# LIFE AgroForAdapt (LIFE20 CCA/ES/001682) 10/2021 – 09/2026

## Agroforestry systems for climate change adaptation of Mediterranean agricultural and forest areas

CTFC

SCIENCE FOR FOREST MANAGEMENT, BIODIVERSITY & BIOECONOMY

Change the future, today

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Multifunctional Forest Management Program

**Forest Science and Technology Centre of Catalonia (CTFC)**

Agroforestry = Woody species + agriculture and/or livestock in same land

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# Wide range of agroforestry models

Timber trees

## SILVOARABLE

Introducing tree rows in arable land

Fruit trees

# Wide range of agroforestry models

## SILVOARABLE

Introducing tree rows in arable land

**Introducing hedgerows in arable land**

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# Wide range of agroforestry models

## SILVOARABLE

Introducing tree rows in arable land
Introducing hedgerows in arable land
**Undercropping tree plantations**

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# Wide range of agroforestry models

SILVOARABLE

**SILVOPASTORAL**

Introducing tree rows in arable land

Introducing hedgerows in arable land

Undercropping tree plantations

**Introducing woody species in grasslands**

# Wide range of agroforestry models

SILVOARABLE

**SILVOPASTORAL**

Introducing tree rows in arable land
Introducing hedgerows in arable land
Undercropping tree plantations
Introducing woody species in grasslands
**Introducing livestock in tree systems**

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# Wide range of agroforestry models

SILVOARABLE
SILVOPASTORAL
**AGRO-SILVO-PASTORAL**

Introducing tree rows in arable land
Introducing hedgerows in arable land
Undercropping tree plantations
Introducing woody species in grasslands
Introducing livestock in tree systems
**Combining trees & agriculture & livestock**

# Wide range of agroforestry models

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Introducing tree rows in arable land
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Introducing woody species in grasslands
Introducing livestock in tree systems
Combining trees & agriculture & livestock

## 1. Is feasible having a common definition covering all “agroforestry” models?

**Our proposal (LifeAgroforAdapt)**

Agroforestry: system in which **woody vegetation** (trees or shrubs) is deliberately integrated **with agricultural or livestock systems** to generate benefits from their ecological and economic interactions. **At least 5%** of the system's surface area is occupied by the canopy of woody vegetation when it reaches full development.

# Benefits of (well conceived & managed) agroforestry systems

Higher yield per hectare (interactions & complementarities between components)

Climate change adaptation

- Two or more products (less vulnerability to extreme events and markets)
- Agroforestry in open areas → better micro-climate induced by trees
- Agroforestry in forest land → less vulnerability to forest fires

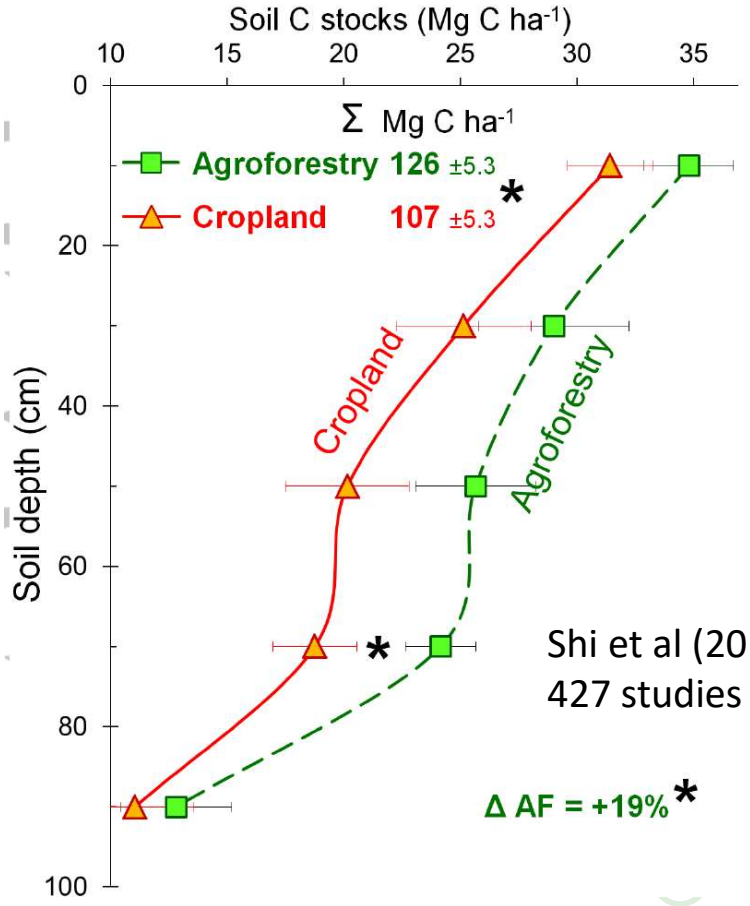
# Benefits of (well conceived & managed) agroforestry systems

