22. Agroforestry definitions in the new CAP

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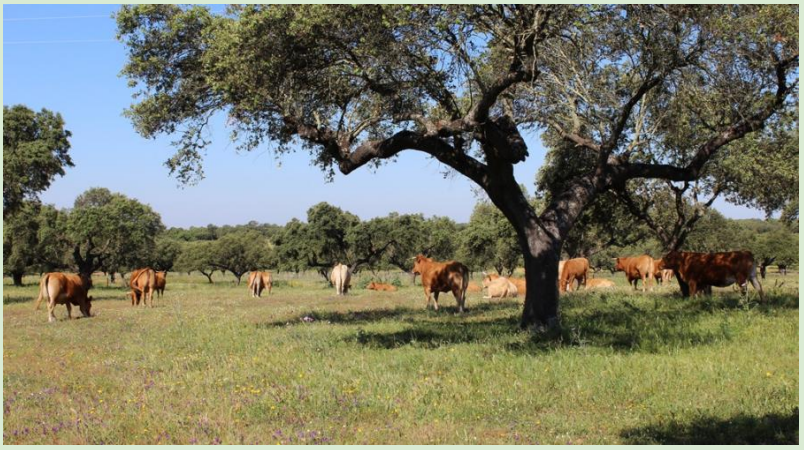
The European Agroforestry Federation is an NGO (Transparency Register 913270437706-82), which "promotes the adoption of agroforestry practices across Europe by supporting efforts to develop awareness, education, research, policy making and investments which foster the use of trees on farms". It has a network of 31 affiliated entities in 23 countries.

EURAF has collated the definitions of agroforestry included by all Member States in their CAP Strategic Plans. Some are detailed and include minimum and maximum numbers of trees per hectare, but usually without a definition of "tree". However, few of the definitions can lead to remotely-sensed identification of those parcels which are "agroforestry" and those which have too few trees to be considered as agroforestry. Nevertheless, Member States are progressively adding more detail to their identification of Landscape Features (including individual trees, hedges and trees in groups and lines) and Non Productive Areas (GAEC-8) in their CAP Land Parcel Identification Systems. This detail is also needed to measure compliance with the 10% target in the Biodiversity Strategy and Nature Restoration Law (see Briefings ##18 and #21). It should be possible for Member States to propose a % threshold tree-crown cover (actual or potential) which would be used to distinguish agroforestry parcels in the CAP and also in LULUCF accounting of GHG emissions. Several Member States have taken advantage of the flexibility offered in the Strategic Plan Regulation to define "permanent grassland" to include areas which are predominantly covered by shrubs which can be grazed or cut for fodder. These include areas which could also be considered as agroforestry.

1. International Definitions of Agroforestry

There are many definitions of agroforestry, for example:



- *a collective name for land-use systems and technologies where woody perennials (trees, shrubs, palms, bamboos, etc.) are deliberately used on the same land-management units as agricultural crops and/or animals, in some form of spatial arrangement or temporal sequence. [1]*
- *a dynamic, ecologically based, natural resource management system that, through the integration of trees in farm- and rangeland, diversifies and sustains smallholder production for increased social, economic and environmental benefits [2]*
- *all forms of association between trees and cultures and/or animal production on an agricultural parcel, whether it is in the interior of the parcel or on its edges [3]*
- *the practice of deliberately integrating woody vegetation (trees or shrubs) with crop and/or animal systems to support the conservation, benefit from the resulting ecological and economic interactions [4].*
- *land use systems where trees are grown in combination with agriculture on the same land (EU Regulations 1305/2013 and 2472/2022)*

For this reason the Commission asked Member States to publish their own national definitions of agroforestry in their CAP Strategic Plans, asking them to distinguish between arable land, permanent crops and permanent pasture. These definitions are tabulated in the next section.

Another option, specific to the CAP, would be to regard agroforestry trees as **all trees on agricultural parcels which do not meet national definition of forest land.** They are therefore "Trees Outside Forests (TOF)". This would also fit well with the increasing trend for Member States to report Greenhouse Gas Emissions from Cropland and Grassland using two additional categories "Grassland with TOF" and "Cropland with TOF". Greater availability of IACS/LPIS data for Landscape Features [5] and CORINE data for Small Woody Features [6] will facilitate this reporting. A threshold such as 4% (actual or potential) tree crown cover could be used to distinguish parcels which would be classified as "agroforestry".

