



Practice Abstracts for the EIP-Agri Database (3rd batch)

Deliverable D7.8

31 October 2023



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Deliverable lead	REVOLVE
Author(s)	Josep Crous-Duran and Jacob Threadgould (REVOLVE)
Contact	josep@revolve.media
Reviewers and Editors	Marco Van de Wiel and Ulrich Schmutz (Coventry University)
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²R=Document, report; **DEM**=Demonstrator, pilot, prototype; **DEC**=website, patent fillings, videos, etc.; **OTHER**=other
²PU=Public, **CO**=Confidential, only for members of the consortium (including the Commission Services), **CI**=Classified



Table of Contents

1. Executive Summary	5
2. Expected impacts.....	6
3. Introduction.....	7
4. 3rd batch of Practice Abstracts	8
4.1 PA25: Using carbon calculators to boost tree coverage on working farms.....	9
4.2 PA26: Fostering productivity, soil fertility and biodiversity with agroforestry.....	10
4.3 PA27: Reviving old farmland with innovative mixed agriculture	11
4.4 PA28: Diversifying land with experimental mixed agriculture.....	12
4.5 PA29: Continuing a journey towards agroforestry.....	13
4.6 PA30: The centuries-old silvopastoral system in southwest Iberian Peninsula.....	14
4.7 PA31: The opportunities, challenges and risks presented by Carbon Farming	15
4.8 PA32: First AGROMIX policy workshop in Central and Eastern Europe region.....	16



1. Executive Summary

Deliverable D7.8 of the AGROMIX project comprises the third of three batches of practice abstracts (PAs) derived from the project. Deliverable D7.8 presents eight PAs, including two recent policy events and challenges and solutions from the second round of six pilot projects, located in Italy, Poland, Portugal, Serbia, Spain and the United Kingdom.

The first batch of PAs, Deliverable D7.6, was presented in M12 of the project (October 2021) and included 8 PAs on a summary of the need to define 'resilience' in the agricultural context; the need to present the current policy situation as analysed during the first months of the project; and the main challenges faced by the first round of pilot projects located in Belgium, Switzerland, France, Italy, the Netherlands and Germany.

The second batch of PAs, Deliverable 7.7, was presented in M24 (November 2022) and referred to some of the most relevant outcomes of the second year such as summaries of the deliverables on climate resilience concepts in farming (D3.6); Methodological approaches to assess climate resilience (D3.7); Report on ecosystem services and disservices from Mixed Farming (MF) and Agroforestry (AF) systems for climate-smart agriculture (D1.2); Assessment of the farm level financial and socioeconomic performance of selected MF/AF systems (D5.1), and Inventory report of current MF/AF policy instruments (D6.1).

The first two batches of PAs are available at the website of the project in a report format (<https://agromixproject.eu/project/#how-we-work>) but can also be accessed by other audiences in a simpler format through the EIP-AGRI website (<https://ec.europa.eu/eip/agriculture/en/find-connect/projects/agroforestry-and-mixed-farming-systems-0.html>).



2. Expected impacts

The incorporation of these texts into the EIP-AGRI database will make the documents more accessible and readable to a broader audience than the deliverables alone. The EIP-AGRI common format facilitates knowledge flows on innovative and practice-oriented projects from the start until the end of the project. In this sense, the use of this format will allow farmers, advisers, researchers and other EU actors to learn more about the project and its results. It will also make the main outcomes easier to locate in addition to encouraging interaction with the targeted audiences.



3. Introduction

The European Innovation Partnership Agricultural Productivity and Sustainability (EIP-AGRI) interactive innovation approach fosters the development of demand-driven innovation through projects, transforming new creative ideas into practical applications through interactions between partners, knowledge sharing, and effective intermediation and dissemination. The EIP common format consists of a set of basic elements characterising the project and includes one or more 'practice abstract(s)'.

The format was developed with two main objectives:

- A) to enable contacting partners and incentivise efficient knowledge exchange, and
- B) to disseminate the results of the project in a concise and understandable way to practitioners.

The common format allows the provision of information throughout the project's life cycle. The content in the common format can be updated at any point in the project's duration. Project information should be available at the beginning (describing the situation at the start of the project, including project title and objectives) and, at the end of the project (describing the results/recommendations resulting from the project, including a final project report and the practice abstracts).