Higher yield per hectare

Climate change adaptation

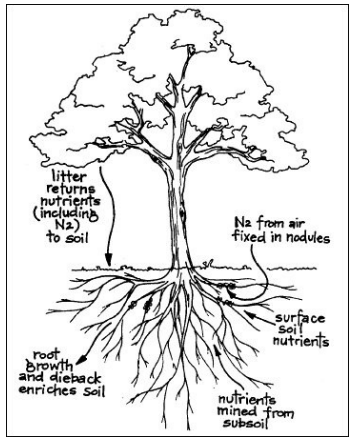
## Climate change mitigation

- Higher soil C stocks
- Agroforestry in open areas → C in woody component
- Agroforestry in forest land → less emissions from forest fires

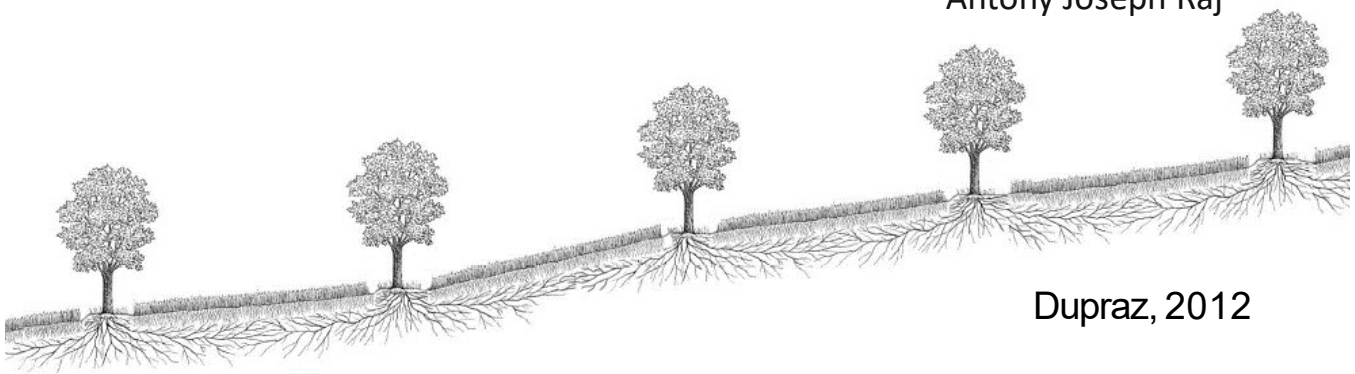


# Benefits of (well conceived & managed) agroforestry systems

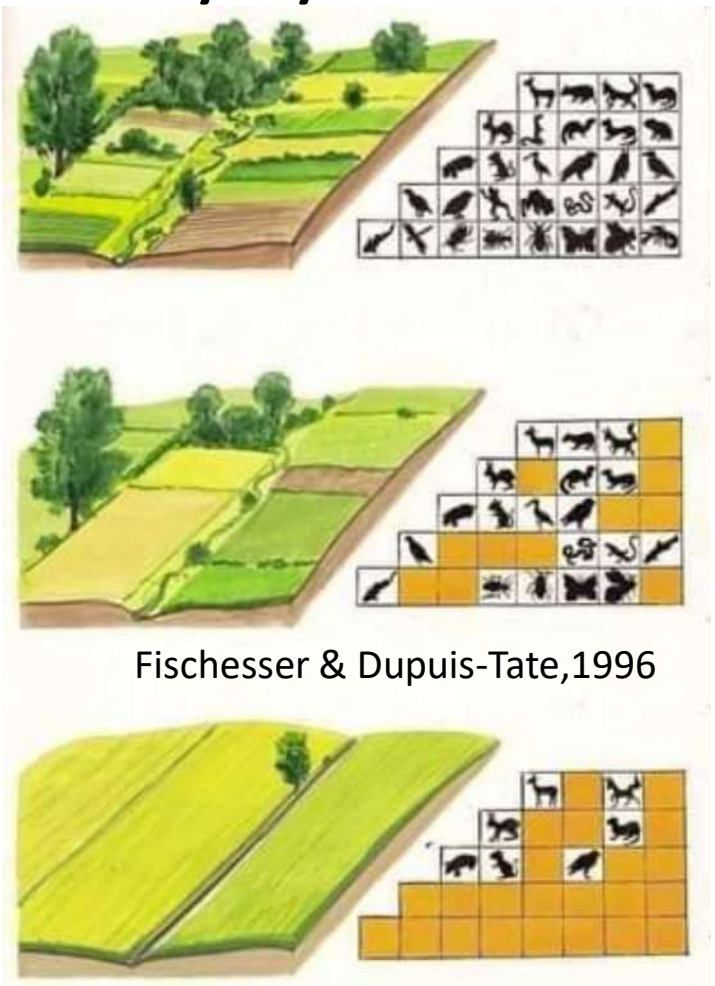