2 Agroforestry in CAP Strategic Plans (definitions)

Country	AF Definition (See Section 4.1.2.1 of each CAP Strategic Plan)
Austria	Agroforestry can be traditional systems as well as GAEC Landscape Features including scattered trees and multi-use rows or groups of trees on arable land. Agroforestry elements may also be present in permanent crops and permanent grassland.
Belgium-Flanders	Systems where trees are combined with agriculture on the same land. Arable land: a) minimum of 30 trees/hectare; b) a max of 200 trees/ha; c) homogeneous distribution of trees over the plot. Parcels planted with Pillar II premiums can have higher densities. Permanent cropland and permanent grassland have the same thresholds.
Belgium - Wallonie	A set of land use systems that combine forestry and agricultural activity on the same land. Forestry means the production of wood or other non-agricultural products from trees. Trees on agricultural land may consist of tree rows, tree-groups and isolated trees. On arable land, the tree density is between 30 and 100 trees inclusive. A minimum diameter of trees will be set at 1.2 metres. To be recognised as part of an agroforestry system, the trees must be of a species adapted to the local climate and soil conditions of the location Agroforestry is specifically mentioned in GAEC-8. Short rotation coppice is taken into account on permanent cropland. On permanent grassland, the density of an agroforestry plantation will also be fixed at 30-100 trees per ha, whether aligned in rows or not, with a minimum tree diameter to be measured at 1.2m high.
Bulgaria	Arable land: a) Tree species / mosaic, scattered and /or those in a line/, perpendicular to the slope and the prevailing wind; b) Shrubby vegetation; c) Multifunctional buffer strips (medicinal, essential, leguminous, meadow-grass species). Permanent crops: a) Multifunctional buffer strips / medicinal, essential, leguminous, meadow-grass species; b) Fruit species grafted on low-growing rootstocks and bearing fruit early in the inter-row; space, medicinal, essential oil, etc. c) Shrubby vegetation perpendicular to the slope and prevailing winds. Permanent grassland; a) Single /mosaic trees/ or trees in a group - linear - Silvopasture; Shrubs strips; Coastal buffer strips of perennial vegetation (trees/shrubs/grasses)
Croatia	The Croatian CSP Section 4.1.2.1 defines “Elements of agroforestry systems when it is established and/or maintained on the agricultural area” and states that on arable land - AF includes single row windbreaks dominated by tall trees of acceptable native species; on permanent crop land it is considered that establishment of agroforestry systems would not lead to an increased effect of sustainable management and does not represent a common traditional practice; on permanent pastures up to and including 50 individual scattered trees per hectare are permitted.
Cyprus	Section of 4.1.2.1 indicates that agroforestry systems are planted or maintained on agricultural land. On arable land agroforestry is the cultivation of forest trees and agricultural crops in the same field, when the forest and agricultural species may grow over the whole area of the plot or peripherally with spatial separation, such as windbreaks with cypress trees. In permanent crops agroforestry is the cultivation of forest trees and permanent crops on the same plot. In permanent pasture it is a wood pasture system which combines the presence of forest trees and grassland plants and animals on the same plot - these occur mainly in the semi-mountainous zone and are natural ecosystems of Mediterranean shrublands and eastern heathlands. No tree-density limit is provided.
Czechia	Silvoarable systems arable land on which linear tree planting of a maximum of 100 trees is provided trees/has been established in accordance with Regulation (EU) 2021/2115 of the European Parliament and of the Council. Permanent crops - agroforestry systems are not proposed permanent crops where there would be no increased effect of sustainable management. Agroforestry within permanent crops would also be problematic in terms of administratively and legislatively, especially in relation to the definitions of crops in national legislation. When planting more than 100 trees per hectare, it is an orchard culture Silvopastoral systems - permanent grassland on which linear, scattered or grouped grassland occurs tree planting with a maximum of 100 trees/ha established in accordance with Regulation of the European Parliament and Council Regulation (EU) 2021/2115.
Denmark	Some types of agroforestry are eligible. Eligible agroforestry is defined as areas in rotation on which fruit, berries or nuts are grown in combination with at least one other crop, not coppice species. Other ineligible trees and shrubs (scattered trees, clusters and hedgerows) on eligible areas are included in the 20 per cent permitted small habitats on the areas pursuant to compliance with the activity requirement.
Estonia	On arable land an agroforestry system is defined as an area where trees (except Christmas trees) are grown in rows and the spacing between trees is in rows of no more than 10 metres and under which agricultural crops, grassland crops and forest trees are grown. The same spacing conditions are mentioned for permanent grassland where grasses and natural herbaceous plants or grazing livestock are grown. Detailed conditions are to be laid down in national regulations. In areas of permanent crops with fruit trees and shrubs growing in rows agricultural crops, grassland crops and wild herbaceous crops or grazing livestock may be used, with detailed requirements laid down in a national regulation.
Finland	A windbreak planted as a narrow strip of trees and/or shrubs can be planted following the edge of a parcel and will be part of the eligible area for basic payments.