4. 3rd batch of Practice Abstracts

This Deliverable D7.8 includes 8 Practice Abstracts (PA25 to PA32). These texts represent some of the relevant outcomes of the third year of the AGROMIX project such as summaries on the activities at 6 project sites Italy, Poland, Portugal, Serbia, Spain and the United Kingdom and two policy events that the project has participated in — the first AGROMIX workshop in the **Central and Eastern Europe region** and an EU-level policy workshop on **Carbon Farming**.

The main objective of this deliverable is to guarantee that the project's results are not only available on the project's website in report format but can also be accessed by other audiences in a simpler format at the EIP-AGRI database.



4.1 PA25: Using carbon calculators to boost tree coverage on working farms

In the Marston Vale region of Bedfordshire, England, pilot farms have been used to explore how carbon and greenhouse gas emission calculators could help to plot out how many trees would need to be planted on livestock, arable and mixed agricultural land in a bid to achieve net zero carbon emissions. To study the carbon and greenhouse gas emissions at the farms, researchers from Cranfield University selected two calculating tools — Carbon Calculator and [AgreCalc](#).

Once the results from each farm are in, there are certain actions that can be taken. For example, farmers can revise their use of fertiliser and crops to boost efficiency. But one of the standout alternatives is to further integrate trees and hedgerows on the farms. This technique creates carbon sinks that absorb carbon dioxide from the atmosphere.

The tools allows the farmers to calculate how much of their land should be allocated to tree coverage or hedgerows to hit their net-zero goals. The results varied by farm type, with one of the pilot livestock farms needing on average 75% of the land designated for trees to achieve net-zero emissions in the next 40 years compared to 13% on one of the arable farms.

One of the recurring challenges identified in the study was that on certain types of farms, the area of tree coverage needed to offset emissions to net-zero was expansive.

As well as tree coverage to offset carbon emissions, farmers could have other options at hand should they wish to hit net-zero targets on their land, including putting methane-reducing additives in cattle fodder, adopting zero-tillage cover cropping, using organic fertilisers and harnessing electric vehicles.

These efforts come in line with UK government targets to become a [net zero economy by 2050](#).

More information on the Marston Vale region:

<https://agromixproject.eu/in-the-field/pilot-projects/marston-vale>



4.2 PA26: Fostering productivity, soil fertility and biodiversity with agroforestry

In the Veneto region of northeast Italy, seven farms of varying sizes and disciplines are engaging with agroforestry and mixed agriculture techniques in a bid to boost the sustainability of their production, soil fertility and biodiversity.

The Veneto Mix farms involved in the AGROMIX pilot project in collaboration with Veneto Agricoltura, are spread across the provinces of Padova, Verona and Vicenza, and range from small to medium farms (2 – 30 hectares). All the farms incorporate some degree of mixed farming in different combinations of horticulture, arable crops, livestock (with a limited number of poultry, pigs, cows) and with hedges or small woods on the field borders.

The farms are united in their aims and some of their challenges, which include extending agroforestry techniques and the use of hedgerows, expanding or beginning animal husbandry in rotation with main crops, introducing livestock into already existing woods and designing new agroforestry areas in combination with horticulture and arable crops.

Within the project to boost agroforestry and mixed agriculture systems are social goals, as farms explore the possibility of opening to provide spaces for education, programs to include disadvantaged workers and the creation of house farms.

With AGROMIX, the participants in the Veneto region gain access to knowledge and technical assistance *on-farm* resilience and diversification, sustainable land management, nature-based solutions (NBS) and recycling practices as well as insight into the interaction of livestock, trees and arable land to boost biodiversity and soil fertility.

More information on the Veneto Mix pilot project:

<https://agromixproject.eu/in-the-field/pilot-projects/veneto-mix>



4.3 PA27: Reviving old farmland with innovative mixed agriculture

The Curralões farm spans nearly 240 hectares of land in Alentejo, a region of southern Portugal characterised by extensive farming and a semi-arid climate. The 30-year average annual precipitation is 548mm, but for the last 15 years, the annual mean for the area has been around half, highlighting that the impacts of climate change are already being felt.