Higher yield per hectare
Climate change adaptation
Climate change mitigation
Soil, water & biodiversity protection




Antony Joseph Raj



Dupraz, 2012



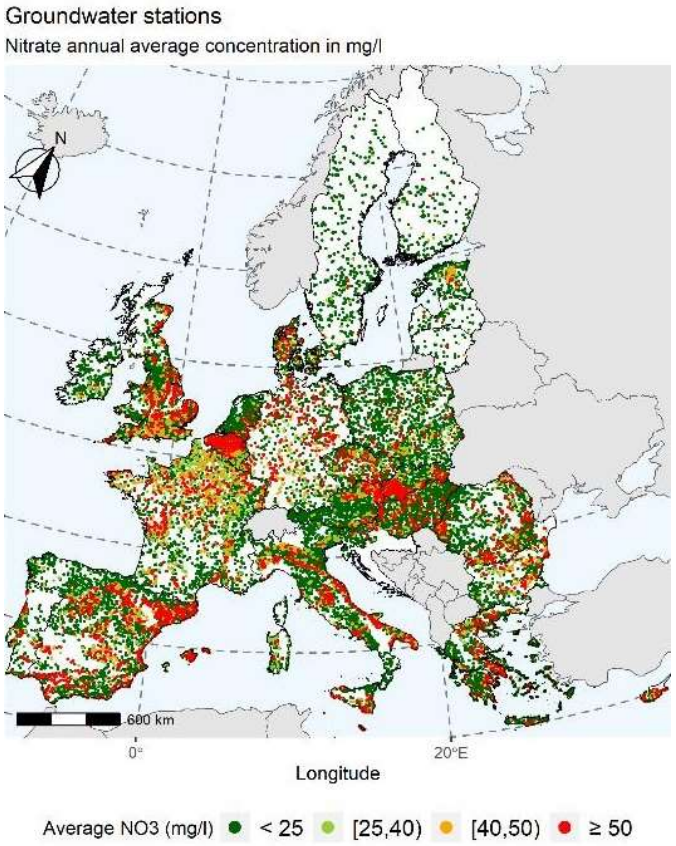
Fischesser & Dupuis-Tate,1996

# Agroforestry could help mitigating…

- **Farmer's vulnerability to markets (inputs & products) and climate fluctuations**