France	Land use systems and practices in which woody perennials are deliberately integrated with crops and/or grazed areas on the same management unit. Trees can be isolated, in rows or in groups within crop plots (intra-plot agroforestry) or meadows (parcours arboré) or on the boundaries between plots (hedges, rows of trees)". No indication is given of tree number thresholds.
Hungary	For arable land agroforestry is a mixture of arable crops (including temporary grassland) and forestry or fruit tree species with simultaneous intercropping of woody or fruit crops on the same area, and where the woody plants are grown in parallel rows or other regular geometric arrangement, and their number does not exceed 250 per hectare. Also included is a mix of arable crops and short-rotation coppice, where woody plants are grown in parallel rows or other regular geometrical arrangement and their number does not exceed 4000 per hectare. Detailed national rules for short rotation coppice energy crops shall also be respected in these agroforestry systems. The following permanent crops are considered to be agroforestry systems if they are independent objects and are not part of arable or grassland: a. field hedges, field hedge strips, groups of trees and shrubs, and other special special tree plantations (short rotation energy plantations and Christmas tree plantations) which meet the criteria for a landscape element under GAEC 8 and are therefore eligible for basic payment; b) productive plantations planted with a mixture of forestry and fruit tree species. Wooded pastures shall be considered as agroforestry systems where woody species are planted in parallel rows or other regular geometric pattern and where the number of trees does not exceed 250 per hectare. "Woody plants" plants shall mean forest tree species or fruit trees.
Germany	Woody plants of non-excluded species with the primary objective of raw material extraction or food production in accordance with a use concept verified as positive by the competent Länder authority or by an institution recognized by the Länder, in at least two strips covering no more than 40% of the agricultural area or scattered distribution over the area in a minimum number of 50 and no more than 200 such woody plants per hectare.
Greece	Agroforestry systems are systems with scattered trees or trees in rows, or on the margins of plots. They can be either forest trees (oaks, pines, poplars, cypresses) or fruit trees (citrus, apple and stone fruit trees, acacia trees), olives, carob and mastic trees). They can be combined with the cultivation of cereals, horticultural crops, fruit and vegetables and/or grazing. Trees, if planted in rows, should have a minimum distance of 10 metres between rows, the distance between trees in the same row should be greater than 4 metres. Trees may also be present at the boundaries of the field in the form of a living fence to protect the agricultural crop from the wind and to create a zone that will support wildlife. The maximum number of trees is 250 trees per hectare. Agroforestry also includes partially forested areas (sparse forests) of pasture with the tree cover up to 40% and understorey with herbaceous and woody vegetation. In this case the minimum tree density may be 5 trees/ha and the maximum 40 trees/ha trees/hectare depending on the slope, tree species and climatic conditions.
Ireland	**Arable Land.** The combination of arable land and forestry shall be deemed an agricultural area; a stocking rate of 400 - 1000 trees per hectare (equal spacing) is acceptable; a tree-to-tree width of 20 metres is required; acceptable broadleaf species will include oak, sycamore and cherry. Other species, including conifers can be considered on a site-by-site basis. Where a lower stocking density (i.e. <400 trees per hectare) the land will be classified as arable land. **Permanent Crops.** The combination of permanent crops and forestry shall be deemed an agricultural area. A stocking rate of 400 - 1000 trees per hectare (equal spacing) is acceptable. A tree-to-tree width of 20 metres is required. Acceptable broadleaf species will include oak, sycamore and cherry. Other species, including conifers can be considered on a site-by-site basis. Where a lower stocking density (i.e. <400 trees per hectare) the land will be classified as permanent crops. **Permanent grassland.** The combination of permanent grassland and forestry shall be deemed an agricultural area. A stocking rate of 400 - 1000 trees per hectare (equal spacing) is acceptable A tree-to-tree width of 20 metres is required. Acceptable broadleaf species will include oak, sycamore and cherry. Other species, including conifers can be considered on a site-by-site basis. Grazing by sheep or young domestic stock is permitted during the spring and summer months for the first 6-8 years, depending on tree growth, but trees must be protected and tree shelters checked regularly. Thereafter, when tree shelters are replaced with plastic mesh, larger animals may be introduced. Fodder: Silage and hay production is permitted. It is important that appropriate machinery is used when cutting silage and/or hay so as to ensure that the trees are not inadvertently damaged. Where a lower stocking density (i.e. <400 trees per hectare) the land will be classified as permanent grassland.
Italy	Agroforestry systems comprise all agricultural systems in which the cultivation of perennial perennial tree or shrub species of forest interest are combined with arable land, with the possible presence animal component on the same surface, with the aim of improving the sustainable use of the soil on which agricultural activities, with the possibility of diversifying farm production by providing valuable timber, biomass, non-wood secondary products such as truffles, cork, acorns, honey alongside to agricultural and livestock products. In cases where perennial tree and shrub species are present on arable land trees and shrubs of forest interest on arable land, these must have a density of no more than 250 plants per hectare, without the need to ensure the sustainability of agricultural use; in such cases, the eligible area shall not be subtracted from the eligible area. areas occupied by trees are not subtracted from the eligible area. These systems, excluded in the recent past by mechanisation and monoculture, have been rediscovered in modern production contexts for the undeniable advantages they offer to farms and the the environment, in terms of landscape, synergetic production increases, crop diversification improvement of the microclimate, increased biodiversity, control of nutrient leaching and erosion with the improvement of hydraulic regulation and water quality, improvement of other natural resources, with particular reference to habitats for wildlife, storage of carbon, etc. Agroforestry systems in Italy, thanks to the important

