon as it is ready.

2.5 PA5: Integrating multi-species swards into the crop rotation

The fifth PA was authored by Louis Bolk Institute, The Netherlands and Irish Organic Association, Ireland. The summarised text submitted to the EU CAP Network is reported below:

"Multi-species grassland leys combining grasses, legumes (especially clover), and herbs like ribwort plantain and chicory deliver significant benefits when integrated into arable rotations. Three-year rotations prove optimal, allowing soil recovery while maximizing economic returns from establishment costs.

Key Benefits for Farmers:

- *Reduced fertilizer costs: Clover fixes nitrogen naturally, cutting artificial fertilizer needs*
- *Higher yields: Following arable crops show >7.5% yield increases compared to continuous cultivation*
- *Improved soil health: Enhanced earthworm activity, better water infiltration, and stronger soil structure*
- *Drought resilience: Deep-rooted herbs maintain productivity in dry conditions*
- *Lower feed costs: Herbs provide natural minerals, reducing livestock supplement needs*
- *Weed suppression: Multi-species mixtures naturally reduce weed pressure*

Practical Implementation: Plant 20-30kg grass seed, 8-9kg clover mix, plus 1kg each of ribwort plantain and chicory per hectare. Sow late summer/early autumn after grain or early potato harvest. Partner farms can share benefits - arable farms provide drought-resistant fodder while dairy farms supply manure, creating win-win climate adaptation strategies especially valuable during dry seasons."

The PA is currently being developed into a factsheet and will be uploaded to the OFK platform as soon as it is ready.

3 Conclusions

The successful publication of five PAs on the EU CAP Network represents a significant achievement in knowledge transfer during the project's first reporting period, demonstrating effective cross-European cooperation through a collaborative authorship model involving institutions from Switzerland, Germany, Italy, Belgium, the Netherlands and Ireland. The PAs provide comprehensive coverage of organic climate farming, from foundational principles to specific implementation strategies, addressing both theoretical understanding and practical application while making knowledge accessible to diverse stakeholder groups, including farmers, policymakers, and agricultural advisors.

The PAs effectively document the quantifiable benefits of organic climate farming practices, providing farmers with concrete data to support informed decision-making through documented improvements in soil health, carbon sequestration, water management, and economic returns, thereby creating a compelling case for adoption. However, the analysis of carbon farming policies reveals significant challenges in integrating organic farming's systemic benefits into current EU regulatory frameworks, with identified issues such as narrow assessment approaches, limited co-benefits recognition, and first-mover disadvantages providing valuable input for policy development and refinement.

Each PA provides specific, actionable guidance for implementation, including seeding rates, timing recommendations, cost-benefit analyses, and partnership opportunities, enhancing the utility of the knowledge products for end-users. The development of abstracts into additional formats, such as PowerPoint presentations and factsheets, demonstrates commitment to meeting diverse learning preferences and communication needs, maximising the reach and impact of the developed knowledge. The collaborative identification of topics through different exchanges, such as at the General Assembly held in April 2025 and during Hub Coaches training sessions, ensures that the developed materials address real-world needs and priorities of the agricultural community, with the stakeholder-driven approach enhancing the relevance and adoption potential of the knowledge products.

The successful completion of these first PAs establishes a strong foundation for continued knowledge development and sharing throughout the project, with established processes and partnerships providing a framework for future knowledge products and ensuring sustained impact beyond the project lifetime. The practice abstracts represent a valuable contribution to the European knowledge base on organic climate farming, providing evidence-based guidance for the transformation of food systems while identifying areas requiring further policy and research attention.

OrganicClimateNET

A pilot network of organic farming actors contributing to the uptake of climate farming and its co-benefits for a carbon neutral and climate resilient Europe

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Project funded by

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Co-funded by the European Union