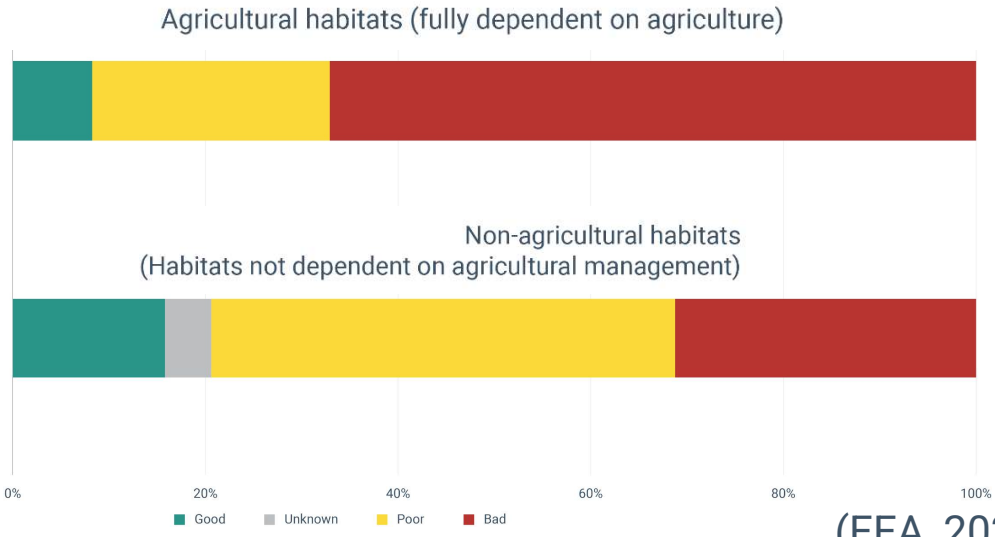
- **Nitrate pollution**

EC, SWD(2021) 1001



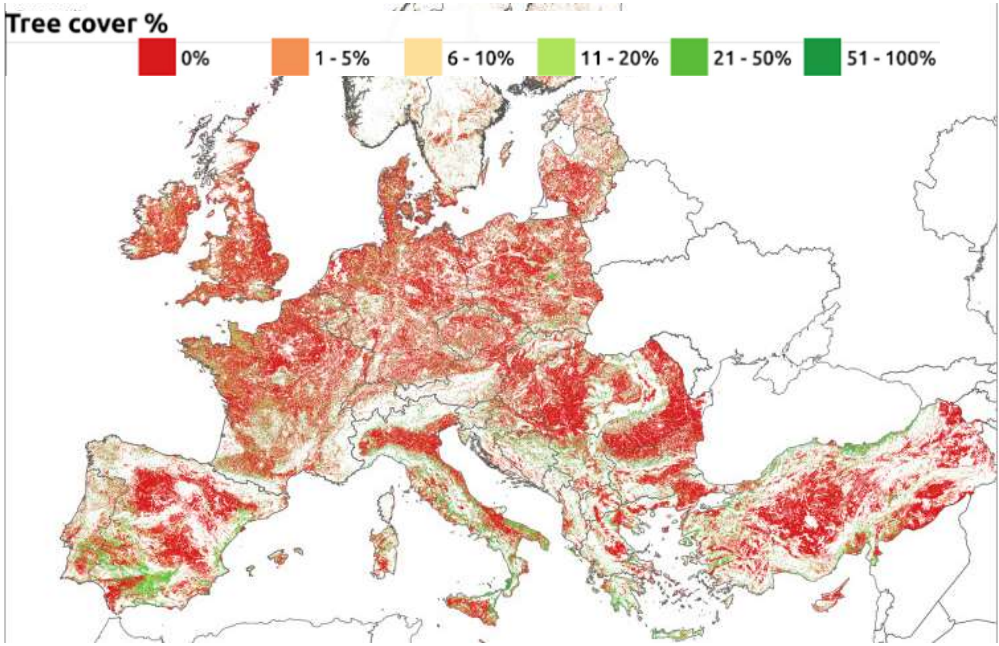
# Agroforestry could help mitigating…

- **Farmer's vulnerability to markets (inputs & products) and climate fluctuations**
- **Nitrate pollution**
- **Biodiversity loss / landscape simplification**




(EEA, 2020)

Trees cover density on agricultural land
(den Herder et al, 2020)



# Benefits of (well conceived & managed) agroforestry systems

Higher yield per hectare

Climate change adaptation

Climate change mitigation

Soil, water & biodiversity protection

(In)tangible benefits for farmers

- Higher heritage land value
- Synergetic with other agroecology practices (regen agri, organic, no-till, integrated pest management…)
- Improved farmer's role & motivation