	availability of light radiation and favourable climatic conditions, present a considerable variety of systems and combinations of tree species and agricultural crops.
Latvia	Trees grown as single trees or as trees in groups or rows or strips, with the aim of ensuring the sustainable use of the land and preventing soil erosion, increasing carbon sequestration, etc. These trees shall be considered as eligible areas if the number of individual trees per hectare does not exceed 100 or where the total area occupied by groups or rows or strips of trees does not exceed 500 m2 . The limits (100 trees and 500 m2) do not apply to GAEC8 Elements - single trees, rows of trees and hedgerows - included in the layer of eligible landscape features. The definition applies to arable land, permanent crops and to permanent pasture.
Lithuania	Areas with no more than 100 trees per ha, where trees are planted in strips or groups at intervals of at least 3m. They will consist only of native species that meet the local edaphic (nutrient and moisture) conditions. Trees shall be properly maintained and protected. The same definition applies to arable land, permanent crops and permanent pasture.
Luxemburg	Land use systems that combine forestry and agriculture on the same land. The Luxembourg administrations do not currently have a more precise definition. The Administration de la Nature et des Forêts (of the Ministry of the Environment and Sustainable Development) is currently conducting a study on the introduction of the concept of agroforestry in Luxembourg. Our NSP does not include any measures relating to agroforestry. State aid is planned in the medium term. This definition is applied to arable land, permanent crops and permanent grassland
Malta	Land use systems where trees are grown in combination with agriculture on the same land. Parcels under agroforestry should not be smaller than 0.1124ha on which agroforestry actions provided in this scheme shall take place with planting density of at least 400 trees per ha, with a view of having the whole parcel planted with trees. Tree species planted must be those in an approved list (S.L. 549.123).
Netherlands	A form of agriculture in which trees and shrubs are deliberately grown between non-woody crops (arable or vegetable crops) on the same plot, with a maximum of 100 trees/ha. This combination is deployed to encourage positive interactions between crops, livestock and the trees and shrubs stimulate, and improve the earnings model. The latter can be achieved, for example, by broadening the earning model by yields from fruit and nut trees. Agroforestry, like strip cropping, is a cultivation system at farm and plot level. Agroforestry is an umbrella term and has several forms. In the NSP, elements of it appear in several places: a) trees and shrubs combined with grass or arable land; b) food forests as permanent crops, c) strips of woody crops as forest land (if density is greater than 100 trees/ha) with agricultural land between.
Poland	Agroforestry systems are arable land or permanent grassland meeting the conditions defined for Intervention 10.13 “establishment of agroforestry systems”. It is not applicable to permanent crops.
Portugal	Agroforestry systems in Portugal are based on natural regeneration processes, which promote trees and shrubs with permanent grasslands and pastures rather than annual crops. In this sense, and taking into consideration the establishment of the number of trees (minimum of 40 trees per hectare for cork oak that is not exploited for cork production, minimum of 60 trees per hectare for holm oak, European oak, Scots oak or mixed Quercus, stone pine or chestnut and minimum of 45 trees per hectare for olive trees) used in the definition of permanent pasture and meadow in agroforestry systems. Due to the difficulty of combining this density of trees with planting and harvesting of arable crops **it is considered that no arable land will be used for agroforestry systems.** For a parcel to be declared a **permanent crop** it should have a minimum density of 40 cork oaks per hectare, exploited for cork production, where cork oaks account for a minimum of 60% of the tree cover of the sub-plot. **Permanent grassland and pastureland** (a) with a cover of kermes oak trees, cork oak (where the cork oak is not exploited for cork production), holm oak oak, black oak,Quercus oak (minimum 60 trees per hectare) and where where they account for a minimum of 60% tree cover. Under cover of stone pine or chestnut not exploited for fruit production (minimum 60 trees per hectare) where there is a minimum of 60 % tree crown cover. (c) under cover of olive trees, where the olive tree is not exploited for olive production (minimum 45 trees per hectare), where they account for a minimum of 60% tree crown cover (d) under cover of various tree species (quercineae, stone pine, chestnut and olive trees) where none of them is predominant (minimum 60 trees per hectare) and not exploited for the production of fruit or cork.
Romania	Agroforestry on arable land , permanent crop and grassland land comprises tree strips not more than 30 m wide for the protection of agricultural production. Detailed rules on the suitability of tree and shrub species will be laid down in the regulatory framework implementing the NSP 2023-2027. Among the agroforestry tree and shrub species that are foreseen for the establishment of agroforestry shelterbelts, according to the conditions national pedoclimatic conditions can be: Pedunculate oak, Downy oak, Misty oak, Wild apple, Wild peach, Black walnut, Black elm Turkestan, Silver lime, Hill lime, Big-leaved lime, Willow, Gladiolus, Palatinate, Palatinate Mountain, Tatar maple, Jugaster Acer, Black pine, Turkish cherry, Wild plum, Hawthorn, Sago, Wild chestnut and other species, except: short production cycle forest species, wild chestnut and Christmas trees or fast-growing trees for energy production.
Slovakia	Arable Land: AFS is a management/cultivation of arable land with trees in linear formations with maximum width of 3m, distance of lines greater than 12m, and distance between trees at least 3m. Following conditions need to be fulfilled: a) agricultural activities can be carried out similarly as on land without trees of the same area, b) Number of trees per ha is not greater than 100 trees/ha, c) Trees are being properly taken care of including animal protection.

