

# AGROFORESTRY AND AGRICULTURAL POLICY DEFINITIONS

Defining agroforestry and agroforestry practices in temperate areas

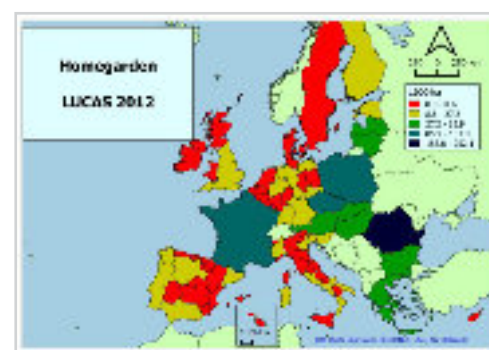
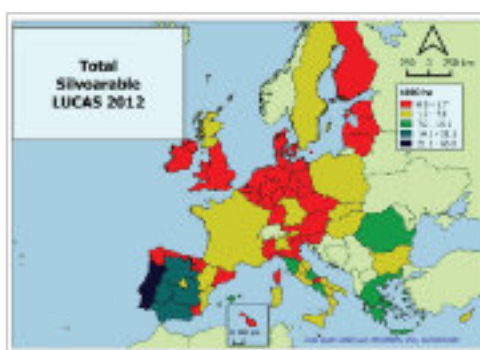
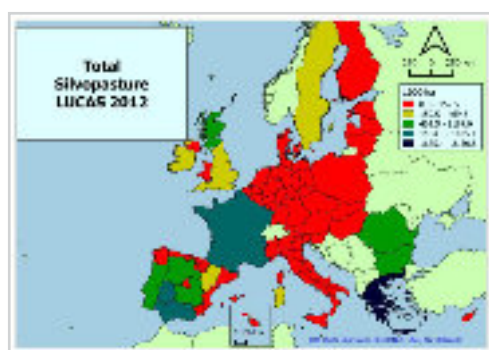


## THE WHAT AND WHY

### Agroforestry: a sustainable land use practice and system

Agroforestry has been recognized by international organisms (FAO, UN, EU) as a sustainable land management system, that is not extensively used in temperate areas. One of the main reasons for this fact is the lack of knowledge of agroforestry by different types of stakeholders such as policy makers, farmers and general public. Having a clear definition of agroforestry and the practices that it involves will help farming systems to move into the Climate Smart Agriculture objectives including

increasing farm income and productivity, adaptation and resilience, and mitigation to climate change. Identifying agroforestry practices should be targeting main land uses to help farmers to adopt this sustainable land use system. Five agroforestry practices can be identified in Europe: silvoarable, silvopasture, riparian buffer strips, forest farming, and homegardens that are able to be introduced in more than 90% of the European Agricultural area.



Extent of silvopasture, silvoarable and homegardens in Europe and share among different practices. Multipurpose is referred to fruit trees included in the permanent crops definitions of the CAP.



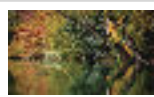


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## HOW IS THE CHALLENGE ADDRESSED

### Improving AF knowledge

Agroforestry EU definition should consider the current definitions given by different international and national organisms to make agroforestry accountability standardized and to facilitate statistics about the country extension but also about the ecosystem services they provide for payments. Two main agroforestry practices are subjacent to the rest "silvoarable" and "silvopasture". The enormous potential of agroforestry to depurate waters identifies Riparian buffer Strips as the way to include woody perennials to protect water bodies from agricultural activities (i.e. fertilization). The extended division between forest and agricultural land use justifies the "forest farming", an agroforestry practice exclusively linked to forest areas. Homegardens are associated to urban areas.