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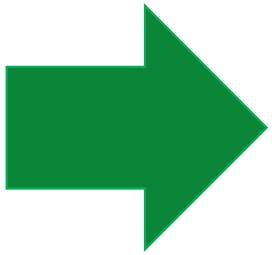
(In)tangible benefits for farmers



**Enhanced VIABILITY**

**(economic – technical – environmental – social)**

**of family farming**

## 2. Considering all these benefits …
## What hampers agroforestry adoption?

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**How can family farmers be compensated for the ecosystem services they provide?**

# Agroforestry is mentioned in most EU environmental policies…

LULUCF Regulation (2018/841)

Nature Restoration Regulation (2024/1991)

+ CAP strategic plans (Pillars I and II)

EU Green Deal COM(2019) 640

Biodiversity Strategy for 2030 - COM(2020) 380

Farm to Fork Strategy - COM(2020) 381

Bioeconomy Strategy - COM (2018) 673/2

Strategy 2050: a clean planet for all - COM (2018) 773

Evaluation of Climate Change Adaptation Strategy – COM(2018) 738

Forest Strategy – COM(2021) 572

Soil strategy – COM(2021) 699

## 3. IS THIS SUPPORT ENOUGH?

# Agroforestry is mentioned in most EU environmental policies…

# …but many barriers hamper its adoption (I):

**SILVOARABLE SYSTEMS**

· Support measures: **scattered**, poorly integrated, too complex for most farmers

· Poor consideration of **productive aspects of agroforestry** (i.e. focus is on “non-productive” trees; uncertain consideration of “Landscape features”)

· Lack of an official “Agroforestry” **definition** & **land use coding**

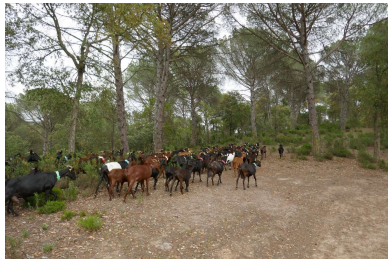
· Social and policy **inertias** (from farmers to policy makers; from local to EU-level)

· Lack of market / labelling recognition

**4. HOW CAN WE OVERCOME THESE BARRIERS?**

# Agroforestry is mentioned in most EU environmental policies …
# … but many barriers hamper its adoption (II):

**SILVOPASTORAL SYSTEMS**



· **Poorly adapted regulations**: most rules (sanitary, paperwork for moving flocks between municipalities…) are similar for intensive and extensive livestock

· **Administrative-social complexity**: need for collaboration between multiple stakeholders to provide infrastructure (shelters, troughs, housing), continuous grazing routes…

· Lack of **regional considerations**:

- high light availability in the Mediterranean → tree cover is not too limiting to forage production BUT reduces dramatically the CAP payment
- a major threat for Med forests is abandonment, expansion and encroachment, not overuse