Formerly home to extensive livestock production, in 1994 the land was planted with over 130,000 stone pine trees to help against soil erosion by wind and water, as well as to increase carbon storage. The land managers, with the involvement of [Moinhos de Vento Agroecology Research Centre](#) (MVarc) and AGROMIX, are exploring the option of opening the land up for innovative mixed farming.

The family-owned farm near the town of Mértola currently has no staff and an extremely low annual production of pine nuts. It has been managed by neighbours for hunting game, which plays an important role in the local economy. Agriculture rules prompted the land managers to consider diversifying the land with other enterprises, including livestock, aromatic plants, fruit and nuts and grapevines all the while promoting sustainable land use.

As part of this diversification, a new enterprise is under development. *Cistus ladanifer* (rockrose) is currently considered a weed that needs to be controlled in order to be eligible for CAP payments and this is carried out using heavy disc harrows that cause soil erosion and degradation. However, this shrub is an aromatic plant that produces a highly valuable essential oil, and the farm is trialling a new approach to sustainable shrub harvesting and management that turns a negative — a weed to be controlled — into a positive — an additional income independent from subsidies.

The pine trees at the Curralões farm are planted in lines, creating alleyways sheltered from the extreme heat of the summer which could buffer crops from extreme temperatures and wind exposure. These can also naturally offer shade and shelter for livestock such as goats, sheep and cattle. MVarc has noted that these mixed agricultural techniques could help boost the land's resilience to the effects of climate change while boosting its productivity and preserving its value for local wildlife, which includes the endangered *Iberian lynx*.

More information on the Curralões farm pilot project:

<https://agromixproject.eu/in-the-field/pilot-projects/curraloes>



4.4 PA28: Diversifying land with experimental mixed agriculture

The Association of Rudno Households brings together a dozen private farms located in the Golija-Studenica Biosphere Reserve in southwest Serbia. The focus of this pilot is on two farms spanning a combined 24 hectares. Managed by young farmers in collaboration with local associations, and with the input of AGROMIX and the Network for Rural Development of Serbia (NRDS), these plots lend themselves to mixed agricultural practices combining livestock, cereal, and potatoes in a landscape of forests and meadows. One of the farms is also branching into tourism.

The pilot project has several aims. Through innovative approaches to land management and agriculture, the farms in this picturesque corner of Serbia hope to reduce the negative impact that farming can have on the natural environment and climate.

They are exploring how the diversification of economic activities can increase the sustainability of small mountain farms and bolster their market strength by leaning into the identity of the natural area while promoting the livelihood among young farmers in a depopulating area.

To achieve these goals, the participants of the pilot projects are open to discussion on mixed agricultural approaches that benefit the farmer, techniques for managing mixed agricultural land in protected areas as well as market analysis and marketing strategies.

More information on the Association of Rudno Households:

<https://agromixproject.eu/in-the-field/pilot-projects/association-of-rudno-households>



4.5 PA29: Continuing a journey towards agroforestry

Nestled in the Carpathian Mountains of southern Poland, the organic farm OIKOS wants to continue its transformation towards agroforestry, a process it began in 2008. The farmer, with the cooperation of the Polish Agroforestry Association (OSA) and AGROMIX, seeks to increase biodiversity while boosting profitability and growth in a market where products are anchored to sustainability goals.

Spread across some 200 hectares, two-thirds of the agricultural land is covered by grassland used for cattle grazing and covered partly by hedges. Pastures are mixed with individual trees and forested areas in complex mosaics, where more than 200 Limousine beef cows are farmed. Around 25% of the farm is covered by forest, of which approximately 5% is used as silvopastoral system.

When it comes to integrating agroforestry, the farm first focused on installing windbreaks and hedges. It also looked to constantly increase the number of wooded pastures, which were loosely linked together in a bid to encourage holistic grazing methods.

Agroforestry practices help to improve soil quality and protect it from excessive heat, thereby boosting the stability of the fodder base for livestock in the face of climate change. At the OIKOS farm, agroforestry has also led to an increase in revenue from timber and solidified the farm's place in the organic meat market.

The farm's market power is built on short supply chains and direct sales. The OIKOS farm is taking the initiative to establish a local grass-fed beef quality system and manages a local agricultural processing incubator open to many livestock farmers willing to process their beef. It intends to achieve a strong market position by organising the cooperation of pasture cattle farmers in the region.