Agroforestry practices in Europe 1) Silvopasture 2) Silvoarable 3) Riparian Buffer Strips 4) Forest farming and 5) Homegardens  
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Agroforestry practice		Description
Silvopasture		Combining woody with forage and animal production. It comprises forest or woodland grazing and pastoral land with hedgerows, isolated/scattered trees or trees in lines or belts
Homegardens or kitchen gardens		Combining trees/shrubs with vegetable production in urban areas, also known as part of "trees outside the forest"
Riparian buffer strips		Strips of perennial vegetation (trees/shrubs) natural or planted between croplands/pastures and water sources such as streams, lakes, wetlands, and ponds to protect water quality. They can be combined with arable lands (silvoarable) or grasslands (silvopasture) but are signified by its role in preserving water streams
Silvoarable		Widely spaced woody vegetation inter-cropped with annual or perennial crops. Also known as alley cropping. Trees/shrubs can be distributed following an alley cropping, isolated/scattered trees, hedges and line belts design
Forest farming		Forested areas used for production or harvest of natural standing speciality crops for medicinal, ornamental or culinary uses, including those integrating forest and agricultural lands



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## HIGHLIGHTS

Agroforestry is a farming system that fits in the Climate Smart Agriculture concept and a type of land use able to be developed in agricultural lands such as arable lands (silvoarable), permanent grasslands (silvopasture) and permanent crops (silvoarable/silvopasture) in forest lands (silvopasture and forest farming) and in urban areas (homegardens).



Agroforestry provides good forage resources with different tree species  
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### FURTHER INFORMATION

Mosquera-Losada MR, Santiago-Freijanes JJ, Pisanelli A, Rois M, Smith J, den Herder M, Moreno G, Ferreiro-Domínguez N, Malignier N, Lamersdorf N, Balaguer F, Pantera A, Rigueiro-Rodríguez A, Aldrey JA, Gonzalez-Hernández P, Fernández-Lorenzo JL, Romero-Franco R, Burgess PJ (2018) Agroforestry in the European Common Agricultural Policy. *Agroforestry systems* 92(4):1117-1127.

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## ADVANTAGES AND DISADVANTAGES

### Defining agroforestry

Agroforestry can be defined as the deliberate integration of woody vegetation (trees and/or shrubs) as an upper storey on land, with pasture (consumed by animals) or an agricultural crop in the lower storey. The woody species can be evenly or unevenly distributed or occur on the border of plots. The woody species can deliver forestry or agricultural products or other ecosystem services (i.e. provisioning, regulating or cultural). Agroforestry can take place at a range of scales (e.g. plot, farm and landscape). At farm and landscape scale it can be implemented in systems that are able to diversify production (e.g. food, forage, timber and fuelwood) and provide ecosystem services (e.g. soil restoration, water preservation, climate regulation, and biodiversity enhancement), thus increasing both resilience and profitability. Silvoarable is the integration of widely spaced woody vegetation inter-cropped with annual or perennial crops. Also known as alley cropping. Silvopasture is the combination of woody perennials with forage and animal production. Forest farming is a forested area used for harvesting of natural standing speciality crops for medicinal, ornamental or culinary uses. Riparian buffer strips are strips of perennial vegetation (trees/shrubs) natural or planted between croplands/ pastures and water sources such as streams, lakes, wetlands, and ponds to protect water quality. They can be recognized as silvoarable or silvopasture but are signified by its role in preserving water streams. Homegardens are the combination of trees/shrubs with vegetable production in periurban and urban areas, also known as part of "trees outside the forest". Agroforestry practices can be implemented in Agricultural lands as silvopasture, silvoarable and riparian buffer strips, in forest lands as silvopasture and forest farming and in urban areas as homegardens. Agroforestry increases biomass production as a result of the enhancement of the use of the sun radiation (agroforestry provides a higher amount of leaves per hectare) and nutrients from soil, while associated to a higher environment and market resilience of the farm. From an environmental point of view, it is able to increase biodiversity which is the basis of the sustainability of farming systems providing a better nutrient resource and therefore improving the quality of water bodies, and mitigating climate change through the increased soil carbon sequestration. All these benefits are aligned with a better development of rural areas linked to social aspects such as a higher employment generation, increasing tourism...

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