## 4. HOW CAN WE OVERCOME THESE BARRIERS?

# LIFE AgroForAdapt, in brief

October 2021 – September 2026

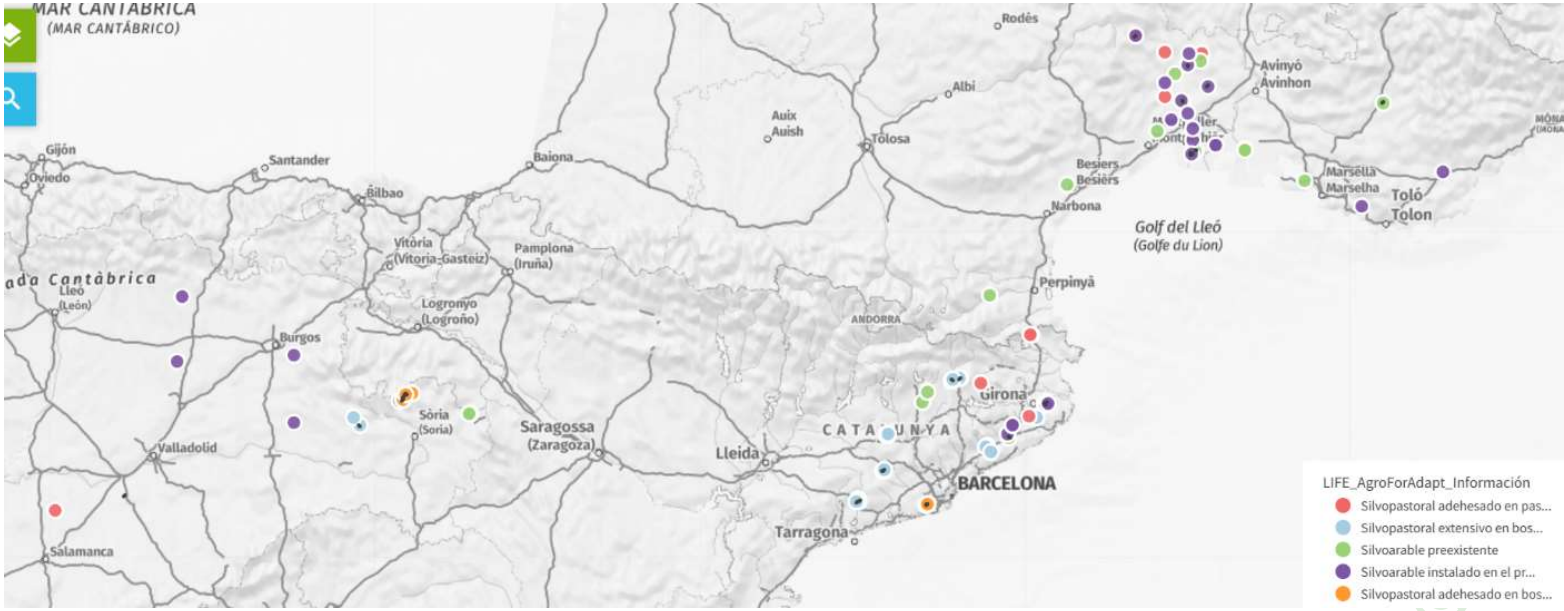
8 partners (Spain & France) | Total Eligible Budget: 3,024,537 €

**76 demonstration agroforestry systems (850+ ha)** +2,500 ha replication

38x silvoarable (226 ha)

17x grassland silvopastoralism (205 ha)

21x forest silvopastoralism (423 ha)



# Project aims

**Main objective**: promote agroforestry (AF) systems as a tool for climate change adaptation in the Mediterranean agriculture & forestry sectors

<u>Specific objectives:</u>

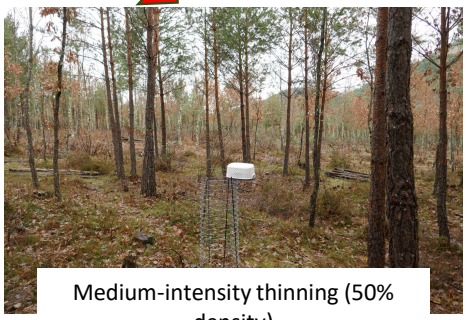
1) **Increase AF demonstration area** in 850+ ha
2) **Evaluate ecosystem services in demo systems**: profitability (yield & economic balance), climate change adaptation (air and soil moisture; temperature; vulnerability to forest fires), biodiversity (flora, birds, insects), C balance.

**Plots monitoring in all implemented agroforestry systems**

3) **Develop AF-related innovative tools**: design, planning, products marketing
4) **Promote AF in policies, regulations** and CC adaptation plans
5) **Raise awareness** on AF: society + agri-livestock-forest sectors

Initial situation

Low-intensity thinning (30% density)



Medium-intensity thinning (50% density)

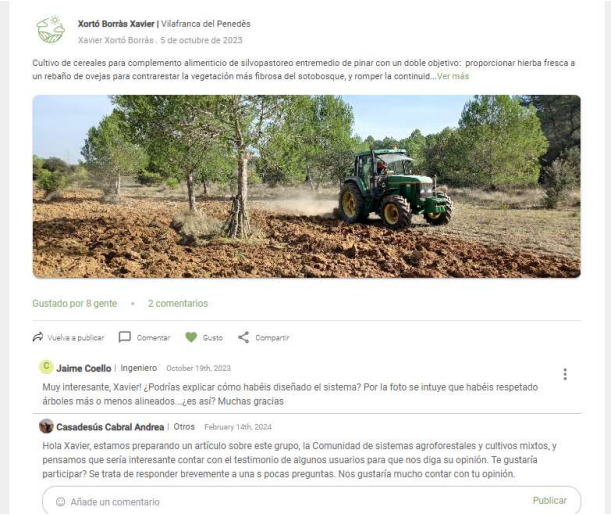
# AgroForAdapt, in brief

## Products:

Thematic social network + trimestral webinars (5 so far)
Spain's representative in EURAF (European Agroforestry Federation)