	Permanent Grassland: AFS is a management/cultivation of a site with permanent grassland with trees in formations: i) Tree lines with max width of 3m, min distances of lines of 12m, min distance between trees is 3m, ii) Scattered trees with min distance of 8m, iii) Woody vegetation groups which do not exceed 20 woody plants and continuous area of 400m2/1ha, additionally there can be only one group per ha(and conditions similar to in A).
Slovenia	Arable land where cultivation can take place unhindered, up to a maximum of 50 naturally-regenerating forest trees may be included in the eligible area. Trees may also be planted singly, in rows or in groups within arable areas or on the boundaries between parcels (hedges, tree-lined areas). In permanent crops there may be up to 50 naturally regenerated or planted trees per ha or trees planted singly, in rows or groups within arable plots or on boundaries between plots (hedges, avenues). An intensive chestnut or hazelnut orchard is not considered agroforestry. Forest trees are defined in Slovenian legislation. For permanent grassland, provided production can be carried out unhindered, up to a maximum of 50 individual forest trees per hectare or such number of trees with a canopy cover of less than 75% are permitted. The area under grassland on which the individual forest trees grow shall be regularly replanted at least once a year, mowed or cut in accordance with the definition for maintenance.
Spain	Land use systems that combine the maintenance of trees with agriculture on the same land". The maximum number of trees will be determined by regional authorities. For arable areas this may not exceed 100 except in the base of investments related to AECM and investments in terms of regulation 2012/2115). Managing Authorities may also set a minimum number of trees. Agricultural hectares falling within the national definition of forest shall be eligible for support provided that it can be established that agricultural activity takes place on these hectares and that the agricultural practices carried out on these hectares do not involve double financing with the requirements or commitments for rural development support for forestry areas. For permanent pasture areas there will be no maximum number of trees established per hectare but threshold will be based on a pro-rata calculation based on ineligible features. As above, areas which meet the national definition of forest will be eligible for basic payments providing that no double funding is apparent.
Sweden	Co-cultivation of trees and annual or perennial crops. These may be planted in rows or in clusters. Soil which is not wooded must be workable and the light conditions must be such that the annual or perennial crop can be harvested. The trees shall produce food, fodder, timber, biomass or other ecosystem services. The number of trees may vary according to species, site conditions and purpose the purpose of cultivation. There is not enough knowledge about the above described systems for Nordic conditions to specify species, varieties and numbers.

3 References

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