



Agroforestry Carbon Farming Q&A

As part of the EU Horizon ResAlliance project, EURAF has recently published a 4-page [factsheet](#) called “Carbon Farming: is it the game-changer for agroforestry?” Earlier this year, the organisation updated two detailed guides on the same subject: Policy Briefing [#8](#) “Agroforestry for carbon farming in the EU” and Policy Briefing [#20](#) “Initial approach to Monitoring, Reporting and Verification (MRV) of agroforestry-carbon-farming in the EU” for those with an advanced knowledge of the intersection between agroforestry and carbon farming.

This Q&A has been developed to address the basic questions that our members (and non-practitioners) may have on the subject. If you would like a deeper dive into the topic, we encourage you to consult our “further reading” section, or the projects mentioned throughout the document.

/// Background ///

1) What is carbon farming?

Carbon farming is a set of land management practices to store carbon in the soil, crop roots, wood and leaves, and harvested wood products like timber and biochar (including branches and produce made from wood before it is harvested), and also to reduce the emission of greenhouse gases like nitrous oxide and methane. It is a natural form of carbon removal (in contrast to Carbon Capture and Storage/Utilisation - CCS/CCU, which use chemical or physical technologies to capture carbon). By adopting practices such as agroforestry, no-till farming, cover cropping, and rotational grazing, farmers can improve the resilience of their land to climate change, support sustainable food systems, and contribute to a more balanced and thriving ecosystem.

2) How is carbon farming connected to agroforestry?

Carbon farming and agroforestry are interconnected in that they both aim to enhance carbon net removals. Agroforestry integrates trees and shrubs into agricultural systems, which increases carbon storage in vegetation and soil. This practice supports carbon farming by capturing more atmospheric CO₂, thus helping mitigate climate change while also improving farm productivity and biodiversity.

3) Does carbon farming work?

Yes, carbon farming works by implementing practices that capture and store carbon in soil and vegetation, effectively reducing greenhouse gas levels. Techniques like cover cropping, reduced tillage, and agroforestry are proven to enhance soil carbon storage and improve soil health. However, the success of carbon farming depends on factors like proper management, local



conditions, and long-term commitment, making it essential to tailor practices to specific landscapes and continuously monitor their effectiveness.

/// Relevance and benefits ///

4) How does carbon farming help combat climate change?

Carbon farming helps combat climate change by capturing and storing atmospheric carbon dioxide (CO₂) in soil and vegetation. This process reduces the amount of CO₂, in the atmosphere, thereby mitigating the greenhouse effect and global warming. Additionally, carbon farming practices often improve soil health, increase biodiversity, and enhance ecosystem resilience, further contributing to climate change adaptation and mitigation, often referred to as adaptation measures.

5) What are the co-benefits of carbon farming beyond carbon sequestration?

Carbon farming offers several benefits beyond carbon sequestration, including soil health improvement, increased biodiversity, water management, enhanced crop yields, economic benefits, and climate resilience.

6) Is carbon farming economically viable for farmers?

Yes, soil health and water management associated with carbon farming can lead to increased and more stable crop yields, enhancing farm profitability. Cost savings in inputs and diversified income streams further contribute to providing the farm long-term viability. In addition, it is possible to receive revenue from Carbon Credits, which reward good practices with financial benefits. However, it is important to note initial startup costs.

/// MRV (Monitoring, Reporting, and Verification) ///

7) How is carbon sequestration measured in carbon farming?

There are several established methods to quantify the amount of carbon stored in soil and biomass. These methods include soil sampling (where field samples are taken), remote sensing and GIS (drones use aerial imaging), biomass measurement (calculations made based on size of vegetation). Each method has different costs and advantages/disadvantages. There is also a growing industry of Carbon Accounting Models and tools, many of which are available at: [Tools and Data Catalogue - DigitAF](#).

8) What are the challenges associated with carbon farming?