### Iberian Community of Agroforestry Systems

Aim: promote knowledge exchange between agroforestry practitioners





171 members
(114 farmers)


www.youtube.com/@comunidad-safam/videos

https://landfiles.com/es/comunidad-de-sistemas-agroforestales-y-cultivos-mixtos

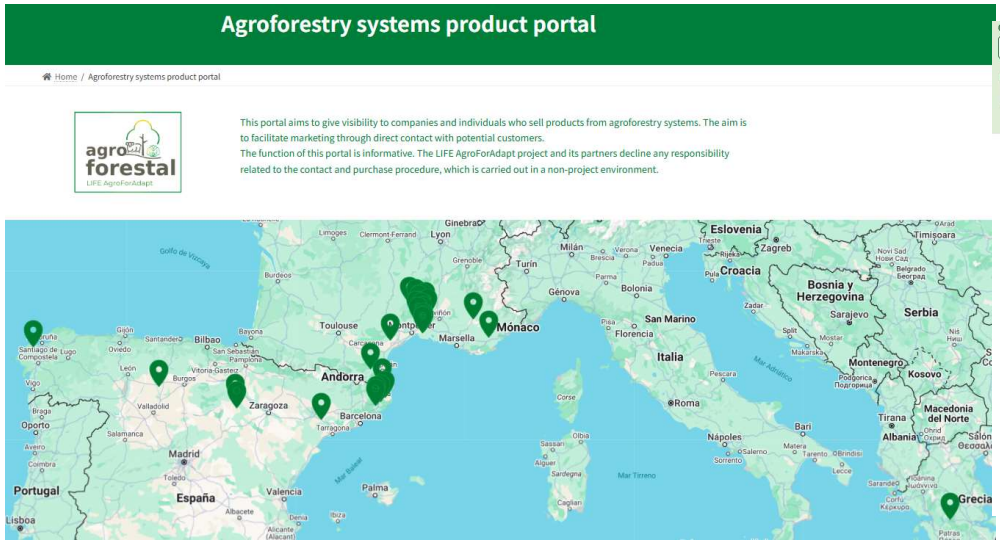
# AgroForAdapt, in brief October 2021 – September 2026

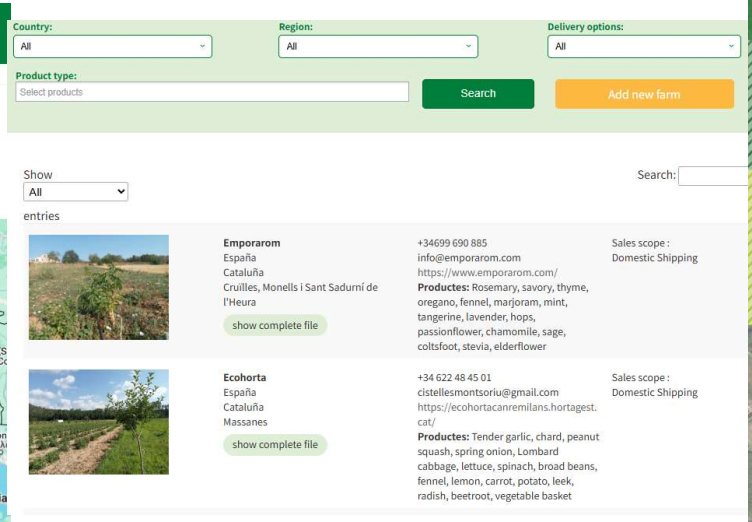
## Products:

### Agroforestry products portal

Aim: connect agroforestry farmers with potential customers

28 farms registered so far
Search per location, product…





https://agroforadapt.eu/en/buyagroforestry

# AgroForAdapt, in brief

October 2021 – September 2026

## Other activities:

https://agroforadapt.eu/en/publications-agroforadapt

Technical papers, policy brief, agroforestry planning tools, monitoring protocols, handbooks...