More information on the OIKOS farm:

<https://agromixproject.eu/in-the-field/pilot-projects/oikos-farm>



4.6 PA30: The centuries-old silvopastoral system in southwest Iberian Peninsula

Farming in the southwest of the Iberian Peninsula is characterised by a system known as *'dehesa'* in Spain and *'montado'* in Portugal. It is an agro-silvopastoral practice in which livestock such as cows, pigs, sheep and sometimes goats graze on cleared pasture dotted by evergreen oak trees, such as holm and cork oak. Occasionally the land is also used for crops. This sustainable farming system spans a combined area of around three million hectares in the region, mostly within large-scale private farms, which includes the AGROMIX project site La Barrosa, in Extremadura.

The *'dehesa'* practice leads to a simplified version of a Mediterranean landscape, where livestock positively interact with the natural elements of the environment. Trees not only provide shelter and sustenance to the livestock but also help against soil erosion in the region. In turn, livestock help to ward off invasive plant species and fertilise the soil.

In Spain, oak trees are vital to the production of the prized *"jamón ibérico"*, which is certified in accordance with the diet of the animals, with those being fed a greater diet of acorns graded at a higher quality.

But the system has benefits beyond the quality of the produce on offer. The dehesa and montado systems harbour a rich biodiversity thanks to the wide array of habitats found in the combinations of grassland, Mediterranean shrubs, managed wooded areas, and pasture. Notable rare species associated with dehesa systems include the Spanish Imperial eagle, the Iberian lynx, and the common crane. Dehesas are also listed as being of wide-community interest on the EU habitat directive.

Researchers warn that the dehesa system is endangered, however, due to the low profitability of the system and the encroachment of more intensive practices. This is one of the reasons La Barrosa is researching solutions to this challenge in order to preserve this culturally important agricultural system in the region.

More information on La Barrosa:

<https://agromixproject.eu/in-the-field/pilot-projects/la-barrosa>



4.7 PA31: The opportunities, challenges and risks presented by Carbon Farming

The AGROMIX Project took the opportunity to engage in a policy workshop on EU carbon farming legislation with the involvement of a range of stakeholders from Commissioners and MEPs to civil society, farmers and scientists. Carbon farming involves practices that promote the uptake and storage of carbon in the soil and has been identified as a tool that, in combination with other measures, could help Europe hit its goal of becoming carbon neutral by 2050.

The environmental benefits of agroforestry in boosting biodiversity and sequestering carbon through trees is widely acknowledged but the workshop provided a platform for participants to discuss opportunities as well as risks and challenges related to upcoming carbon farming laws. These included concerns over the required speed of a widespread uptake of agroforestry techniques.

Some of the risks outlined in the session revolved around how to make sure the right people benefited from the promotion of carbon farming, how to protect them from fluctuations in the carbon market and the potential land grabbing and corporate speculation it could lead to without safeguards in place.

Other points of concern included the state of current farming advisory services, which are over-represented by people trained in industrial agriculture and financialisation.

More on this discussion can be found here:

https://agromixproject.eu/wp-content/uploads/2023/07/AGMX_T6.2_Policy_Factsheet_AE.pdf



4.8 PA32: First AGROMIX policy workshop in Central and Eastern Europe region

Workshops are an integral part of AGROMIX. In April 2023, the project held its first policy workshop session in the Central and Eastern Europe region. Following a multi-stakeholder approach, the workshop invited farmers, researchers and decision-makers to Zebegény, in Hungary, where representatives of AGROMIX partners CEEweb for Biodiversity introduced the project and presented some of its preliminary results. Also in attendance were officials from the Hungarian Ministry of Agriculture and the Chamber of Commerce, who opened discussions on CAP funding mechanisms and green investments.

These topics were followed by research presentations on agroforestry, which fed into a field trip to the sweet chestnut orchards of Nagymaros, where participants were able to gain a better understanding of the practicalities of agroforestry methods.

Such workshops provide a space for co-creation, debate and knowledge sharing amid efforts to close the gap between decision- and policymakers and the primary sector actors who, ultimately, will be the ones implementing the agroforestry and mixed farming solutions detailed by the project.

More on this can be found here:

<https://agromixproject.eu/newsroom/introducing-agromix-project-and-its-results-first-policy-workshop-of-the-cee-region-in-hungary>