There currently are some challenges with carbon farming. Accurately measuring and verifying carbon sequestration can be complex and costly, due to differences in soils, climate, and



farming methods. Initial startup costs such as cover crop seeds or planting trees can take years before they are profitable, making it difficult to engage in certain carbon farming methods on rented land or where land rights are not well-defined. In addition, the MRV (Monitoring, Reporting, and Verification) processes for carbon farming present significant challenges. These processes require consistent, long-term data collection and advanced technologies like remote sensing or soil sampling, which can be expensive and difficult to implement on a large scale, especially for small farms. Other challenges may include the knowledge and training necessary to engage in carbon farming and government policies (addressed further in question 10). For more information on MRV, please read Policy Brief [#20](#).

9) What role do EU and Member State policies and incentives play in carbon farming?

The European Commission has integrated carbon farming into several key policies under the European Green Deal, which aims for the EU to become climate-neutral by 2050, including the Farm-to-Fork strategy, and the CAP (Common Agricultural Policy). In fact, Eco-schemes under the new CAP provide direct payments to farmers who implement sustainable practices such as carbon farming as well as the GAEC's (Good Agricultural and Environmental Conditions) which subsidise agroforestry in some member states. Most recently, the CRCF (Carbon Removals and Carbon Farming) Regulation is creating the first EU-wide voluntary framework for certifying carbon removals, carbon farming and carbon storage in products across Europe. Publication of CRCF in the Official Journal is anticipated for 12/2024, while certification should begin in 2026. And although the biodiversity strategy doesn't directly address carbon farming, it does address the closely related carbon sequestration. All these EU policies have been implemented, soon to be implemented, or updated within the last 5 years. For more details, we suggest reading Policy Brief [#8](#).

/// Moving Forward ///

10) How can farmers get started with carbon farming?

Although many farmers are currently practising carbon farming already, those who are interested in getting started can follow a series of steps to implement practices that enhance carbon sequestration in soils and vegetation. First, farmers must understand the basics of Carbon Farming. They should then evaluate their current farming practices, and develop a Carbon Farming plan. Next, the farmer should seek out financial support and incentives, as well as certification and carbon credits. Engaging with networks of other practitioners can often be very effective to understand best practices. We encourage you to follow the projects [Carbon Farming MED](#), [CREDIBLE](#), and [MARVIC](#) on social media to learn specifics.

11) What is the future outlook for carbon farming?

The future outlook for carbon farming is promising, with significant potential for growth and impact as it becomes a key component in global efforts to combat climate change, with key



support in both the European Green Deal and the CAP (including CAP and State Aid funds). Many EU member states are also incorporating carbon farming into their National Energy and Climate Plans (NECPs), providing additional support and resources. In addition, future possible programs like the Agri-Food Just Transition Fund should complement efforts under the CRCF, further contributing to decarbonising EU agriculture. Constantly improving technologies and increasingly popular carbon markets are showing that Carbon Farming is here to stay. However, the scalability of carbon farming will depend on overcoming challenges such as regulatory complexities, high implementation costs, and the need for widespread adoption among farmers.

/// Further Reading ///

- [#8](#) Agroforestry for carbon farming in the EU - history and policies (v4 28.3.24)
- [#17](#) Agroforestry in the revised LULUCF Regulation (v4 10.7.24)
- [#20](#) Initial approach to monitoring reporting and verification (MRV) of agroforestry carbon farming in the EU (v3 17.9.24)
- [#21](#) Landscape Features in the new CAP (v1 30.1.23)
- [#24](#) Agroforestry and Parliament's report on Sustainable Carbon Cycles (v1 5.3.23)
- [#26](#) Agroforestry and the 2040 AFOLU net-zero target (v1 23.6.23)
- [#27](#) Agroforestry and adaptation to climate change (v1 31.7.23)
- [#28](#) Agroforestry and the EU Sustainable Finance Initiative (v1 15.12.23)
- [Resalliance Factsheet #36](#) Carbon farming: is it the game-changer for agroforestry?

/// Sources ///

FAO, NRDC, World Agroforestry, USDA, IPCC, NOAA, EC, EP, EURAF Policy Briefings

/// Contact ///

If you have particular questions you would like to have answered or you wish to be put in contact with experts in the field of agroforestry carbon farming, please reach out to Daniel@euraf.net