44. Agroforestry systems in the Spanish CAP Strategic Plan: analysis and reflection

*This document is the product of a Working Group on Spanish Agroforestry Policy, with the support of the European Agroforestry Federation (EURAF) and the DigitAF Project of the Horizon Europe program. It is a living text and will be updated as policies change. We encourage you to leave comments on the Google Doc versions below and to request to join the Working Group here.*

Working Paper: leave comments in the draft Spanish or English versions

Published Version 1 (1.4.24) https://zenodo.org/records/10903406

*EURAF Policy Briefing #44. Authors: Manuel Bertomeu (UEX), Jaime Coello (CTFC), Gerry Lawson (EURAF), Laura Armengot (UB), Teresa Baiges (CPF), Gabriel Borràs (DACC - DG Climate Change and Environmental Quality), Andrea Casadesús (CT BETA , UVic-UCC), Diana Pascual (CREAF), Ferran Pauné (UVic-UCC), Joana Rull (DACC - DG Climate Change and Environmental Quality), Laia Sánchez (DACC - SDG Rural Planning), Beatriz de Torre (AGRESTA).*

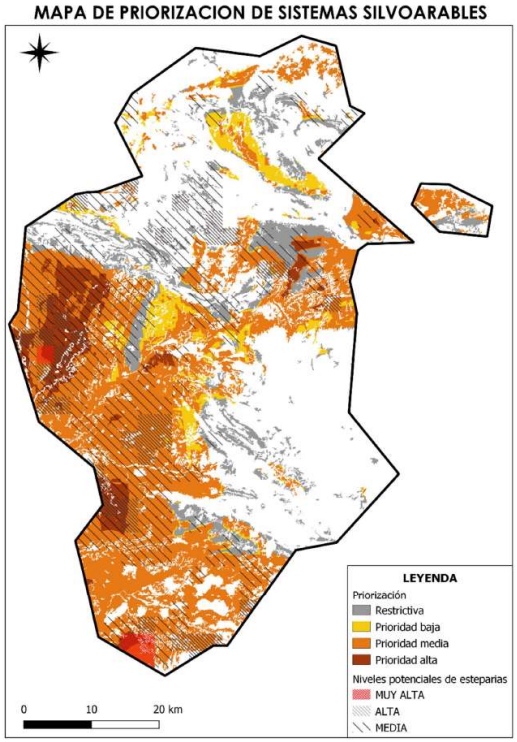
Summary

We present an analysis of the inclusion of agroforestry systems (agroforestry) in the Spanish CAP Strategic Plan 2023-27 (CSP), and other related national and regional plans and regulations. The CSP establishes a **maximum of 100 trees/ha for agroforestry to remain classified as "arable land" or "permanent crops"**, although autonomous regions have the option to reduce this threshold. In "permanent pasture" agroforestry is defined in a more flexible way, based on remotely-sensed information, including LIDAR, and the calculation of a "coefficient of eligibility" for basic payments.

Pillar I of the CAP (Direct Payments) describes nine **Good Agricultural and Environmental Conditions** (GAEC/GAEC) which should be maintained by farmers and administrations. Three of these are particularly relevant to agroforestry: GAEC-8 (maintaining landscape features), GAEC-1 (preserving ratios of permanent pasture) and GAEC-9 (ban on converting permanent pasture in Natura 2000 sites). Also in Pillar I is the new concept of eco-schemes. From the nine eco-schemes implemented by Spain, there are six that may be relevant to agroforestry - in particular those related to extensive grazing and the maintenance of vegetative cover in permanent crops.

https://zenodo.org/records/11071948

**PrioSilvAra** & **SilPas**: tools to identify priority areas for agroforestry




**Transfer & SCI activities**

58 trainings and transfer days

2 exchange trips (France 05/2024, Spain 05/2025)

Technical – scientific – policy papers

5 Technical handbooks (2026)

23 information panels

Videos & social media

# Thank you very much

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